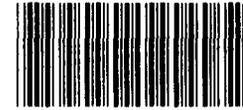


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Testimony



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Drug Abuse Research:

Federal Funding and Future Needs

Statement of
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Before the
Subcommittee on Legislation and National Security
Committee on Government Operations
U.S. House of Representatives



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Mr. Chairman and Members of the Subcommittee:

I am pleased to respond to your invitation to testify about the work GAO has done on federally funded drug abuse research. At your request, we examined trends in funding for research on the causes, prevention, and treatment of drug abuse. We also spoke with experts to learn their views on the research that is needed in these three areas. Our work is not yet complete, but we expect to publish our report later this fall, and I can present our principal findings today.

In brief, we examined funding trends for extramural research grants, trends that reflect both changes in congressional appropriations and direction as well as agency officials' discretionary actions. We looked at the two agencies supporting the majority of this type of research--the National Institute on Drug Abuse (NIDA) in the Department of Health and Human Services (HHS) and components of the Department of Justice's Office of Justice Programs (OJP). Our major findings are as follows:

-- Both agencies dramatically increased funding (in constant dollars) for extramural drug abuse research grants in fiscal years 1987 through 1990 as compared to such funding during the period 1981-86.

- At NIDA, such funding grew enormously (over 200

subcommittee.

- With regard to research on the causes of drug abuse, we found that the federal investment has been even smaller. Causality research received at these two agencies less than 3 percent of drug research spending in 1990 or 0.10 percent of the total drug control budget for that year. Historically, NIDA spent about 4.6 percent of its research funds in this area from 1973 to 1990, and OJP spent 7 percent of its smaller research funds from 1981 to 1990. For the future, researchers and research users we spoke with agreed on the importance of further research on psychological and social environmental factors that lead to drug abuse.

- This pattern of small support for causality research has not changed in the last decade at either agency. On the other hand, research on prevention and treatment surged at NIDA, along with overall growth in the same period. At OJP, however, funding for treatment research dropped to zero in 1990.

- Although other kinds of drug research, chiefly biomedical studies whose primary purpose was not linked to causality, prevention, or treatment topics, dominated NIDA's spending for many years, that pattern has changed.

From all these findings, we recommend that the committee, within its oversight of the national drug control strategy, review the appropriate place and especially the size and general direction of the research effort currently being pursued in the overall drug control program. The goal of such a review would be to ensure that the basic knowledge base is being steadily built to support future policy and that present policy is being adequately evaluated as part of the knowledge-building.

SCOPE AND METHOD

In response to your request, we have examined three major questions:

1. How do trends in funding for drug abuse research at the major agencies involved compare to other trends in federal research support?
2. At these same agencies, what were trends in funding within various categories of drug abuse research from 1973 to 1990, especially in the study of causes, prevention, and treatment?
3. What research do experts in the field believe is needed to understand the causes, prevention, and treatment of

enforcement technologies, agriculture (such as crop eradication), or border control and security.

At NIDA we examined funding trends since its establishment in 1973, but for lack of usable data in earlier years at OJP we could only analyze research supported since 1981 (with partial data on 1981, 1982, and 1990). By agreement with the subcommittee staff, we did not review research on alcohol use and abuse. We adjusted expenditures to express them in constant 1982 dollars.

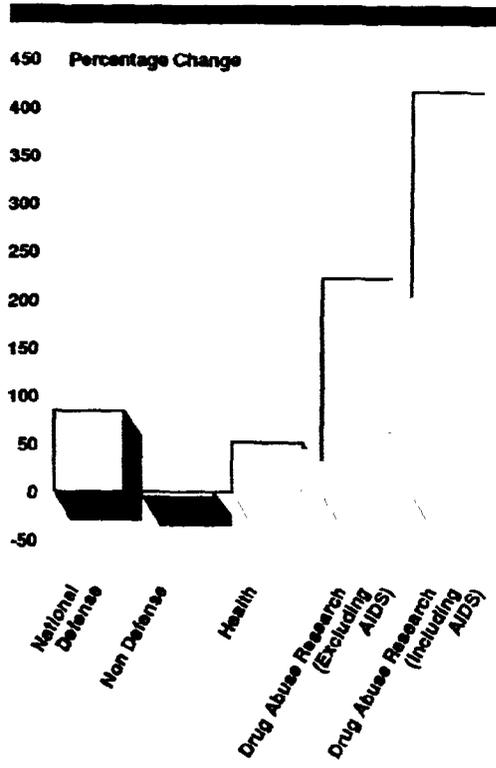
We selected 30 researchers and potential users of research results for telephone interviews. We chose the individuals from their publications and other pertinent activities; we also requested nominations from the Office of National Drug Control Policy (ONDCP) and we included all the individuals suggested. We spoke individually with each of the 30 to obtain their views on topics needing further study in the three areas of causality, prevention, and treatment. (See Appendix I.)

FINDINGS ON THE THREE QUESTIONS

While Nondefense R&D Funding Has Declined,
Drug Abuse Research Funds Have Grown
But Are Still a Very Small Part of Spending for
the National Drug Control Program

We reviewed major research funding trends for the last decade to gain a context for interpreting what we learned about drug

Figure 1: Growth of Drug Abuse Extramural Research Outlays Compared to National Defense, Non Defense, and Health Research and Development Outlays, Fiscal Years 1980-90



Adjusted to 1982 constant dollars.

Source: U.S. Budget, 1991.

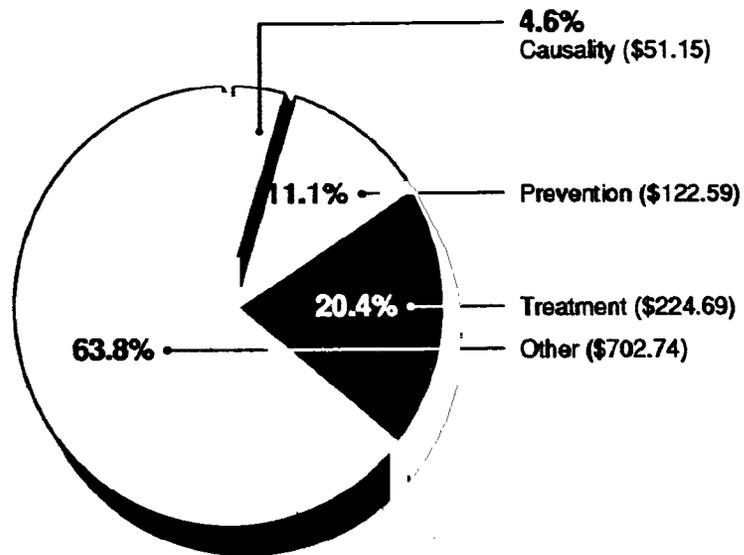
has grown from 12 to 33 percent. Funding for alcohol research has been a steady fraction at 17 to 18 percent since 1976; the drug abuse increase has thus accompanied a relative decrease in the share for mental health research from 66 to 50 percent in the last decade.

Notwithstanding this very sizable recent growth in drug abuse research funding at NIDA (the pattern was more erratic at OJP), research of any kind remains only a very small part of the overall spending reported by the Office of National Drug Control Policy for the nation's antidrug abuse programs. As figure 3 shows, most of the \$10.5 billion in total federal spending in 1991 went to criminal justice and interdiction efforts, followed in lower priority by funds for action programs of prevention and treatment. Research of all kinds accounts for only 4 percent of the overall total, although that figure has risen slightly across the years in which ONDCP has been reporting spending.

Research on Prevention and Treatment -
Has Grown in Importance at NIDA While Causality
Research Has Not and Remains Very Small in Scale

Although causality, prevention, and treatment research have historically received a total of about 36 percent of NIDA's research grant support, the last two have grown dramatically in recent years to the extent that the three now account for half that external funding.

Figure 4: Extramural Research Grant Funding at NIDA, Fiscal Years 1973-90, by Topic of Study



Total = \$1,101.13

In millions of constant 1982 dollars.

Source: National Institutes of Health (1973-1981); National Institute on Drug Abuse (1982-1983).

Causality research has enjoyed little or no growth during the recent surge years. In 1990, research in this area received 3.2 percent of NIDA's grant funds, a share in constant dollars smaller than the overall 4.6 percent share received on average across NIDA's full history.

Prevention research received little or no funding until the mid-1980's. (While the Office for Substance Abuse Prevention, established in 1987, also within ADAMHA, also funds prevention efforts, they are chiefly demonstration and action programs, not research.)

Treatment research has grown the most and dwarfs the two other areas; its \$61 million level of support by 1990 was almost twice that of prevention research (\$33 million) and was ten times the size of the sum spent on causality research (\$6 million).

In addition to reviewing the trends in these three categories of research, we examined in less detail the rest of NIDA's research to see what else had been supported. A category of epidemiological research (studies that measure the incidence, prevalence, and consequences of drug use), has also grown. Such studies range from national surveys to community-focused studies and investigations. The remainder were primarily biomedical studies of all kinds, such as studies of the biological processes in the brain or genetic

Figure 3: National Drug Control Budget Authority, Fiscal Year 1991

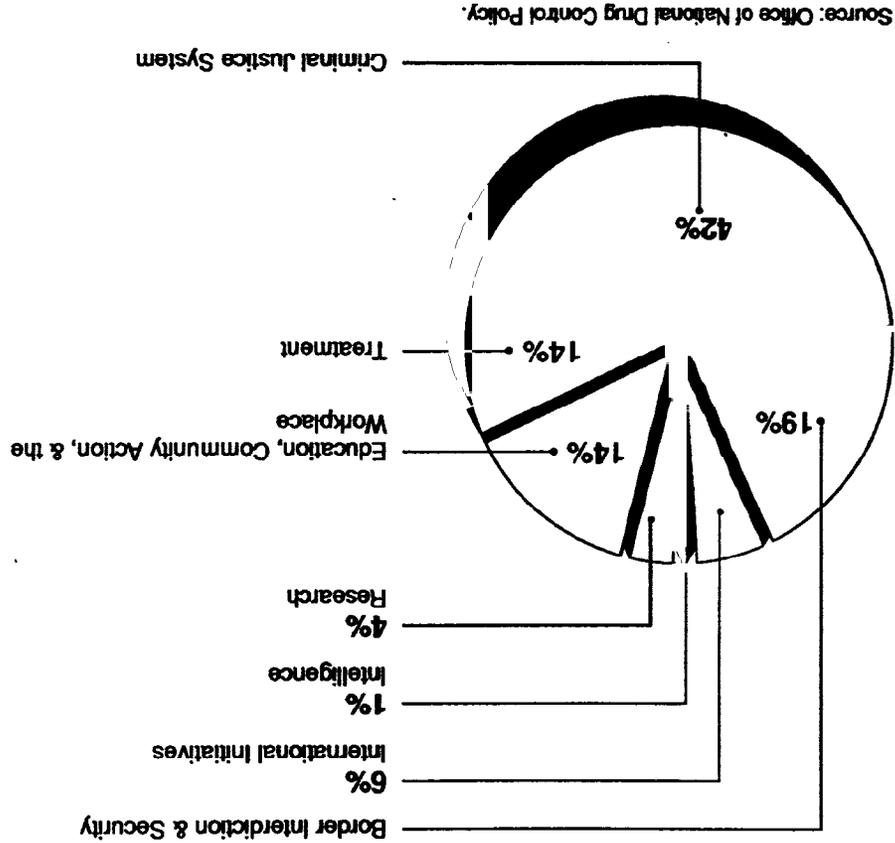
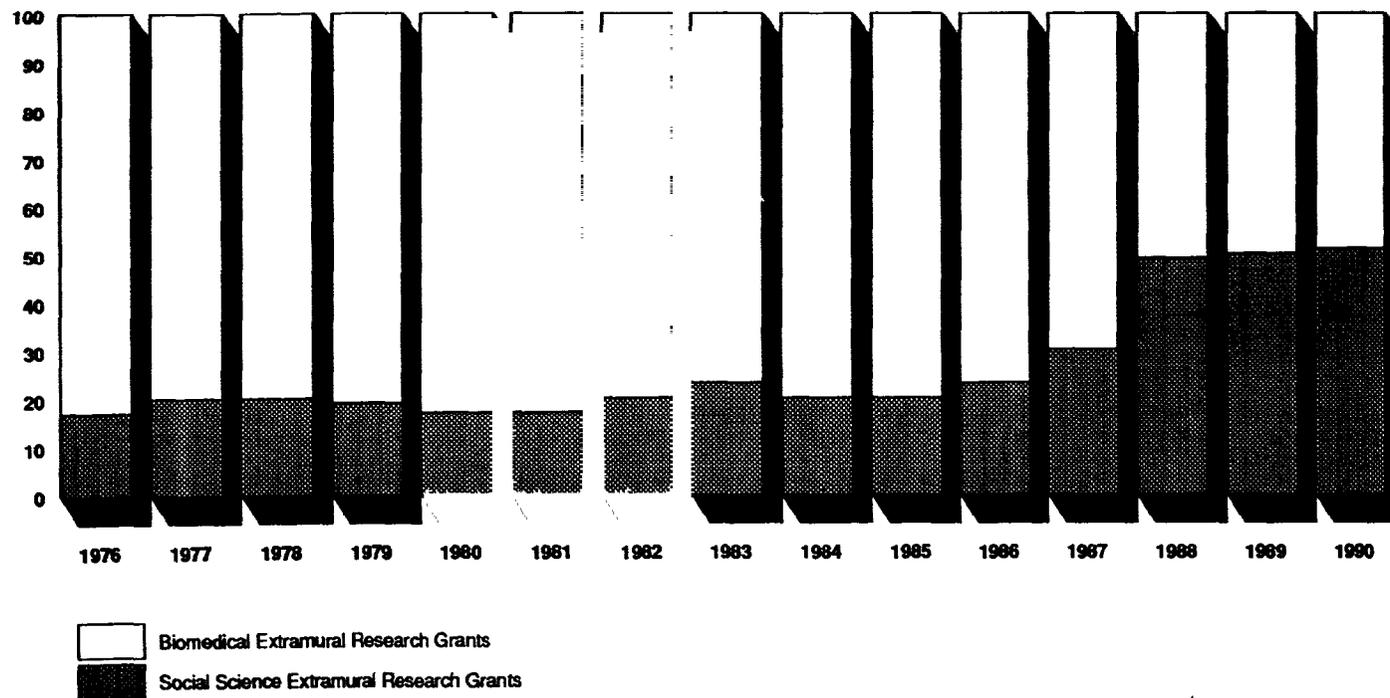


Figure 7: Percentage of NIDA Extramural Research Outlays in the Social and Biomedical Sciences, Fiscal Years 1976-90

Percentage of Current Dollars Outlaid



Source: National Institutes of Health.

priorities; causality studies are second in ranking--a higher degree of relative prominence than at NIDA--and treatment research is thus the lowest ranked of the three. Again, the absolute funds involved are very small: one year's causality research support at NIDA (in 1990, for example, about \$6.3 million in constant 1982 dollars) is a bit more than OJP spent on the topic in a decade (\$4.7 million); NIDA's investment in research on treatment alone in the most recent year we reviewed (\$60.5 million in 1990) almost equals OJP's total drug research in the decade (\$66.9 million).

EXPERT VIEWS ON NEEDED DRUG ABUSE RESEARCH

To provide additional context for our analysis of drug abuse research areas that have waxed and waned in federal support, we asked 30 experts across the country--both producers and users of research--to tell us what they viewed as the most important topics for future research. Each expert was asked to suggest needed work in all three areas of interest to the committee. We did not ask for rankings of relative importance or specific levels of support needed.

We did find particularly high consensus on the need for causality research in the suggestions from experts for future work. Understanding the causes of drug abuse could be a highly useful basis for developing prevention and treatment ideas. Without such understanding, interventions are often pure guesswork and

prevention in other countries such as those of Western Europe. Familiar issues surfaced concerning treatment research, including evaluation studies to sort out which elements of complex programs are most useful and for whom at different stages of the treatment process, a global concern for continued study of the effectiveness of all current treatments, and finding new approaches to treating drug problems, including medications development.

CONCLUDING COMMENTS

We plan to make at least one recommendation about drug abuse research in our report that may be pertinent as you consider the purposes of the proposed national commission. We will recommend that the Congress review the place of research, including evaluation, in the national drug control program. Research appears now to have a very modest role. In 1990, 4 percent of the total drug strategy spending was directed to research and development--building new knowledge and developing new technologies. And in that year, less than 3 percent of research spending (or one-tenth of one percent of the total drug war budget) went to studying the causes of drug abuse.

We cannot suggest definitively, from our data, what level of investment in research is proper and what the balance should be among topics such as causality, prevention, and treatment, or among approaches like biological and social scientific studies.

such as longitudinal research, which follows groups of people over time. Since causal research, as we have seen, has received small attention and funding, consistent signals need to be sent to the field if a greater number of expert investigators are to be attracted to developing this area of inquiry. This is not likely to occur if shifts in priorities at mission agencies make stable support uncertain. When, as seems likely, drug research at HHS is shifted from the Alcohol, Drug Abuse, and Mental Health Administration to the National Institutes of Health, there may be an opportunity to establish stable, long-term, expanded support there for studying the causes of drug abuse.

This concludes my statement, Mr. Chairman. I will be glad to answer any questions you and the other members may have.

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percent excluding AIDS-related research and over 400 percent with AIDS funding included) in the last decade. This is significantly greater than the growth for health research and development generally. Growth since 1987 has been so steep that we calculate that half of all extramural research support from NIDA in its almost two decades of existence has come in the last 4 years.

- Although research support declined at OJP overall in the last decade, drug abuse research there grew for a while but declined again in 1990. The scale of support has been much smaller than at NIDA.

-- The growth in drug abuse research funding contrasts with the general pattern of decline in federal support in the last decade for federally supported nondefense research and development.

-- Research is, however, a very small fraction of the overall spending included in the national drug control budget, between 3 and 4 percent of the total since 1989. This accounts for all research, including studies pertaining to interdiction techniques or law enforcement, as well as the areas of causality, prevention, and treatment we reviewed for the

We found that the three areas of interest to the committee--the study of basic causes, prevention, and treatment--together accounted for half of NIDA's research support in 1990, up from only a third a few years ago.

- In response to the committee's interest, we examined trends in support of different study methods. Research using social scientific methods is increasingly being funded at NIDA; such grants were half the total by 1990.

- The experts we spoke with suggested important areas they believe need further study, in addition to the area of causality mentioned above:
 - In prevention research, the consensus was for (1) evaluations of the effectiveness of prevention interventions; and (2) evaluations of the effect of drug policies both at home and abroad, particularly in Western Europe.

 - In treatment research, the experts cited the needs to better understand stages in the treatment process, conduct more evaluation of treatment effectiveness, and develop new treatment approaches, including medications development.

drug abuse?

We reviewed research at NIDA and OJP because they have been the principal federal sponsors of the types of drug research of interest to the committee. However, they have different degrees of involvement in drug research: drug abuse is the central focus of the mission of NIDA, while OJP primarily provides assistance to state and local governments for law enforcement and other criminal justice purposes and develops national criminal justice action programs. Thus, research of any kind is only a small part of its mission.

According to the spending summaries issued by the Office of National Drug Control Policy (ONDCP), the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) within the Department of Health and Human Services and OJP within the Department of Justice together account for over 85 percent of total drug abuse research and development, with NIDA accounting for most of the total in ADAMHA. (OJP is not a single unit responsible for research decisions in the same sense as NIDA is; the bureaus that make up OJP, such as the National Institute of Justice and the Bureau of Justice Statistics, have separate missions, functions, appropriations, and discretion over spending.) State and local governments fund services and there is no significant support for research from private foundations. We did not examine research relating to reducing the supply of drugs such as studies of law

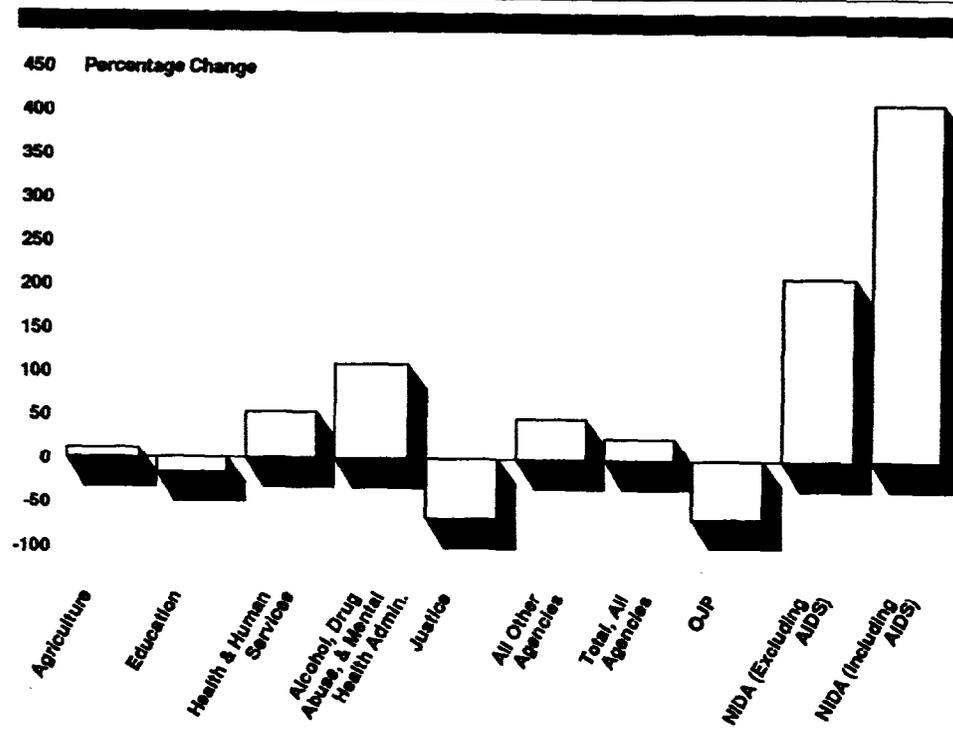
research. Spending on nondefense research and development shrank in the decade, although the health area was an exception (see figure 1).

Trends varied by agency (see figure 2). OJP experienced a decline in resources for research in the decade to about the same degree as its parent agency DOJ. In contrast, NIDA experienced a dramatic increase in obligations for extramural research--increases of 210 percent not counting AIDS-related research and 408 percent when AIDS research is included. The NIDA rate of increase was significantly greater even than that of its parent department, HHS, and nearly twice that for its parent agency, ADAMHA. The growth rate for external research funding at NIDA was eight times greater than that for external research funds at all federal agencies combined.

Growth since 1987 has been so steep that we calculate that half of all extramural research support from NIDA in its almost two decades of existence has come in the last 4 years.

Research on all the diverse problems addressed in the mission of ADAMHA has grown in absolute dollars since 1976, but in reviewing the priorities within ADAMHA, we found that within that pattern of overall growth, drug abuse research has commanded a growing fraction of the research effort. Since NIDA's establishment in 1973, its share of the agency's research outlays

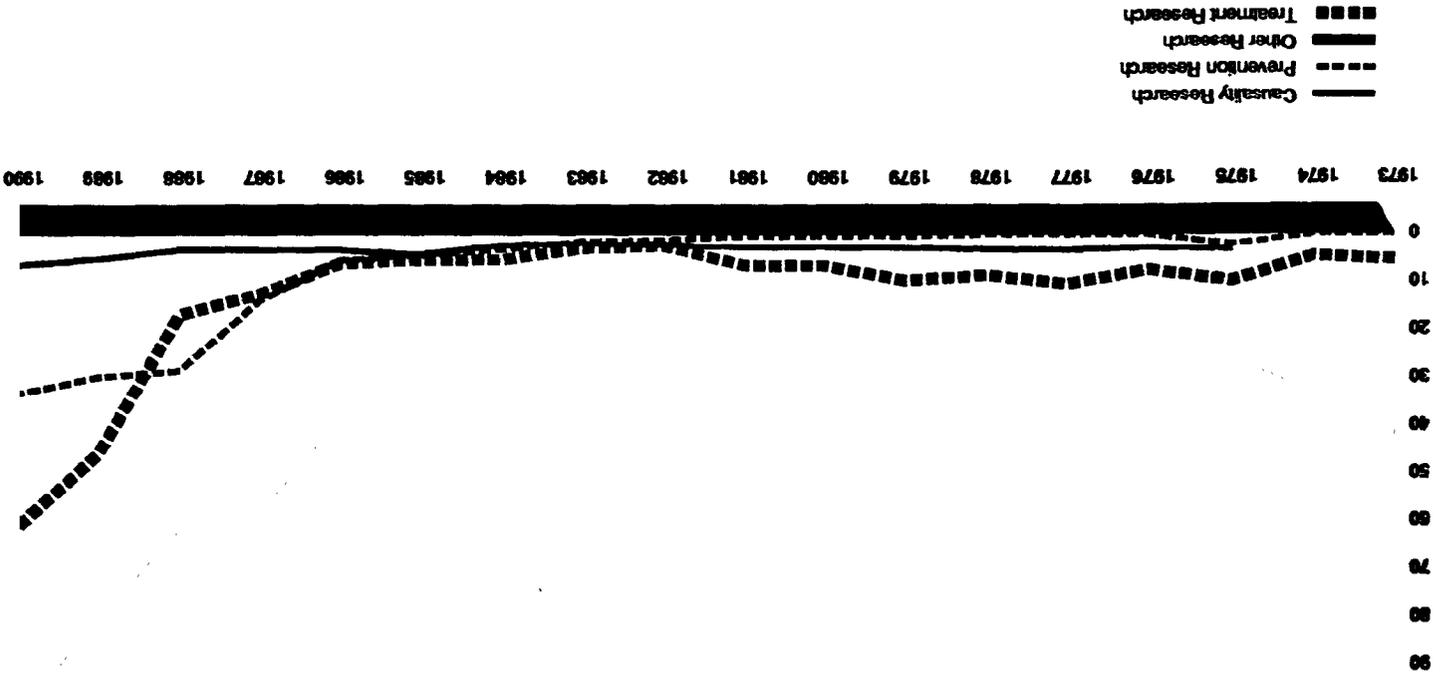
Figure 2: Percentage Change of Budget Obligations for Extramural Research by Selected Department and Agency, Fiscal Years 1980-90



Adjusted to 1982 constant dollars.

Source: National Science Foundation.

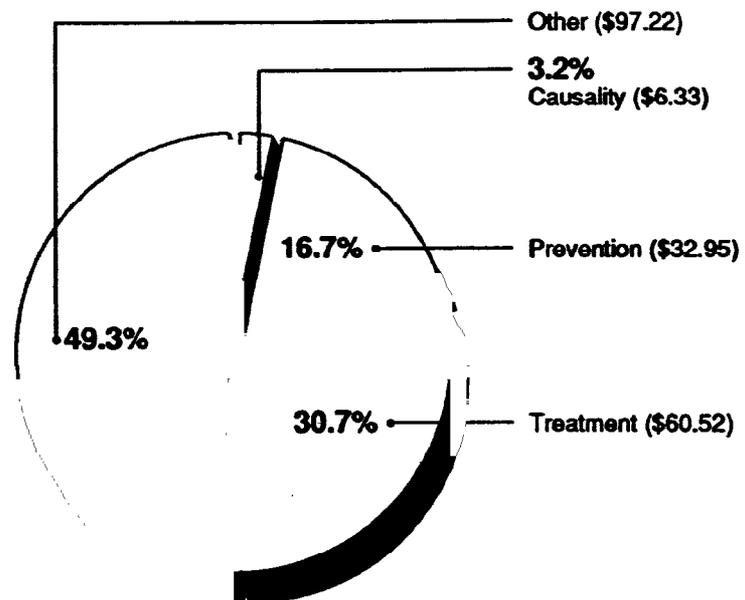
Figure 6: Overall Funding in Causality, Prevention, Treatment, and Other Extramural Research Grants at NIDA, Fiscal Years 1973-90
 Outlays in Millions of Constant 1982 Dollars



Figures for causality research are not available for 1973 and 1974.

Source: National Institutes of Health (1973-81); National Institute on Drug Abuse (1982-90).

Figure 5: Extramural Research Grant Funding at NIDA, Fiscal Year 1990, by Topic of Study



Total = \$197.02

In millions of constant 1982 dollars.

Source: National Institute on Drug Abuse.

Causality research has enjoyed little or no growth during the recent surge years. In 1990, research in this area received 3.2 percent of NIDA's grant funds, a share in constant dollars smaller than the overall 4.6 percent share received on average across NIDA's full history.

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In addition to reviewing the trends in these three categories of research, we examined in less detail the rest of NIDA's research to see what else had been supported. A category of epidemiological research (studies that measure the incidence, prevalence, and consequences of drug use), has also grown. Such studies range from national surveys to community-focused studies and investigations. The remainder were primarily biomedical studies of all kinds, such as studies of the biological processes in the brain or genetic

three areas of research we reviewed. While never rising above 25 percent of overall support from 1976 to 1986, projects involving the social sciences grew quickly beginning in 1987 and now make up about half of NIDA's grant portfolio, as shown in figure 7. However, increased support for the social sciences may be more a function of the growth in AIDS-related research specifically than of the growth in drug abuse research generally.

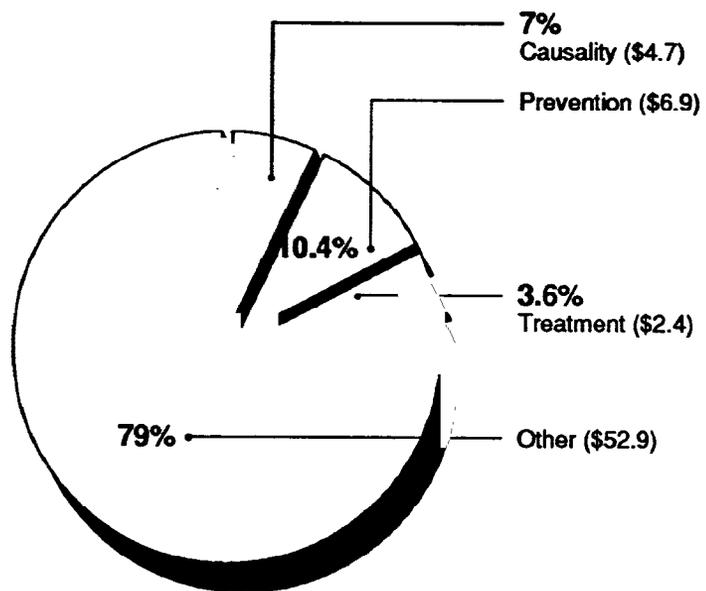
Compared to NIDA, OJP Drug Research Is Much Smaller in Scale, Different in Priorities

Although OJP was the second largest sponsor of research pertinent to this review, it has supported drug abuse research to a much smaller extent than NIDA has done. For the 10-year period 1981-90 where some data were available (figures are incomplete for 1981, 1982, and 1990), we located a total of only \$66.9 million of support for all types of drug abuse research, most of it in the last 4 years.

Of that total, 21 percent went to studies in the three categories of causality, prevention, and treatment. The majority, 79 percent, went to other topics, chiefly evaluation and studies of drugs and criminal behavior. This pattern of distribution (shown in figure 8) has not changed in recent years.

Of the three categories we reviewed, research we categorized as dealing with prevention predominates in OJP's historical

Figure 8: Extramural Research Grant Funding at OJP, Fiscal Years 1981-90, by Topic of Study



Total=\$66.9

In millions of constant 1982 dollars.

Budget figures for 1981, 1982, and 1990 are partial according to OJP.

Source: Office of Justice Programs.

cumulative learning then depends on after-the-fact evaluations that must compete for funds with service programs and are methodologically challenging to perform. But the search for causes can take many forms, and it has historically been very difficult to pursue, so it was interesting to see the degree of focus that emerged in the responses of the 30 we interviewed.

The expert group, including the biomedical researchers, with few exceptions identified the first priority to be the study of "psychosocial factors"--that is, studies of the psychological and social environment of individuals prone to drug abuse. Such studies would include the beliefs and attitudes of individuals, families, and communities that may shape drug use behavior. How these affect people at different ages is important to study, the experts said, as is understanding what may protect some individuals who do not use drugs in environments where use is common and might be expected.

Concerning prevention and treatment, the interviews showed more variability in the expert views on important research topics. The effectiveness of different prevention approaches remains an area of major uncertainty, with special emphasis on learning more about early interventions, family involvement, and community-wide efforts. Further, the experts urged research on positive and negative features of U.S. media approaches such as shock advertisements and study of alternative policy approaches to drug

However, given the research needs we heard identified by both researchers and research users--that is, a variety of basic and applied studies, including evaluations of drug policies--it seems timely to review whether the budget commitment to research is appropriate and to set broad priorities as to what directions it should take.

While re-appraising the role of research in the national drug program generally, the committee may want to focus also on the commitment to evaluation research in ONDCP and the major executive agencies operating segments of the drug war. The large investment in action programs in the fight against drugs in the last few years offers an important opportunity to learn more about the feasibility of various drug control objectives and which tactics are working, through the medium of program evaluation. The Congress needs to be assured that we are going to learn all we can from the current initiatives; if the subcommittee's review shows program areas where that seems uncertain, it can recommend to the various authorizing and appropriating committees the needed corrective actions, such as mandated studies or evaluation set-asides.

Especially in the study of causes, cumulative work over time will be needed. Causal research is one of the more difficult challenges for science, especially in a field such as drug abuse, where biological and environmental factors intersect. Also, it is expensive to conduct, especially if the strongest designs are used,

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APPENDIX I

APPENDIX I

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