

College and School of Pharmacy NIH Funding Patterns, 1992-2001

Introduction: The Association of American Medical Colleges (AAMC) found that for federal fiscal years (FY) 1991-2000, the distribution of NIH research funds among funding ranks remained essentially unchanged despite an almost doubling of NIH support(1). Medical school NIH funding distribution was evaluated by dividing schools into four funding-rank groups: Group A (1-20), Group B (21-40), Group C (41-60) and Group D (61-123). The top 20 funded schools (Group A) received approximately 49 percent of all NIH funding, Group B, 25 percent, Group C, 14 percent, and Group D, 12 percent throughout the ten-year period. More than one-half of the schools changed five positions or more in rank from FY 1991 to FY 2000, while a third of the schools changed 10 positions or more. Large changes in NIH funding rank were less frequent for Group A, with 16 of 20 schools that appeared in Group A in FY 1991 also appeared in Group A in FY 2000. The largest changes in rank were for schools in Group C with 45 percent of schools changing 10 or more positions between FY 1991 and FY 2000.

Inasmuch as NIH funding of pharmacy colleges/schools has also approximately doubled over the past ten fiscal years, FY 1992 to FY 2001, it was of interest to determine if academic pharmacy's NIH research funding distribution history differed from that of academic medicine.

Methods: Pharmacy college/school funding patterns were evaluated by dividing institutions into funding-rank groups. Moreover, as there are fewer pharmacy colleges/schools than medical schools, smaller rank groups than those used in

the AAMC study were constructed for comparative purposes: Group K (1-10), Group L (11-20), Group M (21-30) and Group N (31-82). An additional grouping, Group X (1-3) was evaluated to determine whether the increase in NIH funding was being sequestered into a few top programs. College/school change in rank groups was examined over two time periods, the ten-year interval, FY 1992-2001, and the five-year period, FY 1997-2001. This five-year period is when most of increase in the NIH budget occurred. Programs appearing in the ranking tables for the first time were assigned a positive change of rank of ten places for the purpose of this analysis.

Data for the baseline year FY 1992 was obtained from the NIH Web site(2). The funding data for FY 1997 and FY 2001 was initially obtained from NIH, but the data was verified and corrected by sending to all pharmacy college/school deans prior to publication on the AACP Web site(3). Funding-rank changes were determined by comparing the NIH funding rank in FY 2001 to either the FY 1992 or FY 1997 funding-rank.

Results: Pharmacy college/school funding distribution among over the FY 1992-2001 period did change (Figure 1). In FY 1992, Group K received approximately 60 percent of all NIH funding, Group L, 22 percent, Group M, 11 percent, and Group N, 7 percent. In FY 2001, Group K funding decreased to approximately 53 percent of the total, while Group N had increased to almost 12 percent. The percentage of funding allocated to Group L increased slightly and Group M did not change

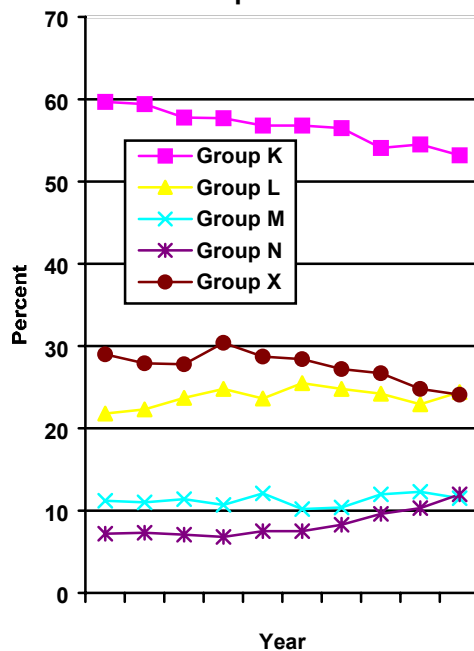
significantly over the ten-year period. The percentage of NIH funding going to the top three programs (Group X), decreased from 29 to 24 percent. A decrease in the percentage of funds going to Groups K and X does not reflect a decrease in funding to these programs, as research dollars going to all groups increased significantly over the ten-year period.

The top NIH funded colleges/schools, Group K, exhibited the most stability. Seven Group K members present in FY 1992 and eight Group K members in FY 1997 were K members in FY 2001. The programs that dropped out of Group K from FY 1992 to FY 2001, moved into Group L, while one of the programs that moved out of Group K from FY 1997 to FY 2001, moved all the way into Group N. Two programs in Group K changed 10 positions or more, one positive and one negative. The composition of the combination of Groups K and L (top 20) was very stable, with 17 programs remaining in the top twenty throughout the study period. The three “new” top 20 programs appearing in FY 2001, were the same using either FY 1992 or FY 1997 as the baseline, although the colleges/schools dropping from the top 20 differed.

Colleges/Schools in Groups M and N demonstrated the most instability, with approximately 40 percent of the institutions exhibiting changes in rank of 10 or more in either direction over the study periods. The amount of funding in Groups M and N is lower, so the addition or loss of one or two grants can have a significant impact on a college/school’s funding and NIH ranking.

Discussion: This study was undertaken to determine how the recent large increases in NIH research funding over the past decade were being shared among pharmacy colleges/schools. A previous AAMC study that served as a template for the present study found that among medical schools; 1) distribution of the increased NIH research funding support by rank groups has remained remarkably stable, and 2) there is significant movement of schools into and out of rank groupings, particularly those groupings which receive smaller amounts of NIH research

Figure 1
NIH Funding in Pharmacy by Rank Groups FY 1992-2001



support. The AAMC study suggested that the results support the notion that less research-intensive institutions were able to compete with their more research-intensive counterparts during this period of large increases in NIH funding.

An examination of the validity of the suggestion that no change in funding percentage per rank-group indicates the ability of the lower funding-rank colleges/schools to “compete” with upper funding-rank colleges/schools is appropriate, as this interpretation helps place the pharmacy college/school results in perspective. This will be accomplished with the following simulation of AAMC-like results. Assume the total amount of funding going to Group A in FY 1991 is \$100 M (54 percent), Group B \$50M (27 percent), Group C \$25 M (13.5 percent), and Group D \$10M (5.4 percent), and the total amount of funding doubles in ten years with each group receiving the same percentage of total. In FY 2000, Group A will have \$200M (54 percent) Group B, \$100M (27 percent), Group C, \$50M (13.5 percent), and Group D, \$20 M (5.4

percent). However in FY 1991, Group A and Group D differed by \$90M, and in FY 2000 they differed by \$180M. Thus, while the percentage of total funding remains constant among Groups, the top group received significantly more research support each year, so despite the fact that each group receives more money each year, the “rich do get richer.” To put this in further perspective, the increase in \$100M for Group A is divided among 20 medical schools, while the increase in \$10M for Group D is divided among 60 medical schools.

In view of the forgoing interpretation, it would appear that the pharmacy college/school results are more egalitarian, with the drop in percentage of funding going to the top ten schools being transferred to the lowest funding-rank group. Thus, while the funding in all rank-groups has increased, the rate of increase of the top group is less than that of the bottom group. In absolute dollars, Group N increased 200 percent from about \$6,000,000 in FY 1992 to \$18,000,000 in FY 2001, while that of Group K has increased 67 percent from \$49,800,000 to \$83,500,000.

The reality is that NIH funding distribution to pharmacy colleges/schools started out in FY 1992 more skewed than the funding to medical schools in FY 1991 through 2000. The top 20 medical schools (16 percent) received approximately 50 percent of all funding, while the top 10 (12 percent) pharmacy colleges/schools received approximately 60 percent of all funding. Throughout the study period, all 123 medical schools received some NIH funds, although the bottom ranked schools received very little. In contrast, only about 75 percent of pharmacy colleges/schools received funding over the study period, so Group N consists of about 30 institutions, not 50. Additionally, three institutions, Group X, received approximately one quarter of all NIH funds over the study period. Interestingly, the composition of Group X has not changed since FY 1994.

Movement of colleges/schools into and out of Groups K and L was limited, with only three “new” programs breaking into the top twenty during the past ten years. The reasons behind

movement from one Group to another is not always apparent, but based on a history of individual institutional funding, some general observations can be made:

- Significant changes in faculty within a program, either due to internal university transfer of faculty, or addition or loss of one faculty member with substantial NIH funding can result in a large change in ranking if the funding base is not very large.
- Success in obtaining a large Program Project (P) grant with a pharmacy faculty member the designated Principal Investigator (PI) can result in a large increase in ranking.
- Success in obtaining one or more NIH Institutional Development Award (IDeA) grants such as a COBRE or BRIN has a significant impact of NIH funding(4). These IDeA programs have been instrumental in the growth of funding of 1992 Group N programs and the significant movement of other programs up in the rankings.
- Slow and steady movement either up or down in ranking or the appearance of a college/school in the rankings may be due to turnover in faculty/administration, with a resultant change in research “culture” at the institution.

Conclusion: NIH funding provides approximately 50 percent of all external research funding for colleges and schools of pharmacy. The usefulness of NIH funding data and the various manipulations that can be performed with the data provide a useful tool for institutions to follow their own longitudinal progress in externally-funded, peer-reviewed research, a comparison of performance among self-selected peer pharmacy programs, and other programs on their respective university campuses. The present analysis, which was stimulated by an AAMC analysis of medical school rankings, provides one view of the progress of the entire academic pharmacy research enterprise. The increase in the percentage of funding awarded to Group N suggests that there is an increase in the externally-funded, peer-reviewed research occurring at pharmacy schools considered “less

research intensive.” Recent successes of pharmacy colleges/schools in obtaining NIH Development Awards (IDeA) which provide for the development of research infrastructure at those state universities that are “less research intensive,” holds promise that the gains in percentage of funding across all funding-rank groups will become less skewed, while all institutions continue to obtain increases in NIH funding. The movement of institutions among ranking groups over the ten-year study period also suggests that it does not take forever to change the research environment at an institution, in either a positive or negative direction. It is also apparent that the change in funding rank occurs much faster than the perception of an institution’s research environment as held by colleagues within the academy.

References

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Author: Kenneth W. Miller, Ph.D.

kmiller@aacp.org

703-739-2330, ext. 1039