

Basic Science Philanthropy Survey

SUMMARY

The Science Philanthropy Alliance commissioned the Voluntary Support of Education in 2015 to conduct the first-ever survey of the members of the American Association of Universities on the amount of private funding they received to support basic science research. With 26 out of 62 universities responding, plus an additional graduate-only university, the findings are as follows:

- Funding for basic research was at least \$2.2 billion in 2015, with \$1.2 billion going to the life sciences, physical sciences, and mathematics.
 - In comparison, overall federal government funding of research and development (including basic science) to higher education institutions has been roughly \$40 billion per year.
- Life sciences received a significantly higher percentage of total funding than the physical sciences and mathematics, capturing 47%, or \$1 billion. The physical sciences captured 7%, or \$159 million, and mathematics, 2%, or \$36 million.
- The gifts came from: foundations (\$979 million), corporations (\$481 million), individuals (\$382 million), and other organizations such as charities and donor-advised funds (\$313 million).

INTRODUCTION

The size of gifts to universities in 2015 is eye-popping. According to the Voluntary Support of Education (VSE) survey of the Council for Aid to Education, colleges and universities raised \$40.3 billion; both Stanford and Harvard raised more than \$1 billion, and seventeen universities each raised more than \$400 million. As an alliance of organizations dedicated to increasing philanthropic support of basic science, we hope that a significant fraction of that largess will support the basic research that is the source of new technologies and therapies that improve our lives. As support of basic research in industry declines, and government funding becomes more constrained and tilts toward shorter term goals, philanthropic support of basic science at universities is more important than ever. That support could come in the form of support for individual faculty members, their students, and postdoctoral researchers, or for the facilities they need to do their research. Alas, until recently there has been no way to know how much of the giving to universities supports basic science.

This year, for the first time, the Science Philanthropy Alliance added a questionnaire to the VSE survey to measure private funding for basic science research. If we are to increase science philanthropy by a significant fraction, we need a baseline from which to measure it. The first year's results are just in, and they provide some interesting insights.

METHODOLOGY

As scientists, we are quick to emphasize that the results are far from scientific. Several factors will lead to an underestimation of the actual level of science philanthropy. The Alliance encourages discovery-driven as well as use-inspired research, as long as it involves the search for fundamental knowledge. We know that each institution works within its own definition, but we are assuming they are similar. Few universities had the information we requested readily available,

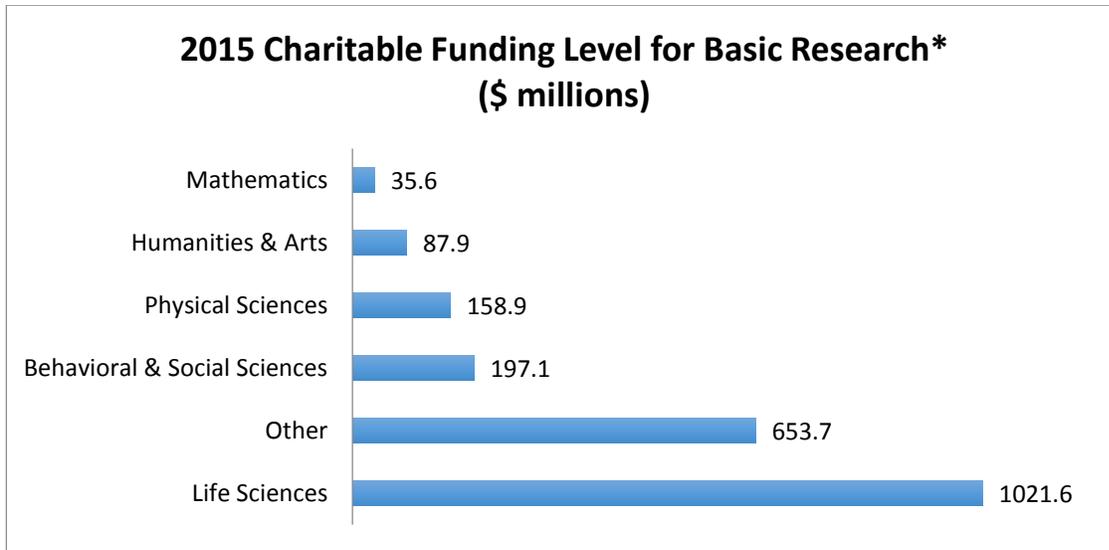
but some worked hard to collect it. We believe that calling attention to science philanthropy in this way is an achievement in itself. While some universities, including some of the leading research institutions, found it difficult or impossible to characterize their gifts in the way the survey asked, we are pleased that some have committed to do so in the future. But the data are incomplete and not necessarily representative. For example, most of the great graduate-only universities and non-profit research institutes were not invited to respond. Other important private funding sources may be missed, such as the Howard Hughes Medical Institute, which provides about \$670 million per year to support basic research, but not typically in the form of grants to universities. On the other hand, we asked the universities to tell us about grants from foundations and industry, some of which are probably not philanthropic, and this may lead to overestimates. Nonetheless, some of the broader trends are unlikely to change, even with additional data.

All 62 universities that are members of the American Association of Universities (AAU) were invited to complete the survey, and 26 responded (we invited one additional graduate-only university to participate). We explicitly asked about gifts to life sciences, physical sciences, and mathematics, the fields of most interest to our Alliance, but we also asked about contributions to behavioral and social sciences as well as humanities and the arts in order to get an overall picture of private funding for research writ large. Although we stressed that the survey was about basic research, not applied, translational, or clinical, we instructed schools to include fields such as engineering, business, and agriculture, as well as certain interdisciplinary fields of study in “other;” therefore, this data may reflect research to the applied end of the research spectrum.

RESULTS

The 27 reporting universities (26 out of the 62 AAU members surveyed, plus an additional graduate-only university) received a total of \$2.2 billion in basic science research funding across all academic fields; the life sciences received

approximately \$1 billion, behavioral and social sciences \$200 million and the physical sciences \$159 million. The smallest contributions were to research in humanities and the arts (\$90 million); mathematics received about \$36 million (see chart). The “other” category received \$650 million. Funding for the life sciences, physical sciences, and mathematics totaled \$1.2 billion.



**Sources of funding measured are foundations, individuals, corporations, other (donor-advised funds and other charities).*

***Other** includes engineering, business and agriculture, as well as certain interdisciplinary fields of study that do not fit into the other fields.*

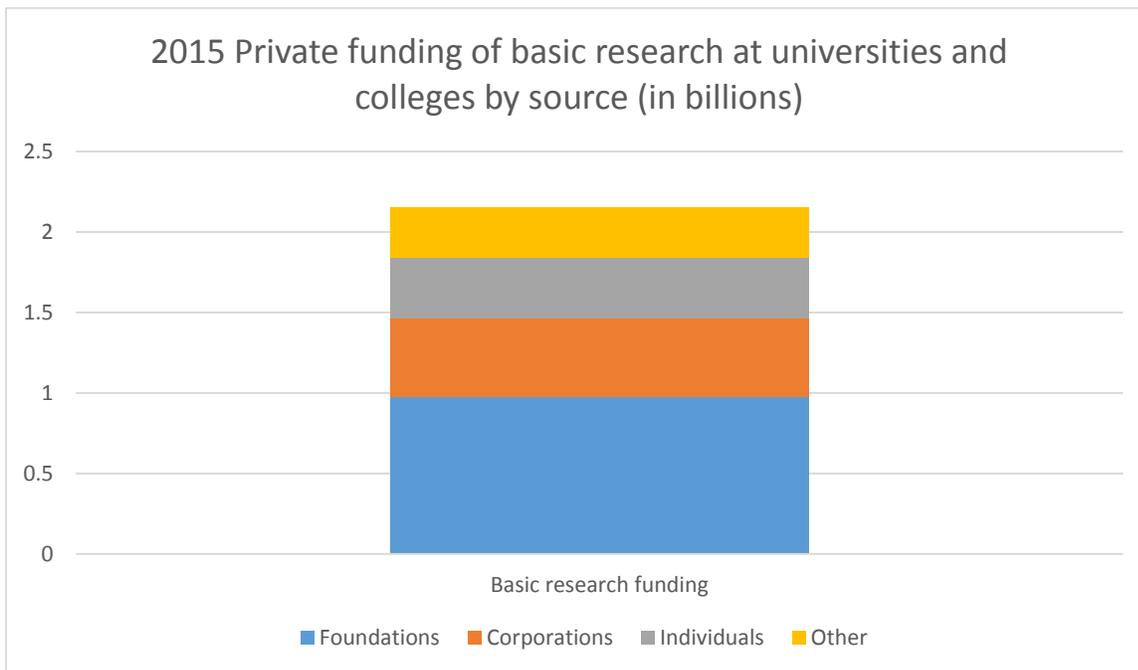
Of course some of the 27 responding institutions raise much more money than others. Four universities, most with large medical schools, each raised more than \$100 million for life sciences, representing more than one third of the total in that category. By comparison, a university could be in the top four in physical sciences by raising just \$13 million, and in mathematics by raising only about \$3 million. Clearly, the influence of philanthropy can be much stronger in some fields than others.

Even taking the uncertainties into account, it is clear that philanthropic support for basic research is significant. With only a fraction of the AAU participating, this

survey finds \$1.2 billion in private funds given to support fundamental research in the life sciences, physical sciences, and mathematics. Therefore, had all universities reported, the scale would likely be a few billion dollars per year in the U.S. Philanthropic support is indispensable because it is generally spent on higher-risk early stage research projects that the federal government does not fund.

Total private support of basic science research is also small compared to the roughly \$40 billion per year spent on research and development by the federal government.

The sources of all gifts were classified as individuals (\$382 million), foundations (\$979 million), corporations (\$481 million), and other organizations such as charities and donor-advised funds (\$313 million).



Note: Examples of “other” sources are donor-advised funds, civic organizations, other universities, other charities (such as the Red Cross), fundraising consortia (such as United Way), and religious organizations.

If more universities participate in the Alliance survey in future years we will have a better measurement of the level of private funding for basic science, the impact of which continues to be critical to our future health and well-being.