Research in Psychiatry Is Starving to Death

Lawrence S. Kubie
School of Medicine, Yale University, and *New York Psychoanalytic Institute*

THE TITLE OF THIS ARTICLE carries the implication that a process of starvation is hampering the progress of psychiatric research. Such starvation can be of ideas, of mature trained personnel, and of money. The present article will consider only the third of these; not out of an illusory hope that money alone can solve scientific problems, but because the lack of it accentuates the shortage of mature personnel, which in turn contributes to the poverty of ideas.

Background. In recent years the author has taken part in several efforts to raise money for research in psychiatry. The auspices under which these attempts were made have been so varied that it is not possible to attribute their uniform lack of success to a greater intensity of popular prejudice against one or another form or school of psychiatry. Furthermore, the actual work of fund-raising has been carried on by experienced, competent, and successful individuals and organizations, whose business it is to raise funds for philanthropic and medical purposes. These professional money-raisers have been backed by the wholehearted efforts of groups of interested psychiatrists and a few devoted laymen. And not one of these drives had grandiose expectations. Their objectives have been simple, limited, and reasonable. Yet not one of them has even approximated its goal.

For a long time the author believed that the fault must lie with psychiatrists. One day, however, the head of an experienced and successful professional money-raising outfit came to him and made essentially these remarks:

> This is a strange experience. It is a new one for me. I have never run into anything like it before. We have held several outstandingly successful meetings. Under ordinary circumstances out of such meetings as these I would have had many sizable contributions, plus a dozen active committees, several committee chairmen, and my pick of men to act as over-all chairman for the campaign. Yet I have received only a few contributions, and have been able to form only one small committee, with one reluctant committee chairman and no general chairman. There must be something curious about this field of psychiatry. People behave differently about it. They are interested. You can tell that. But when it comes to really working for it and to putting up money for it, they slip through your fingers.

This was the first step in the education of this author. His next followed soon, when he decided to compare this experience with that of others who have attempted to raise money for psychiatric purposes, sometimes for some of the best known and most valuable psychiatric organizations in the country, and indeed in the world. He found that they had had the same experience. There had been no difficulty in arousing popular interest; none in getting space in the press or time on the air. But when it came to rounding up either workers or money, it had been another story, and a discouraging one.

It is worth while to emphasize this curious psychosocial phenomenon, because the popular commotion about psychiatry has given rise to a general impression that psychiatric research and psychiatric services are being generously and adequately supported, when as a matter of fact it turns out that psychiatric research is literally starving to death.

A third step in the author's education followed more gradually. As he settled back to watch what was going on he came to realize that psychiatrists and psychiatric institutions were extraordinarily apologetic in their appeals for funds. They worried about the cost of caring for psychiatric patients, and about the cost of research. This led him to make a further investigation: specifically to compare the investment in research in organic medicine with the investment in psychiatric research. Such a comparison could cover either of two aspects of the problem, or both: (*a*) It could estimate the total amount of money being spent in this country on research in organic medical illness in relation to the total incidence of organic disease. Then it could compare with this the total amount of money spent for psychiatric research in relation to the incidence of psychiatric illness. Fortunately, these facts have already been ascertained by the National Association for Mental Health (formerly the National Committee for Mental Hygiene), by the U. S. Public Health Service, and by various private foundations. They have assembled an array of strange and perplexing facts. For example:

1950–51 $61,000,000 spent by the U. S. Department of Agriculture for the control and cure of disease in plants and in lower animals that are of commercial value.
$30,000,000 spent on research in hoof-and-mouth disease alone.
$1,500,000 appropriated by Congress for research in the mental health of man himself, although over one half of all the hospital beds in the country are occupied by mental patients.
1947 $94 per hospitalized case of polio, spent for research in polio, which is one of the rare diseases.
1947 only $5 per hospitalized case of mental illness spent on research in psychiatry, our public health enemy No. 1.

(*b*) These facts turned our attention to another test of the adequacy of the support which the American community is providing for psychiatric research. We compared four outstanding research hospitals, two for research in organic medicine and two for research in psychiatric illness, comparing them with

respect to the allocations of beds, funds, space, personnel, etc., as between clinical treatment and clinical research. The present communication summarizes the outcome of this comparison.

In psychiatry, as in general medicine, a hospital for clinical research can be operated either as an independent, self-sufficient unit, or it can function as a teaching hospital in a medical school. In the latter case, it is always a special subdivision of a general teaching hospital, which the research unit uses as a large reservoir for its clinical material. To compare the situation in psychiatry with that in other branches of medicine, I have chosen two outstanding hospital units for research in internal medicine, and two from the field of psychiatry. In each instance, one of the two hospitals is a subdivision of a large general teaching hospital and serves the teaching functions of a major medical school, whereas the other is a wholly independent small hospital for clinical research.

The one type of setup I shall refer to as the "Subdivision for Medical Research" or the "Subdivision for Psychiatric Research," respectively. The other I shall refer to as the "Independent Medical Unit" or as the "Independent Psychiatric Unit." The terms, though cumbersome, are sufficiently precise to make my meaning clear.

In each instance I have secured my information from the director of the service or unit in question. I am indebted to each of them for assistance in making this comparative study possible, and for generosity in taking the time and trouble to assemble the necessary statistical information. Each has asked me to describe his financial setup only in approximate terms, and to try to protect the anonymity of the unit. I have attempted to do this to the best of my ability; if revealing clues have slipped in, I can only ask forgiveness.

A brief description of each organization will indicate at once that they are so different in their total settings, in goals, in functions, and in the services offered, that precise point-by-point comparisons are not possible. Nevertheless, enough highly significant contrasts will emerge to make a study of the comparisons worth while.

Subdivision for Medical Research. This unit consists of 17 ward beds and 3 private beds, which are reserved for controlled intensive metabolic research. Another 120 beds from the medical wards of the general hospital are under the direction of the staff of the research unit. These are used as a special reservoir, where studies not requiring continuous strict metabolic controls can be conducted, and where selected patients can be held for periods of special study and the like. In addition, through professional courtesy, patients can often be drawn from the large general hospital of several hundred beds.

In the smaller research unit, the average daily census is about 12 patients. For reasons to be discussed below, experience shows that no such hospital can operate efficiently at a level exceeding 85 per cent of its total capacity.

For the routine medical care, research, and teaching on these 140 patients, there are about 70 professionally trained physicians and 2 biochemists; 75 nurses (exclusive of student nurses), nursing supervisors, ward attendants, technicians, secretaries, and animal farm attendants; that is, a total personnel of 140–150 individuals to take care of 140 beds and to do the research and the teaching based on them. However, the major attention of 27 full-time physicians, 2 biochemists, 26 technicians, 10 secretaries, and 3 nurses (i.e., 68 people) is focused on the nucleus of 12–20 patients in the research ward. Perhaps 24 patients on the medical ward are the subjects of clinical studies of a less continuous character, conducted with the help of the service technicians and secretaries, but with the additional assistance of other physicians, nurses, and ward attendants over and above the nucleus of 68 already mentioned.

Space is distributed among clinical, administrative, housekeeping, research, and classroom functions in approximately the following proportions: 6 floors for patients, 3 floors for laboratories, and half a floor each for administration and teaching.

The cost can be computed only approximately. In a recent year the basic operating cost for the unit as a whole was \$16.59/bed/day. The additional cost of the 20 beds of the special research unit was approximately \$30.00–\$40.00/day. Therefore, the beds of this research nucleus cost somewhere between \$46.00 and \$56.00/bed/day, for routine medical care, plus teaching and research. For the unit as a whole, about one third of the total operating budget is devoted specifically to research.

It should be understood that these figures cover only operating costs, and do not include the initial costs of plant construction, plant depreciation and maintenance, the initial equipment of the laboratories, the special costs of expensive laboratory equipment and of special experimental machines and instruments. Nor does it cover depreciation, repairs, replacements, and obsolescence, or new construction. All this must be carried in a separate budget, much of it for special research expenses.

Independent Medical Unit. The unattached unit for medical research has 55 beds, divided into 6 medical services of about 9 beds each. Here, too, experience has proved that in order to make sure that space is always available to take care of the necessary turnover, emergency readmissions, repairs, painting, cleaning, etc., the unit cannot operate efficiently at more than 85 per cent of capacity. In other words, out of 55 beds, it must always aim to have at least 5 empty beds.

To cover this patient load of 50, there are 35 full-time physicians—i.e., approximately 6 per service, or 6 physicians for each 8 patients (9 beds). Their distribution fluctuates with the nature of the research program that is under way. At times, of the physicians on any one service, only one or two may be actively engaged in the care of patients; the others will be at work in their various laboratories on re-

search problems that are related to, or derived from, these patients. It has been found that these laboratories require 1.5–1.8 technicians per physician (or a total staff of about 55 technicians), plus at least half a dozen cleaning personnel and laboratory porters.

Thus 95–100 individuals serve the needs of science in work focused on 50 patients. In addition, however, the needs of the patients are served by a group of 42 nurses, of whom 3 are on the supervisory and administrative level. There are also 12–16 ward helpers, 6–8 orderlies, and about 32 housekeeping workers (cooks, maids, waitresses, chambermaids, etc.). This brings the total personnel up to about 200. It will be noted that many of the "hotel" functions of the hospital, which in the other medical service are cared for by its affiliated general hospital, must here be provided separately by the self-sufficient independent research unit. This, however, seems to burden the unit with a smaller additional cost than one might have anticipated.

Space distribution runs about as follows: Four times as much general laboratory as ward space; office space (administration and housing) to ward space, about 3 to 1. In sum, this means that about eight times as much space is *not* allocated to patients as is actually occupied by patients.

It is significant that this hospital houses all its nurses, cooks, maids, and kitchen men, and about one third of its doctors, who also receive room, board, maid service, laundry, and comfortable living and entertaining quarters on an unusually generous scale. Yet the basic operating costs run only moderately higher than do the operating costs of the subdivision for medical research already described. Again, however, it must be borne in mind that this estimate does not include the original capital expenditure for plant, maintenance and repair, special research instruments, annual depreciation, repairs, and replacements. These are taken care of out of a special obsolescence fund, which in this hospital is looked upon as the most important part of its financial armament. In general, a survey of the budget indicates that at least 50 per cent, and possibly 60 per cent, of the total outlay in this hospital goes for purely research purposes.

It is of further significance that, in both these hospitals for research in organic medicine, patients are held in the hospital for study for variable lengths of time, sometimes up to six months or even more. Many of the diseases studied are chronic diseases. Moreover, some patients are brought back to the hospital many times and over many years for prolonged periods of follow-up study. Others are followed for years as special out-patients. This is important, because of the erroneous general impression that patients who are used for research in fields of medicine other than psychiatry are hospitalized only for short stays.

Long months of hospitalization create complex economic problems at home. Social service can take care of some of these by calling on state, city, federal, and private aid. Not infrequently, however, if given the chance to choose between two patients with the same type of illness, a research hospital will admit the patient who is financially independent, so as not to complicate the evaluation of organic factors in the total problem by introducing at the same time the emotional and physiological difficulties caused by economic worry and insecurity. One hospital feels strongly that this is a scientifically sound procedure in the investigation of organic diseases. As the director of the hospitals said, "In science we are not snobbish. The rich can be just as good guinea pigs as the poor, and sometimes even better." Another informant objected that the paying patient cooperated well during observational periods while he was sick, but sometimes failed to sustain that cooperation during longer periods of planned controls. These considerations seem to be equally valid for research hospitals that deal with psychiatric problems.

In considering the costs of clinical research, it is important to ask ourselves who pays the bill, anyhow. If one faces frankly the staggering cost per patient per day of an adequate research program in any clinical field, it becomes obvious that no individual patient (except perhaps an occasional individual of fantastic wealth) can afford to pay for this himself. Nor, indeed, should he, because the benefits of most of what is learned will not accrue to the immediate patient, except in exceptional circumstances, but will accrue to others and to later generations. Furthermore, even if the patient does not pay a cent for his own bed, board, medicines, tests, and medical or surgical care, he still pays heavily in time; because adequate clinical research involves him in prolonged and repeated periods of observation in the hospital, and many time-consuming visits to the hospital for check-up examinations, etc. For most individuals this means a heavy financial sacrifice merely for the privilege of cooperating as a guinea pig in experimental investigations that will be of benefit chiefly to others. This is equally true whether the patient is suffering from organic disease or from psychological illness.

Subdivison for Psychiatric Research. Here we shall consider an active department of psychiatry in one of our leading medical schools, where teaching and research and the care of patients are carried on in its own departmental wards, in the general hospital, and in out-patient clinics. To some extent this department can also draw on the clinical resources of the psychiatric hospitals of the Veterans Administration and of the Department of Mental Hygiene of the state. The only beds directly under its control, however, are the 45 beds of its own wards, in which the average daily census is about 31 patients. None of these beds is endowed or reserved specifically for research.

To care for these patients, to carry on research and teaching, and to conduct the necessary services to the general hospital and in the out-patient department, the service consists of 14 full-time men, 8 half-time psychiatrists, 40 part-time staff members, 3 clinical psychologists, and 2 psychiatric social workers. There are approximately 41 nurses and attendants, 10 secretaries, and one business manager with 2 administra-

TABLE 1

	Organic medicine				Psychiatry			
	Independent medical unit		Part of medical school and teaching hospital		Independent psychiatric unit		Part of medical school and teaching hospital	
	Total	Daily census	Total	Daily census	Total	Daily census	Total	Daily census
Total clinical facilities								
Accessory clinical reservoir to draw from	0	0	1000*		0		? V A hospital State hospital	
Other beds under control of unit	0		120	110*	50	35	45	31
Special beds for intensive research	55	50	20	12	0	0	0	0
Medical and allied personnel								
Full-time	35		52		11		10	
Part-time	0		19		0		5	
Allied scientists	10		2		5		3	
Technicians	55		26		2		?	
Administrative								
Secretaries	15		10		14		5	
Administrative					7½			
Maintenance					7			
Cost/bed/day								
Base cost/day/patient	$20		$16.59		$24		$19	
Base cost plus teaching and/or research	$60–$70		$46–$56		$39*		$21*	
Special research funds	About ½ of total†		⅓ of total		About $^1/_{15}$ of total		About ⅙ of total	
Space‡								
Clinical	16,000		21,000		45,000		14,000	
Research	64,000		11,000		500		1,000	
Administrative	48,000		3,000		2,500		1,000	

* Approximately.

† Not including obsolescence fund, capital expenditures for plant and large special research equipment. Total nonclinical to purely clinical expenditures run about 6 or 8 to 1.

‡ Estimated on basis of allocations of approximate number of square feet.

tive assistants. The housekeeping, plant, ward, and laboratory maintenance personnel could not be clearly estimated.

The base cost of caring for a patient in the psychiatric division of the hospital is approximately $19.00/bed/day. In certain instances, special additional services bring this to approximately $24.00/day. Of the entire budget of the psychiatric service, only about one fifth is allocated specifically to research.

The allocation of space is similarly revealing. Of the over-all floor space fourteen times as much space is devoted to the routine clinical care of patients as to research or administration (i.e., a ratio of 14 : 1 : 1).

In estimating allocations of time, money, and space, it is difficult to avoid making slanted approximations, because all these ingredients are divided in fluctuating proportions between routine care of patients, special consultations, special and general teaching assignments, research supervision, and active participation in research activities. Perhaps the most objective criterion of the relative distribution of resources for research and clinical care (i.e., the simplest rule of thumb) is the number of secretaries and the number of technicians assigned to research projects in relation to the total number of clinical beds. (Table 2 demonstrates strikingly the impoverishment of psychiatric research as determined by this quite objective measuring rod.)

Independent Psychiatric Unit. This organization is recognized as one of the leaders in the field. Yet it is equally starved for research funds, facilities, space, and personnel. With a bed capacity of 50, its average census is about 36.[1] Again, none of these beds is specifically and exclusively allocated or endowed for research purposes. To care for these patients there are 11 full-time physicians, 5 allied scientists, 1–2 technicians, 5 nurses, and about 28 secretaries and administrative and maintenance personnel. The organization is known for the completeness, precision, and value of its clinical records, which is the reason for the somewhat unusually high ratio of secretaries to physicians and beds. These, however, are largely for routine clinical work; only 2.75 secretaries are assigned solely to work on research projects.

The basic carrying charges per bed are about $24.00/day, which with various special additional expenses may rise as high as $35.00. Of the total budget, something less than one fifteenth is specifically

[1] These figures are exclusive of the number of patients in an active out-patient service, who are seen on a less intensive basis.

allocated to research. And the allocation of space among (*a*) clinical care and housing of patients, (*b*) research, and (*c*) administration is in the dismaying ratio of 90 : 1 : 5.

The material presented on these four hospital units is summarized in Table 1. In Table 2, for purposes of comparison, it is reduced to simple ratios. What impresses one first is that in neither of these outstanding psychiatric organizations are any beds endowed for purely research purposes. As a result research must be carried on almost as a side issue, paralleling the main stream of clinical and teaching services.

There are, however, other significant contrasts among these organizations: (*a*) the ratio of medical and allied personnel taking care of patients to the daily patient census; (*b*) the ratio of research budget to over-all budget; (*c*) the ratio of research space to space allotted to general clinical care; (*d*) the ratio of technicians and secretaries assigned specifically to research projects to the daily census of clinical beds. These four indices, clearly presented in Table 2, tell the story.

TABLE 2

COMPARATIVE RATIOS

	Subdivision for medical research	Independent medical unit	Subdivision for psychiatric research	Independent psychiatric unit
Ratio of all scientists to beds	1 to 1.2 patients	2 to 1 patient	1 to 2.5 patients	1 to 2 patients
Ratio of research budget to over-all budget	1 : 3 –	1 : 1 (or 1 + : 1)	1 : 6	1 : 15
Ratio of research space to clinical space	4 : 7	4 : 1	1 : 14	1 : 90
Ratio of research technicians and secretaries to beds	1 to 4 patients (or 2 : 1)*	3 : 2	1 : 6	1 : 9

* If estimated separately for the smaller research unit of 20 beds.

Conclusions. There is little that need be added. Another study of two more such psychiatric units, one independent and one a subdivision, confirms these figures in every essential feature. Furthermore, from a fairly close knowledge of leading psychiatric institutions all over this country, it can be said that, although there are some in which the picture may be a shade more favorable, there is none that departs materially from this general level of equipment for research, none that in research facilities, research space, research personnel, or research budget compares even remotely with those great research units that have been our pioneers of research in organic medicine. Thus our title is not an exaggeration. Psychiatric research in this country is indeed being starved to death, starved for lack of funds, starved for lack of space, and starved for lack of a personnel adequate either in numbers or in maturity. What is even more striking is that the cost per bed is higher in our hospitals for research in organic medicine than in those for research in psychiatry.

It would seem that, instead of apologizing because psychiatry costs too much, we ought to be ashamed because it costs too little. It is the community that owes both itself and psychiatry an apology for not giving it more ample backing. Instead of costing so much less per bed than the cost per bed in hospitals for clinical research in organic medicine, research in psychiatry should cost much more. Evidently, in spite of the enormous amount of talk about psychiatry in this country, there is an even greater failure on the part of the country to meet the challenge of its psychiatric needs. America is still only talking about mental hygiene. It is not acting.

We need desperately several small research units that have neither teaching nor service responsibilities. Whether these should be independent units or parts of general teaching hospitals and medical schools is a matter of secondary importance. Probably there should be some of each kind, because each type has its own intellectual and scientific advantages and limitations. But we should estimate the costs of clinical care for psychiatric research at $100.00–$200.00/bed/day, instead of the paltry $20.00–$30.00 now invested. And of the $100.00–$200.00, 75 per cent should be invested in research personnel and research activities. As in clinical research in organic medicine, there should be several scientists for every bed, instead of several beds for every scientist. This is the path along which research in organic disease has traveled to achieve brilliant results. This is the path along which psychiatric research must move.

Some doubting souls may ask, How can so many physicians be used in psychiatric research? This question cannot be discussed here in detail. One can only reassure them that a full investigation of a single case could well occupy 15–20 well-trained psychiatrists, clinical psychologists, and psychiatric social workers for at least a year—in multiple simultaneous observations (physiological and psychological), continuous recordings, analysis of the continuous recordings, round-the-clock observations of activities during sleep as well as in the waking state, concomitant investigation of all relevant members of a family group and of the home situation, with studies of family history, family background, family atmosphere, community mores, and the like. No matter how many investigators were available to work on each individual problem, there would be no lack of work for them to do. Of this the skeptic may be assured.

We should insist, then, that the needs of psychiatric research be heard and that they be met generously enough to make progress possible. When we look at our figures we need no longer feel surprise that, in spite of all the popular talk about psychiatry, not one of the psychiatric discoveries of the past 50 years was made in this country.