

THE ANATOMY OF RESEARCH FUNDING:

THE STATE COMPONENT

Presented by Heinz E. Lehmann, M.D.
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Ladies and Gentlemen:

My task on this panel is to represent the State component of the Research Funding Anatomy. My good fortune is that the State where I am working is New York where this year's budget for research amounts to 37.9 million dollars. Even if one subtracts from this 40 percent which is reserved for research-related support, there still remains some 22.75 million dollars purely dedicated to research. However, this figure is actually an underestimate because it does not take into account research support for mental health that the State is extending to universities through the departments of higher education.

Most of this research is carried out at the State's two research institutes, the Psychiatric Institute in Manhattan and the Nathan Kline Institute in Orangeburg, about 20 miles from New York City. The State funding represents, in essence, hard money for State-employed researchers, their salaries, equipment, support and capital structures. Our research funding by the State's enlightened government has increased - in step with the recent dizzying development of knowledge in the neurosciences - by 141 percent since 1980.

How does New York's research funding compare with that of other states? I have not been able to determine this, in spite of diligent efforts to get this information. Our Agency was surprised

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when we discovered the virtual impossibility to obtain accurate figures for research funding by other States. Is this discretion due to modesty, shame or some arcane political strategy? No, it is more likely the result of a very complex aggregate of potential funding mechanisms that makes it difficult to obtain precise figures for State-funded research support.

We know, of course, that other - should we say "developed"? - states in the ^{U.S.} ~~United States~~, e.g. California, Connecticut, Illinois, Maryland, Massachusetts, North Carolina, Pennsylvania, Texas, spend appreciable amounts for neuropsychiatric research, but this funding is usually hidden in special contracts, grants or funding of university departments and is not apparent "up front" as an individual item in its own right in the State budgets.

Factors and models for funding of mental health research have been studied by Ridge et al (1989). They found that only 57 percent of 49 states funded mental health research through one or more of the following four mechanisms which McPheeters described in 1982: State in-house research, research grants, contracts and joint State-University research units. Nearly two-thirds of all state-supported research in mental health is funded by only a few states. These authors also found that average funding for research represented about 0.3 percent of total state expenditures for mental health. Factors related to such research funding were state population, total expenditures for mental health, and existing ADAMHA research support.

Some of the most important factors also were a supportive political environment characterized by budget stability, articulate and committed leaders and active citizen advocacy. The authors furthermore reported that the ADAMHA mental health research budget for the year 1987 averaged \$1.65 per person in the United States, while 45 states spent only 11 cents per person on such research.

How did mental health research in the State of New York come to fare so well? An important factor is New York's history in this domain. At the end of the last century, in 1895, New York State, inspired by almost unique foresight and wise trust, set aside funds for a psychiatric research institute. It was then called The Pathological Institute. The first director defined the Institute as a multidisciplinary center for psychiatric research, making it the first medical research institute in the country. Based first in Manhattan, it was later moved to Ward's Island and in 1925 finally to the campus of Columbia University. New York State-sponsored research soon gained international prestige; in collaboration with the Rockefeller Institute, the first of the few causes of mental illness known today was discovered there in the first decade of our century, when Noguchi and Moore demonstrated the presence of the ^{cranioma} trepanoma pallidum in the brains of patients diagnosed as having suffered from dementia paralytica. Later, another state researcher, George Jarvis, discovered the cause of phenylketonuric oligophrenia. Then Kallmann, at the Psychiatric Institute, conducted his classic studies on the genetics of the schizophrenic and manic-depressive

disorders. Encouraged by this productivity and the growing prestige in the international research community, New York State, in 1975, established a second research institute on the grounds of the state hospital where some of the first breakthroughs in psychopharmacology had been achieved by Nathan Kline whose name this institute bears today.

Both institutes are closely affiliated with major universities; the Psychiatric Institute with Columbia, the Nathan Kline Institute with New York University. In fact, the whole New York State mental health system, including services and training, is directed toward active collaboration with different universities, analogous to the current trends to establish symbiotic relationships between industry and universities. The somewhat fragile balance between state and university in terms of control and personality conflicts has been described by Barter and Langsley (1986) and Wiener (1986).

However, lest it be thought by some that the Division of Research in the New York State Office of Mental Health finds its budget every year as a nicely wrapped present under the Christmas tree, let me make it quite clear that fighting for research funding at every budget cycle is hard work, involving intense public relations work through the media, targeted collaboration with advocacy groups and constructive, well-informed lobbying at the legislative level.

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Are there any special problems that may arise when the State government is paying for research? There are certain problems. They are due to the fact that the basic monitoring mechanism differs between Federal agencies, like ADAMHA or VA and non-governmental foundations, as compared to State governments. Non-State agencies monitor their funding only on the product to be delivered, that is research data, analysis and conclusions. They do this through peer reviews. State governments are doing the same if they are funding research through grants or contracts. But if a State government is involved in research support through the hiring and funding of researchers as State employees, as in New York's two research institutes, then the bureaucratic structure and function of the Office of Mental Health is necessarily geared to expect accountability not only of the product but also of the process of service of its employees.

Research has its own code of ethics and responsibilities. This code is traditionally not geared to the regulation of services rendered. What matters to researchers is their results product, not their effort to be a good team player. A State agency has, to some extent, to insist, with its employees, also on the latter. If it is the paying party, it has to ask itself "what do I get for my money?" But a State agency's monitoring of this question is primarily based on auditing procedures, not on peer reviews.

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That causes sometimes irritation, and occasionally friction, between researchers and administrators when questions about the justification of apparently too esoteric or "irrelevant" projects arise, or when researchers do not follow regulations or are not always readily available when the administration needs their help urgently with an acute problem. However, reason and good will on both sides can usually resolve such occasional confrontations. The advantages of stable funding and job security for the individual investigator, as well as the continuous flow of valuable new research findings for the State, outweigh by far the occasional complications that occur when the two cultures of bureaucracy and science clash.

Let me present ~~you briefly~~ some of the typical questions asked about research funding which, I am sure, you will all recognize and how, in my experience, they may be fielded.

Why should any government consider research funding a priority? One important reason is simply prestige. To be leading in research is desirable for any Nation or State.

Is prestige politically marketable? It is indeed. The billions spent, and passionately fought for, to put the Hubble telescope into space or to build the superconducting supercollider are funding for research that is devoid of any intrinsic social value but gains its enormous importance by the national need for remaining competitive with other countries in scientific achievement.

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Everybody knows that progress in mental health is only possible through research. However, too many people still dwell on a breakthrough mentality instead of concentrating on slow but solid progress. (Frazier, 1985). Yet, ^{World answers "yes" to} few people ~~like to be confronted~~ ~~with~~ the blunt question: Would you now be content with an arrest of progress, a stagnation of knowledge at our present level, and with an indefinite moratorium on further advances in treatment?

Historically, the public sector has always had to provide much higher relative funding for mental health than for other medical research. The ^{ce/} differential is considerable: Close to ^{Percent} 90% for mental health research and only about ^{Percent} 60% for other health sciences. (Pardes, 1985). This discrepancy is mainly due to the archaic stigma around mental illness that still lingers on in the public view. Although we are making progress in changing this deplorable situation, mainly through the growth and admirable work of advocacy groups, the need for governments to cover the gap between private and public funding is still high.

Important indirect gains from research in mental health are the ^{e #.} halo and fall-out effects that accrue from it for the delivery of services and the training of personnel. There is no doubt that the quality of services in any health-related field is improved when it becomes the focus of research, because of the more attentive care given and the increased supervision of all routine procedures.

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Furthermore, when it comes to recruiting good senior staff in the state facilities - not always an easy task - the fact that research is going on in the facility and that there is a positive research climate in the state may sometimes be as important as competitive salaries.

One of the questions by state administrators that is most difficult to lay to rest runs like this: Research is a Federal obligation - why should the state be involved in it?

One answer is: There are two types of research - science-driven research and problem-driven research. Science-driven, or basic, research has traditionally received its main support from Federal sources. For mental health in the United States most of this support comes from ADAMHA. Problem-driven research is more closely related to local needs and frequently produces applicable technology, e.g. for distribution of services, prospective payment systems, management of homelessness, substance abuse, etc., but this type of research is often given short shrift by Federal agencies and might need additional support from the state that is most likely to gain from it directly.

Another answer to the question of why the state should be funding research in addition to the Federal government lies in the fact that there is a longstanding problem with Federal research support today that is deeply rooted in an administrative "catch 22".

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In order to obtain a major Federal grant the investigator often has to provide proof that either he has, through some pilot studies, already obtained promising data that support his hypothesis, or he must be able to show that he has a critical mass of good resources in research manpower, space and equipment for the conduct of his research.

That means, in order to get outside funding you either have to have some back-up funding of your own first, or you have to plunge into a bottomless pit of "creative" deficit financing.

In my home province in Canada where I chair the board of a psychiatric research facility, provincial primary funding is so conditional that federal grants can only be obtained by going into hundreds of thousands dollars of debt that, like the mechanical rabbit at a dog race, can never be caught up with - no matter how fast you run.

But if you have a primer for the research-funding, the picture can be quite different. In the State of New York we are getting \$1.07 grant money for every dollar the State is putting into research, that is, a 107 percent growth return on the State investment.

Conclusion: Motives for governments to fund research are prestige, the need for progress and the direct and indirect gains

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accruing from increased knowledge to improvement of services.
Historically, the public sector has always been obliged to provide greater funding for mental health, in the areas of services as well as research, than for other medical services. State governments must supplement Federal and private sector funding for research which is prominently directed toward science-driven, basic research, if they want to preserve some emphasis on problem-driven research that is focused more specifically on administrative, environmental and local issues. A special reason for state funding of research is rooted in the "catch 22" situation that makes it almost mandatory for researchers to have substantial base funding that provides the critical mass needed in order to succeed in the highly competitive bidding for major federal or foundation grants. The current trend to achieve constructive collaboration between universities and industry should be paralleled by efforts to establish mutually beneficial, symbiotic relationships between universities and the state.

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