

Figure Text

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Figure 1: Number of NIDDK Competing R01 Applications Scoring Within the Top 50th Percentile and Number of NIDDK Percentiled R01 Applications Funded in FY 2019

This is a line graph whose x-axis is percentiles in increments of one from one to fifty. The y-axis is the number of applications or awards from zero to sixty in increments of ten. There are two lines for each percentile, one showing the number of applications and one showing the number of awards at that percentile. The lines show that nearly all applications that scored at or below the payline (the thirteenth percentile) received funding in fiscal year 2019. The fraction of applications that are funded tapers off at increasing percentiles, with no applications funded at a percentile of 36 or higher.

Figure 2: NIDDK Competing R01 Application Funding Curves for FY 2010-2019

This is a line graph whose x-axis shows percentiles from one to fifty in binned increments of five (for example, bin one to five, bin six to ten, bin eleven to fifteen, etc.). The y-axis indicates the percentage of applications that were funded in fiscal years 2010 through 2019 and ranges from zero to one hundred percent in increments of twenty. For each of the fiscal years in the chart there is initially a flat or nearly flat line indicating that nearly one hundred percent of applications that scored below the payline for that fiscal year were funded. Then each line declines steeply around the payline value to zero percent at the upper percentile range. Because paylines change each year, the point on the line where percent funded values decline is different each year.

Figure 3: Number of Competing NIDDK R01 Applications (Including Resubmissions) Received for Funding Consideration in FY 1997-2019

This is a stacked bar chart whose x-axis shows fiscal years between 1997 and 2019 in increments of one year. The y-axis shows the number of competing R01 applications received; it ranges from zero to three thousand two hundred in increments of five hundred. For each Fiscal Year, the height of the bar represents the total number of competing R01 applications received by NIDDK, and the bar is subdivided to indicate the portion of applications that are new and the portion that are resubmissions. Total applications received have increased from about 1600 competing applications in 1997 to about 2800 applications in 2019. Total numbers of applications increased steadily from 1997 to a peak of 2500 in 2006, then total applications remained relatively level varying from 2200 to 2400 from 2007 to 2014. From 2015 through 2019 competing application numbers averaged about 2700. In 1997 new applications made up about two-thirds of all applications, and resubmission applications comprised the remaining third of applications. From 1997 to 2019, the portion of competing applications received that were resubmission applications has steadily declined. The fraction of new applications increased to about 75 percent from 2000 through 2010. Between 2015 and 2019, while the number of competing applications held relatively steady, the fraction that were renewals steadily decreased, from 18 percent competing renewals in 2015 to 12 percent competing renewals in 2019.

Figure 4: Number of Competing NIDDK R01 Applications Received for Funding Consideration in FYs 2010-2019: New Versus Renewal Application Numbers

This is a line chart whose x-axis shows fiscal years between 2010 and 2019 with increments of one year. The y-axis shows the number of competing R01 applications received by NIDDK and ranges

from zero to two thousand seven hundred in intervals of five hundred. There are two lines on the chart (from top to bottom): 1) Number of New R01 applications rose through this ten-year period from about 1700 in 2010 to 2500 in 2016. New R01 application numbers remained about 2500 from 2016 through 2019. 2) Number of resubmission (or renewal) R01 applications received each year declined during these ten years. Resubmissions were about 700 in 2010, then decreased steadily until 2019, when there were about 300 renewal R01 applications received.

Figure 5: Number of NIDDK R01/R37 Grants (Competing and Non-Competing) Funded in FY 1997-2019

This is a stacked bar chart whose x-axis shows fiscal years between 1997 and 2019 with increments of one year. The y-axis shows the number of R01 and R37 awards and ranges from zero to two thousand five hundred. The total height of the bar in each fiscal year represents the total number of competing and non-competing R01 and R37 grants awarded. The total number of awards rises from about one thousand seven hundred in 1997 to about two thousand three hundred in 2003, and remains relatively level through 2011. The total number of R01 awards decreases to just under 2000 in 2014 through 2016. In 2017 through 2019, number of awards increased slightly each year, and in 2018 the number of R01 awards is almost 2100. The stacked bars are subdivided into portions that represent non-competing awards, new competing awards, and renewal competing awards. Non-competing awards comprise about 75 percent of R01 awards each year, with numbers increased from about 1100 noncompeting awards in 1997 to about 1700 from 2004 through 2012. Numbers of noncompeting awards gradually decreased to about 1500 in 2014 through 2018, but rose to about 1600 in 2019. In 1997, the 25 percent of competing awards were evenly split between new and renewal awards. But over the last 22 years, competing awards are increasingly to new awards rather than renewals.

Figure 6: Overall NIDDK Expenditures (Includes Direct and Facilities and Administrative Costs) on R01 Awards (Competing and Non-Competing) in FY 1997-2019

This is a line chart whose x-axis shows fiscal years between 1997 and 2019 in increments of one year. The y-axis shows total awarded dollars from zero to nine hundred and fifty million dollars in increments of one hundred million dollars. There is a single line on the chart, which starts just under four hundred million dollars in 1997, then rises steadily to about seven hundred fifty million dollars in fiscal year 2005 where it stays almost flat until fiscal year 2008. By 2010 it rises to about eight hundred sixty million dollars but then declines to seven hundred fifty million dollars in fiscal year 2013. The line then rises steadily to just over nine hundred fifty million dollars in fiscal year 2019.

Figure 7: Median Total Costs (Includes Direct and Facilities and Administrative Costs) of NIDDK R01 Grants (Competing and Non-Competing) in FY 1997-2019

This is a line chart whose x-axis shows fiscal years between 1997 and 2019 in increments of one year. The y-axis displays dollar amounts ranging from zero to four hundred thousand dollars in increments of one hundred thousand dollars. There is a single line on the chart. It starts in fiscal year 1997 at just over two hundred thousand dollars and rises steadily to just over three hundred thousand dollars in fiscal year 2005. It is then essentially flat until fiscal year 2008 when it rises with some fluctuations to just over four hundred twenty-five thousand dollars in 2019.

Figure 8: NIDDK Extramural Research Funded in FYs 2010-2019 (Competing and Non-Competing), By Funding Mechanism

This is a horizontal bar chart whose x-axis displays percentages from zero to one hundred in increments of twenty percentage points. The y-axis shows fiscal years ascending from the bottom, starting with 2010 and ending with 2019 in increments of one year. Each horizontal bar corresponds to a fiscal year and is split into the following categories in order from left to right: RPGs, SBIR/STTR,

Research Centers, Research Careers, Other Research, training, and Contracts and Interagency Agreements. In general, most categories represent the same proportion of the budget from year to year. The RPG budget is over seventy percent of the NIDDK extramural budget, with the largest fraction of RPGs supporting investigator-initiated R01 awards [as shown in Figure 8a.](#)

Figure 8A: NIDDK Research Project Grants Funded in FYs 2010-2019 (Competing and Non-Competing), by Activity Code

This is a horizontal bar chart whose x-axis displays percentages from zero to one hundred in increments of twenty percentage points. The y-axis shows fiscal years ascending from the bottom, starting with 2010 and ending with 2019 in increments of one year. Each horizontal bar corresponds to a fiscal year and is split into the following categories in order from left to right: R01, R21, R37, P01, U01, Other R, and Other U. In general, most categories represent the same proportion of the budget from year to year, however the R01 awards have made an increasing proportion of RPG awards from 2015 through 2019, rising from about 70 percent of RPG awards to 77 percent of RPG awards. During these same years the fraction of R37, P01, and U01 awards decreased slightly.

Figure 9: Maintaining a Stable Pool of NIDDK Investigators— Number of Investigators Supported by at Least One R01 or R37 in FYs 2010-2019

This is a vertical stacked bar chart whose x-axis displays fiscal years from 2010 to 2019 in increments of one year. The y-axis displays counts of investigators from zero to two thousand two hundred in increments of five hundred. The total height of the bar each year represents the number of unique investigators supported by NIDDK R01 and R37 awards. The number of principal investigators with an R01 or R37 has fluctuated modestly over time. About one thousand nine hundred sixty R01 and R37 investigators were supported by NIDDK from 2010 through 2012, then the number of investigators declined to about one thousand eight hundred investigators in fiscal years 2014 and 2015, before rebounding over two thousand in fiscal year 2019. Established investigators comprise over 90% of all NIDDK R01 or R37 funded investigators across all years, and the number of new investigators has held steady at about 7 percent of investigators.

Figure 10: Maintaining a Stable Pool of NIDDK Investigators— Number of Investigators Supported by at Least One R01 or R37 and Growth of Multiple PI (MPI) Awards in FYs 2010-2019

This is a vertical bar chart whose x-axis shows fiscal years between 2010 and 2019 in increments of one year. The y-axis displays numbers from zero to two thousand six hundred in increments of five hundred. There are three vertical bars for each fiscal year: 1) one shows the number of investigators supported by R01 or R37 awards each fiscal year, 2) one shows the number of R01 or R37 awards paid by NIDDK each fiscal year, and 3) one shows the percentage of awards that are multiple principle investigator (MPI) awards each fiscal year. From fiscal year 2010 through 2018, there were more R01 awards than unique investigators supported by NIDDK by R01 or R37 awards, as some investigators have multiple R01 awards. In 2019, there were an equivalent number of investigators and R01 awards supported by NIDDK (about two thousand eighty). The number of R01 or R37 awards decreased from 2010 through 2015, from about two thousand two hundred awards to just under two thousand awards. The number of R01 or R37 awards has increased gradually since 2015. The number of NIDDK investigators with R01 or R37 awards decreased slightly from 2010 through 2015, from about one thousand nine hundred to one thousand eight hundred. However, in the last five years the number of investigators has increased by 200 to match the number of R01 awards in 2019. The percentage of awards that are MPI has risen steadily over the last ten years, from two percent in 2010 to twenty percent in 2019.

Figure 11: Preserving a Stable Pool of New Investigators—Number of NIDDK Early Stage Investigator (ESI) R01 Applications and Number of Unique ESIs Applying and Awarded in FYs 2010-2019

This is a vertical bar chart whose x-axis shows fiscal years between 2010 (when the ESI data collection began) and 2019 in increments of one year. The y-axis displays numbers from zero to four hundred in increments of one hundred. There are three vertical bars for each fiscal year: 1) one shows the number of ESI R01 applications, 2) one shows the number of unique ESIs that submitted R01 applications to NIDDK, and 3) one shows the number of ESI R01 awards. Number of ESI applications ranged between about three hundred to nearly four hundred during these years, and the number of unique ESIs ranges from about two hundred fifty to three hundred forty. The number of ESIs applying is always lower than the number of ESI applications, as some ESIs submit multiple applications. The number of ESI awards each year ranged from about fifty to about eighty. Over the last nine years, on average twenty three percent of ESIs get funded each year. In 2019, there was a slight drop in number of applications and ESIs applying to NIDDK, and twenty one percent of ESI applications were funded.

Figure 12: Preserving a Stable Pool of New Investigators—Percent of NIDDK New Competing R01 Applications Submitted and Awards Received by Early Stage Investigators (ESIs) in FYs 2010-2019

This is a vertical bar chart whose x-axis shows fiscal years between 2010 and 2019 in increments of one year. The y-axis displays percentages from zero to thirty percent in increments of ten percent. There are two vertical bars for each fiscal year, one of which shows NIDDK ESI R01 applications as a percentage of all new R01 applications received by NIDDK and the other of which shows NIDDK ESI R01 awards as a percentage of all new NIDDK R01 awards in that year. There has been a decline in the fraction of new R01 applications submitted by ESIs, from about 18 percent in fiscal years 2010 through 2013 to about 14 percent in fiscal years 2017 through 2019. In contrast, the fraction of R01 awards to ESIs held relatively steady throughout the past ten years, at about 22 percent of awards through this period. Both 2010 and 2019 had lower than average fraction of awards to ESIs (about 17 percent).

Figure 13: Median and Mean Ages of NIDDK R01 and R37 Investigator in FYs 2010-2019

This is a line chart whose x-axis shows fiscal years between 2010 and 2019 in increments of one year. The y-axis displays the age of investigators from fifty years to fifty-five years in increments of one year. There are two lines on the chart. The top line shows the mean age of investigators and rises from just over fifty-two years in fiscal year 2010 to just over fifty-three years in fiscal year 2019. The lower line shows the median age of investigators. The median age of investigators from fiscal year 2010 through 2012 was fifty-one years. The median age then rose to fifty-two years in fiscal year 2013 and has remained at this level through fiscal year 2019.

Figure 14: Support Pivotal Clinical Studies and Trials—NIDDK Human Subjects Research Funding as a Proportion of all Extramural Research Funding in FYs 2010-2019

This is a vertical bar chart whose x-axis shows fiscal years between 2010 and 2019 in increments of one year. The y-axis displays percentages from zero percent to forty five percent in increments of ten percent. There are two vertical bars for each fiscal year. The left bar of each fiscal year pair displays the percent of the NIDDK extramural research budget that supports human subjects research for all NIDDK extramural research awards. The right bar of each fiscal year pair displays the percent of the NIDDK extramural research budget that supports human subjects research for only NIDDK R01 and R37 awards. The percentage of NIDDK extramural budget supporting human subjects research for all NIDDK extramural research awards rose from about thirty percent from fiscal year 2010 to about

forty percent in fiscal year 2014, and has remained at about 40% through 2019. The percentage of the NIDDK extramural budget supporting human subjects research for NIDDK R01 and R37 awards climbed from approximately twenty eight percent in fiscal year 2010 to about thirty five percent in fiscal years 2016, and has remained at about thirty six percent through 2019.

Figure 15: NIDDK Is Committed to Training the Next Generation of Scientists

Figure 15A: NIDDK Fellowship (F), Career Development (K), and Training (T) Awards as a Percent of Total Extramural Research Funding

This is a line chart whose x-axis displays fiscal years from 2009 to 2018 in one year increments. The y-axis shows percentages from zero to six percent. There are three lines on the chart, which display (from top to bottom): 1) K awards—accounted for approximately five percent of extramural funding between fiscal years 2009 and 2018 with levels fluctuating only modestly until fiscal year 2017 when K awards decreased to less than five percent of total funding through 2019; 2) T awards—T awards remained about 3.1 percent of extramural funding from fiscal year 2010 through 2015, then dropped to 2.9 percent in fiscal years 2017 through 2019; and 3) F awards—these have increased slightly from 0.7 percent of the research budget in 2009 to just under one percent in fiscal years 2016 through 2019.

Figure 15B: Numbers of NIDDK Fellowship (F), Career Development (K), and Training (T) Awards by Fiscal Year in FYs 2010-2019

This is a line chart whose x-axis displays fiscal years from 2010 to 2019 in one-year increments. The y-axis shows numbers from zero to eight hundred in increments of two hundred. There are three lines on the chart, which display (from top to bottom): 1) K awards—there were over five hundred K awards in 2010, which held fairly constant through 2015 and then declined to about four hundred sixty awards in fiscal years 2016 through 2019. 2) T awards—the number of T awards remained about two hundred fifty in fiscal years 2010 through 2012, then dropped to about two hundred ten in fiscal years 2013 through 2019, excepting a surge to about 250 T awards in fiscal year 2017. 3) F awards—these held steady at about two hundred forty in fiscal years 2010 through 2015, then increased again to about three hundred awards in fiscal years 2016 through 2019.

Figure 15C: Number of NIDDK Career Development (K) Awards by Activity and Fiscal Year in FYs 2010-2019

This is a line chart whose x-axis displays fiscal years from 2010 through 2019 in increments of one year. The y-axis displays numbers of awards from zero to two hundred fifty in increments of fifty and includes both competing and non-competing awards. There are five lines, from top to bottom: 1) K08—this line starts at one hundred sixty in fiscal years 2010 through 2013, then declines to about one hundred twenty in fiscal years 2016 through 2019. 2) K01—this line averages about one hundred sixty throughout 2010 through 2019, with some deviations, the largest being a jump to almost two hundred in fiscal year 2015. 3) K23—this line remains generally stable at about one hundred twenty four awards throughout this period, with small variability from year to year, and an increase to one hundred forty in 2019. 4) K24—this line starts at around fifty awards in fiscal years 2010, declines to about forty awards in fiscal years 2011 through 2016, then declines to about twenty five in fiscal years 2017 through 2019. 5) K99—this line starts remains generally stable at just under twenty awards throughout this period, with small variability from year to year.

Figure 15D: Number of NIDDK Career Development (K) Applications by Activity and Fiscal Year in FYs 2010-2019

This is a line chart whose x-axis displays fiscal years from 2010 through 2019 in increments of one year. The y-axis displays numbers of competing applications from zero to one hundred seventy in increments of twenty-five. There are five lines, from top to bottom: 1) K01—this line averaged about one hundred twenty applications each year from fiscal years 2010 through 2017, then rose to just over one hundred fifty K01 applications in fiscal years 2018 and 2019. 2) K08—this line remains generally stable at just under seventy applications throughout this period, with small variability from year to year. 3) K23— this line averaged about eighty applications each year from fiscal years 2010 through 2017, then rose to over one hundred applications in fiscal years 2018 and 2019. 4) K99—this line starts at forty-two applications in 2009 and rises to a peak of seventy-one applications in 2013, followed by a decline to thirty-four applications in 2015; K99 applications held constant at about fifty applications in fiscal years 2010 through 2018, with some variability from year to year, including a peak of about 70 in 2013 and a low of about 35 in 2015. In fiscal year 2019 K99 applications increased sharply to about 70. 5) K24—this line remains generally stable at around twenty applications from fiscal years 2010 through 2012, dropped to about fifteen fiscal years 2013 through 2018, then dropped to zero in 2019 as NIDDK stopped accepting K24 applications.

Figure 15E: Number of NIDDK Training (T32) Award Slots by Fiscal Year in FYs 2009-2018

This is a vertical bar chart whose x-axis displays fiscal years from 2009 to 2018 in increments of one year. The y-axis shows the number of T32 slots from zero to one thousand in increments of two hundred. There is one vertical bar for each fiscal year. From fiscal year 2009 to 2012 the number of T32 trainee slots remained stable at about nine hundred per year. Since 2013, the number of slots has declined to about eight hundred twenty-five for fiscal years 2013 through 2015, then dropped to just under eight hundred in fiscal years 2016 through 2018.