

Feasibility Study for the NIDA Science-Based Drug Education Project, titled “NIDA Goes Back to School”

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1. INTRODUCTION

In December 2004, the National Institute on Drug Abuse (NIDA) awarded a contract to CSR, Incorporated to conduct a feasibility study to evaluate the NIDA Goes Back to School (NGBTS) campaign. This report presents the results of the feasibility study and recommendations for moving forward with a full-scale evaluation of the NGBTS campaign. Following this introduction, we provide some background on the program in Section 2 and on NIDA’s plans for evaluating the program in Section 3. The evaluation design is presented in Section 4, followed in Section 5, by a description of the study data collection and analysis methods. Key evaluation findings are presented in Section 6, and Section 7 outlines NIDA’s recommendations for a full-scale evaluation of the NGBTS campaign. Appendices A, B, and C to this report include the Logic Model, Feasibility Study Interview Guide, and discussion of data limitations.

2. BACKGROUND OF THE PROGRAM

NIDA’s Office of Science Policy and Communications launched the “NIDA Goes to School” (NGTS) campaign in 1998, as one component of the Nation’s drug use prevention tool kit, in an effort to deliver science-based education about drug abuse to middle school students. This campaign consisted of a compilation of resource materials, curricula, and teacher instructional materials, which was distributed to over 18,000 public and private school biology teachers as well as Department of Defense schools overseas. This program focused specifically on students in grades 5 through 9, was research-based, and was designed to be developmentally appropriate for various age groups.

In 2003, NIDA expanded on the NIDA Goes to School Program, launching the NIDA Goes Back To School (NGBTS) campaign. This program was based on solid educational principles to help students learn about the impact of drugs on the brain and the body. NGBTS addressed the needs of additional age groups and changed the information delivery format to include expanded curricula and attractive, dynamic, Web-based resources. This campaign also expanded the target audience to include students in grades K–12, educators (including science and health teachers, curriculum developers, school nurses, and counselors), and parents.

The overall goals of the NGBTS campaign and materials are to:

1. Promote NIDA as the source for science-based information on drug abuse;
2. Promote the NIDA for Teens Web site;
3. Highlight readily available opportunities to order NIDA’s science-based materials;
4. Educate teachers, students, and parents on the consequences of drug abuse;
5. Increase scientific literacy; and
6. Stimulate interest in scientific careers.

There have been several components to the NGBTS campaign. In October 2003, NIDA announced the NIDA for Teens: The Science Behind Drug Abuse interactive Web site with a

mailing to over 40,000 middle and high school teachers. This mailing also included information on the following educational materials:

- *Mind Over Matter*—a series of informational magazines for grades 5–9;
- *Heads Up: Real News About Drugs and Your Body*—a drug education series for students in grades 5 through 11;
- *The Brain: Understanding Neurobiology Through the Study of Addiction*—a curriculum designed for high school students in grades 9–12;
- *Preventing Drug Abuse Among Children and Adolescents: A Research-Based Guide for Parents, Educators, and Community Leaders*—an updated guide presenting the latest from NIDA-funded prevention research;
- InfoFacts Fact Sheets—public information fact sheets containing current, science-based information on drug abuse;
- Brain Power! The NIDA Junior Scientist Program—designed to examine the effects of drugs on the brain for grades 2–3;
- Slide Teaching Packets—a CD-ROM containing PowerPoint presentations and text that provide a broad scientific overview of the mechanisms of addiction; and
- Marijuana pamphlets that provide information on the current knowledge about marijuana and its effects.

In addition to the mailing, NIDA sent out an e-mail blast to over 20,000 school personnel introducing the initiative and the educational materials available to them through the NIDA Web site. In October 2004, a similar mailing was sent to a target audience consisting of biology and health teachers.

3. EVALUATION OF THE NGBTS CAMPAIGN

In the fall of 2004, NIDA decided to fund a feasibility study to develop and refine research questions and the optimal methodology that could be developed to evaluate the NGBTS campaign and to determine whether there is adequate justification to conduct a large-scale evaluation of the campaign. The design of the large-scale evaluation will be based on the results of the feasibility study, reported herein, and will include both process and outcome components.

3.1 The Need for an Evaluation

The NGTS campaign was launched in 1998 and operated for 5 years. Although educators reported anecdotal reports on the success of the materials received by middle school students, no formal evaluation was conducted on the effects of the NGTS campaign. In the fall of 2003, NIDA built on the informal lessons of NGTS and was guided by current research, leading to the development of the NGBTS campaign. Currently, the campaign appears to have all the ingredients required to meet its intended objectives (i.e., promoting NIDA as a source of science-based information on drug abuse; educating students, teachers, and parents about the dangers of drug abuse; increasing scientific literacy; and stimulating interest in science careers).

Cognizant of its responsibility to support sound decisions about program management and budget and resource allocations, NIDA made a commitment to incorporate a strong program evaluation component with the launching of NGBTS. The time has now come to take a hard look at NGBTS and to determine its success. A full-scale evaluation will provide NIDA with the tools necessary to fulfill its mission to lead the nation in bringing the power of science to bear on drug abuse and addiction. Data on the successes (or failures) of this program will enable NIDA to determine whether the program is accomplishing its stated goals and, if so, how to improve the implementation of the program.

To meet its commitment to conduct a sound evaluation of the NGBTS campaign, NIDA plans to include both process and outcome measures in the evaluation design. The outcome evaluation will assess the extent to which the program was successful in reaching its intended goals. The process evaluation will assess whether and the extent to which the NGBTS campaign (and its components) have been implemented and will provide insights on how the program could be improved in the future.

3.2 Purpose of the Evaluation

Evaluation of the NGBTS campaign will enhance NIDA’s understanding of the success of the program and provide insights into how administrative and other changes will improve the program in the future. Findings will add to the knowledge gained from the brief exploratory qualitative research that was conducted in 2004 to document the needs and characteristics of the target audiences for the campaign (IQ Solutions, 2004).

After almost 3 years of operation, it is time to conduct a systematic evaluation of the NGBTS campaign. In support of that effort, NIDA decided to conduct a preliminary study to assess (1) the feasibility of evaluating the outcomes of the NGBTS campaign and (2) the likelihood that the findings would be useful in guiding decisions about future dissemination of credible science-based drug abuse information. The feasibility study included the development of an interview guide that was used with two focus groups comprised of elementary and middle school personnel and with two high school teachers. Secondary data on the utilization of campaign materials also were examined. The results of the study confirmed that the methodology tested is feasible and has promise for documenting the extent to which the NGBTS campaign has been successful in reaching its intended goals.

3.3 Use of the Evaluation

NIDA has supported the creation of materials and resources that have all the ingredients to meet its intended goals (i.e., promoting NIDA as a source of science-based information on drug abuse; educating students, parents, and teachers on the dangers of drug abuse, and increasing scientific literacy). The results of a full-scale evaluation will strengthen NIDA’s understanding of the value of its materials and identify new and innovative ways to reach a wide range of audiences. In addition, it would provide opportunities for other NIH institutes to expand their authority as credible sources of scientific information on a variety of health and drug abuse related topics. In order to achieve this goal, it is very important to collect information about the implementation and impact of programs and activities initiated by the various institutes within NIH. Without this

type of evaluation activity, it would be difficult to know whether these activities or programs are functioning as planned and what effect they are having on the intended audiences.

The evaluation findings will also support NIDA’s commitment, “To expand the use of scientific information to educate the public about the real nature of drug abuse and addiction and the hope and promise for more effective prevention and treatment” (Future Directions, NIDA Web site). The ultimate goal of this evaluation is to position NIDA to maximize its available resources to encourage and support the dissemination of and the use of its resources in a manner that provides science-based information on drug abuse and addiction to students, parents, and teachers. The results obtained from this evaluation also can assist other institutes within NIH to identify and use effective methods of dissemination of science-based information. This evaluation, which calls for the selection of targeted audiences for specific materials, can be useful to other institutes to maximize their ability to reach the most needy audiences.

3.4 Review of the Literature

Over the past several decades, NIDA has supported over 85 percent of the world’s research on the health aspects of drug abuse and addiction. NIDA-supported science addresses the most fundamental and essential questions about drug abuse, ranging from the molecule to managed care, and from DNA to community outreach research (NIDA, 2004). NIDA has seized upon unprecedented opportunities and technologies to further the understanding of how abuse of drugs affect the brain and behavior and is working to ensure the rapid and effective transfer of scientific data to policymakers, drug abuse practitioners, other health care practitioners, and the general public.

At the same time, considerable effort has been devoted to improving an understanding of the causes of drug abuse and to identifying effective prevention strategies. As noted in the NIDA Director’s testimony before the Senate Subcommittee on Labor, HHS, and Education Appropriations, “Armed with new knowledge about how adolescents make decisions, NIDA will be poised to design interventions that can reduce drug experimentation and addiction” (NIDA, 2004). Much of this work has taken place in school settings because schools provide easy access to large numbers of individuals who are judged to be a primary target population for prevention efforts. While schools and the communities within which they are located have long been concerned about the problem of tobacco, alcohol, marijuana, and other forms of drug abuse, the passage of the 1986 Drug Free School and Communities Act served as a major stimulus for schools to adopt drug abuse prevention programs (Botvin, 1998).

Growing out of an educational tradition, the most common approach to drug abuse prevention found in most schools has taken a singular focus (i.e., , providing information about drugs and the consequences of drug abuse). Botvin and colleagues (1998) note “The focus of tobacco, alcohol, and drug education programs involves presenting factual information about adverse health, social, and legal consequences of drug use without providing any skill training relevant to drug prevention. Some programs endeavor to present the facts in a balanced and neutral manner. Others provide prevention programs that are based on social psychology and attempt to provide services that include resistance skills training and modification of normative behavior.”

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The past 15 years have witnessed a considerable body of high-quality research demonstrating the effectiveness of prevention approaches that are theoretically based, are well conceptualized, and have been subjected to extensive evaluation (Botvin, 1998). For example, the Drug Abuse Resistance Education (DARE) program has been evaluated in local areas and has demonstrated some effectiveness in the reduction of substance use among youth in the control group (Gerstein and Green, 1993). The Here is Looking at You Two (a modified version of the Here is Looking at You program), another intervention aimed at youth, was comprised of a curriculum aimed at enhancing knowledge about alcohol, self esteem, coping and decisionmaking, as well as helping adolescents make responsible decisions about alcohol and drugs (Gerstein and Green, 1993). The evaluation results showed that adolescents, in grades 6 through 8, who were exposed to the intervention maintained enhanced self-esteem, knowledge about alcohol, and decisionmaking skills.

Additionally, an evaluation of Project STAR, a communitywide drug abuse prevention program with a school-based component, shows that the program has positive long-term effects: Students who began the program in junior high, and whose results were measured in their senior year of high school, showed significantly less use of marijuana (approximately 30% less), cigarettes (about 25% less), and alcohol (about 20% less) than children in schools that did not offer the program (Chou et al., 1998).

Tobler and Stratton (1997), in their meta-analysis of 120 school-based preventive interventions for 5th- to 12th-grade students, describe two major program types—interactive and noninteractive. Their results indicate that the interactive programs changed drug knowledge, attitudes, and behaviors, whereas the noninteractive programs changed only knowledge. Other studies on program effectiveness indicate that students participating in theory-based prevention activities, especially those that were led by educators, reported higher levels of perceived quality for the activities in which they participated (Sussman et al., 1997).

Funding agencies now recognize the importance of applying dissemination research to their efforts to integrate research findings with clinical practice. For over a decade, NIDA has funded dissemination research with the goal of sustaining adoption of evidence-based practices (Stirman, 2004). One of NIDA’s primary goals is to disseminate the results of research on preventing and treating drug abuse and addiction so that findings can be implemented into clinical application and contribute to policymaking decisions. For example, the development and launching of a Web site on marijuana and NewScan inform the media of research findings related to drug abuse and addiction being published in medical and scientific journals (Progress report on Marijuana Research and Dissemination Effort, 2004). Another NIDA effort involves partnering with the Substance Abuse and Mental Health Services Administration’s (SAMHSA’s) Center for Substance Abuse Treatment (CSAT). The interagency agreement called the NIDA/SAMHSA-ATTC Blending Initiative is designed to meld science and practice together to improve drug abuse and addiction treatment, charging its combined staff to disseminate research results for adoption and implementation into practice.

Roberts and Maccoby (1985) note “recognition of the multidimensionality of media effects has led to more complex conceptualization of effects, including not only consideration of their nature (e.g., cognitions, attitudes, behavior), but also such dimensions as time, unit of analysis, degree of content specificity (e.g., a specific behavior versus a class of behaviors), and type of impact

(e.g., establishing, changing, or stabilizing a response).” This points to the increased recognition that communication campaigns and media effects are embedded within a broad and varied range of stimuli and forces.

3.5 Timeliness of the Evaluation

Congress enacted the Government Performance and Results Act of 1993 to focus on improving program performance and providing greater accountability for results in the Federal Government. The NGBTS evaluation plan is designed to satisfy this mandate and yield feedback for results-oriented management of the program. NIDA also recognizes that it is operating in a time of tightening budgets. NIDA staff are responsible stewards of our taxpayers’ dollars and want to be able to substantiate the value of its dissemination strategies and the materials it has developed to help students and teachers to learn more about the impact of drugs on the brain and the body. Given that the NGBTS campaign (and its various components) have been operating for almost 3 years, the time is ripe for NIDA to make important decisions about future approaches to the dissemination of science-based drug abuse information and the effective use of its resources.

4. EVALUATION DESIGN

During the initial planning of the feasibility study, CSR considered several types of evaluation designs.

The first evaluation design considered was an experimental design. Experimental designs involve the random assignment of subjects to two groups—one group participates in the program while the other group (known as the control group) does not (Owens and Rodgers, 1999). Although this is seen as a desirable evaluation method, the nature of the NGBTS program prevented us from using it. The NGBTS program does not have a designated user group from which the participating subject group or control group could be randomly sampled. Experimental evaluations require random selection of subjects in order to rule out validity issues.

The second evaluation design considered was a quasi-experimental evaluation design. Quasi-experimental evaluations involve systematic data gathering techniques and identification of rigorous indicators that are also found in experimental designs. These types of evaluations are effective evaluation designs especially when the goal is to make comparisons between groups without randomly assigning members to either group. A quasi-experimental evaluation design could prove effective because it would allow for a variety of comparisons, not only with groups that use the NGBTS materials, but also other groups that engage in similar programs. In addition, controlled comparisons within certain community and demographic groupings would be feasible. For example, one consideration could build on rotating surveys of youth, parents, and teachers in a given community and/or linked student/teacher surveys in targeted communities.

Another option available under this design was to look at a multilevel sample design, wherein identification and selection of the sample to be studied would be done in phases. For example, researchers could use a purposive sampling strategy (McMillan, 2001) to start Phase I (or level I). In this case it could be all schools that received the NGBTS materials (e.g., flyers) as part of the campaign in a given year. Once these schools have been identified, information could be very quickly reviewed and compiled to allow researchers the ability to aggregate and present relevant

characteristics of the schools. Phase II (or level II) could involve the selection of targeted schools (that meet given criteria including representativeness) within the first group for a more in-depth study and analysis. This in-depth data collection effort may incorporate case study methods that would provide rich contextual information on both the targeted schools and the communities. CSR also considered including longitudinal, cross-sectional surveys within this evaluation design. Both longitudinal surveys and case studies may be particularly appropriate for assessing changes in attitude and knowledge. Case studies can also allow for an exploration of community characteristics and how these may influence program implementation as well as the identification of barriers to and facilitators of change.

The evaluation design recommended in this report will support a systematic investigation of the performance of the NGBTS campaign. The study design will measure the process goals of NGBTS—those goals that describe how the program operates and what levels of output are produced. It will also measure the success of NGBTS in meeting its intermediate goals—those goals that describe the intended outcomes of NGBTS on its target audiences. Similar to its approach to the feasibility study, NIDA’s methodological approach to conducting a full-scale evaluation of the NGBTS will utilize both qualitative and quantitative methods. A good design for mixed method evaluations includes specific plans for collecting and analyzing the data through the combined use of both qualitative and quantitative methods (Miles and Huberman, 1994; Frechtling and Sharp, 1997). This mixed method can yield richer, more valid, and more reliable findings than evaluations based on either the qualitative or quantitative method alone. Specifically, the two methods can be successfully combined by evaluators to test the validity of results (triangulation), to improve data collection instruments, and to elaborate or develop analyses that explain and illuminate key findings.

4.1 Study Questions

Two sets of preliminary research questions were examined in the feasibility study. The first set of research questions dealt specifically with whether the NGBTS campaign goals and objectives were being met. These research questions focused on the processes utilized to disseminate the information and the outputs and intermediate outcomes of these efforts. The second set of research questions dealt with the feasibility of conducting a full-scale evaluation of the NGBTS campaign. Exhibit 1 on the following page delineates the research questions undertaken in the feasibility study.

Based on the experience of the feasibility study, and in collaboration with NIDA staff, CSR identified specific research questions and measures to guide the development and implementation of both process and outcome components for the full-scale evaluation. The full-scale process evaluation will focus on three broad research questions:

- Question 1: What are the dissemination approaches and processes being used to meet the NGBTS overall campaign goals?
- Question 2: Is the program being implemented as planned?
- Question 3: How has the NGBTS campaign reached out to students, parents, and teachers?

Exhibit 1. Research Questions Addressed by the Feasibility Study

Preliminary Research Questions To Be Addressed by the Evaluation
How effective are the dissemination approaches used to meet the NGBTS overall campaign goals?
How effective are the dissemination approaches used to reach intended target audiences and how are these approaches meeting stated NGBTS goals?
What are the most effective ways to reach teachers and encourage use and incorporation of the NIDA materials in the classroom curricula?
Are the program and user (stakeholder) goals being met?
Research Questions Pertaining to Overall Feasibility of Long-Term Evaluation
What are the performance measures (outputs and outcomes) that can be used to measure whether these goals are met?
What existing data sources can be used to evaluate the NGTBS campaign and what additional data collection is required?
What type of evaluation design (s) will provide the most effective/cost effective way to measure program effectiveness as well as cost effectiveness?
Is there adequate justification to conduct a large-scale evaluation of the NGBTS campaign and is the cost reasonable? What resources would be required to perform this full-scale evaluation?

The full-scale outcome evaluation will focus on three research questions:

- Question 1: Are the program and user (stakeholder) goals being met? How?
- Question 2: How effective are the dissemination approaches used to reach intended target audiences (students, teachers, and parents) and how are these approaches meeting stated NGBTS goals?
- Question 3: What are the most effective ways to reach teachers and encourage use and incorporation of the NIDA materials in the classroom curricula? Students? Parents?

4.2 Target Population

The feasibility evaluation included site visits to public schools in the District of Columbia metropolitan area. Focus groups were conducted with classroom teachers, school nurses, counselors, social workers, and school administrators. In addition, site visits included individual interviews and meetings with teachers and school administrators.

In selecting sites for the field work, CSR attempted to identify, in advance, those schools that may have received or ordered the NGBTS materials. However, the information available during the limited time allowed for the feasibility study prevented CSR from targeting those schools that were known to have received and used the NGBTS materials. This will become an important point for discussion when we outline recommendations for the design of the full-scale evaluation (see Section 7 of this report).

The schools identified for the feasibility study were located in the Washington, D.C., metropolitan area and primarily served grades K–8, were designated as Title I schools by the

Department of Education,¹ and had a predominantly African American student population (97.9%). Sixty-six percent of the students in these schools are on the free lunch program.

Participants in the site visit interviews and focus groups consisted of regular classroom teachers (3), science teachers (3), health/physical education teachers (1), counselors (1), school administrators (1), school nurse (1), special education coordinators (2), and social worker (1).

Additional information was assembled through attendance and participation in the Alexandria City Public School System Substance Abuse and Violence Prevention Education Advisory Committee Meeting. The advisory committee has 5–15 members and includes representatives from local government, business, parents, students, teachers, nurses, pupil services personnel, private school personnel, the Department of Recreation, the medical profession, law enforcement, community-based organizations, and other groups with interest and expertise in drug and violence prevention. They meet at least monthly from August through June of each school year.

CSR also held discussions with members of the Alexandria School Board, the Assistant Superintendent for Curriculum and Instruction in Alexandria, the Assistant Superintendent for Elementary Education in Washington, D.C., and principals in Alexandria, Virginia; Washington, D.C.; and Largo, Maryland.

In addition, CSR reviewed secondary data, such as utilization data from the National Clearinghouse for Alcohol and Drug Information (NCADI), which monitors the inventory and the quantity of NGBTS materials ordered over time, and administrative statistics collected to track rate of Web site usage over time for the NIDA Teens site.

4.3 Study Components

During the feasibility study, CSR developed and pre-tested the evaluation design and data collection instruments to be used in the focus group and site visit interviews. Using the semi-structured interview structure, the CSR interviewer gathered information on specific research questions. The interview guide (included in Appendix A) was designed to allow for respondents to react to open-ended discussion questions.

The feasibility study components included:

- **Focus Groups**—CSR developed a focus group plan that delineated the format of the focus groups, the methodology to be used in selecting focus group participants, a tentative agenda for focus group discussions, and a range of topics to be covered during each focus group. Using the approved focus group plan as a guide, focus group discussions were scheduled and conducted in two sites:

¹ The Title I program provides financial assistance through State educational agencies (SEAs) to local educational agencies (LEAs) and public schools with high numbers or percentages of poor children to help ensure that all children meet challenging state academic content and student academic achievement standards (U.S. Department of Education).

- Winston Educational Center, Washington, D.C.; March, 8, 2005
- Stuart Hobson Middle School, Washington, D.C.; March 23, 2005
- **Individual Interviews**—CSR developed a written site visit plan that guided the selection of individual respondents within two schools. These schools were located in the Washington, D.C., area. One-on-one interviews were conducted with persons who had a wide variety of perspectives on school functioning and science education including:
 - Life and Physical Education Teacher, P.R. Harris Educational Center, Washington, D.C.
 - English/History Teacher, Largo High School, Upper Marlboro, MD
- **Review of Secondary Data**—The methodological approach to addressing the research questions pertaining to the overall evaluation involved the conduct of a literature review and analysis of the secondary data extracted from NIDA Web usage data and the NCADI material ordering tracking system.

4.3.1 Key Variables

The categories of variables that were collected during the feasibility study included basic descriptors of the interviewees, characteristics of the schools, experience with NIDA and NGBTS, and assessments of NIDA/NGBTS materials.

Based on the feasibility study, it is realistic to expect that a variety of variables can be collected in the full-scale study. An explanation of each set of variables and the relevant full scale study research question are listed below.

- **Program Resources**—This includes a delineation of the resource allocations for the program, including material production and dissemination costs (Process Research Question 2).
- **Population of Characteristics**—This will include basic information on the schools using the NGBTS materials and the users of the materials and their particular role within the school (Outcome Research Question 1 and 2).
- **Program Activities**—This will include basic information on the dissemination activities of the program as well as a description of how the materials are being implemented within the schools (Process Research Questions 1, 2, and 3; and Outcome Research Questions 1 and 2).
- **Program Goals, Performance Measures, and Comparison Measures**—This will include variables that focus on the program’s outputs and/or outcomes. For example, a goal of the NGBTS campaign is to highlight readily available opportunities to order NIDA’s science-based materials. A related outcome (or performance measure) will include an examination of the number of science-based materials ordered from NIDA in a given period of time (Process Research Question 2, Outcome Research Questions 1–3).
- **External Factors**—These are contextual factors or variables that may have an affect on the outcomes of the program. These include factors such as the characteristics of specific schools targeted by the NGBTS campaign. Characteristics could include student demographics and

school size; the social, economic, and demographic characteristics of the target communities; and the prevalence patterns of drug abuse in specified target communities (Outcome Research Questions 1–3).

- **Other Variables of Interest**—
 - *Experience with NIDA and NGBTS*—This includes information on how interviewees heard of NIDA and NGBTS and the specific materials developed and disseminated by them; and how much use they have made of the resources offered by NIDA and NGBTS information and materials (Outcome Research Questions 2 and 3).
 - *Experience with other similar programs*—This includes information on how interviewees heard of other programs that disseminate similar information on drug abuse; types of dissemination methods used by these programs; if they use these materials developed by other similar programs and, if so, how interviewees use them (Outcome Research Questions 2 and 3).
 - *Assessment of NIDA/NGBTS information and materials*—This includes information describing interviewees’ perception of the NIDA/NGBTS materials and their use (Process Research Questions 1 and 2; Outcome Research Questions 2 and 3).
- **Recommendations**—This will include any recommendations offered by interviewees on how to expand or improve dissemination efforts in order to have school personnel use the NIDA/NGBTS information in the classroom (Outcome Research Questions 2 and 3).

Review of secondary data will supplement site visit data to support a thorough and comprehensive analysis. Key variables from secondary data sources to be examined will include:

- Number NGBTS materials ordered;
- Type of NGBTS materials ordered; and
- Type of materials most frequently ordered or downloaded for use.

Based on our experience during the feasibility study, we have determined that by using a structured process during a full-scale evaluation, it will be possible to collect information on these variables.

4.4 Conceptual Framework

To support a solid foundation for this feasibility study, CSR developed a logic model (Appendix B). The logic model depicted in Appendix B illustrates how the NGBTS campaign is intended to work in achieving its intended objectives. It starts with inputs or resources of the program (e.g., www.teens.drugabuse.gov and Brain Power! The NIDA Junior Scientist program curriculum) and shows how the program works through planned activities or processes (e.g., dissemination via direct mail/e-mail) to produce the desired outputs (e.g., number of materials requested from NCADI), outcomes (e.g., increased awareness of NIDA as a source of science-based information on drug abuse), and impacts (e.g., changes in educational practices of health educators). In addition, the logic model incorporates two other categories of variables—antecedent variables (which include environmental factors that may influence program activities) and contextual or mediating factors (which are typically non-program factors operating

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concurrently in the program environment). The preliminary results of the feasibility study suggest that this logic model is a realistic portrayal of how the NGBTS campaign is intended to work. Therefore, this logic model will serve as the broad conceptual framework for the full-scale evaluation of the NGBTS campaign.

5. DATA COLLECTION AND ANALYSIS

This section provides information on the data sources identified and the data collection instruments and strategies used as well as a description of the data analysis methodologies used during the feasibility study.

5.1 Data Sources

Exhibit 2 delineates the research questions, the data sources identified, and the data collection method used during the feasibility study.

Exhibit 2. Research Questions, Data Source, Data Collection Methods

Research Questions	Data Source	Data Collection Method
How effective are the dissemination approaches used to meet the NGBTS overall campaign goals (Goals 1-3)?	Interview participants, focus group participants, sample Web site usage reports	On-site interviews, focus groups discussions, review of secondary data sources including Web site statistics.
How effective are the dissemination approaches used to reach intended target audiences (students, teachers, and parents) and how are these approaches meeting stated NGBTS goals (Goals 4-6)?	Interview participants, focus group participants, sample Web site usage reports,	On-site interviews, focus group discussions, review of secondary data sources including Web site statistics.
What are the most effective ways to reach teachers and encourage use and incorporation of the NIDA materials in the classroom curricula? Students? Parents?	Interview participants, focus group participants, reports on other similar programs	On-site interviews, focus group discussions, review of literature on similar programs.
Are the program and user (stakeholder) goals being met?	Interview participants, focus groups	On-site interviews, focus group discussions, review of literature.
What are the performance measures (outputs and outcomes) that can be used to measure whether these goals are met?	Interview participants, focus group participants, NGBTS campaign staff.	On-site interviews, focus group discussions, NGBTS staff interviews
What existing data sources can be used to evaluate NGTBS and what additional data collection is required?	List of all data sources identified by NGBTS/NIDA program staff and contractor.	Review of literature and secondary sources.
What type of evaluation design (s) will provide the most effective/cost effective way to measure program effectiveness as well as cost effectiveness?	Analysis of qualitative and quantitative data gathered during the feasibility study.	Qualitative and quantitative data analysis methods identified by contractor.

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Research Questions	Data Source	Data Collection Method
Is there adequate justification to conduct a large-scale evaluation of the NGBTS campaign and is the cost reasonable?	Analysis and reporting of findings from the feasibility study.	Qualitative and quantitative data analysis identified by contractor.
What resources would be required to perform this scale evaluation?	Analysis and reporting of findings from the feasibility study.	Qualitative and quantitative data analysis identified by contractor.

5.2 Data Collection Instruments and Strategies

CSR carefully crafted interview guides to elicit information from school administrators/ personnel and teachers. Using this semi-structured interview guide, interviewers were able to gather information on specific research questions. This methodology allowed for variation/ individual differences to be fully recognized and characterized and supported a qualitative investigation of specific elements of the NGBTS campaign and the contextual variables that may influence the effective operation of the program. In addition, review of secondary data (which incorporate quantitative data) augmented the themes, patterns, and findings suggested by the qualitative data. This approach is recognized in the research literature as an appropriate evaluation methodology (Cohen, 2000).

5.3 Data Analysis

The analysis plan is based on using a logic model to identify the factors that most influenced outcomes. This type of analysis is commonly used to locate problems that interfere with a project being able to accomplish its stated goals and objectives.

The feasibility study compared and integrated qualitative information collected from individual interviews and focus groups and quantitative data extracted from the various NIDA data sources, such as the NCADI material ordering data. To this end, the analyses conducted for this evaluation used both inductive analytic techniques (which involve discovering patterns, themes, and categories in the data gathered) and deductive analytic techniques (which involve analyzing data using the logic model presented in Appendix B) (McMillan, 2001). CSR built on the strengths of each type of analysis to address the research questions presented in Exhibit 1.

6. KEY EVALUATION FINDINGS

The feasibility study results are based on input from focus group participants and individual educators interviewed in four Washington, D.C., area schools. In addition, a presentation was made at the monthly meeting of the Alexandria Schools Substance Abuse and Violence Prevention Advisory Committee Board at which members of the board were given an opportunity to review NGBTS materials and respond to questions posed by the research team. In addition, the research team held discussions with members of the Alexandria School Board, the Assistant Superintendent for Curriculum and Instruction in Alexandria, the Assistant Superintendent for Elementary Education in Washington, D.C., and principals in Alexandria, Virginia, Washington, D.C., and Largo, Maryland.

During these site visits, CSR collected information that addressed, in part, each of the research questions posed by the feasibility study (see Exhibit 1 on page 8). The key findings include the following.

***How effective are the dissemination approaches used
to meet the NGBTS overall campaign goals?***

Most respondents had some general knowledge of NIH and NIDA; however, they were not familiar with NIDA’s mission or the resources available to support its mission. Neither had they visited the Web site. In fact, they had not heard of the NGBTS campaign; nor did they recall receiving or reviewing the NGBTS materials.

Most respondents noted that drug abuse does effect their students; however, they did not feel that they had the time or access to resources to help them in addressing these issues. Furthermore, they noted that drug abuse education is not an integral part of their schools’ curriculum.

Most respondents did not seek science educational materials outside of the assigned school textbooks. Very few mentioned the Internet as a source of additional materials, and none of the respondents reported any receipt of scientific publications. They all agreed that their particular schools do not have a systematic and structured approach to addressing drug abuse education.

***How effective are the dissemination approaches used to reach intended target audiences
and how are these approaches meeting stated NGBTS goals?***

The manner in which information is packaged appears to be related to its effectiveness. Generally, respondents did not view e-mail as a viable way to get information to teachers. They strongly recommended that mailings be addressed specifically to the principal. When mailings, such as those that are a part of the NGBTS campaign, are addressed to the school, the package is usually redirected to a department chair who may or may not forward the information to the intended audience.

Mailings that are labeled as “FREE” do not provide an incentive to teachers; respondents noted that they consider the “FREE” tag to be a gimmick. In their view, items offered for “FREE” are often linked to a requirement to purchase expensive materials or programs. Also, their understanding was that “FREE” materials are often available in single or limited quantities. Many of the schools have limited copying or reproduction resources and obtaining a single item would seldom be sufficient. Respondents reacted favorably when a government agency was the origin of an information package; in fact, respondents recommended that NIDA representatives need to make presentations directly to the schools in order to establish a strong interest and receptivity on the part of teachers and other school staff. Direct presentation by a “credible source” was considered to be a highly effective approach to obtaining “buy-in” with teachers and other school staff.

Participants also expressed concern about the continuity or followup of a campaign. They expected that the receipt of a NGBTS-type campaign package should be a part of a long-term plan and strategy and that disseminating the package by itself would not be useful unless it was

presented as an integral part of a longer term campaign with multiple components designed to achieve specific objectives.

What are the most effective ways to reach teachers and encourage use and incorporation of the NIDA materials in the classroom curricula?

All respondents agreed that the school principal is the pivotal figure in the school setting and should be targeted as the primary contact to receive and review drug prevention materials. In fact, on several occasions respondents specifically stated that the principal’s “buy in” is a key ingredient to persuading teachers to use the materials. Without this level of support, some respondents noted that teachers and their colleagues (e.g., health counselors) might perceive the presence of issues such as time constraints, lack of additional resources, and lack of specific help and guidance on how to use the materials as significant barriers to utilizing the materials.

Several respondents commented that school administrators need to review/approve materials in advance and to encourage teachers to incorporate the materials into their teaching practice. While they agreed that teachers have some flexibility in what they teach, they also believe that these decisions are most often made by the principal or the curriculum coordinator. Given the current climate in the communities and schools regarding such issues as sex education and abstinence, some respondents expressed concern about how parents and the school administration will react to the overall issue of drug education in the schools. They questioned whether NIDA had considered the importance of allowing sufficient time and a process that enables school administrators to approve and authorize the use of NGBTS materials in their schools. This was a particularly sensitive issue among the Washington, D.C., participants.

The timing of dissemination is critical to the campaign’s success. Respondents agreed that any materials should be dispatched at the beginning of the school year so that they can be incorporated into the activities planned for the school year. The exploratory qualitative research conducted by IQ Solutions for NIDA also supports this finding. Respondents in that study noted that they would be “particularly open to reviewing and contemplating using or sharing information about such resources between late September or early October” (IQ Solutions, 2004).

Respondents generally recommended that information needs to be presented in formal forums at monthly or quarterly staff development sessions. In addition, across the board, respondents recommended that schoolwide campaigns should be mounted to:

- Educate staff on how to use the materials, especially during staff development workshops;
- Involve the students in the campaign;
- Promote a cross-disciplinary approach; and
- Reach out to parents to obtain their “buy in.”

**Feasibility Study for the NIDA Science-Based Drug Education Project,
Titled “NIDA Goes Back to School”**

During the course of the focus groups and interviews, participants were shown a packet of NGBTS materials and asked to react to these materials.² All respondents described the materials as “interesting” and indicated that they would use them in the future if they received them. They responded most positively to the posters and commented that they would appeal to the students. While there was an enthusiastic response to the materials, a small number of respondents reported that they would not be able to incorporate them into an existing curriculum. As a supplement to the materials reviewed, they recommended that the addition of lesson plans and directions on how to use the materials would provide a further incentive to use them.

Are the program and user (stakeholder) goals being met?

Some of NIDA’s overarching goals for the NGBTS campaign include promoting NIDA as a source for science-based information on drug abuse; promoting the NIDA for Teens Web site; highlighting opportunities to order NIDA materials; and educating teachers, students, and parents. As noted earlier, respondents were not aware of NIDA or the NGBTS campaign; therefore, it was difficult to determine whether the goals were being met. Two other overarching goals of the NGBTS campaign are to increase scientific literacy and to stimulate interest in scientific careers. While respondents were enthusiastic about these goals, they noted that time and resource limitations hinder them from pursuing these goals for their students. When asked specifically about stimulating interest in scientific careers, the respondents noted that career tracking is limited to high school students who attempt to enter college.

***What existing data sources can be used to evaluate the NGBTS and
what additional data collection is required?***

Respondents recommended several data sources and data collection techniques to enhance and evaluate the use of the NGBTS materials:

- Training teachers and involving them in the evaluation of the materials;
- Conducting surveys after the materials have been received and incorporated into teaching;
- Tracking students over a longer period to measure the impact of the materials on their attitudes, awareness, and knowledge of drug abuse problems; and
- Checking each year with students’ parents to assess their participation in the campaign.

A small number of respondents noted that they were aware of other community-based drug prevention activities, but they agreed that these activities were not actively pursued within their own schools.

² Participants were provided packets that included samples of the materials listed on page 2 of this report. The procedures for providing the packets were consistent for both focus groups and site visit interviews. Packets were provided midway through the discussion to eliminate any possible bias in the earlier discussions that focuses on knowledge of NIDA and NIH.

***What are the performance measures (outputs and outcomes)
that can be used to measure whether these goals are met?***

When asked about specific performance measures that could be used to assess whether the NGBTS goals are being met, respondents were hesitant to provide concrete example. Some really wanted evidence that the NIDA materials were effective. They have viewed and reviewed many materials over the years and requested clear documentation of efficacy in drug abuse prevention and/or science education. This particular discussion garnered more questions than answers from respondents. For example, respondents asked “How does NIDA know that they work?”; “Are the NIDA materials consistent with the State of Virginia Standards of Learning?”; and “Does NIDA intend for their curricula to replace, complement, or supplement current materials used in the schools?” They expressed a need to better understand NIDA’s goal for NGBTS. Some respondents did state that conducting a survey of students to measure changes in attitudes and knowledge, after the materials were introduced, would be an effective way to measure and document outcomes.

***What type of evaluation design (s) will provide the most effective/cost effective way
to measure program effectiveness as well as cost effectiveness?***

Based on our experience, we are providing a staged research design, which is described in detail in Section 7 of this report.

***Is there adequate justification to conduct a large-scale evaluation
of the NGBTS campaign and is the cost reasonable?
What resources would be required to perform this full-scale evaluation?***

A detailed timeline and level of effort required for implementation of a large-scale evaluation is presented in Section 7.7 of this report. It is CSR’s understanding that an application will be submitted for set-aside funding, which will support this evaluation effort.

7. RECOMMENDATIONS FOR A FULL-SCALE EVALUATION

The results of the feasibility study indicate that teachers and other school personnel were willing to participate in focus groups and individual interviews. They also strongly suggested that parents and students be involved in the marketing and evaluation of an NGBTS-type campaign. CSR was also successful in examining existing data, such as Web usage and utilization data from NCADI, to supplement the qualitative site visit data. Based on these results, it will be feasible to conduct a full-scale evaluation of the NGBTS campaign. These results lead NIDA to recommend that a full-scale evaluation be conducted by the feasibility evaluation contractor. This study should be initiated with minimum delay in order to build on the momentum of the initial research, retain the involvement of current NIDA and contractor staff, and enable NIDA to respond, in a timely manner, to NIH management questions about the NGBTS campaign within the next fiscal year cycle of planning for new and ongoing program initiatives. The full-scale evaluation can be expeditiously negotiated and awarded under the GSA MOBIS vehicle used to support the feasibility study.

7.1 Study Design

CSR recommends a mixed method data collection strategy that incorporates primarily qualitative measures that will explore the how and why of program activities and quantitative measures of program outcomes.

7.1.1 Formative Evaluation

This involves gathering information during the early stages of a project or program, with a focus on determining whether the efforts expended are unfolding as planned; uncovering any obstacles, barriers, or unexpected opportunities that may have emerged; and identifying mid-course adjustments and corrections that can help ensure the success of the work being conducted. This will be important in responding to process research questions that primarily examine how the NGBTS campaign is operating and whether the goals of the program, particularly the effective dissemination and use of NGBTS materials as well as user goals are being met.

Part of the formative evaluation of the NGBTS campaign began with this feasibility study. The interviews, focus groups, and observations provided some insight into whether the campaign has been successful in meeting established program goals.

7.1.2 Summative Evaluation

This involves the preparation of a formal report outlining program outcomes. Outcome evaluations are conducted on programs that are described as being mature and have had an opportunity and the time to have an effect on the targeted populations (Owen and Rodgers, 1999). At the time of the feasibility study, the NGBTS campaign had been operating for less than 2 years. This did not provide sufficient time to measure outcomes nor did it provide sufficient data to support a full-scale evaluation. Now, at the end of the 3rd year of its implementation, it is appropriate to conduct a full-scale evaluation of the NGBTS campaign that incorporates both a process and an outcome component.

In addition, a full-scale evaluation may allow for opportunities to examine the cost effectiveness of the NGBTS campaign over time. Cost-effectiveness studies should account for startup costs, frequency of contact, or duration and intensity of the interventions (e.g., in the case of NGBTS, the time and method of disseminating materials), and type of intervention strategy (e.g., the groups targeted by the NGBTS campaign) (Russell, 1986). NIDA will adopt the concept of productivity, an overarching concept that will serve as a bridge between the various approaches used to examine program effectiveness and cost efficiency. Productivity relates input to the output of a given process, in this case the dissemination of science-based drug abuse prevention materials (input) intended to result in the increased awareness and knowledge of drug effects (by youth, teachers, and parents) as well as the recognition of NIDA as a source of this type of science-based information (output). In the case of NGBTS, for example, we could look at the relationship between the resources committed to producing and disseminating the materials (the input of interest) and an increase in the ordering of NGBTS materials (an output of interest). A cost-effectiveness study may examine amount spent on dissemination of materials over time as compared with the number of materials ordered. A cost-effectiveness analysis of NGBTS may be

a useful tool in differentiating relative outputs and outcomes among dissemination and campaign targeting strategies.

The full-scale evaluation will incorporate quasi-experimental data gathering techniques. This is an effective design, especially when the goal is to make comparisons between groups without randomly assigning members to either group. Randomization for the NGBTS campaign evaluation is not possible because NIDA has cast a very wide net in disseminating the NGBTS materials to schools around the country. However, a quasi-experimental evaluation design will allow for a variety of comparisons with groups that use the NGBTS materials and with groups that engage in similar programs.

We recommend a multilevel study design that will be implemented in several phases. In this case, during **Phase I, CSR will work closely with NIDA to develop and document the Fiscal Year 2006 NGBTS campaign plans.** The experience of the feasibility study demonstrated the importance of clearly incorporating the design of the evaluation into the design of the NGBTS campaign implementation. A robust and defensible evaluation must be based on a clear understanding and a detailed description of campaign elements, including what materials would be disseminated to whom and the targeted audiences of each campaign component. At this time, the NGBTS campaign plan for Fiscal Year 2006 is not finalized, but it is feasible to tie the development of the dissemination plan to the planned NGBTS evaluation. For example, the dissemination plan may target the audience of school principals that was identified as “key” gatekeepers by respondents participating in the feasibility study. When the Fiscal Year 2006 NGBTS campaign dissemination plan has been developed, it will be possible to structure the full-scale evaluation to ensure that it produces data to measure intended processes and outcomes.

Phase II would include identification of a survey respondent pool, selected from the audiences targeted by the Fiscal Year 2006 NGBTS dissemination plan. A sample of respondents would then be selected from each targeted group (e.g., principals, science teachers, members of Parent Teacher Associations) to participate in the in-depth case studies (see Phase IV) and the telephone interviews (see Phase V).

Phase III would focus on instrument design. This includes the development of one or more survey instruments that would collect process and outcome indicators through semi-structured telephone interviews with targeted audiences, to be administered during Phase V. The survey instruments will include both close-ended and open-ended questions. This will provide a mix of quantifiable response data—both ‘yes/no’ questions and Likert scale questions as well as in-depth contextual information.

We recommend pretesting the survey instruments with a sample of nine respondents identified in Phase II. This will allow for the collection of valuable information on the structure, including elements and wording of the survey that can be used to revise the protocol as needed.

In addition, the semi-structured interview guide, developed for the feasibility study, can be adapted and refined for use in the Phase IV in-depth case studies.

Phase IV would involve a purposive sample of schools that participate in an in-depth study. We recommend that this study component include eight schools (and teachers within those

schools) that agree, in advance, to use the NGBTS campaign materials, to host a NIDA representative to introduce the NGBTS campaign, and to participate in case studies to evaluate the campaign. This would involve the selection of targeted schools, included in the sample selected during Phase II. This in-depth data collection effort will incorporate case study methods that provide an opportunity to document, close up, the implementation of the NGBTS campaign; to observe teachers and other school participants at work; to collect rich contextual information on both the targeted schools and communities; and to assess outcomes on all targeted audiences.

Phase V would encompass a probability telephone survey of teachers, students, parents, and other targeted audiences identified during Phase II. This study component will provide the opportunity to determine whether NGBTS materials have been received, utilized, and if so, the extent to which their use has produced the intended goals of the campaign.

Phase VI will be devoted to developing evaluation products to inform NIDA in the future management of the NGBTS campaign. Based on an analysis of the Phase V data, quantitative measures of NGBTS processes and outcomes will be developed and documented. The Phase V quantitative data will be integrated with the qualitative data developed during Phase IV to produce case studies of individual schools (and students, teachers, and parents associated with the schools) allowing for cross-site analyses. The case studies will support an exploration of community characteristics and document how these may influence program implementation as well as the identification of barriers to and facilitators of change. The case study method also will support a focused analysis of how each intended target population (i.e., teachers, youth, and parents) uses the NGBTS materials. This approach will provide an opportunity to document a compendium of “best practices” for the effective incorporation of the NGBTS science-based information into the school curriculum, as well as effective dissemination strategies for science-based materials.

7.2 Study Population

Based on the results of the feasibility study conducted by CSR, the target population for the full-scale evaluation will likely focus on school principals and administrators that have responsibility for curriculum change and innovation as well as teachers, students, and parents within those schools who will be recruited to participate in the in-depth portion of the evaluation. A sample of school principals and administrators (n=300) will be identified to receive the NGBTS materials and participate in a telephone survey and a subgroup of those identified will be selected to participate in the in-depth study.

7.3 Data Sources and Quality Control

As shown in the feasibility study, while teachers, nurses, counselors, and social workers provided useful data, almost all of the respondents identified school principals as being the key point of contact for any type of full-scale evaluation. In scheduling site visits for the feasibility study, once initial contact was made with a school principal, most schools were willing to identify school personnel that could participate in a focus group or a one-on-one interview. In the full-scale study, school principals should serve as the initial source of both process and outcome data, with teachers, students, and parents providing additional information.

Additional sources identified by CSR and NIDA staff during the feasibility study can provide supplemental information on possible outcomes of the NGBTS campaign. These sources include NIDA’s Virtual Information Center, which tracks and analyzes requests for NGBTS; NCADI, which monitors the inventory and the quantity of NGBTS materials ordered over time; administrative statistics collected to track rate of Web site usage over time for NIDA Teens Web site and the NGBTS Web site; the Brain Power evaluation, currently being conducted by a local consulting firm; and results of the NIH-wide survey, which has been created specifically for the Teens Web site. Analysis of the secondary sources will be a labor-intensive process that is likely to produce limited useful information. We noted the limitations encountered with these data sources during the feasibility study (see Appendix C). Consideration of resources available to fund the full-scale evaluation and the accessibility and completeness of these data will drive decisions on which sources should be incorporated in the full-scale study.

Additionally, the results of the feasibility study show that it will be important for a researcher or a NIDA staff person to participate in the initial presentation of the NGBTS materials to schools. CSR does not believe that this will constitute a barrier to getting the work done, because NIDA’s involvement on the front end of site visits will be limited to the eight schools that participate in the in-depth study (Phase IV). During the feasibility study, CSR made arrangements for a NIDA staff member to make such a presentation at a local school board meeting. This experience proved to be successful and demonstrated the value and feasibility of engaging a NIDA representative in the dissemination and evaluation process.

7.4 Data Collection Instruments and Data Analysis

A telephone interview survey will be developed as one of the data collection tools for the full-scale evaluation. Additional questionnaires, which will be administered to teachers, students, and parents, will be developed during Phase III of the full-scale evaluation.

All data from the interview survey will be entered into a database, such as Access. To monitor the quality of data entry, data from a sample of questionnaires will be entered twice into the database, and any discrepancies will be examined and corrected. Alternatively, a data entry form could be created to allow interviewers to enter the responses directly into the database. With this system, the time and effort saved from removing the paper-to-database data entry step will be substantial.

Data will be extracted from the database into a statistical analysis software program, such as SPSS. Basic descriptive methods, such as frequencies, means, and cross tabulations across categories of NGBTS audiences, will be used to analyze the survey data.

The interview guide used during the feasibility study will be adapted and refined to collect data for the in-depth portion of the full-scale evaluation. The analysis plan for the qualitative data collected using this data collection tool involves several steps. Primarily, a logic model analysis methodology will be utilized that will identify the factors that most influenced outcomes. This type of analysis is commonly used to locate problems that interfere with a project accomplishing its stated goals and objectives. For example, we could look at a variety of contextual factors or variables that may influence campaign outcomes.

As the evaluation literature notes, triangulation of both qualitative and quantitative data and methodologies will be very important to support this study (Patton, 2001). Comparing and integrating information received from the individual interviews, the information received from the focus groups, as well as quantitative data results from the various NIDA data sources will be crucial in this analysis. To this end, the full-scale evaluation analyses will employ both inductive analytic techniques (which involve discovering patterns, themes, and categories in the data gathered) and deductive analytic techniques, (which involve analyzing of data using an existing framework or logic model) (McMillan, 2001). Building on the strengths of each type of analysis will provide a comprehensive picture of the NGBTS campaign and its effects on the targeted audience.

7.5 Products of the Full-Scale Evaluation

The evaluation products will include a final report that describes the efforts used to implement the NGBTS campaign and whether they are unfolding as planned and describes any obstacles, barriers, or unexpected opportunities that may have emerged through the collection of data; and that identifies mid-course adjustments and corrections that can help ensure the future success of the campaign. Additionally, the final report will outline campaign outcomes and describe how effective it has been in reaching its intended short- and long-term goals.

The in-depth study component will yield case study reports that provide rich, contextual data on the incorporation and implementation of the NGBTS materials. Based on data gathered through the case study reports, NIDA will be in a strong position to develop a compendium of “best practices” to support the effective incorporation of the NGBTS science-based information into the school curriculum as well as effective dissemination strategies for science-based materials.

7.6 Dissemination of Evaluation Results

The evaluation results, particularly the case studies and compendium of best practices, can be disseminated widely to schools around the country. The product will become an additional resource that provides teachers and other school personnel with needed guidance on how to implement and incorporate the science-based drug abuse information into their day-to-day teaching of young people.

7.7 Estimated Timeline and Cost

Based on the length of time and staff hours required to conduct the feasibility study, we estimate that it will take approximately 18 months to complete the full-scale evaluation. We recommend that materials be distributed through an NGBTS campaign to 300 principals and PTA members. We recommend that approximately one-third of these school principals and PTA members be included in the survey interview component. Exhibit 3 provides an estimate of the level of effort that will be required to conduct this study. The total level of effort of approximately 4,272 hours will require funds in the amount of \$375,027 to cover estimated expenses associated with the full-scale evaluation of the NGBTS campaign. Exhibit 2 provides a detailed timeline associated with the full-scale evaluation of the NGBTS campaign.

Exhibit 3. Level of Effort and Timeline

Tasks	Level of Effort	Timeline
Task 1: Planning Meetings/Finalizing Research Design	176	Month 1–3
Task 2: Sample Selection/Survey Clearance Procedures	312	Month 4
Task 3: Preparation/Defense of OMB Package	336	Months 4–7
Task 4: Sample Selection for In-Depth Study	312	Month 6
Task 5: Conduct Survey Interview	392	Months 8–11
Task 6: Conduct of Interviews (Case Study)	776	Months 8–13
Task 7: Data Entry/Analysis of Survey Data	592	Months 11–13
Task 8: Data Entry/Analysis of Case Study Data	568	Months 11–14
Task 9: Preparation of Final Report	808	Month 15–17
Total Hours	4,272	Months 1–18

7.7.1 OMB Submission Requirements

The Office of Management and Budget (OMB) clearance function, similar to institutional review boards, is designed to ensure that studies undertaken by Government agencies are safe, efficient, and useful. The Paperwork Reduction Act of 1995 (PRA), P.L. 104-13, outlines the process for gaining clearance from OMB for systematic collection of information by Federal agencies. Most clearances expire after 3 years and require new clearance for continued usage. However, it would be wise for NIDA staff to investigate whether the NIH-wide generic OMB clearance for customer satisfaction could satisfy the OMB clearance requirements for this study. For example, OMB NO: 0925-0458, with an expiration date of 06/30/2007, relates directly to “Satisfaction Surveys of Customers and Other Partners.” OMB NO: 0925-0474, with an expiration date of 09/30/2007, is also related to “Generic Clearance for Satisfaction Surveys of Customers.”

OMB’s reviews of information collections typically focus on two things: the need for the information—including whether the information may exist elsewhere—and the burden on the public to provide the information. Results from the feasibility study provide the framework for completing an OMB clearance package for the full-scale evaluation. We briefly outline below some of the key components of the OMB package and supporting information drawn from the feasibility study.

7.7.2 Cover Form (OMB 83-1)

The cover form for the OMB package—form OMB 83-I—requests basic information about the proposed data collection effort. Key elements are the *annual reporting and recordkeeping hour burden* (item 13) and the *annual reporting and recordkeeping cost burden* (item 14).

Exhibit 4. Detailed Timeline and Deliverables

Activity/Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Deliverable	
1. Kickoff meeting	●																			Summary of discussion points
2. Meet with NIDA Staff/Develop/ Document Dissemination Plan	←→																			Prepare Report on Campaign Plan/How Design will be Structured
3. Finalize Research Design		←→																		Draft/Final Research Design Report
4. Identify Survey Sample				←→																Listing of Sample
5. Develop Survey Instrument			←→																	Draft Survey Instruments
6. Pre-test Instrument				←→																Pre-test Results Report
7. Preparation of OMB Package				←→																OMB Package Submission
8. Revise/Refine Survey Instrument					←→															Revised Survey Instrument
9. Develop Case Study Data Collection Instruments				←→																Draft/Final Data Collection Instrument for In-Depth Study
10. Purposive Sample Identification (Case Studies)						←→														Listing of Sample sites for Case Studies
11. Conduct Survey									←→											Weekly Progress Reports
12. Plan and Conduct interviews/observations for In-Depth Case Studies										←→										Monthly Progress Reports
13. Data Entry/Data Analysis (Case Studies)												←→								Documentation of Process
14. Write case studies													←→							Case Study Reports
15. Data Entry/Data Analysis (Survey Data)														←→						Documentation of Process
16. Develop Integrative Analysis and Write Draft Final Report																				Draft report
17. Conduct briefing for NIDA																			●	PowerPoint slides
18. Finalize/Submit Final Report																			←→	Final Report

Annual reporting and recordkeeping hour burden—Depending on the number of school principals and PTA members to be included in the full evaluation, the number of respondents may be up to 100. This is based on an estimate of interviews with 75 school principals and 25 PTA members. This will constitute a one-time data collection process for a total of 100 *annual responses*. Apart from scheduling correspondence, none of the responses will be collected electronically, and respondents will not have to complete a paper questionnaire since the interview will be conducted over the telephone. We estimate that each interview will take approximately 30 minutes. Adding 10 minutes for scheduling correspondence, we estimate a per-researcher burden of 40 minutes. The *total annual hours requested* would therefore be 60 hours (100 X 0.6).

Annual reporting and recordkeeping cost burden—We do not foresee any *capital/startup costs* to respondents for participating in the survey. Assuming that responding to the survey takes away from time spent on their other professional activities, the *total annual costs (O&M)* to the 75 school principals and 25 PTA members would be \$1,888. This figure was computed using the average hourly wage from the Bureau of Labor Statistics for Education Administrators, Elementary and Secondary School (# 11-9032) of \$31.48 and multiplying it by the 40 minute estimated hour burden.

7.7.3 Justification

In support of form 83-I, OMB requires a written justification for the proposed data collection. We outline below the main points under each section of this justification.

Justification for need for data collection—NIDA needs to evaluate the NGBTS campaign and determine its success. Data on the successes (or failures) of this program will enable NIDA to assess whether the campaign is accomplishing its stated goals and, if not, how to improve the implementation of the campaign. To meet the challenge of accomplishing a comprehensive evaluation of its commitment to providing rigorous science-based drug abuse information to students, teachers, and parents, a sound evaluation of the NGBTS campaign is necessary and should include both process and outcome measures. The outcome evaluation will assess the extent to which the campaign was successful in reaching its intended goals. The process evaluation will assess whether the NGBTS campaign (and its components) have been implemented as planned and whether expected output is being produced and will provide insights on how the campaign could be improved in the future.

Use of resulting information—The findings from the data collection effort would be used to improve not only the NGBTS campaign, but they will also identify effective strategies that will assist NIDA’s mission to make science-based drug abuse information available and accessible to the public.

Description of any technological data collection techniques—Some secondary data will be retrieved from the existing NCADI system, as well as from the NIDA Virtual Information Center database. The data collection team will apply a systematic protocol for such data retrieval.

Efforts to identify duplicate, existing information—NIDA has examined existing reports and databases about the NGBTS campaign; however, these data sources do not provide the

information on program process or outcomes that would help NIDA improve the campaign in the future. Such programmatically useful information would only be available from interviews with the recipients and users of the NGBTS science-based drug abuse information.

Consequences of not collecting the data—Without collecting information about the implementation and impact of the NGBTS campaign, NIDA will not know how the campaign is functioning, whether it is functioning as planned, and what effect it is having.

Description of assurance of confidentiality—All respondents will be asked to read and sign a consent form before participating in the study. The form will describe the study and procedures used to assure confidentiality of all responses. Although identifying information will be collected in order to make contact with the respondents, this information will not be linked in any way to the responses provided by the interviewees.

Estimated hour burden and cost burden to respondents—As described above, the estimated total hour burden to respondents is 60 hours, and the estimated total cost is \$1,888.

Estimated annual cost to Federal Government—Based on CSR’s experience conducting the feasibility study, we estimate that the cost to the Federal Government for conducting the full-scale evaluation of the NGBTS campaign would be \$375,027.

Plans for data tabulations and publication—NIDA will need to make a decision as to whether it intends to publish results from the evaluation. If it plans to develop publications (e.g., compendiums and/or reports made available to the public or research journal articles), plans for such publication will need to be described.

7.7.4 Collection of Information Employing Statistical Methods

Quantitative data from the interview survey will be analyzed using basic statistical methods. The OMB requires a brief description of statistical approaches.

Study sample size—We estimate a sample size of 100 respondents.

Expected response rate—We expect a response rate for the full evaluation of 80 percent.

Methods to maximize response rate—To maximize the response rate, respondents will be contacted first through e-mail or letter correspondence to explain the purpose of the study and encourage them to participate. The survey team will then follow up with each potential respondent to confirm their willingness and ability to participate and to schedule the most convenient time for the interview.

Tests of procedures or methods to be undertaken—Two forms of data collection will be used—a telephone interview survey with school principals and PTA members and an in-depth study involving teachers, students, and parents from sample number of schools.

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Appendix A: Interview Guide

Interview Guide

DATE:

NAME OF RESPONDENT:

NAME OF INTERVIEWER:

Good Morning/Good Evening. My name is XXXX from CSR Incorporated, a consulting services and research firm based in Arlington, VA. I would like to first say thank you for taking the time from your busy schedule to sit down with us today.

We are conducting interviews with school teachers and administrators in the Washington D.C. metropolitan area about the kinds of science education materials and resources you look for and use in your schools. We are talking to you as not only practitioners but also experts in the field of education. We are turning to you to help us understand what you need and use in the way of science education materials, as well as how to more effectively get you the information.

This will take about 1 hour.

1. Can you tell me a little about yourself and your role in the school that you work in?
(Probe for length of time teaching, grade taught/ages of students, subject area taught).

[NIDA/NGBTS]

[TEACHERS/ADMINISTRATORS]

2. Are you familiar with the National Institutes of Health's National Institute on Drug Abuse? Are you familiar with NIDA's mission?
3. Have you ever used NIDA resources for drug abuse or for science information?
4. What and how have you used their materials and resources? What was the purpose (personal research, class, presentation)?
5. Have you ever visited NIDA's Web site(s)? (Probe: at home or at work, how often) If not, why not?
6. Have you heard for the NIDA Goes Back to School Campaign? What have you heard?
7. Have you received information on the NIDA Goes Back To School (NGBTS) campaign?
If so:
 - What did you receive?
 - How did you receive it (mail, advertisement, conference, teacher association)?
 - Have you ordered any of the materials? How did you order the materials? Have you used them?
 - Would you encourage teachers, students, parents to use these materials?

[CLASSROOM TEACHING]

[TEACHERS]

8. Who has responsibility for providing drug abuse education? (Probe: Science or Health teacher or School Nurse).
9. Who, in your opinion, would be the most appropriate to provide drug abuse education?

Let us focus on the subjects that you currently teach.

11. How often do you teach the subject? (Probe: Once a week, several times a week). Do you teach different grades? Are your classes all at the same school?
12. Do you address drug abuse issues in your science/health class?

If not, why not? (Probe: do you think it would be useful? What age should you start to teach?)
13. How do you address drug abuse issues in your science/health classes?
14. Are drug abuse or drug abuse-related issues integral components of the curriculum?
15. Do you plan the lessons to coincide with any national/local drug abuse-related awareness campaign(s)?
16. Do you incorporate lab or project activities into these lessons?
17. Are the objectives of the lessons focused on the science/health basis of drug abuse, the social/community issues of the drug abuse, both, or other concepts?
18. What resources do you use to support meeting the objectives you have set for the lesson?
19. Are there any programs in your community with a focus on drug abuse prevention or risk behavior avoidance? If so, please give a brief description. (Probe: are you involved in these programs? How?)
20. Do science teachers have a role/responsibility for drug education beyond the classroom? Are you responsible for sponsoring programs, giving presentations, or community activities? If so:
 - How are you involved?
 - Who are the participant/consumers?
 - What are the source(s) for materials, information, and resources?

**[AFTER REVIEW OF
NIDA/NGBTS MATERIALS:]**

[TEACHERS AND ADMINSTRATORS]

Please take some time to look over the materials in front of you. Based on your review of these materials:

21. Would you be able to use the materials in your current position?
22. How would you use the materials?
23. For what age group would you use it?
24. What would facilitate its use?
25. If you cannot use it, who within your school would you see as making the most use out of the materials?
26. Which of the materials presented to you caught your attention? Why?

[OTHER SOURCES]

[TEACHERS AND ADMINSTRATORS]

27. Do you have access to science publications? If so, which science publication do you have access to?
28. Have you recently received science education material? If so, what was the science education material you received? Used?
29. Where did you find it? How did you find the science materials?
30. Do you look for new science education materials throughout the year? How often? Why? Probe for reasons:
 - Is it to keep up with new information?
 - Is it to facilitate teaching?
31. When you do seek new science education materials, what type of information do you typically seek?
32. How do you go about finding new science education materials? Is it mostly online, through the mail, e-mail, ads, professional magazines or journals, or government agencies?
33. What sources do you most use to find this information?
34. Why do you use these sources? (probe for reasons—e.g., convenience, reputation, credibility, cost)
35. If you do not use science education materials, can you talk about why? (Probe for reasons—convenience, lack of time, cost, lack of materials)

[DISSEMINATION]**[TEACHERS/ADMINISTRATORS]**

36. What would be the most effective way to inform or notify schools about science education materials? (Probe: e-mail, mail, Web site, conferences)
37. Given your background (as a teacher, administrator) in the school system, how would you recommend that NIDA inform:
- Teachers
 - Administrators
38. If you were asked to identify key techniques or methods to measure the effectiveness of a campaign such as NGBTS, what methods would you identify?
- Probe: Do you administer tests that would let you measure effectiveness of science education materials? If so, how often do you administer them (are they pre and post introduction of the materials?)
- Do you provide focused and regular activities for parents and students that focus on educating them on the consequences of drug abuse?
- Do you have system in your school or classroom that would track student's interest in scientific careers? If so, what type of system do you have?

**[CURRICULUM AND MATERIAL
CHANGE WITHIN SCHOOLS]****[TEACHERS AND ADMINSTRATORS]**

39. Who has responsibility to change curricula or materials used in your school?
40. Do you play a role in making changes to curricula or materials?
41. What is the general process used to change curricula or materials used? (Probe for time of school year and how often?)
42. When is the best time of year to get materials to you? Why?

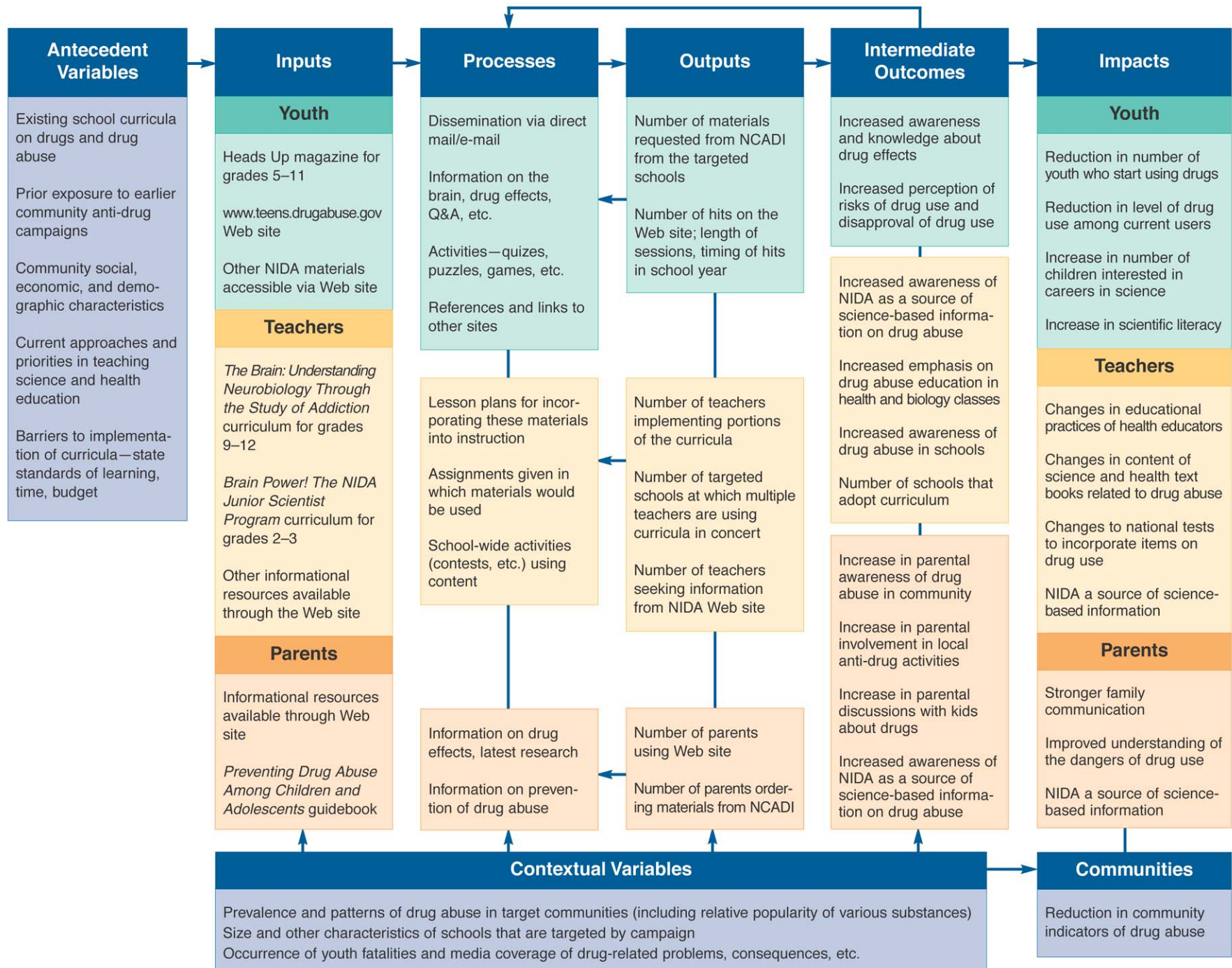
[SUMMARY]**[TEACHERS AND ADMINSTRATORS]**

43. Are there any other thoughts you would like to share that we have not covered today?
- Again, thank you for your time.

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Appendix B: Logic Model

Logic Model for *NIDA Goes Back to School*



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*Appendix C: Data Limitations for
Feasibility Study*

Data Limitations for Feasibility Study

Data Limitation Identified	Example
NIDA/NGBTS does not receive specific ordering information.	There is no integrated source of ordering information. The ordering information comes from a variety of sources: Online orders—IQ Solutions (a NIDA contractor); Telephone Orders and Mailings—NCADI; Online downloads—NCADI.
Some of the information provided on monthly reports generated for tracking purposes may not prove useful for evaluation purposes.	The capturing of phone ordering information is done by NCADI. Although reports are generated monthly—and provide referral source information—the referral source information could be as basic as naming commercial sites such as yahoo.com—this information will not be useful for our evaluation purposes. In addition, the number of hits to the Web site is documented in the reports but they have limited meaning—the number of page views is also documented but these also provide limited value. Caution is required in interpreting the data.
Information provided on referral Web sites does not indicate whether it was the same visitor or a different visitor to the NIDA Web site.	The referral information gathered on the Web site provides several types of information including the number of hits and page views (see discussion above) but very limited information on the types of visitors. It does, however, provide some information on previously visited sites.
A survey is being conducted NIH wide—using American Customer Satisfaction Index (ACSI). This survey is ongoing and includes the NIDA main site as well as the teen site.	Although it may prove to be useful, it is not systematically conducted on the Back to School site.
The campaign elements/products disseminated as part of the 2003 and 2004 campaigns are not the same, making comparisons difficult.	An e-mail was not sent out this year as part of the NGTBS campaigns. Reasons for the exclusion included (from the focus group study)—the e-mail got caught up in spam or people ignored it because they were not familiar with NIDA.
Viable utilization data are not available.	Only brief anecdotal information is available on utilization of NGBTS materials, resulting from focus groups conducted by another contractor. Focus group participants were asked the question about how they use the materials.
List serves used for the mailings in the 2003 and 2004 campaigns were purchased for a one time use only.	In order to be used in any future evaluations, these list serves will have to be purchased again.
Mailing in October 2003 was different from 2004.	2003 mailing was more general and targeted school personnel including Science Department Chairs and school nurses. 2004 focused specifically on Health teachers and Biology teachers. This would make comparisons difficult.

Data Limitation Identified	Example
The order forms used online and the reports generated on a biweekly basis are not the same—there is room for interpretation.	When visitors to the Web site are asked about how they heard about the NGBTS materials, they are given a choice of “other”. The report aggregates responses into family/friend/colleague, making it difficult to decipher the visitor’s specific response.
Participants in the school site visits and focus groups may not be familiar with NIDA or NGBTS materials.	There might be some variance in the knowledge participants may have of specific NGBTS materials or of NIDA as a source of science based information on drug abuse information.
Information contained in the qualitative exploratory study conducted by another NIDA contractor does not provide details.	There is limited discussion in the report on who participated in the study or how the participants were selected.