

Research Without External Funding in North American Psychiatry

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Objective: The authors investigated the extent and characteristics of published psychiatric research from U.S. and Canadian medical schools that was carried out without external funding. **Method:** They reviewed reports of unfunded research in 14 psychiatric journals, tabulating methodological factors and topics of study. They surveyed first authors about their academic duties and resources used in the studies. **Results:** Unfunded studies represented 26% of research reports, were usually prospective, most commonly dealt with phenomenology/epidemiology or psychopharmacology, used low levels of technology, and were accomplished on a modest budget of time and money. **Conclusions:** Unfunded studies make a substantial and economically efficient contribution to psychiatric research. Future investigations should detail the institutional conditions necessary to sustain this type of research productivity.

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Despite its central place in the academic mission, psychiatric research is difficult to sustain in most departments. A small proportion of faculty receive external funding (1), and most must depend on resources available within their own institutions for support of research. However, such resources may become scarcer as departmental budgets decrease and faculty spend more time generating clinical revenues (2).

The purpose of this study was to obtain a first estimate of the extent of unfunded research in the psychiatric literature, the types of studies that are accomplished without external grants, and the resources of time, money, and personnel that they require. Thus, we hope to shed light on both the contribution of unfunded studies and the institutional resources needed to support them.

METHOD

Journals were selected for survey from among those listed in *Psychiatric Research Report* as inviting "submissions of psychiatric or mental health relevance" (3, 4). We selected journals that are peer reviewed, are published in the United States or Canada, are listed in Index Medicus, are published at least six times yearly, include authors from psychiatry departments in at least 25% of articles, and report a circulation greater than 1,000. The 14 journals that met these criteria were *The American Journal of Psychiatry*, *Archives of General Psychiatry*, *Biological Psychiatry*, *Canadian Journal of Psychiatry*, *Community Mental Health Journal*, *Comprehensive Psychiatry*, *General Hospital Psychiatry*, *Hospital and Community Psychiatry*, *Journal of*

the American Academy of Child and Adolescent Psychiatry, *Journal of Clinical Psychiatry*, *Journal of Clinical Psychopharmacology*, *Journal of Nervous and Mental Disease*, *Journal of Studies on Alcohol*, and *Psychosomatic Medicine*. Journals were surveyed for the year 1992.

All research reports from U.S. and Canadian medical schools were examined for funding acknowledgments. Literature reviews, conceptual articles, and case reports were excluded. There were 978 research reports in a total of 2,143 articles. Those with no acknowledgment of external funding were included in the study.

Reports of unfunded research were surveyed to determine type of methodology, topic area, study population, and level of technology, through use of classifications derived from a preliminary review of 50 articles. Kappa coefficients were calculated from a subset of 56 articles not included in the preliminary review. The kappa for ratings ranged from 0.55 to 1.00 (mean=0.82).

Questionnaires were sent to first authors inquiring about the time, money, equipment, and personnel needed to complete the study and demographic characteristics and academic duties of the author. Questionnaires also served to verify funding status. The response rate was 64%. No differences between studies with returned and nonreturned questionnaires were found on dimensions of methodology or topic area.

RESULTS

A total of 254 studies (26% of total research reports) were confirmed as unsupported by external funding. The proportions in individual journals ranged from 3% (*Archives of General Psychiatry*) to 63% (*General Hospital Psychiatry*). The greatest number of such reports (N=48) appeared in *The American Journal of Psychiatry*. Ninety-five institutions were represented, with the top 10% contributing 56% of the articles. All U.S. institutions in the top group were also in the top 25% of National Institute of Mental Health (NIMH) research funding (unpublished 1996 data from the Program Analysis Unit, Office of Resource Management, NIMH).

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Seventy-eight percent of studies were prospective. The most common topic areas were phenomenology/epidemiology (40%), drug therapy (19%), systems and utilization (14%), and neurobiology (10%). Studies investigated patients with a wide range of diagnoses, including mood disorders (12%), schizophrenia spectrum disorders (10%), medical/surgical illnesses (9%), and anxiety disorders (8%). However, the most common way of defining study populations was by setting (41%); inpatient (43%) was the most frequently reported setting. Most of the studies (67%) used no higher technology than interviews or paper and pencil assessments or both.

Returned questionnaires yielded the following information: 71% of principal investigators were full-time, paid faculty. Ten percent were residents, 11% were instructors, 41% assistant professors, 22% associate professors, and 16% full professors. The mean proportion of time spent in research was 27% (SD=25%), but 69% of respondents were below the mean. Thirty-two percent reported having grant support for other research. Twenty-eight percent met at least two of the following criteria: 30% or more time spent in research, external funding for research (other than the study at hand), and more than three publications yearly. Investigators in this subgroup were more likely to have other graduate degrees in addition to, or instead of, the M.D. (37% versus 20%) ($\chi^2=4.5$, $df=1$, $p<0.04$) and may represent a core of research-oriented faculty.

Respondents estimated spending 5.2 hours (SD=7.4) weekly on their study over a period of 20.9 months (SD=15.7), although 83% were below the mean weekly time. The total time spent weekly by all participants was estimated at 11.6 hours (SD=18.4), with 77% below the mean. Eighty-seven percent reported working on their projects during evenings and weekends; the estimated proportion of work done during "off" hours was 50% (SD=33%). Only 8% of investigators had formally protected research time.

Fifty-nine percent of respondents received no funding specifically for their study from their own institutions. Of those who did, 30% received \$500 or less, 60% received \$2,000 or less, and 90% received \$12,000 or less. Support staff were assigned to help in 65% of the projects, and volunteers (including faculty, residents, and students) participated in 61%. However, only 17% of respondents paid for research assistance.

Thirty-two percent of studies were done as part of larger ongoing research projects, half of which were themselves unfunded. Studies requiring technical procedures not routinely available clinically (e.g., positron emission tomography scanning) were more likely to be piggybacked onto a larger project than to be freestanding (32% versus 9%) ($\chi^2=12.8$, $df=1$, $p<0.002$). While 56% of junior faculty reported having a mentor for their project, only 19% of senior faculty did ($\chi^2=4.1$, $df=1$, $p<0.04$).

Unfunded studies were used as the basis for grant ap-

plications by 22% of respondents. Of these, 32% had received a grant, 24% were awaiting the outcome of their application, and 44% were not funded.

DISCUSSION

Our survey estimated that unfunded studies from U.S. and Canadian psychiatry departments represent about one-quarter of the psychiatric research literature, deal most commonly with phenomenology or psychopharmacology, use low levels of technology, and are accomplished on a modest budget of time and money. Our data also suggest that several characteristics of psychiatric research in general apply to unfunded research specifically: its concentration in a relatively small group of highly productive institutions, the importance of mentors, and the importance of formal research training (as evidenced here by graduate degrees) (1, 5, 6).

The principal investigators of these studies relied on time from support staff, collaboration with colleagues and trainees, and accessible patient populations. Leadership from the department head, including clear value placed on small-scale, unfunded projects, was an additional factor emphasized by many respondents in their informal comments. These factors would not be apparent on a departmental organizational chart or in specific budget items but reflect overall departmental resources and culture.

The conclusions of this study must be considered preliminary because they are based on a partial sample of the psychiatric research literature and depend on retrospective estimates by investigators. Future studies might investigate what features of psychiatry departments—e.g., faculty size, patient flow, amount of grant-funded research, availability of start-up money, promotion and salary policy—are associated with small-scale research productivity. Such information may help departments maintain academic productivity in the current climate of economic pressure and diminishing resources.

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