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Differential NIH Funding by Grant Types Among Medical Specialties

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3 Differential NIH Funding by Grant Types Among Medical Specialties
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Key Points

Question: Does the current National Institute of Health (NIH) funding vary by specialty, and what are the temporal trends in funding by specialty from 2011 through 2020?

Findings: Systematic analysis of the NIH RePORTER data shows that NIH funding was distributed to 19 specialties. The most-funded specialty was Internal Medicine/Medicine, with \$36,023MM, followed by Psychiatry, with \$8,268MM, and Pediatrics, with \$7,897MM. When adjusted for the number of active physicians in each specialty, Pathology (\$50.4K/physician), Neurology (\$42.5K/physician), and Internal Medicine (\$30.0K/physician) were the most-funded specialties, whereas Plastic Surgery (\$0.1K in funding per active physician per year), Family Medicine (\$0.7K/physician), and Emergency Medicine (\$1.2K/physician) were the least-funded specialties. In addition, there were several instances where the mean dollar-amount awarded by grant-type was significantly different between specialties.

Meaning: NIH funding is not distributed, either in number or in dollar amount, in proportion to the active physician workforce. Training grants and awards are also not distributed in proportion to the active physician workforce. The reasons for these variations need to be explored further.

Article Summary

Strengths and Limitations of this Study:

- This study compares the funding levels across all specialties for which data is available in the NIH RePORTER, allowing for direct analysis of differences among many different specialties.
- This study considers several parameters to measure the level of funding by specialty, including the number of grants awarded, the total dollar-amount of grants awarded, and each of these values after adjustment for the number of active physicians in the specialty. The use of these various parameters allows for direct comparisons of whole specialties, as well as for size-adjusted comparisons.
- This study considers trends in funding across the ten-year time-period from 2011 through 2020, allowing for identification of specialties with increasing funding, and that of those with decreasing funding.
- This study is limited by a lack of access to data about applications for grants (e.g., data for applications that do not result in funding). Thus, for example, it does not allow for direct determination of the extent to which differences in funding-levels, by specialty, may be related to differences among the specialties in levels of grant-applications.

Abstract

Importance: National Institutes of Health (NIH) funding is one of the major sources of research funding in the United States. Differences in NIH funding, across specialties, can impact the ability to diagnose and treat conditions in those specialties.

Objective: The aim of this study is to evaluate how NIH funding has been awarded by medical specialty. This study assesses differences and trends in the amount of funding, by specialty, for the years of 2011 through 2020, via a retrospective analysis of NIH RePORTER data.

Data Source: NIH RePORTER data from years 2011-2020, for awarded NIH grants (F32, T32, K01, K08, K23, R01, R03, R21, U01, P30) in the following medical specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology.

Main Outcomes and Measures: The following measures were studied: number of grants by specialty, number of grants per active physician by specialty, total dollar-amount of grants by specialty, dollar-amount of grants per active physician by specialty, and mean dollar-amount awarded by specialty for each grant-type. The hypothesis being tested (i.e., whether these measures varied across medical specialties) was formulated during data collection.

Results: In general, Internal Medicine/Medicine, Psychiatry, Pediatrics, Pathology, and Neurology received the most (F32, T32, K01, K08, K23, R01, R03, R21, U01, P30) grants per year, had the highest number of grants per active physician, had the highest total amounts of funding and the highest amount of funding per active physician, whereas fields like Emergency Medicine, Plastic Surgery, Orthopedics and Obstetrics and Gynecology had the lowest. The number of active physicians per grant was generally highest for Emergency Medicine, Plastic Surgery, General Surgery and Otolaryngology and again generally lower for Internal Medicine/Medicine, Pathology and Neurology. There were several instances where the mean dollar-amount awarded by grant-type was significantly different between specialties ($P < 0.000292$).

Conclusions and Relevance: The data show that NIH funding varies significantly among medical specialties. This may affect research progress and the careers of scientists in less funded specialties.

Introduction

The United States (US) National Institutes of Health (NIH) is a part of the US Department of Health and Human Services (HHS), and is the primary agency responsible for public health and biomedical research. The NIH is comprised of over 27 separate institutes and centers covering several biomedical disciplines and specialties in medicine (Appendix I). Approximately 80% of NIH funding goes towards funding extramural research in the form of research grants [1].

NIH funding is used for the advancement of research across many fields of basic science and clinical medicine [2]. In fiscal year 2020, the total NIH funding was \$40.3 billion. NIH funding research in clinical medicine is spread across many specialties, which vary in size. We hypothesized that the amount of funding for each specialty should be proportional to the number of active physicians in the specialty, as the number of active physicians can be viewed as a rough approximation of the demand for a specialty, and as a proxy for the disease burden (diseases treated by that specialty) in society.

We investigated whether NIH funding (the number of grants, number of active physicians per grant in that specialty, the dollar-amount of grants, dollar-amount of grants per active physician in that specialty, and grant-types) varies between specialties, between 2011 and 2020. We then evaluated which specialties were funded the most and which were funded the least in this period.

Methods

This study was evaluated by the local Institutional Review Board (IRB). The study involves freely available, public data, and was determined to be exempt.

Patient and Public Involvement Statement: Neither patients nor members of the public were involved, in any way, with this research.

Study Design and Data Source

We carried out a retrospective analysis of the NIH's Research Portfolio Online Reporting Tools Expenditures and Results (RePORTER) database (<https://reporter.nih.gov/>), which has data on grants that were awarded by the NIH [3]. Unlike the federal Query/View/Report (QVR) database, the RePORTER database shows data only for grants that were awarded and therefore does not allow for analysis of data involving grant-applications that did not result in the awarding of a grant. As a result, we could not evaluate the success-rates of grant-applications by specialty.

The RePORTER database was searched for grants awarded between 2011 and 2020, which were classified, based on the department name on the grant-application, into one of the following 19 specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology [3]. These specialties were chosen, because they represent the set of all entities in the RePORTER database which constitute specialties in clinical medicine. The grants that were not classified as being among these specialties, were excluded.

We included all grants for each specialty from the RePORTER database. The grant-types appearing in the data set are listed in Appendix II.

Number of active physicians

The number of active physicians was obtained from the Physician Specialty Data Report by the American Association of Medical Colleges (AAMC). The number of active physicians included

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3 those from all training-pathways, including Doctor of (Allopathic) Medicine (M.D.), Doctor of
4 Osteopathic Medicine (D.O.), and international medical graduates (IMG) [4]. Because the
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6 number of active physicians per specialty was only available for certain years, during the time-
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8 period of 2010-2020, linear interpolation was used to estimate the number of active physicians in
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10 the unlisted years (which were generally situated between years for which the number of active
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12 physicians was listed) [5] (Supplementary Table 1).
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17 Number of grants: We evaluated all grants awarded over the 10-year time period to identify the
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19 mostly frequently awarded grant-types. The ten most frequently awarded grant-types were R01,
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21 R03, R21, F32, T32, K01, K08, K23, U01, and P30. The total numbers of the 10 most frequently
22
23 awarded grants by specialty, were calculated, for each of the ten years under consideration
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25 (Supplementary Tables 2-11). Plots of the number of grants by specialty (Supplementary Figures
26
27 1a and 1b) and the percent-change in the number of grants (versus 2011) by specialty
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29 (Supplementary Figure 2) were created. We systematically evaluated the grants awarded at
30
31 critical periods in the academic career pipeline including training grants in the pre-doctoral (T32)
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33 and post-doctoral (F32) period; career development K-grants (K01, K08, and K23), and grants
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35 typically awarded in the later-career stages including the R01, R03, R21, U01, and P30 grants.
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41 Number of active physicians per grant: For each of the ten most-commonly awarded grant-types
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43 (R01, R03, R21, F32, T32, K01, K08, K23, U01, and P30), the number of active physicians per
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45 grant was calculated, for each specialty, for each of the ten years under consideration
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47 (Supplementary Tables 12-21). This calculation was performed for each grant-type, by dividing
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49 the number of active physicians in the relevant specialty in the relevant year, by the number of
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51 grants awarded in the relevant specialty in the relevant year.
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Dollar-amount of grants: To evaluate whether the differences in numbers of grants corresponded to differences in dollar-amounts of funding, we calculated the total dollar-amounts of funding, by specialty, aggregated over the time period of 2011-2020 (Table 1).

Table 1: Number of grants, dollars of funding, and dollars of funding per active physician, by specialty, 2011-2020

Specialty	Rank	Number of grants	Percentage of total	Average number of grants per active physician	Dollars of funding (K, rounded to 100K)	Percentage of total	Number of active physicians in 2020	Average dollars of funding per active physician per year (K)
Pathology	1	14946	8.1	0.112	6366700	7.6	13374	47.6
Neurology	2	12448	6.8	0.092	6001600	7.2	13527	44.4

Internal Medicine/Medicine	3	72205	39.2	0.063	360226 00	43.2	114539	31.5
Psychiatry	4	19029	10.3	0.050	826760 0	9.9	38089	21.7
Neurosurgery	5	2956	1.6	0.055	111160 0	1.3	5404	20.6
Pediatrics	6	17422	9.4	0.030	789650 0	9.5	57929	13.6
Ophthalmology	7	5957	3.2	0.032	238080 0	2.9	18665	12.8
Surgery	8	8171	4.4	0.032	321250 0	3.9	25435	12.6
Otolaryngology	9	3198	1.7	0.034	110230 0	1.3	9480	11.6
Radiation- Diagnostic/Oncology	10	9562	5.2	0.025	399940 0	4.8	38437	10.4
Dermatology	11	2270	1.2	0.019	764500	0.9	11776	6.5
Urology	12	1474	0.8	0.015	572700	0.7	9924	5.8
Obstetrics & Gynecology	13	4343	2.4	0.010	169780 0	2	41529	4.1

Physical Medicine & Rehab	14	1124	0.6	0.012	357900	0.4	9200	3.9
Orthopedics	15	2218	1.2	0.012	750200	0.9	19244	3.9
Anesthesiology	16	3770	2		143470 0	1.7	41359	3.5
Emergency Medicine	17	1258	0.7		550200	0.7	40232	1.4
Family Medicine	18	2015	1.1		848500	1	112277	0.8
Plastic Surgery	19	16	0		4600	0	7362	0.1
Total	-	18438	100		833429	100	627782	133
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In addition, the total dollar-amount of funding was calculated, for each specialty, for each of the ten years under consideration (Figure 1a). Internal Medicine/Medicine received much more funding than any other specialty, in each of the years studied, making it difficult to visualize the differences among the remaining specialties in the figure. To ameliorate this issue, the total dollar-amount of funding per year for each of the specialties, except for Internal Medicine/Medicine, was plotted separately (Figure 1b). In addition, to evaluate changes in funding over the time-period studied, for each year after 2011, we calculated the percent-change in the dollar-amount of funding (compared to 2011) by specialty (Figure 2). For each of the ten most commonly awarded grant-types (R01, R03, R21, F32, T32, K01, K08, K23, U01, and P30),

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3 the total dollar-amount of funding was calculated, for each specialty, for each of the ten years
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5 under consideration (Supplementary Tables 22-31).
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8 Dollar-amount of grants per active physician: We calculated the number of dollars of funding per
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10 active physician to adjust for the differing sizes of the specialties considered by dividing the
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12 dollar-amount of funding for each specialty by the number of active physicians in the relevant
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14 specialty (Table 1). For each of the ten most commonly awarded grant-types for each specialty,
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16 for each of the ten years under consideration, the total dollar-amount of funding was divided by
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18 the number of active physicians in the relevant specialty, in the relevant year (Supplementary
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20 Tables 32-41).
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25 Mean dollar-amount per grant, by specialty, by type: The dollar-amounts vary among individual
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27 grants awarded; it is not certain whether the mean grant-amount by grant-type would be expected
28
29 to vary across specialties. To determine whether grant-amounts varied by specialty, we
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31 calculated the mean (standard deviation) dollar-amount per grant, by specialty, by type, for each
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33 of the ten years under consideration (Supplementary Tables 42-51), and aggregated over 2011-
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35 2020 (Supplementary Table 52). For each of the ten most commonly awarded grant-types, for
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37 each possible pair of specialties considered, these mean grant-amounts were then compared,
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39 using the Bonferroni correction (Type I error rate, $\alpha = 0.05/(19_2) = 0.0002924$) to adjust for
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41 multiple comparisons (Supplementary Figures 3-12)).
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46 All analyses were performed in Excel, version 2107 (Microsoft, Redmond, Washington) and R,
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48 version 4.0.4 (R Foundation for Statistical Computing). Test-statistics were two-sided, and P-
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50 values < 0.05 (except in cases of multiple comparisons, where the Bonferroni correction was
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52 used) were considered statistically significant.
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Results

From 2011 through 2020, there were 184,382 grants awarded by the NIH, in the specialties considered. Of this total number of grants, 72,205 (37.2%) were awarded in Internal Medicine/Medicine, 19,029 (10.3%) were awarded in Psychiatry, 17,422 (9.4%) were awarded in Pediatrics, and 14,946 (8.1%) were awarded in Pathology (Table 1). In comparison, 16 grants (0.0%) were awarded in Plastic Surgery, 1258 (0.7%) were awarded in Emergency Medicine, 2015 (1.1%) were awarded in Family Medicine, and 2956 (1.6%) were awarded in Neurosurgery (Table 1).

Number of grants: Across the ten-year time-period studied, Internal Medicine/Medicine consistently received the most grants per year, followed by Psychiatry, Pediatrics, Pathology, and Neurology (Supplementary Figures 1a and 1b). From 2012-2020, the average percentage-change in the number of grants by specialty, compared to the initial year (2011), was 40.8% for Emergency Medicine, 34.2% for Neurosurgery, and 32.2% for Orthopedics being the third-highest. It was -51.9% for Plastic Surgery, -36.8% for Otolaryngology (-36.8%), and -24.5% for Radiation-Diagnostic/Oncology (Supplementary Figure 2). In addition to receiving the greatest number of grants, in aggregate, Internal Medicine/Medicine consistently received the greatest number of grants. For each of the ten most commonly awarded grant-types, the number of grants, for each of the specialties considered, for each of the ten years under consideration, was calculated, for R01 (Supplementary Table 2), R03 (Supplementary Table 3), R21 (Supplementary Table 4), F32 (Supplementary Table 5), T32 (Supplementary Table 6), K01 (Supplementary Table 7), K08 (Supplementary Table 8), K23 (Supplementary Table 9), U01 (Supplementary Table 10), and P30 (Supplementary Table 11). For each of the ten most-

commonly awarded grant-types, the number of grants, for each of the specialties

	F32	K01	K08	K23	P30	R01	R03	R21	T32	U01
ANESTHESIOLOGY	43	53	167	126	1	2258	63	289	178	111
DERMATOLOGY	32	73	146	49	82	1169	54	182	105	65
EMERGENCY MEDICINE	4	9	58	171	0	415	27	58	9	89
FAMILY MEDICINE	2	97	27	59	30	787	56	174	51	131
INTERNAL MEDICINE/MEDICINE	1161	1462	2535	2791	3122	30801	1147	3829	3691	4512
NEUROLOGY	235	175	352	529	181	5769	129	791	340	577
NEUROSURGERY	96	16	101	44	18	1669	47	272	46	129
OBSTETRICS & GYNECOLOGY	46	48	55	103	41	1620	119	286	107	137
OPHTHALMOLOGY	83	7	268	166	303	3823	15	327	204	67
ORTHOPEDECS	60	62	48	26	49	1349	83	215	76	7
OTOLARYNGOLOGY	86	9	112	100	118	1642	118	225	157	38
PATHOLOGY	201	148	306	21	206	8110	197	1282	718	390
PEDIATRICS	194	208	1007	924	186	7467	362	1146	865	1161
PHYSICAL MEDICINE & REHAB	17	80	6	68	0	443	58	89	46	51
PLASTIC SURGERY	1	0	0	0	0	7	2	0	0	3

considered, aggregated over 2011-2020, is shown in Table 2.

Table 2: Frequency, by grant-type, 2011-2020

PSYCHIATRY	293	743	250	1060	133	9066	236	1580	772	825
RADIATION- DIAGNOSTIC/ONCOLOGY	65	147	66	36	81	5424	145	1062	266	342
SURGERY	172	92	464	106	300	3975	174	540	532	536
UROLOGY	22	33	63	22	39	686	27	83	55	160

Number of active physicians per grant: For F32 and T32 training-grants, Internal

Medicine/Medicine, Neurology, and Pathology consistently had the lowest numbers of physicians per grant, across the ten-year time-period considered (Supplementary Tables 15 and 16). For T32 and F32 Training Grants, Emergency Medicine and Family Medicine consistently had the highest numbers of active physicians per grant (in many cases, this number could not be calculated, due to 0 grants having been awarded in the relevant specialty, for the relevant year).

For K01, K08, and K23 grants, Internal Medicine/Medicine, Neurology, and Pathology consistently had the lowest numbers of physicians per awarded grant (Supplementary Tables 17, 18, and 19). For K01 grants, Emergency Medicine and Family Medicine again had the highest numbers of active physicians per grant (Supplementary Table 17). For K08 grants, Emergency Medicine, Family Medicine, and Radiation-Oncology/Diagnostic had the highest numbers of physicians per grant (Supplementary Table 18). For K23 grants, Family Medicine and Radiation-Oncology/Diagnostic consistently had the highest numbers of physicians per grant

(Supplementary Table 19). For R01 and U01s, Internal Medicine/Medicine, Neurology, and Pathology consistently had the lowest numbers of physicians per awarded grant (Supplementary Tables 12 and 20). For R01 grants, Plastic Surgery, Family Medicine, and Emergency Medicine consistently had the highest numbers of physicians per awarded grant (Supplementary Table 12)

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3 and For U01 grants, Emergency Medicine, Family Medicine, and Orthopedics consistently had
4 the highest numbers of physicians per awarded grant (Supplementary Table 20).
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8 Dollar-amount of grants: The total dollar-amount of funding awarded over the time period was
9 \$83,342 MM USD. Of this total, the specialties receiving the largest total amounts of funding
10 were Internal Medicine/Medicine, with \$36,023MM (43.2%), Psychiatry, with \$8,268MM
11 (9.9%), and Pediatrics, with \$7,897MM (9.5%). The specialties receiving the least funding were
12 Plastic Surgery, with \$4.6MM (0.0%), Physical Medicine & Rehab, with \$358MM (0.4%), and
13 Emergency Medicine, with \$550MM (0.7%) (Table 1). Internal Medicine/Medicine was
14 consistently the most-funded specialty, across the ten years studied (Figure 1a). Psychiatry had
15 the largest percent-increase in amount of funding, compared to the baseline year of 2011, of the
16 specialties considered (Figure 2).
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30 Dollar-amount of grants per active physician: Pathology had the highest total amount of funding
31 per physician (\$50.4K/year) (this total included funding from all grant-types, combined) of any
32 of the specialties considered (Table 1). Funding per physician was \$42.5K/year for Neurology
33 (Table 1), and Neurology overtook pathology in 2018, in terms of the dollars of funding per
34 physician (Figure 1b). The amount of funding per active physician for Radiation-
35 Diagnostic/Oncology was \$11.1K/year (Table 1).
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44 Internal Medicine/Medicine, Neurology, Pathology, and Psychiatry had the highest amounts of
45 T32 funding per physician (Supplementary Table 36). Internal Medicine/Medicine, Neurology,
46 Neurosurgery, and Pathology had the highest amounts of F32 funding per physician
47 (Supplementary Table 35). Internal Medicine/Medicine, Neurology, Pathology, and Psychiatry
48 had the highest amounts of K01 and K08 funding per physician (Supplementary Table 37 and
49 Supplementary Table 38). Internal Medicine/Medicine, Neurology, Pediatrics, and Psychiatry
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3 had the highest amounts of K23 funding per active physician (Supplementary Table 39). Internal
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5 Medicine/Medicine, Neurology, Neurosurgery, and Psychiatry had the highest amounts of R01
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7 and U01 funding per physician (Supplementary Table 32 and Supplementary Table 40).
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10 Mean dollar-amount per grant, by specialty, by type:

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13 Almost all the comparisons of the mean F32 funding amount among specialties were
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15 insignificant after the Bonferroni correction for multiple tests however (Supplementary Figure
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17 3). Psychiatry had higher mean funding amounts per K01 grant when compared to most other
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19 specialties (Supplementary Figure 4), whereas Ophthalmology had higher mean funding amounts
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21 for K08 (Supplementary Figure 5) and K23 (Supplementary Figure 6) grants when compared to
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23 most other specialties. Obstetrics and gynecology had lower mean funding amounts for K23 than
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25 most other specialties (Supplementary Figure 6). Most of the comparisons of the mean R01
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27 funding amount among specialties were significant after the Bonferroni correction for multiple
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29 tests, while most such comparisons for P30, R03, and R21 were not (Supplementary Figure 7,
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31 Supplementary Figure 8, Supplementary Figure 9, and Supplementary Figure 10). Internal
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33 Medicine/Medicine and Pathology had higher mean funding amounts per T32 grant when
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35 compared to most other specialties (Supplementary Figure 11). We found that Internal
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37 Medicine/Medicine and Neurology had higher average funding amounts per U01 grant than most
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39 other specialties (Supplementary Figure 12).
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46 **Discussion**

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49 The number of NIH grants awarded over the ten-year time-period studied differed substantially
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51 across the specialties. Internal Medicine/Medicine consistently received the greatest number of
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53 grants, followed by Psychiatry, Pediatrics, Pathology, and Neurology. The dollar-amount of
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3 funding also showed significant differences between specialties, with Internal
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5 Medicine/Medicine receiving a plurality of the overall amount of funding. These differences
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7 were not only due to differing sizes of the specialties, as can be seen from the fact that the dollars
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9 of funding awarded per active physician also differed markedly across specialties. The
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11 specialties with the highest levels of funding per active physician were Pathology, Neurology,
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13 Internal Medicine, and Psychiatry, and those with the lowest levels of funding per active
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15 physician were Plastic Surgery, Family Medicine, Emergency Medicine, and Anesthesiology.
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20 The differences in funding were noted at all levels, including at the pre- and post-doctoral
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22 training levels (T32 and F32), at the career development award levels (K01, K08 and K23) levels
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24 and at the most established researcher levels (R01, R21 and U01). These differences in research-
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26 funding between specialties have likely already had significant consequences for future progress
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28 in research. It has been shown that the proportion of individuals with M.D./Ph.D.'s who spend at
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30 least 50% of their time on research differs markedly by specialty [6]. In particular, based on prior
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32 research, the three specialties that were most highly funded, on a per-physician basis (Pathology,
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34 Neurology, and Internal Medicine) were noted to have higher proportions of individuals
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36 spending at least 50% of their time on research, while Family Medicine and Emergency
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38 Medicine (which were among the three lowest-funded) have much lower such proportions [7].
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43 Whether specialty-choice is a driver of subsequent research-focus in physicians' careers is
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45 unknown; however, it is easy to speculate that greater availability of NIH funding in certain
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47 fields may facilitate research-focused careers.
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50 The specialties of internal medicine, pathology, pediatrics, and neurology together accounted for
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52 approximately 60% of the specialties in which Medical Scientist Training Program (MSTP)
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54 MD/PhD graduates attended residency programs [7]. Three of these specialties are the three
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3 specialties with the highest amount of NIH funding per active physician. The temporal trend is
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5 difficult to assess and it is unclear whether the MSTP graduates were more attracted to these
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7 specialties because of NIH funding per active physician or whether MSTP graduates in these
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9 specialties were able to acquire more NIH funding per active physician. However, the
10
11 distribution of specialties pursued by MSTP graduates has changed over time, and many
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13 specialties now have substantial representation [7], which means a larger proportion of these
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15 MSTP graduates are in less well funded specialties. The presence of substantial numbers of
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17 M.D./Ph.D.'s in specialties with lower levels of funding (e.g., the 12.9% of M.D./Ph.D.'s in
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19 Pediatrics, the 7.0% in Surgical specialties, and the 4.2% in Radiation-Diagnostic/Oncology)
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21 leaves the possibility of a mismatch between the supply of such well-trained research scientists,
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23 and the amount of funding available to them, which could lead to increased competition for
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25 research-grants in these specialties, and increased attrition, ultimately further exacerbating the
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27 relatively lower levels of research in these specialties [6]. This problem is not unique to
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29 MD/PhDs and may occur for nurses, nurse practitioners, public health scientists, social workers,
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31 engineers and PhDs and other biomedical research professionals who do research in one of the
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33 less funded specialties.
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40 The importance of having a diverse biomedical workforce has been stressed over the past year.
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42 Diversity in race/ethnicity and gender have been at the forefront of these discussions because of
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44 the tremendous health disparities that exist across races/ethnicities and genders. However, this
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46 research shows that there are disparities in funding based on physician specialty. Further research
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48 is required to create an equitable way to distribute the NIH research dollars across all medical
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50 specialties to capture the diverse talents available in each physician specialty field.
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3 This study has a few limitations. We assumed that the size of the active physician workforce was
4 a proxy for the relative amount of clinical/public health need for given specialty. However,
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6 deviations from proportionality may arise, for instance, if the diseases treated by certain
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8 specialties result in greater morbidity/mortality or cost to society. In addition, the calculation of
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10 funding per active physician did not take into account non-physician researchers, such as non-
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12 physicians with Ph.D.'s, or with degrees in public health, nursing, pharmacy, or engineering. The
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14 categorization of grants into specialties was based only on the department listed on the grant-
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16 application, and did not take into account the training-backgrounds of the PI's who received their
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18 grants, whether the PIs were clinicians, the specialties in which these PI's were clinically
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20 practicing, or the departments with which these PI's were affiliated. Finally, the analyses in this
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22 study were based only on grants that were awarded and did not include any data for grant-
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24 applications which were rejected. However, data on grant-applications is not included in the
25
26 RePORTER database and can only be accessed through an internal database at the NIH, making
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28 it unavailable for this study.
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36 In conclusion, the number of NIH grants, total dollar amount of funding, dollar amount of
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38 funding per active physician, and the mean funding-amount per grant (by grant-type) vary by
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40 specialty. Further research is required to investigate an equitable and just way to distribute NIH
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42 research dollars to increase diversity in NIH funding by physician specialty.
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46 **Figures and Tables**

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48
49 Figure 1a – Dollar-amount of grant-funding, by specialty

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52 Figure 1b – Dollar-amount of grant-funding adjusted by the number of active physicians

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55 Figure 2: Percent change in dollar-amount of grant-funding, by specialty, by year

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3 Table 1: Number of grants, dollars of funding, and dollars of funding per active physician, by
4 specialty, 2011-2020

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8 Table 2: Frequency, by grant-type, 2011-2020
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10 **Supplemental Figures and Tables**

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17 Supplementary Figure 1b: Number of Grants, per Year, by Specialty, without Internal
18 Medicine/Medicine

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22 Supplementary Figure 2: Percent-Change in Number of Grants (compared to 2011), per Year, by
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27 Supplementary Figure 3: F32 grant dollar-amount comparisons

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42 Supplementary Figure 8: R01 grant dollar-amount comparisons

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48 Supplementary Figure 10: R21 grant dollar-amount comparisons

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51 Supplementary Figure 11: T32 grant dollar-amount comparisons

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54 Supplementary Figure 12: U01 grant dollar-amount comparisons
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5 Supplementary Table 2: Number of NIH R01 grants awarded from 2011-2020, by specialty

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29 Supplementary Table 10: Number of NIH U01 grants awarded from 2011-2020, by specialty

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35 Supplementary Table 12: Number of active physicians per R01 grant, by specialty, 2011-2020

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38 Supplementary Table 13: Number of active physicians per R03 grant, by specialty, 2011-2020

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44 Supplementary Table 15: Number of active physicians per F32 grant, by specialty, 2011-2020

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50 Supplementary Table 17: Number of active physicians per K01 grant, by specialty, 2011-2020

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53 Supplementary Table 18: Number of active physicians per K08 grant, by specialty, 2011-2020

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56 Supplementary Table 19: Number of active physicians per K23 grant, by specialty, 2011-2020

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3 Supplementary Table 20: Number of active physicians per U01 grant, by specialty, 2011-2020

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6 Supplementary Table 21: Number of active physicians per P30 grant, by specialty, 2011-2020

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9 Supplementary Table 22: Total R01-grant-funding, by specialty, 2011-2020, in thousands of
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14 Supplementary Table 23: Total R03-grant-funding, by specialty, 2011-2020, in thousands of
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19 Supplementary Table 24: Total R21-grant-funding, by specialty, 2011-2020, in thousands of
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34 Supplementary Table 27: Total K01-grant-funding, by specialty, 2011-2020, in thousands of
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49 Supplementary Table 30: Total U01-grant-funding, by specialty, 2011-2020, in thousands of
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8 Supplementary Table 32: R01-grant-funding per active physician, by specialty, 2011-2020

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32 Supplementary Table 40: U01-grant-funding per active physician, by specialty, 2011-2020

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35 Supplementary Table 41: P30-grant-funding per active physician, by specialty, 2011-2020

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38 Supplementary Table 42: Mean (standard deviation) R01-grant-funding-amount, by specialty,
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43 Supplementary Table 43: Mean (standard deviation) R03-grant-funding-amount, by specialty,
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48 Supplementary Table 44: Mean (standard deviation) R21-grant-funding-amount, by specialty,
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3 Supplementary Table 45: Mean (standard deviation) F32-grant-funding-amount, by specialty,
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33 Supplementary Table 51: Mean (standard deviation) P30-grant-funding-amount, by specialty,
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38 Supplementary Table 52: Average grant-dollar-amount (in thousands of dollars), 2011-2020, by
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40 grant-type and specialty
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3 **Contributorship Statement:** AS and RS analyzed the data and drafted and revised the paper.
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8

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10 public, commercial or not-for-profit sectors.
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14 **Data-Sharing Statement:** Dataset available from the NIH RePORTER
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16 (<https://reporter.nih.gov/advanced-search>).
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19 **Ethics Statement:** This study was evaluated by the local Institutional Review Board (IRB). The
20 study involves freely available, public data, and was determined to be exempt.
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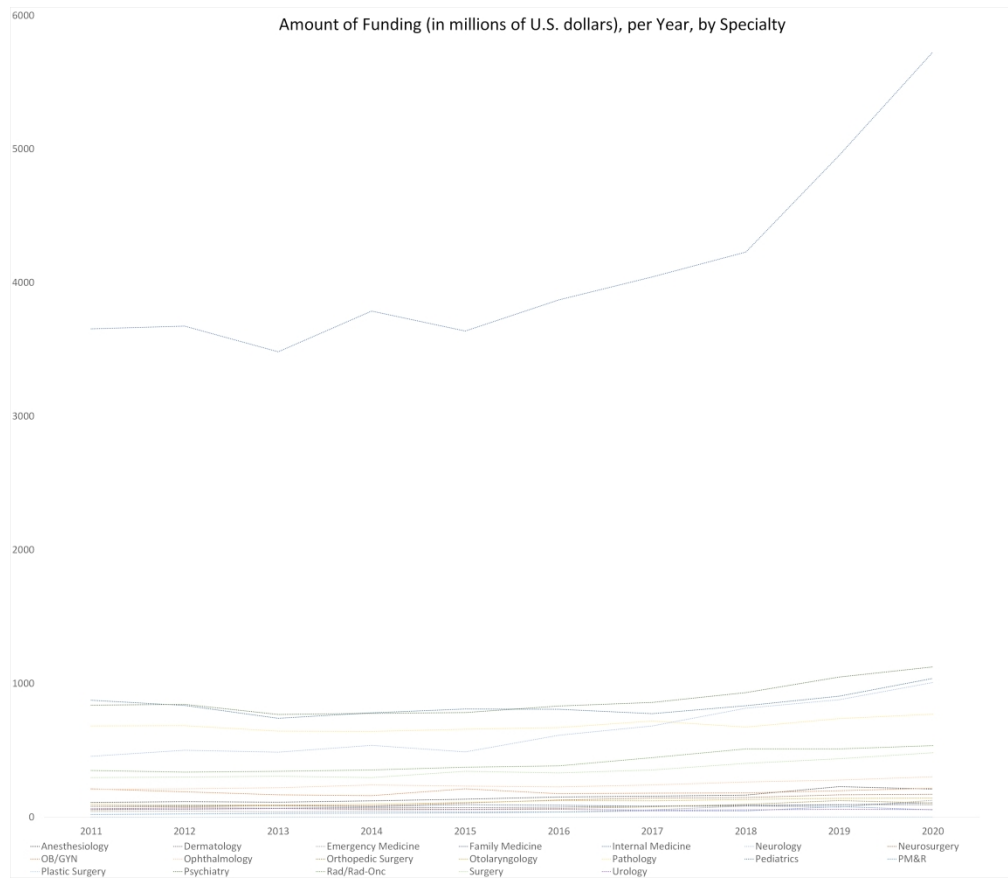


Figure 1a

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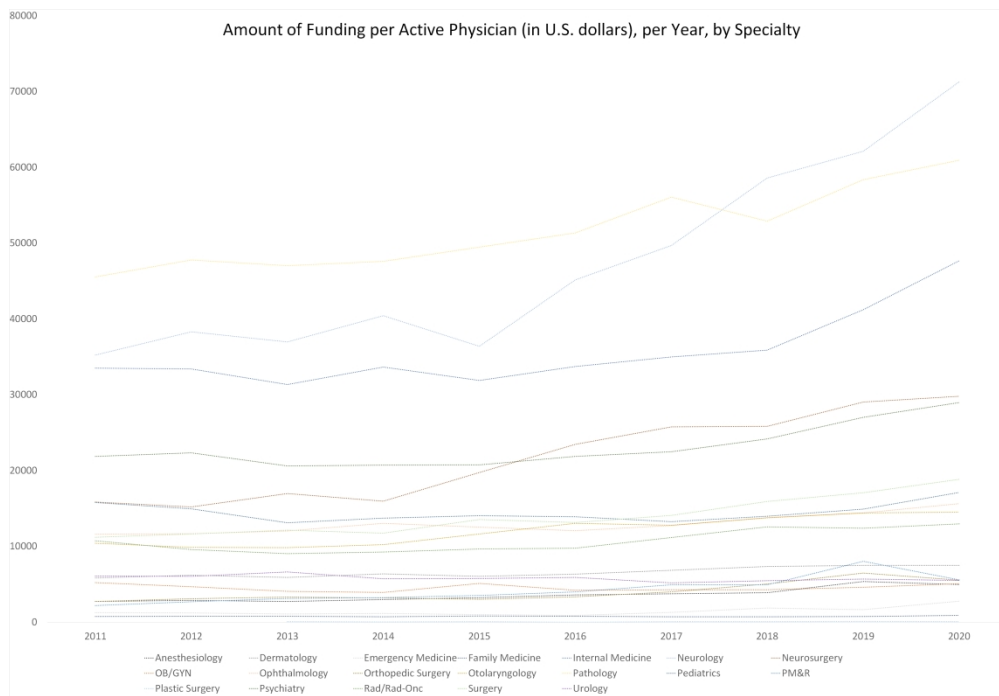


Figure 1b

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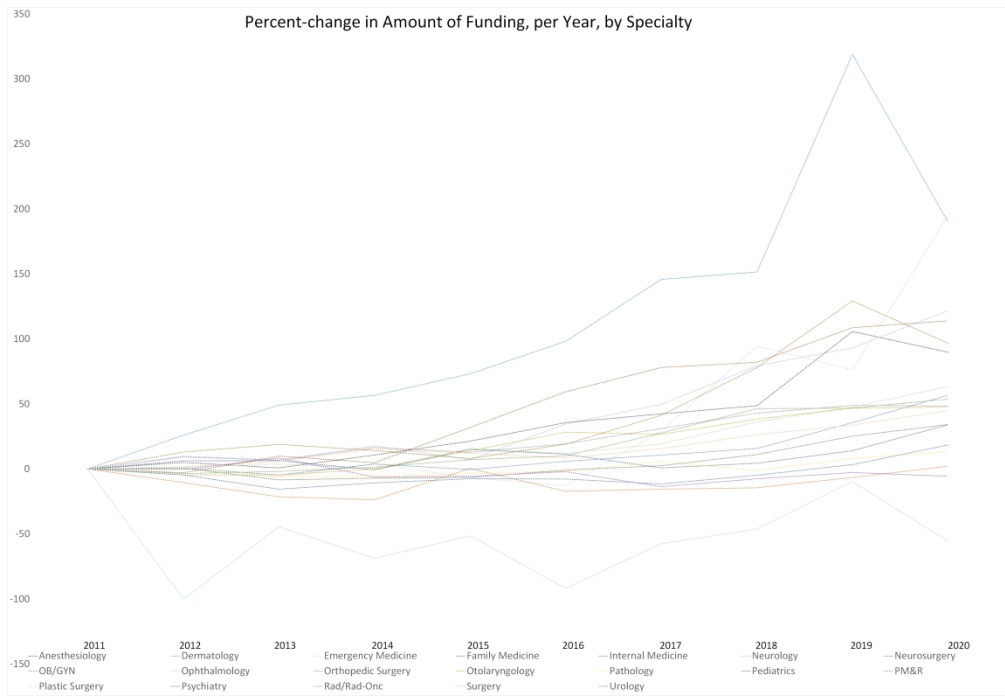


Figure 2

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Supplementary Figures and Tables

Supplementary Figure 1a: Number of Grants, per Year, by Specialty

Supplementary Figure 1b: Number of Grants, per Year, by Specialty, without Internal
Medicine/Medicine

Supplementary Figure 2: Percent-Change in Number of Grants (compared to 2011), per Year, by
Specialty

Supplementary Figure 3: F32 grant dollar-amount comparisons

Supplementary Figure 4: K01 grant dollar-amount comparisons

Supplementary Figure 5: K08 grant dollar-amount comparisons

Supplementary Figure 6: K23 grant dollar-amount comparisons

Supplementary Figure 7: P30 grant dollar-amount comparisons

Supplementary Figure 8: R01 grant dollar-amount comparisons

Supplementary Figure 9: R03 grant dollar-amount comparisons

Supplementary Figure 10: R21 grant dollar-amount comparisons

Supplementary Figure 11: T32 grant dollar-amount comparisons

Supplementary Figure 12: U01 grant dollar-amount comparisons

Supplementary Table 1: Number of active physicians by specialty, 2010-2020

Supplementary Table 2: Number of NIH R01 grants awarded from 2011-2020, by specialty

Supplementary Table 3: Number of NIH R03 grants awarded from 2011-2020, by specialty

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27 Supplementary Table 12: Number of active physicians per R01 grant, by specialty, 2011-2020

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8 Supplementary Table 23: Total R03-grant-funding, by specialty, 2011-2020, in thousands of
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51 Supplementary Table 32: R01-grant-funding per active physician, by specialty, 2011-2020

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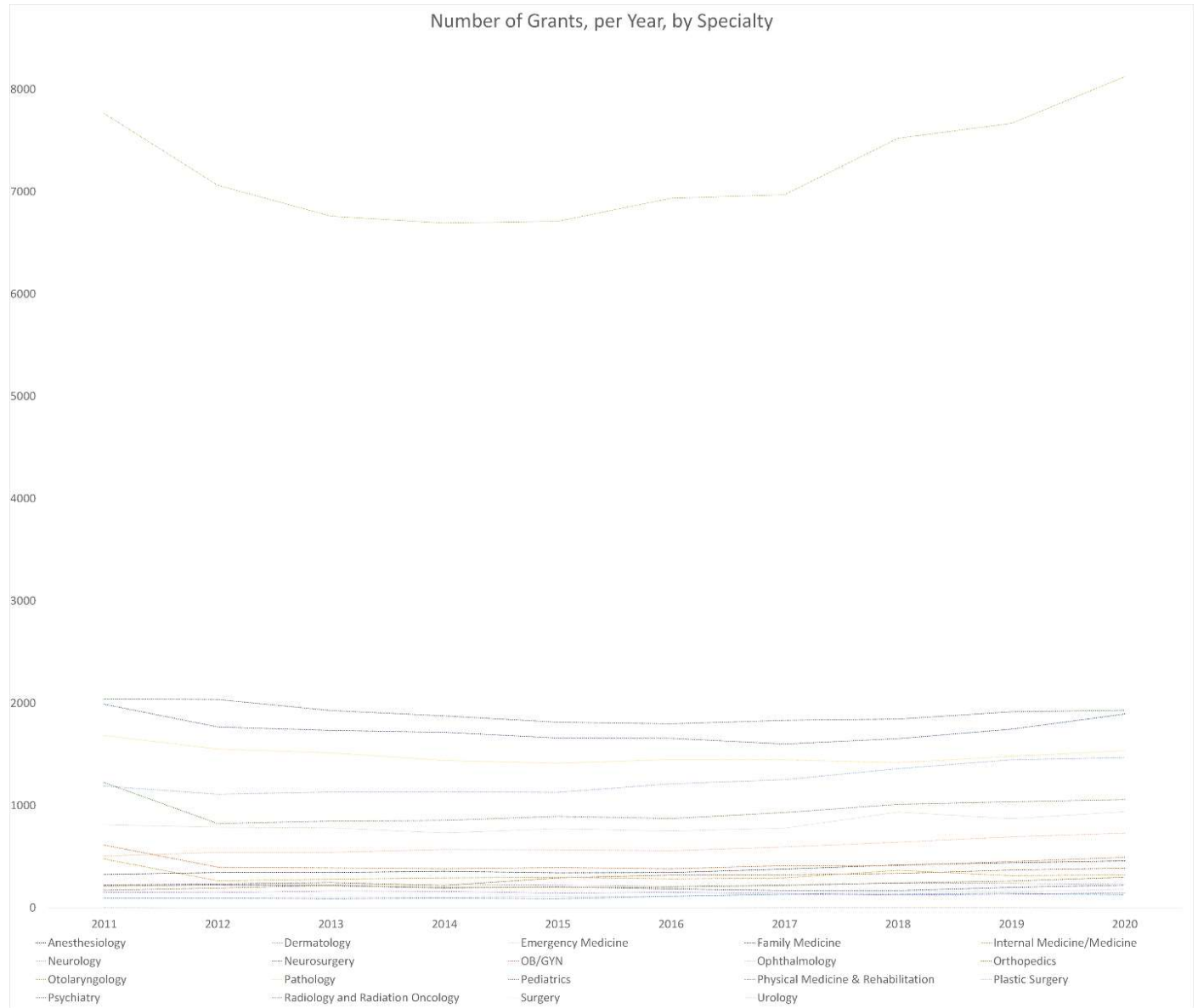
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13 Supplementary Table 49: Mean (standard deviation) K23-grant-funding-amount, by specialty,
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18 Supplementary Table 50: Mean (standard deviation) U01-grant-funding-amount, by specialty,
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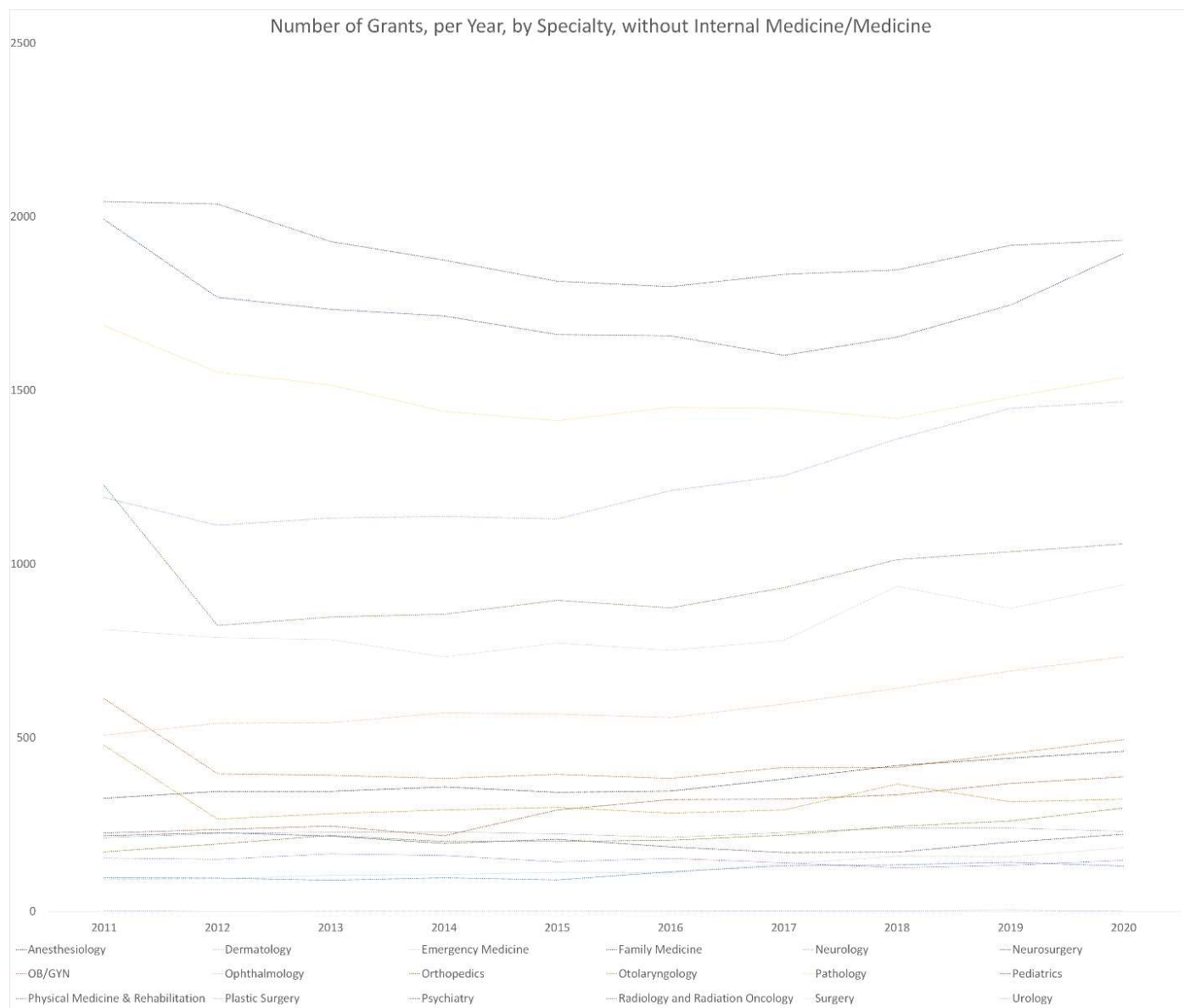
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23 Supplementary Table 51: Mean (standard deviation) P30-grant-funding-amount, by specialty,
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28 Supplementary Table 52: Average grant-dollar-amount (in thousands of dollars), 2011-2020, by
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30 grant-type and specialty

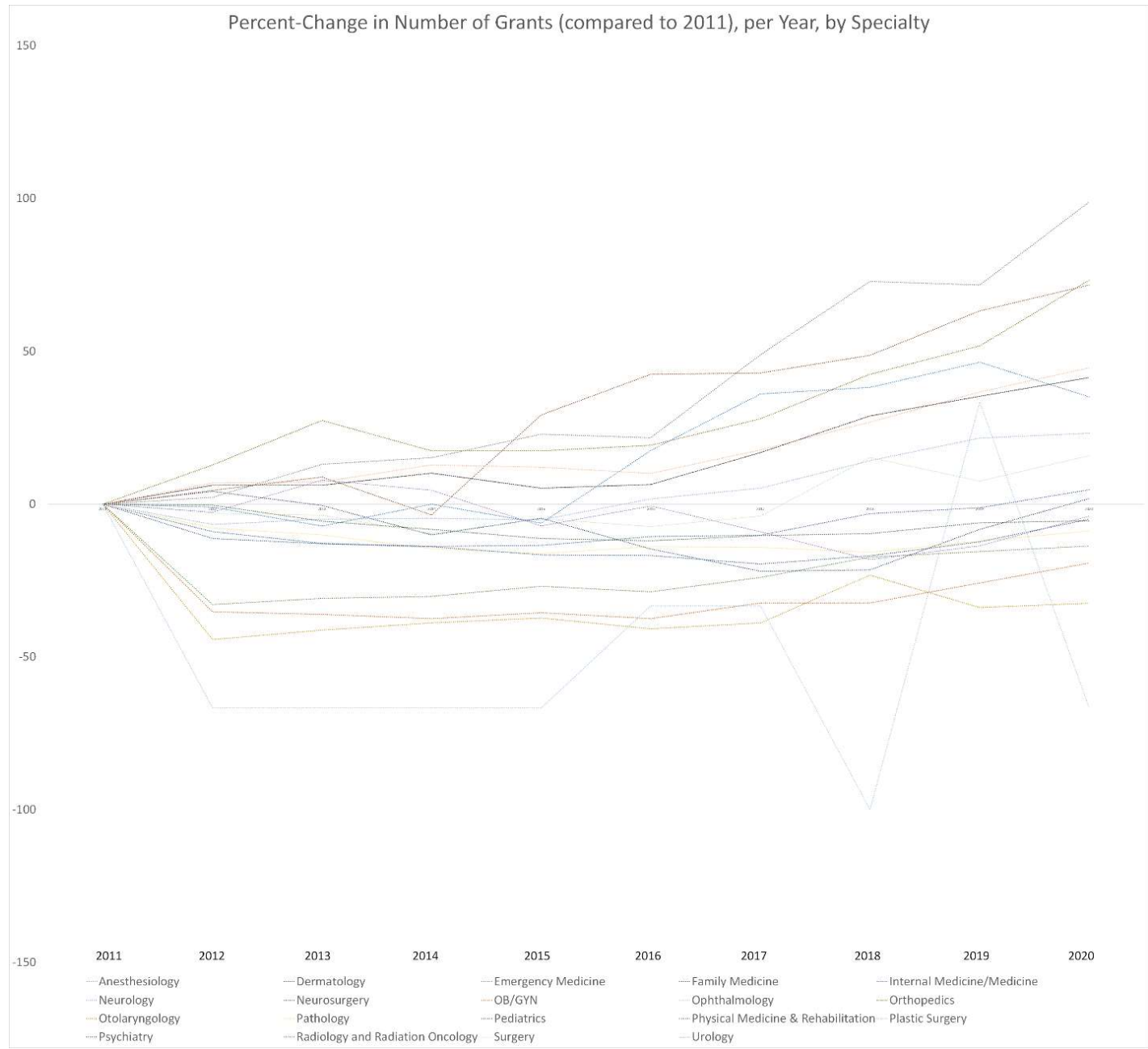
Supplementary Figure 1a: Number of Grants, per Year, by Specialty



Supplementary Figure 1b: Number of Grants, per Year, by Specialty, without Internal Medicine/Medicine

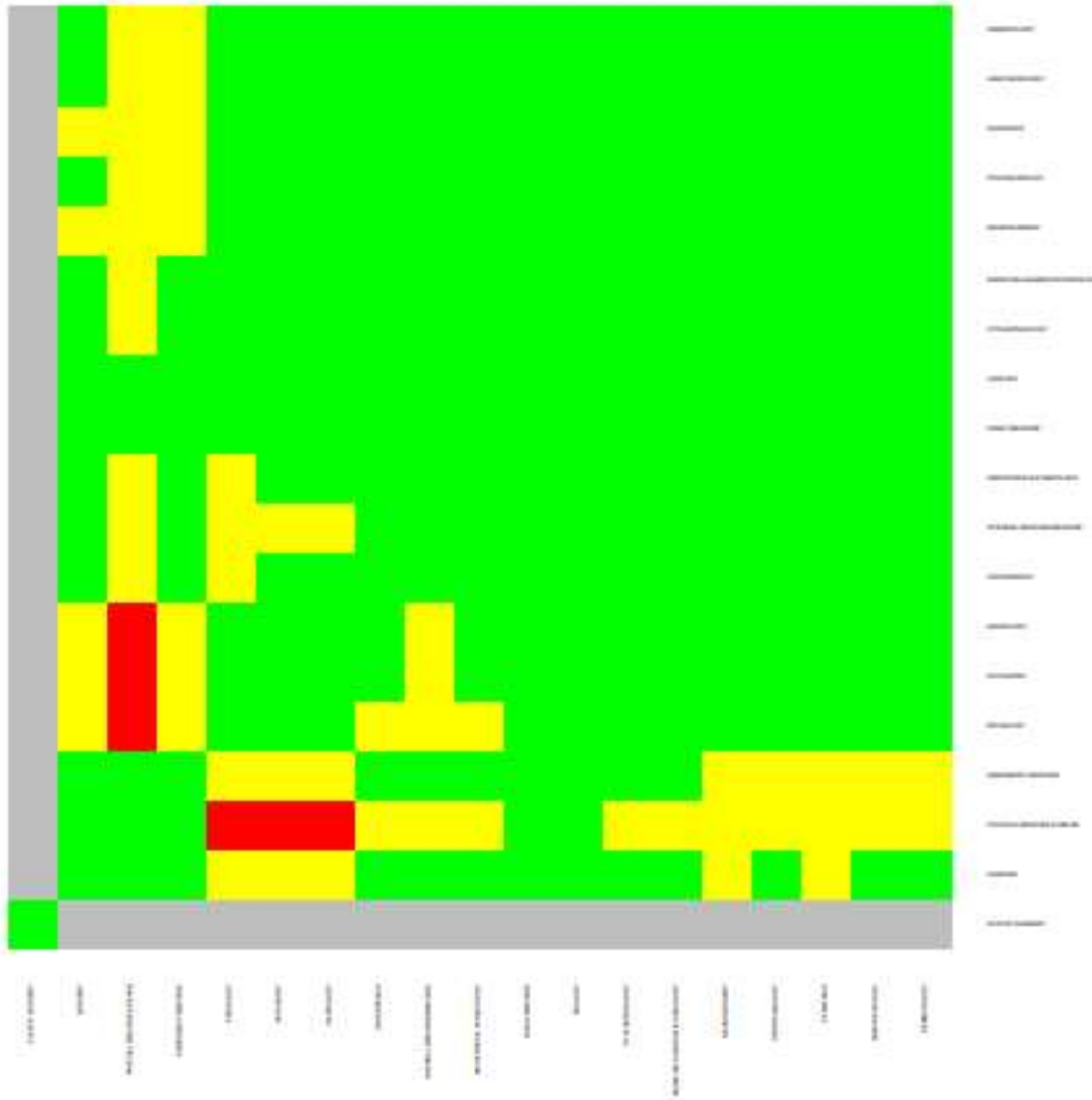


Supplementary Figure 2: Percent-Change in Number of Grants (compared to 2011), per Year, by Specialty



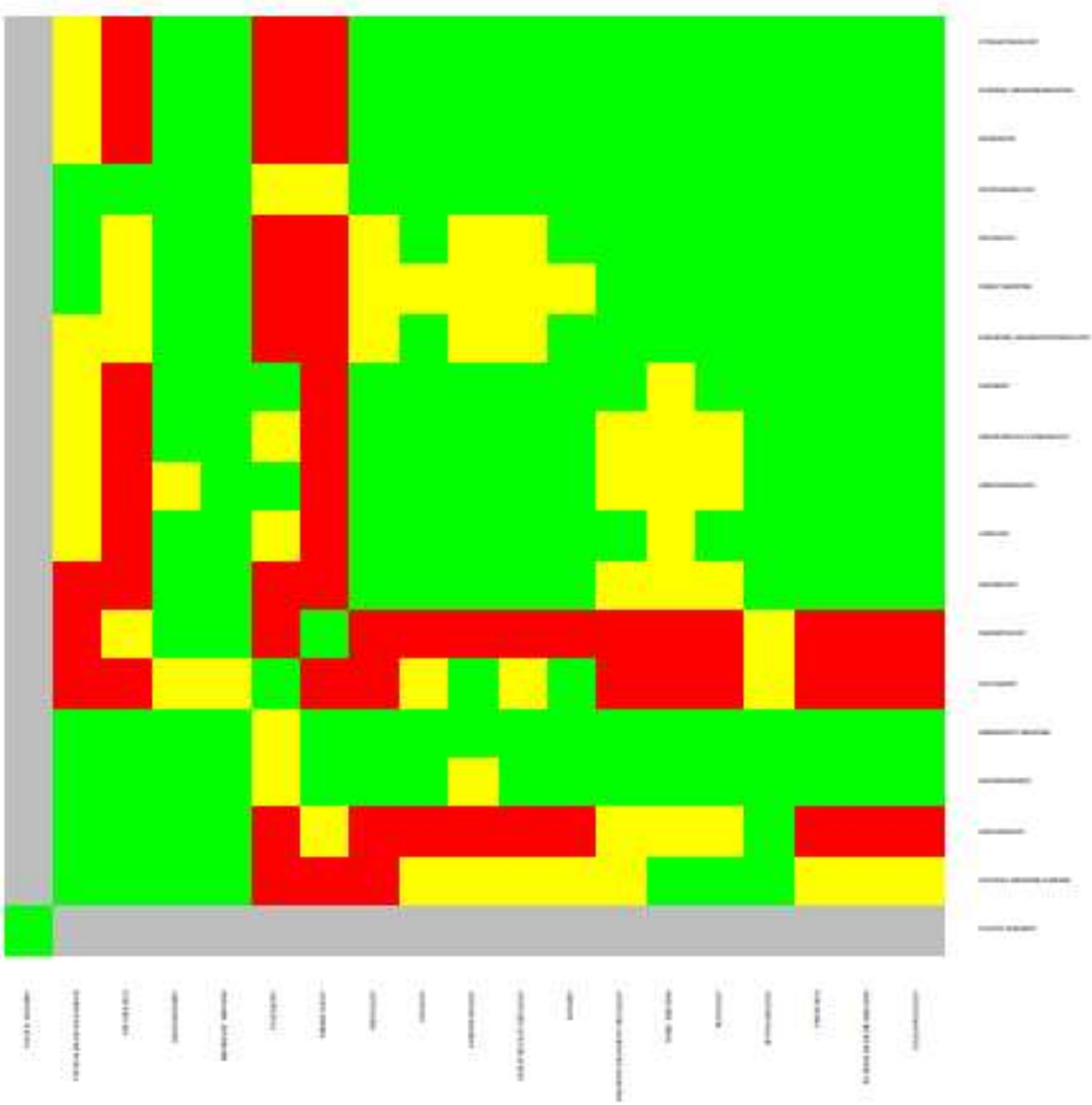
Supplementary Figure 3: F32 grant dollar-amount comparisons

F32 grant dollar amount comparisons



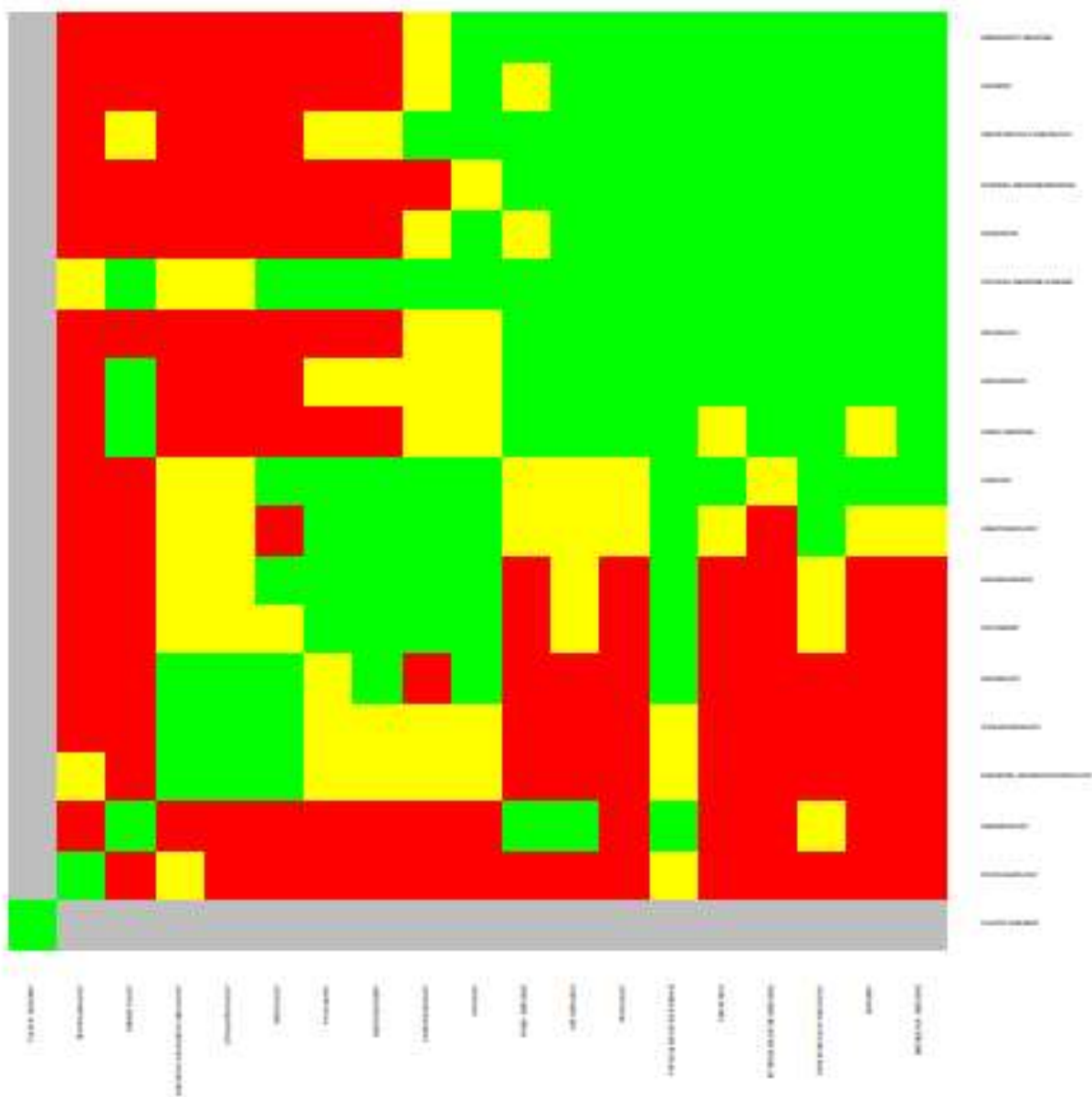
Supplementary Figure 4: K01 grant dollar-amount comparisons

K01 grant dollar amount comparisons



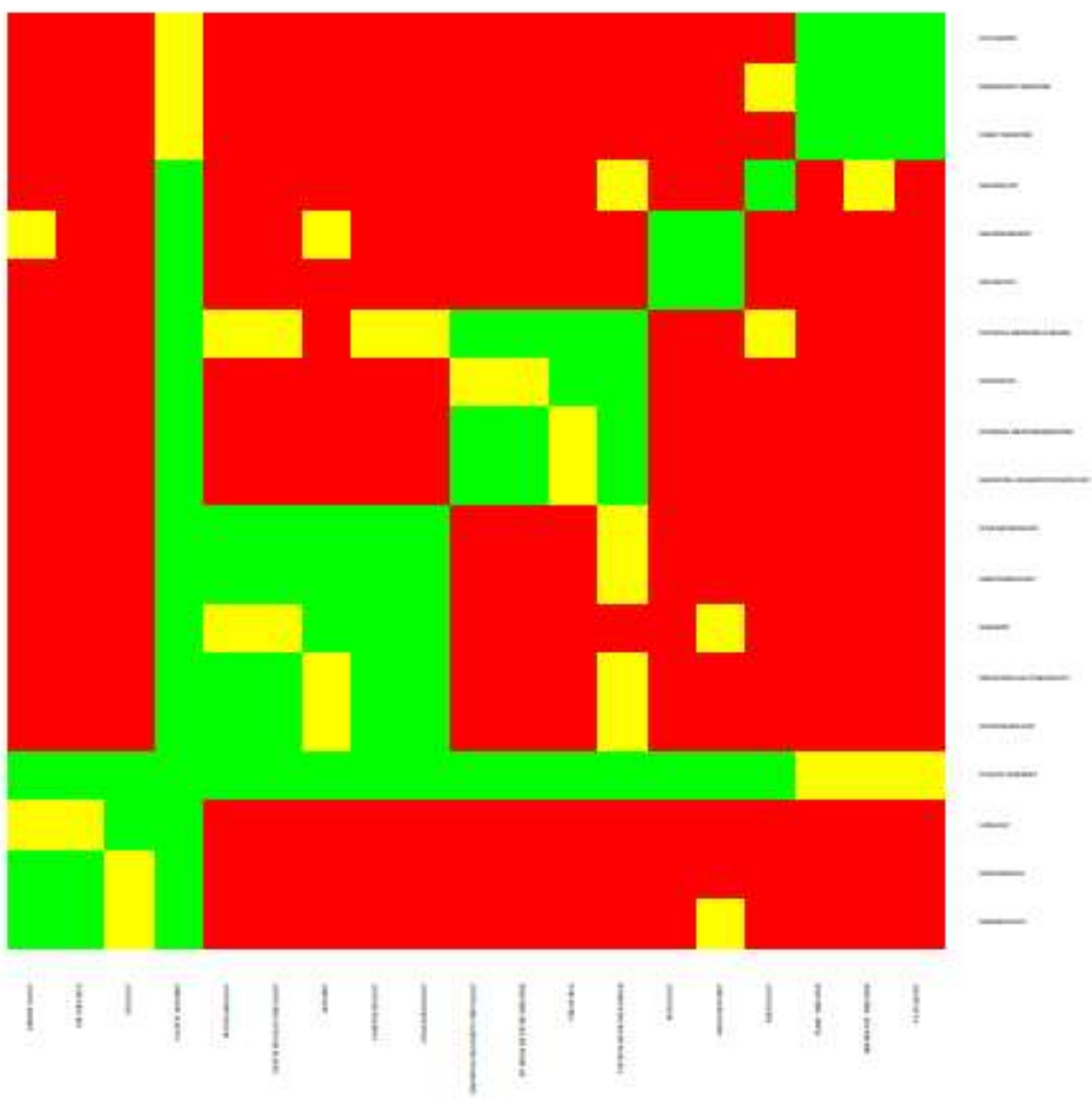
Supplementary Figure 5: K08 grant dollar amount comparisons

K08 grant dollar amount comparisons



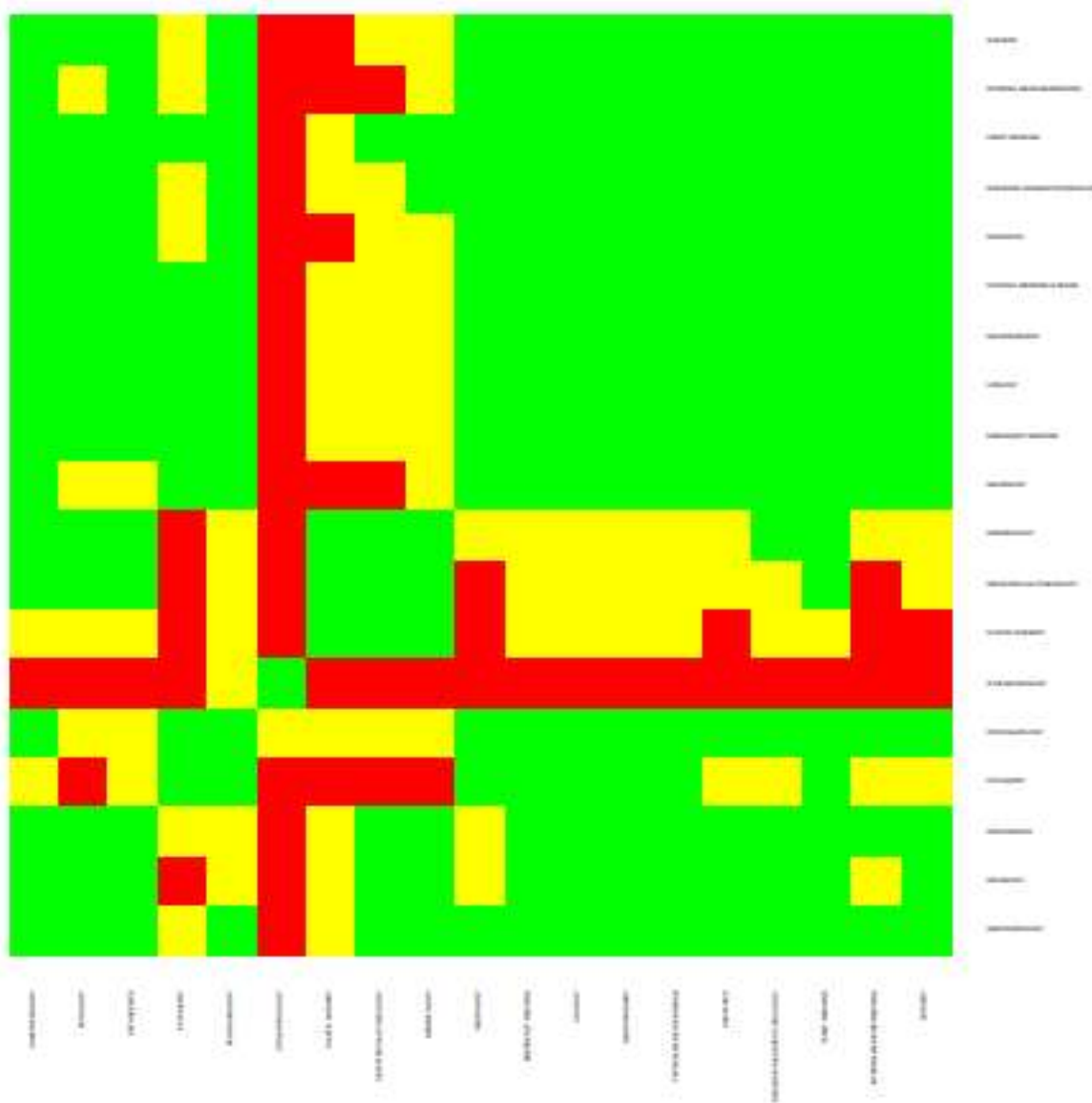
Supplementary Figure 8: R01 grant dollar-amount comparisons

R01 grant dollar amount comparisons



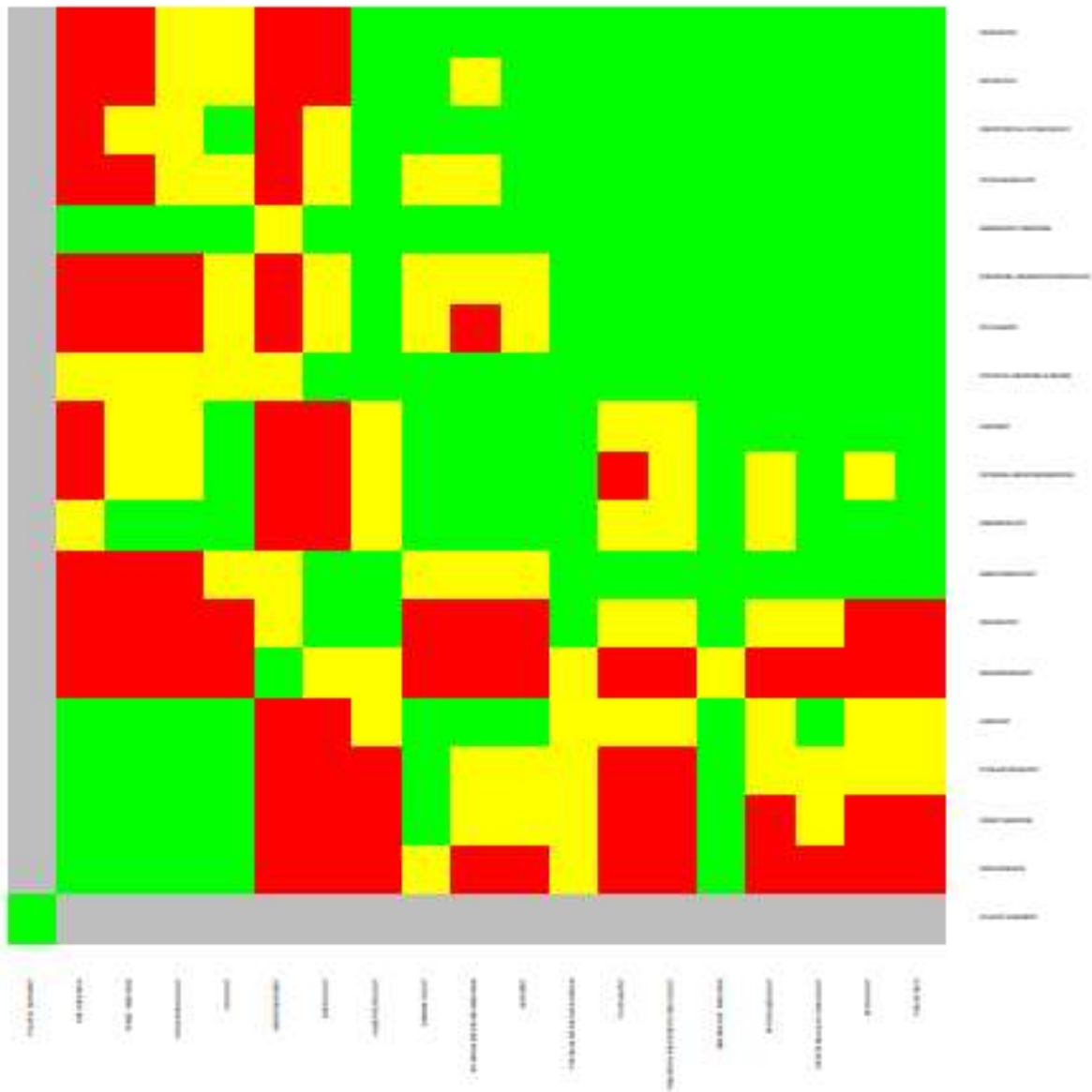
Supplementary Figure 9: R03 grant dollar-amount comparisons

R03 grant dollar amount comparisons



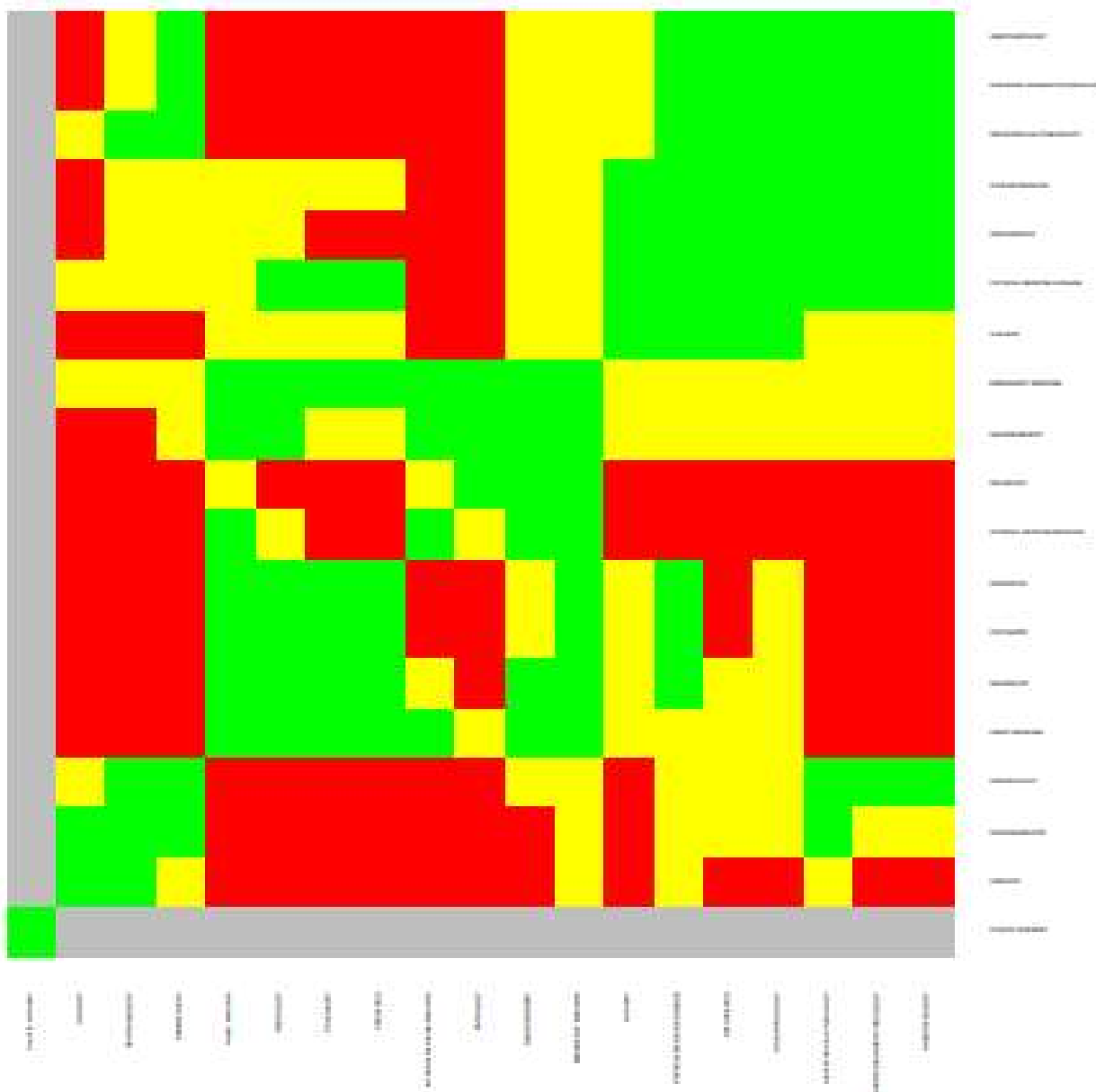
Supplementary Figure 10: R21 grant dollar-amount comparisons

R21 grant dollar amount comparisons



Supplementary Figure 11: T32 grant dollar-amount comparisons

T32 grant dollar amount comparisons



Supplementary Table 1: Number of active physicians by specialty, 2010-2020

Specialty	Year	Number of physicians
ANESTHESIOLOGY	2010	40123
ANESTHESIOLOGY	2011	40335
ANESTHESIOLOGY	2012	40546
ANESTHESIOLOGY	2013	40758
ANESTHESIOLOGY	2014	41055
ANESTHESIOLOGY	2015	41351
ANESTHESIOLOGY	2016	41557
ANESTHESIOLOGY	2017	41762
ANESTHESIOLOGY	2018	42015
ANESTHESIOLOGY	2019	42267
ANESTHESIOLOGY	2020	42267
DERMATOLOGY	2010	10820
DERMATOLOGY	2011	11001
DERMATOLOGY	2012	11182
DERMATOLOGY	2013	11363
DERMATOLOGY	2014	11535
DERMATOLOGY	2015	11706
DERMATOLOGY	2016	11879
DERMATOLOGY	2017	12051
DERMATOLOGY	2018	12284
DERMATOLOGY	2019	12516
DERMATOLOGY	2020	12516

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3	EMERGENCY MEDICINE	2010	33984
4			
5	EMERGENCY MEDICINE	2011	35070
6			
7	EMERGENCY MEDICINE	2012	36155
8			
9	EMERGENCY MEDICINE	2013	37241
10			
11	EMERGENCY MEDICINE	2014	38410
12			
13	EMERGENCY MEDICINE	2015	39579
14			
15	EMERGENCY MEDICINE	2016	40964
16			
17	EMERGENCY MEDICINE	2017	42348
18			
19	EMERGENCY MEDICINE	2018	43775
20	EMERGENCY MEDICINE	2019	45202
21			
22	EMERGENCY MEDICINE	2020	45202
23			
24	FAMILY MEDICINE	2010	106549
25			
26	FAMILY MEDICINE	2011	107338
27			
28	FAMILY MEDICINE	2012	108128
29			
30	FAMILY MEDICINE	2013	108917
31	FAMILY MEDICINE	2014	110106
32			
33	FAMILY MEDICINE	2015	111295
34			
35	FAMILY MEDICINE	2016	112405
36			
37	FAMILY MEDICINE	2017	113514
38			
39	FAMILY MEDICINE	2018	115856
40			
41	FAMILY MEDICINE	2019	118198
42	FAMILY MEDICINE	2020	118198
43	INTERNAL MEDICINE/MEDICINE	2010	109048
44	INTERNAL MEDICINE/MEDICINE	2011	109714
45			
46	INTERNAL MEDICINE/MEDICINE	2012	110381
47			
48	INTERNAL MEDICINE/MEDICINE	2013	111047
49			
50	INTERNAL MEDICINE/MEDICINE	2014	112568
51			
52	INTERNAL MEDICINE/MEDICINE	2015	114089
53			
54	INTERNAL MEDICINE/MEDICINE	2016	114823
55			
56	INTERNAL MEDICINE/MEDICINE	2017	115557
57			
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INTERNAL MEDICINE/MEDICINE	2018	117864
INTERNAL MEDICINE/MEDICINE	2019	120171
INTERNAL MEDICINE/MEDICINE	2020	120171
NEUROLOGY	2010	12916
NEUROLOGY	2011	12996
NEUROLOGY	2012	13076
NEUROLOGY	2013	13156
NEUROLOGY	2014	13274
NEUROLOGY	2015	13392
NEUROLOGY	2016	13555
NEUROLOGY	2017	13717
NEUROLOGY	2018	13932
NEUROLOGY	2019	14146
NEUROLOGY	2020	14146
NEUROSURGERY	2010	5047
NEUROSURGERY	2011	5088
NEUROSURGERY	2012	5130
NEUROSURGERY	2013	5171
NEUROSURGERY	2014	5259
NEUROSURGERY	2015	5346
NEUROSURGERY	2016	5439
NEUROSURGERY	2017	5531
NEUROSURGERY	2018	5640
NEUROSURGERY	2019	5748
NEUROSURGERY	2020	5748
OBSTETRICS & GYNECOLOGY	2010	40377
OBSTETRICS & GYNECOLOGY	2011	40527
OBSTETRICS & GYNECOLOGY	2012	40676
OBSTETRICS & GYNECOLOGY	2013	40826
OBSTETRICS & GYNECOLOGY	2014	41154
OBSTETRICS & GYNECOLOGY	2015	41481
OBSTETRICS & GYNECOLOGY	2016	41569

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3	OBSTETRICS & GYNECOLOGY	2017	41656
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5	OBSTETRICS & GYNECOLOGY	2018	42188
6			
7	OBSTETRICS & GYNECOLOGY	2019	42720
8			
9	OBSTETRICS & GYNECOLOGY	2020	42720
10	OPHTHALMOLOGY	2010	17943
11	OPHTHALMOLOGY	2011	18068
12	OPHTHALMOLOGY	2012	18192
13	OPHTHALMOLOGY	2013	18317
14	OPHTHALMOLOGY	2014	18455
15			
16	OPHTHALMOLOGY	2015	18593
17	OPHTHALMOLOGY	2016	18705
18	OPHTHALMOLOGY	2017	18817
19	OPHTHALMOLOGY	2018	19065
20			
21	OPHTHALMOLOGY	2019	19312
22			
23	OPHTHALMOLOGY	2020	19312
24			
25	ORTHOPEDICS	2010	19822
26	ORTHOPEDICS	2011	19673
27	ORTHOPEDICS	2012	19523
28			
29	ORTHOPEDICS	2013	19374
30	ORTHOPEDICS	2014	19260
31	ORTHOPEDICS	2015	19145
32			
33	ORTHOPEDICS	2016	19073
34	ORTHOPEDICS	2017	19001
35	ORTHOPEDICS	2018	19035
36	ORTHOPEDICS	2019	19069
37			
38	ORTHOPEDICS	2020	19069
39			
40	OTOLARYNGOLOGY	2010	9232
41	OTOLARYNGOLOGY	2011	9261
42			
43	OTOLARYNGOLOGY	2012	9291
44	OTOLARYNGOLOGY	2013	9320
45			
46	OTOLARYNGOLOGY	2014	9366
47	OTOLARYNGOLOGY	2015	9411
48	OTOLARYNGOLOGY	2016	9469
49			
50	OTOLARYNGOLOGY	2017	9526
51			
52	OTOLARYNGOLOGY	2018	9652
53	OTOLARYNGOLOGY	2019	9777
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3	OTOLARYNGOLOGY	2020	9777
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5	PATHOLOGY	2010	14975
6	PATHOLOGY	2011	14553
7	PATHOLOGY	2012	14132
8	PATHOLOGY	2013	13710
9	PATHOLOGY	2014	13498
10			
11	PATHOLOGY	2015	13286
12			
13	PATHOLOGY	2016	13063
14	PATHOLOGY	2017	12839
15	PATHOLOGY	2018	12741
16			
17	PATHOLOGY	2019	12643
18			
19	PATHOLOGY	2020	12643
20			
21	PEDIATRICS	2010	55509
22	PEDIATRICS	2011	55760
23			
24	PEDIATRICS	2012	56011
25			
26	PEDIATRICS	2013	56262
27			
28	PEDIATRICS	2014	56903
29			
30	PEDIATRICS	2015	57543
31			
32	PEDIATRICS	2016	57989
33	PEDIATRICS	2017	58435
34	PEDIATRICS	2018	59527
35	PEDIATRICS	2019	60618
36	PEDIATRICS	2020	60618
37			
38			
39	PHYSICAL MEDICINE & REHAB	2010	8503
40	PHYSICAL MEDICINE & REHAB	2011	8637
41			
42	PHYSICAL MEDICINE & REHAB	2012	8772
43			
44	PHYSICAL MEDICINE & REHAB	2013	8906
45	PHYSICAL MEDICINE & REHAB	2014	9035
46	PHYSICAL MEDICINE & REHAB	2015	9164
47	PHYSICAL MEDICINE & REHAB	2016	9254
48			
49	PHYSICAL MEDICINE & REHAB	2017	9343
50	PHYSICAL MEDICINE & REHAB	2018	9555
51	PHYSICAL MEDICINE & REHAB	2019	9767
52	PHYSICAL MEDICINE & REHAB	2020	9767
53	PLASTIC SURGERY	2010	6822
54	PLASTIC SURGERY	2011	6862
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3	PLASTIC SURGERY	2012	6902
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5	PLASTIC SURGERY	2013	6942
6	PLASTIC SURGERY	2014	6981
7	PLASTIC SURGERY	2015	7020
8	PLASTIC SURGERY	2016	7081
9			
10	PLASTIC SURGERY	2017	7142
11	PLASTIC SURGERY	2018	7230
12	PLASTIC SURGERY	2019	7317
13			
14	PLASTIC SURGERY	2020	7317
15			
16	PSYCHIATRY	2010	38289
17	PSYCHIATRY	2011	37958
18	PSYCHIATRY	2012	37627
19	PSYCHIATRY	2013	37296
20	PSYCHIATRY	2014	37516
21	PSYCHIATRY	2015	37736
22	PSYCHIATRY	2016	37971
23	PSYCHIATRY	2017	38205
24	PSYCHIATRY	2018	38499
25	PSYCHIATRY	2019	38792
26	PSYCHIATRY	2020	38792
27			
28	RADIATION- DIAGNOSTIC/ONCOLOGY	2010	32445
29			
30	RADIATION- DIAGNOSTIC/ONCOLOGY	2011	34213
31	RADIATION- DIAGNOSTIC/ONCOLOGY	2012	35982
32	RADIATION- DIAGNOSTIC/ONCOLOGY	2013	37750
33	RADIATION- DIAGNOSTIC/ONCOLOGY	2014	38191
34	RADIATION- DIAGNOSTIC/ONCOLOGY	2015	38632
35	RADIATION- DIAGNOSTIC/ONCOLOGY	2016	39239
36	RADIATION- DIAGNOSTIC/ONCOLOGY	2017	39846
37	RADIATION- DIAGNOSTIC/ONCOLOGY	2018	40572
38	RADIATION- DIAGNOSTIC/ONCOLOGY	2019	41297
39	RADIATION- DIAGNOSTIC/ONCOLOGY	2020	41297
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SURGERY	2010	26314
SURGERY	2011	25938
SURGERY	2012	25563
SURGERY	2013	25187
SURGERY	2014	25221
SURGERY	2015	25254
SURGERY	2016	25148
SURGERY	2017	25042
SURGERY	2018	25303
SURGERY	2019	25564
SURGERY	2020	25564
UROLOGY	2010	9826
UROLOGY	2011	9808
UROLOGY	2012	9789
UROLOGY	2013	9771
UROLOGY	2014	9790
UROLOGY	2015	9808
UROLOGY	2016	9865
UROLOGY	2017	9921
UROLOGY	2018	10061
UROLOGY	2019	10201
UROLOGY	2020	10201

Supplementary Table 2: Number of NIH R01 grants awarded from 2011-2020, by specialty

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	199	214	214	227	212	211	217	250	250	264
Dermatology	115	124	126	116	116	111	106	121	124	110
Emergency Medicine	26	30	30	33	39	38	42	49	54	74
Family Medicine	77	85	76	68	77	71	70	75	89	99
Internal Medicine/Medici ne	3250	3114	2917	2831	2804	2903	3026	3184	3317	3455
Neurology	520	551	538	522	528	540	563	639	664	704
Neurosurgery	138	141	140	131	161	166	175	190	204	223

Obstetrics and Gynecology	145	133	139	131	132	154	177	171	207	231
Ophthalmology	340	362	351	371	358	349	380	408	436	468
Orthopedics	111	119	134	124	121	131	138	141	152	178
Otolaryngology	142	149	159	157	164	157	152	178	196	188
Pathology	928	881	851	773	762	749	710	774	822	860
Pediatrics	769	803	777	764	715	715	679	720	734	791
Physical Medicine & Rehab	31	35	33	37	34	42	50	60	61	60
Plastic Surgery	3	0	1	1	0	0	1	0	1	0
Psychiatry	1010	990	904	896	822	846	864	899	903	932
Radiation-Diagnostic/Oncology	529	516	526	495	503	499	526	607	604	619
Surgery	413	390	369	359	360	350	384	412	449	489
Urology	78	77	83	76	63	60	61	60	61	67

Supplementary Table 3: Number of NIH R03 grants awarded from 2011-2020, by specialty

R03	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	6	9	6	6	4	4	6	9	8	5
Dermatology	5	6	2	4	8	9	7	4	4	5
Emergency Medicine	1	1	1	1	4	4	5	4	2	4
Family Medicine	8	9	9	7	6	5	2	2	5	3
Internal Medicine/Medicine	118	139	132	124	110	90	91	102	120	121
Neurology	10	9	11	12	13	16	15	15	15	13
Neurosurgery	3	8	8	5	7	4	2	2	2	6

Obstetrics and Gynecology	8	12	10	12	10	11	15	17	14	10
Ophthalmology	0	0	0	2	3	1	1	2	3	3
Orthopedics	10	10	12	14	10	7	3	3	7	7
Otolaryngology	13	18	19	15	14	12	12	10	2	3
Pathology	25	23	21	20	15	9	12	21	26	25
Pediatrics	38	29	35	34	34	43	35	41	38	35
Physical Medicine & Rehab	7	7	5	7	5	5	3	4	7	8
Plastic Surgery	0	0	0	0	0	1	1	0	0	0
Psychiatry	25	28	30	22	20	23	29	23	20	16
Radiation-Diagnostic/Oncology	8	7	10	17	21	9	11	18	22	22
Surgery	15	20	17	17	19	14	25	21	11	15
Urology	1	3	2	4	5	3	1	1	3	4

Supplementary Table 4: Number of NIH R21 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	27	24	27	21	28	27	26	37	39	33
Dermatology	19	18	18	26	21	14	15	16	15	20
Emergency Medicine	6	5	3	5	6	5	7	10	6	5
Family Medicine	14	16	19	20	24	23	14	12	16	16
Internal Medicine/Medicine	375	407	393	368	379	394	375	376	377	385
Neurology	64	78	73	73	72	79	82	93	107	70
Neurosurgery	13	18	22	21	35	36	27	26	41	33
Obstetrics and Gynecology	33	28	27	25	24	24	21	28	33	43

Ophthalmology	21	19	30	29	36	34	24	31	51	52
Orthopedics	14	20	19	15	16	16	26	36	26	27
Otolaryngology	14	16	21	28	23	14	15	31	30	33
Pathology	124	104	112	140	160	166	138	117	113	108
Pediatrics	104	95	102	108	121	123	116	118	127	132
Physical Medicine & Rehab	4	7	11	9	4	9	13	10	13	9
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	122	166	191	179	156	151	153	149	155	158
Radiation-Diagnostic/Oncology	97	101	102	115	121	118	115	89	103	101
Surgery	58	54	46	48	62	68	50	49	51	54
Urology	8	9	5	4	10	13	9	7	8	10

Supplementary Table 5: Number of NIH F32 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4	6	8	7	1	1	3	5	2	6
Dermatology	4	4	3	2	3	3	5	4	1	3
Emergency Medicine	1	1	1	0	0	0	0	0	0	1
Family Medicine	0	0	0	1	1	0	0	0	0	0
Internal Medicine/Medicine	126	112	116	108	109	119	132	115	108	116
Neurology	15	10	20	31	29	23	29	27	29	22
Neurosurgery	8	8	8	8	10	10	9	15	8	12
Obstetrics and Gynecology	4	6	4	4	5	4	3	6	5	5
Ophthalmology	4	7	7	9	12	8	10	7	9	10
Orthopedics	5	6	5	5	6	6	6	7	7	7

Otolaryngology	10	7	7	10	6	8	14	10	8	6
Pathology	22	17	22	22	23	25	24	17	16	13
Pediatrics	25	27	24	24	18	17	15	13	19	12
Physical Medicine & Rehab	1	1	0	1	1	1	3	4	3	2
Plastic Surgery	0	0	0	0	0	0	0	0	1	0
Psychiatry	39	29	28	26	27	29	29	25	29	32
Radiation-Diagnostic/Oncology	14	8	5	1	2	9	8	7	4	7
Surgery	17	15	13	19	21	20	17	20	15	15
Urology	2	2	2	5	2	3	3	1	1	1

Supplementary Table 6: Number of NIH T32 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	13	15	14	17	21	19	25	19	20	15
Dermatology	12	12	12	11	11	11	11	10	7	8
Emergency Medicine	0	0	0	0	0	1	2	2	2	2
Family Medicine	5	4	6	5	4	4	9	5	4	5
Internal Medicine/Medicine	382	389	357	353	339	341	452	366	347	365
Neurology	37	34	32	32	29	30	38	36	35	37
Neurosurgery	3	3	3	3	5	5	6	4	6	8
Obstetrics and Gynecology	12	11	12	11	12	10	13	7	8	11
Ophthalmology	15	16	21	19	17	18	27	22	26	23
Orthopedics	8	9	8	7	7	7	8	7	7	8
Otolaryngology	12	12	11	14	15	15	29	17	16	16
Pathology	86	75	70	79	68	70	89	67	59	55

Pediatrics	108	99	90	87	90	84	88	73	74	72
Physical Medicine & Rehab	9	4	4	3	3	4	5	5	4	5
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	77	79	80	79	71	71	107	69	68	71
Radiation-Diagnostic/Oncology	22	20	22	26	28	27	33	32	30	26
Surgery	54	56	54	48	48	49	57	53	58	55
Urology	7	8	7	8	5	6	4	2	4	4

Supplementary Table 7: Number of NIH K01 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4	4	4	5	5	5	6	8	5	7
Dermatology	4	4	6	4	6	7	11	13	10	8
Emergency Medicine	0	1	1	1	2	0	0	1	1	2
Family Medicine	11	13	10	7	7	8	8	9	9	15
Internal Medicine/Medicine	130	125	126	144	159	143	135	154	170	176
Neurology	12	13	16	17	17	19	20	19	23	19
Neurosurgery	3	3	1	0	0	1	0	2	3	3
Obstetrics and Gynecology	2	1	2	4	5	5	7	6	8	8
Ophthalmology	0	0	0	1	0	0	1	2	2	1
Orthopedics	5	4	7	7	10	7	6	5	6	5
Otolaryngology	2	2	2	2	0	0	0	0	0	1
Pathology	13	14	15	14	13	12	13	16	17	21
Pediatrics	20	16	18	19	16	25	23	21	23	27
Physical Medicine & Rehab	3	4	4	6	7	8	13	13	10	12
Plastic Surgery	0	0	0	0	0	0	0	0	0	0

Psychiatry	81	84	76	75	72	67	70	65	72	81
Radiation-Diagnostic/Oncology	17	15	13	11	14	14	19	18	15	11
Surgery	8	7	11	7	10	12	13	9	8	7
Urology	1	1	1	1	3	4	6	5	5	6

Supplementary Table 8: Number of NIH K08 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	13	14	15	15	13	12	16	21	25	23
Dermatology	18	19	17	16	15	12	14	11	14	10
Emergency Medicine	2	4	7	4	5	7	7	8	7	7
Family Medicine	5	5	5	2	1	1	1	1	3	3
Internal Medicine/Medicine	277	270	243	240	228	241	230	251	281	274
Neurology	39	36	39	33	37	33	31	30	35	39
Neurosurgery	7	7	9	7	11	12	14	11	13	10
Obstetrics and Gynecology	8	8	7	5	2	3	2	5	6	9
Ophthalmology	24	24	29	29	30	28	27	27	25	25
Orthopedics	1	2	4	4	4	5	7	7	7	7
Otolaryngology	12	14	12	10	12	11	9	10	12	10
Pathology	38	33	36	33	32	24	25	28	27	30
Pediatrics	114	96	93	86	82	91	106	117	113	109
Physical Medicine & Rehab	1	1	1	0	0	0	0	1	1	1
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	34	31	21	28	22	23	25	23	19	24

Radiation-Diagnostic/Oncology	5	5	5	6	6	1	3	3	14	18
Surgery	59	57	50	46	38	38	39	44	45	48
Urology	8	8	11	7	4	5	5	5	5	5

Supplementary Table 9: Number of NIH K23 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	9	10	13	13	12	10	13	12	17	17
Dermatology	3	4	3	1	3	4	4	9	10	8
Emergency Medicine	18	15	15	14	15	19	21	19	20	15
Family Medicine	9	8	6	3	6	4	5	5	6	7
Internal Medicine/Medicine	306	315	306	297	276	262	247	247	249	286
Neurology	61	59	48	50	52	43	48	53	58	57
Neurosurgery	2	4	5	4	5	5	4	4	5	6
Obstetrics and Gynecology	12	14	11	14	10	5	7	8	10	12
Ophthalmology	15	11	13	11	13	20	21	21	21	20
Orthopedics	2	3	3	3	2	2	1	3	3	4
Otolaryngology	8	6	6	9	12	11	12	12	12	12
Pathology	4	3	2	3	2	1	1	1	1	3
Pediatrics	94	93	89	89	79	65	85	93	108	129
Physical Medicine & Rehab	7	6	10	12	9	10	6	2	3	3
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	119	117	104	99	100	93	102	103	110	113

Radiation-Diagnostic/Oncology	6	4	4	4	4	4	4	2	1	3
Surgery	13	12	11	11	10	10	9	8	9	13
Urology	2	1	2	3	2	3	2	1	3	3

Supplementary Table 10: Number of NIH U01 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	7	7	7	12	9	15	14	15	12	13
Dermatology	3	5	7	6	8	5	5	6	9	11
Emergency Medicine	10	13	17	14	8	5	4	8	3	7
Family Medicine	11	14	12	11	15	15	13	15	15	10
Internal Medicine/Medicine	386	399	432	381	417	414	439	491	564	589
Neurology	33	40	40	54	56	78	62	70	68	76
Neurosurgery	6	4	8	7	13	27	25	21	10	8
Obstetrics and Gynecology	15	17	8	13	23	13	16	12	9	11
Ophthalmology	4	7	5	5	5	5	6	10	12	8
Orthopedics	0	0	1	2	1	1	0	0	1	1
Otolaryngology	4	4	3	4	3	3	4	5	4	4
Pathology	54	54	46	33	29	32	32	35	38	37
Pediatrics	130	128	116	120	124	103	109	110	111	110
Physical Medicine & Rehab	4	3	7	7	8	5	5	6	3	3
Plastic Surgery	0	0	0	0	0	0	0	1	1	1
Psychiatry	53	87	79	85	104	83	75	88	92	79
Radiation-Diagnostic/Oncology	14	18	22	26	34	29	40	54	56	49

Surgery	51	53	57	47	51	47	52	63	57	58
Urology	14	15	17	20	17	16	19	13	15	14

Supplementary Table 11: Number of NIH P30 grants awarded from 2011-2020, by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	0	0	0	1	0	0	0	0	0	0
Dermatology	11	8	8	11	8	12	11	5	4	4
Emergency Medicine	0	0	0	0	0	0	0	0	0	0
Family Medicine	0	4	4	4	4	4	1	1	4	4
Internal Medicine/Medicine	248	217	206	248	312	353	283	558	333	364
Neurology	15	19	16	14	14	16	16	18	21	32
Neurosurgery	3	3	3	2	2	1	1	1	2	0
Obstetrics and Gynecology	3	3	2	3	5	6	0	3	6	10
Ophthalmology	31	37	30	29	32	29	29	31	29	26
Orthopedics	4	4	4	5	5	5	5	5	6	6
Otolaryngology	15	8	7	8	6	5	1	61	1	6
Pathology	17	18	20	23	26	27	27	20	13	15
Pediatrics	17	21	23	18	18	20	18	12	14	25
Physical Medicine & Rehab	0	0	0	0	0	0	0	0	0	0
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	13	15	17	15	20	13	11	9	11	9
Radiation-Diagnostic/Oncology	5	6	5	7	8	7	10	10	12	11
Surgery	13	11	15	12	24	27	20	127	22	29
Urology	7	6	5	6	6	9	0	0	0	0

Supplementary Table 12: Number of active physicians per R01 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	201.6 2	188.9 7	190.4 6	180.8 6	195.0 5	196.9 5	192.4 5	168.0 6	169.0 7	160.1 0
Dermatology	94.09	89.45	90.18	99.44	100.9 1	107.0 1	113.6 9	101.5 2	100.9 4	113.7 8
Emergency Medicine	1307. 08	1187. 08	1241. 37	1163. 94	1014. 85	1077. 99	1008. 29	893.3 7	837.0 7	610.8 4
Family Medicine	1383. 75	1267. 45	1433. 12	1619. 21	1445. 39	1583. 16	1621. 63	1544. 75	1328. 07	1193. 92
Internal Medicine/Medi cine	33.55	35.34	38.07	39.76	40.69	39.55	38.19	37.02	36.23	34.78
Neurology	24.84	23.66	24.45	25.43	25.36	25.10	24.36	21.80	21.30	20.09
Neurosurgery	36.57	36.23	36.94	40.14	33.20	32.76	31.61	29.68	28.18	25.78
Obstetrics and Gynecology	278.4 6	305.2 7	293.7 1	314.1 5	314.2 5	269.9 3	235.3 4	246.7 1	206.3 8	184.9 4
Ophthalmology	52.77	50.08	52.19	49.74	51.94	53.60	49.52	46.73	44.29	41.26
Orthopedics	178.5 8	164.6 9	144.5 8	155.3 2	158.2 2	145.6 0	137.6 9	135.0 0	125.4 5	107.1 3
Otolaryngology	65.01	62.26	58.62	59.65	57.38	60.31	62.67	54.22	49.88	52.01
Pathology	16.14	16.28	16.11	17.46	17.44	17.44	18.08	16.46	15.38	14.70
Pediatrics	72.18	69.60	72.41	74.48	80.48	81.10	86.06	82.68	82.59	76.63
Physical Medicine & Rehab	274.2 9	248.7 0	269.8 8	244.1 9	269.5 3	220.3 2	186.8 6	159.2 5	160.1 1	162.7 8
Plastic Surgery	2274. 00	Inf	6942. 00	6981. 00	Inf	Inf	7142. 00	Inf	7317. 00	Inf
Psychiatry	37.91	38.17	41.26	41.87	45.91	44.88	44.22	42.82	42.96	41.62
Radiation- Diagnostic/Onc ology	61.33	68.02	71.77	77.15	76.80	78.64	75.75	66.84	68.37	66.72

Surgery	63.71	66.03	68.26	70.25	70.15	71.85	65.21	61.42	56.94	52.28
Urology	125.97	127.25	117.72	128.81	155.68	164.41	162.64	167.68	167.23	152.25

Supplementary Table 13: Number of active physicians per R03 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	6687.17	4493.39	6793.00	6842.42	10337.75	10389.12	6960.33	4668.28	5283.38	8453.40
Dermatology	2164.00	1848.58	5681.50	2883.63	1463.25	1319.83	1721.57	3070.88	3129.00	2503.20
Emergency Medicine	33984.00	35612.50	37241.00	38410.00	9894.75	10240.88	8469.60	10943.75	22601.00	11300.50
Family Medicine	13318.62	11970.33	12101.89	15729.43	18549.17	22480.90	56757.00	57928.00	23639.60	39399.33
Internal Medicine/Medicine	924.14	791.71	841.27	907.81	1037.17	1275.81	1269.86	1155.53	1001.43	993.15
Neurology	1291.60	1448.44	1196.00	1106.17	1030.15	847.16	914.47	928.77	943.07	1088.15
Neurosurgery	1682.33	638.63	646.38	1051.70	763.71	1359.63	2765.50	2819.75	2874.00	958.00
Obstetrics and Gynecology	5047.13	3383.46	4082.60	3429.46	4148.10	3778.96	2777.07	2481.65	3051.43	4272.00
Ophthalmology	Inf	Inf	Inf	9227.50	6197.67	18705.00	18817.00	9532.25	6437.33	6437.33
Orthopedics	1982.20	1959.80	1614.50	1375.68	1914.50	2724.71	6333.67	6345.00	2724.14	2724.14
Otolaryngology	710.15	515.33	490.53	624.37	672.21	789.04	793.83	965.15	4888.50	3259.00
Pathology	599.00	623.59	652.86	674.90	885.73	1451.39	1069.92	606.71	486.27	505.72

Pediatrics	1460. 76	1927. 09	1607. 49	1673. 60	1692. 44	1348. 58	1669. 57	1451. 87	1595. 21	1731. 94
Physical Medicine & Rehab	1214. 71	1243. 50	1781. 20	1290. 71	1832. 80	1850. 70	3114. 33	2388. 75	1395. 29	1220. 88
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	7081. 00	7142. 00	Inf	Inf	Inf
Psychiatry	1531. 56	1349. 73	1243. 20	1705. 27	1886. 80	1650. 89	1317. 41	1673. 85	1939. 60	2424. 50
Radiation- Diagnostic/O ncology	4055. 63	5013. 93	3775. 00	2246. 53	1839. 62	4359. 89	3622. 36	2253. 97	1877. 14	1877. 14
Surgery	1754. 27	1287. 53	1481. 59	1483. 56	1329. 16	1796. 29	1001. 68	1204. 91	2324. 00	1704. 27
Urology	9826. 00	3266. 17	4885. 50	2447. 38	1961. 60	3288. 17	9921. 00	10061. .00	3400. 33	2550. 25

Supplementary Table 14: Number of active physicians per R21 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1486. 04	1685. 02	1509.5 6	1954. 98	1476. 82	1539. 13	1606. 23	1135. 53	1083. 77	1280. 82
Dermatology	569.4 7	616.1 9	631.28	443.6 3	557.4 3	848.4 6	803.4 0	767.7 2	834.4 0	625.8 0
Emergency Medicine	5664. 00	7122. 50	12413. 67	7682. 00	6596. 50	8192. 70	6049. 71	4377. 50	7533. 67	9040. 40
Family Medicine	7610. 64	6733. 31	5732.4 7	5505. 30	4637. 29	4887. 15	8108. 14	9654. 67	7387. 38	7387. 38
Internal Medicine/Medi cine	290.7 9	270.3 9	282.56	305.8 9	301.0 3	291.4 3	308.1 5	313.4 7	318.7 6	312.1 3
Neurology	201.8 1	167.1 3	180.22	181.8 4	186.0 0	171.5 8	167.2 8	149.8 0	132.2 1	202.0 9

Neurosurgery	388.2 3	283.8 3	235.05	250.4 0	152.7 4	151.0 7	204.8 5	216.9 0	140.2 0	174.1 8
Obstetrics and Gynecology	1223. 55	1450. 05	1512.0 7	1646. 14	1728. 38	1732. 02	1983. 62	1506. 71	1294. 55	993.4 9
Ophthalmology	854.4 3	954.2 1	610.57	636.3 8	516.4 7	550.1 5	784.0 4	614.9 8	378.6 7	371.3 8
Orthopedics	1415. 86	979.9 0	1019.6 8	1283. 97	1196. 56	1192. 06	730.8 1	528.7 5	733.4 2	706.2 6
Otolaryngology	659.4 3	579.7 5	443.81	334.4 8	409.1 7	676.3 2	635.0 7	311.3 4	325.9 0	296.2 7
Pathology	120.7 7	137.9 1	122.41	96.41	83.04	78.69	93.04	108.9 0	111.8 9	117.0 6
Pediatrics	533.7 4	588.2 7	551.59	526.8 8	475.5 6	471.4 6	503.7 5	504.4 6	477.3 1	459.2 3
Physical Medicine & Rehab	2125. 75	1243. 50	809.64	1003. 89	2291. 00	1028. 17	718.6 9	955.5 0	751.3 1	1085. 22
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	313.8 4	227.6 7	195.27	209.5 9	241.9 0	251.4 6	249.7 1	258.3 8	250.2 7	245.5 2
Radiation-Diagnostic/Oncology	334.4 8	347.5 0	370.10	332.1 0	319.2 7	332.5 3	346.4 9	455.8 6	400.9 4	408.8 8
Surgery	453.6 9	476.8 6	547.54	525.4 3	407.3 2	369.8 2	500.8 4	516.3 9	501.2 5	473.4 1
Urology	1228. 25	1088. 72	1954.2 0	2447. 38	980.8 0	758.8 1	1102. 33	1437. 29	1275. 13	1020. 10

Supplementary Table 15: Number of active physicians per F32 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1003 0.75	6740. 08	5094. 75	5864.9 3	41351. 00	4155 6.50	1392 0.67	8402. 90	2113 3.50	7044. 50

Dermatology	2705.00	2772.88	3787.67	5767.25	3902.00	3959.50	2410.20	3070.88	12516.00	4172.00
Emergency Medicine	33984.00	35612.50	37241.00	Inf	Inf	Inf	Inf	Inf	Inf	45202.00
Family Medicine	Inf	Inf	Inf	110106.00	111295.00	Inf	Inf	Inf	Inf	Inf
Internal Medicine/Medicine	865.46	982.57	957.30	1042.30	1046.69	964.90	875.43	1024.90	1112.69	1035.96
Neurology	861.07	1303.60	657.80	428.19	461.79	589.33	473.00	515.98	487.79	643.00
Neurosurgery	630.88	638.63	646.38	657.31	534.60	543.85	614.56	375.97	718.50	479.00
Obstetrics and Gynecology	10094.25	6766.92	10206.50	10288.38	8296.20	10392.12	13885.33	7031.33	8544.00	8544.00
Ophthalmology	4485.75	2590.00	2616.71	2050.56	1549.42	2338.13	1881.70	2723.50	2145.78	1931.20
Orthopedics	3964.40	3266.33	3874.80	3851.90	3190.83	3178.83	3166.83	2719.29	2724.14	2724.14
Otolaryngology	923.20	1325.14	1331.43	936.55	1568.50	1183.56	680.43	965.15	1222.13	1629.50
Pathology	680.68	843.68	623.18	613.55	577.65	522.50	534.96	749.47	790.19	972.54
Pediatrics	2220.36	2069.83	2344.25	2370.94	3196.83	3411.12	3895.67	4578.96	3190.42	5051.50
Physical Medicine & Rehab	8503.00	8704.50	Inf	9035.00	9164.00	9253.50	3114.33	2388.75	3255.67	4883.50
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	7317.00	Inf
Psychiatry	981.77	1303.19	1332.00	1442.92	1397.63	1309.33	1317.41	1539.94	1337.66	1212.25

Radiation-Diagnostic/Oncology	2317.50	4387.19	7550.00	38191.00	19316.00	4359.89	4980.75	5795.93	10324.25	5899.57
Surgery	1547.88	1716.70	1937.46	1327.40	1202.57	1257.40	1473.06	1265.15	1704.27	1704.27
Urology	4913.00	4899.25	4885.50	1957.90	4904.00	3288.17	3307.00	10061.00	10201.00	10201.00

Supplementary Table 16: Number of active physicians per T32 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	3086.39	2696.03	2911.29	2414.97	1969.10	2187.18	1670.48	2211.29	2113.35	2817.80
Dermatology	901.67	924.29	946.92	1048.59	1064.18	1079.86	1095.55	1228.35	1788.00	1564.50
Emergency Medicine	Inf	Inf	Inf	Inf	Inf	40963.50	21174.00	21887.50	22601.00	22601.00
Family Medicine	21309.80	26933.25	18152.83	22021.20	27823.75	28101.12	12612.67	23171.20	29549.50	23639.60
Internal Medicine/Medicine	285.47	282.90	311.06	318.89	336.55	336.72	255.66	322.03	346.31	329.24
Neurology	349.08	383.41	411.13	414.81	461.79	451.82	360.97	386.99	404.17	382.32
Neurosurgery	1682.33	1703.00	1723.67	1752.83	1069.20	1087.70	921.83	1409.88	958.00	718.50
Obstetrics and Gynecology	3364.75	3691.05	3402.17	3741.23	3456.75	4156.85	3204.31	6026.86	5340.00	3883.64
Ophthalmology	1196.20	1133.13	872.24	971.32	1093.71	1039.17	696.93	866.57	742.77	839.65
Orthopedics	2477.75	2177.56	2421.75	2751.36	2735.00	2724.71	2375.13	2719.29	2724.14	2383.63

Otolaryngology	769.3 3	773.0 0	847.2 7	668.9 6	627.4 0	631.2 3	328.4 8	567.7 4	611.0 6	611.0 6
Pathology	174.1 3	191.2 3	195.8 6	170.8 6	195.3 8	186.6 1	144.2 6	190.1 6	214.2 9	229.8 7
Pediatrics	513.9 7	564.5 0	625.1 3	654.0 5	639.3 7	690.3 5	664.0 3	815.4 3	819.1 6	841.9 2
Physical Medicine & Rehab	944.7 8	2176. 13	2226. 50	3011. 67	3054. 67	2313. 38	1868. 60	1911. 00	2441. 75	1953. 40
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	497.2 6	478.3 9	466.2 0	474.8 9	531.4 9	534.8 0	357.0 6	557.9 5	570.4 7	546.3 7
Radiation-Diagnostic/Oncology	1474. 77	1754. 88	1715. 91	1468. 89	1379. 71	1453. 30	1207. 46	1267. 86	1376. 57	1588. 35
Surgery	487.3 0	459.8 3	466.4 3	525.4 3	526.1 3	513.2 2	439.3 3	477.4 2	440.7 6	464.8 0
Urology	1403. 71	1224. 81	1395. 86	1223. 69	1961. 60	1644. 08	2480. 25	5030. 50	2550. 25	2550. 25

Supplementary Table 17: Number of active physicians per K01 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	10030 .75	10110 .12	10189 .50	8210. 90	8270. 20	8311. 30	6960. 33	5251. 81	8453. 40	6038. 14
Dermatology	2705. 00	2772. 88	1893. 83	2883. 63	1951. 00	1696. 93	1095. 55	944.8 8	1251. 60	1564. 50
Emergency Medicine	Inf	35612 .50	37241 .00	38410 .00	19789 .50	Inf	Inf	43775 .00	45202 .00	22601 .00
Family Medicine	9686. 27	8287. 15	10891 .70	15729 .43	15899 .29	14050 .56	14189 .25	12872 .89	13133 .11	7879. 87

Internal Medicine/Me dicine	838.8 3	880.3 8	881.3 3	781.7 2	717.5 4	802.9 6	855.9 8	765.3 5	706.8 9	682.7 9
Neurology	1076. 33	1002. 77	822.2 5	780.8 2	787.7 6	713.3 9	685.8 5	733.2 4	615.0 4	744.5 3
Neurosurgery	1682. 33	1703. 00	5171. 00	Inf	Inf	5438. 50	Inf	2819. 75	1916. 00	1916. 00
Obstetrics and Gynecology	20188 .50	40601 .50	20413 .00	10288 .38	8296. 20	8313. 70	5950. 86	7031. 33	5340. 00	5340. 00
Ophthalmolo gy	Inf	Inf	Inf	18455 .00	Inf	Inf	18817 .00	9532. 25	9656. 00	19312 .00
Orthopedics	3964. 40	4899. 50	2767. 71	2751. 36	1914. 50	2724. 71	3166. 83	3807. 00	3178. 17	3813. 80
Otolaryngolo gy	4616. 00	4638. 00	4660. 00	4682. 75	Inf	Inf	Inf	Inf	Inf	9777. 00
Pathology	1151. 92	1024. 46	914.0 0	964.1 4	1022. 00	1088. 54	987.6 2	796.3 1	743.7 1	602.0 5
Pediatrics	2775. 45	3492. 84	3125. 67	2994. 87	3596. 44	2319. 56	2540. 65	2834. 60	2635. 57	2245. 11
Physical Medicine & Rehab	2834. 33	2176. 13	2226. 50	1505. 83	1309. 14	1156. 69	718.6 9	735.0 0	976.7 0	813.9 2
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	472.7 0	449.9 1	490.7 4	500.2 1	524.1 1	566.7 2	545.7 9	592.2 8	538.7 8	478.9 1
Radiation- Diagnostic/O ncology	1908. 53	2339. 83	2903. 85	3471. 91	2759. 43	2802. 79	2097. 16	2253. 97	2753. 13	3754. 27
Surgery	3289. 25	3678. 64	2289. 73	3602. 93	2525. 40	2095. 67	1926. 31	2811. 44	3195. 50	3652. 00
Urology	9826. 00	9798. 50	9771. 00	9789. 50	3269. 33	2466. 13	1653. 50	2012. 20	2040. 20	1700. 17

Supplementary Table 18: Number of active physicians per K08 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	3343.6	2888.6	2717.2	2737.0	3445.9	2770.4	2784.1	1826.7	1690.7	2113.4
Dermatology	636.5	504.2	757.5	769.0	731.6	913.7	927.0	944.9	1043.0	1251.6
Emergency Medicine	11328.0	8903.1	6206.8	9602.5	7915.8	5851.9	4705.3	5471.9	7533.7	7533.7
Family Medicine	21309.8	21546.6	21783.4	55053.0	111295.0	112404.5	113514.0	115856.0	39399.3	39399.3
Internal Medicine/Medicine	405.4	409.1	460.8	467.1	496.0	470.6	489.6	481.1	437.0	451.8
Neurology	339.9	352.3	337.3	414.8	352.4	410.7	415.7	464.4	392.9	392.9
Neurosurgery	721.0	729.9	646.4	657.3	486.0	418.3	395.1	512.7	479.0	574.8
Obstetrics and Gynecology	5768.1	4511.3	5832.3	8230.7	20740.5	13856.2	20828.0	7031.3	6102.9	6102.9
Ophthalmology	717.7	755.4	654.2	595.3	563.4	692.8	752	706.1	839.7	804.7
Orthopedics	19822.0	6532.7	4843.5	4814.9	4786.3	4768.3	2714.4	2379.4	2724.1	3178.2
Otolaryngology	769.3	713.5	716.9	851.4	723.9	860.8	1058.4	877.4	1086.3	977.7
Pathology	427.9	409.8	415.5	374.9	402.6	567.9	513.6	439.3	451.5	505.7
Pediatrics	509.3	564.5	592.2	677.4	710.4	630.3	512.6	517.6	531.7	606.2
Physical Medicine & Rehab	Inf	4352.3	Inf	Inf	Inf	Inf	Inf	9555.0	9767.0	9767.0

Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	1160.3	1219.1	1962.9	1500.6	1509.4	1725.9	1661.1	1673.8	1939.6	1616.3
Radiation-Diagnostic/Oncology	6489.0	7019.5	7550.0	5455.9	12877.3	19619.5	13282.0	10142.9	2949.8	2429.2
Surgery	453.7	444.0	493.9	586.5	682.5	613.4	626.1	588.4	568.1	568.1
Urology	1091.8	1224.8	888.3	1631.6	2452.0	1972.9	1984.2	2515.3	1700.2	2040.2

Supplementary Table 19: Number of active physicians per K23 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4458.11	4044.05	3135.23	3158.04	3445.92	4155.65	3212.46	3501.21	2486.29	2486.29
Dermatology	3606.67	2772.88	3787.67	11534.50	3902.00	2969.63	3012.75	1364.83	1251.60	1564.50
Emergency Medicine	1888.00	2374.17	2482.73	2743.57	2638.60	2155.97	2016.57	2303.95	2260.10	3013.47
Family Medicine	11838.78	13466.62	18152.83	36702.00	18549.17	28101.12	22702.80	23171.20	19699.67	16885.43
Internal Medicine/Medicine	356.37	349.36	362.90	379.02	413.37	438.26	467.84	477.18	482.61	420.18
Neurology	211.74	220.95	274.08	265.48	257.54	315.22	285.77	262.86	243.90	248.18
Neurosurgery	2523.50	1277.25	1034.20	1314.63	1069.20	1087.70	1382.75	1409.88	1149.60	958.00
Obstetrics and Gynecology	3364.75	2900.11	3711.46	2939.54	4148.10	8313.70	5950.86	5273.50	4272.00	3560.00

Ophthalmology	1196.20	1648.18	1409.00	1677.73	1430.23	935.25	896.05	907.83	919.62	965.60
Orthopedics	9911.00	6532.67	6458.00	6419.83	9572.50	9536.50	19001.00	6345.00	6356.33	4767.25
Otolaryngology	1154.00	1546.00	1553.33	1040.61	784.25	860.77	793.83	804.29	814.75	814.75
Pathology	3743.75	4780.83	6855.00	4499.33	6643.00	13062.50	12839.00	12741.00	12643.00	4214.33
Pediatrics	590.52	600.92	632.16	639.35	728.39	892.14	687.47	640.07	561.28	469.91
Physical Medicine & Rehab	1214.71	1450.75	890.60	752.92	1018.22	925.35	1557.17	4777.50	3255.67	3255.67
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	321.76	323.01	358.62	378.95	377.36	408.28	374.56	373.77	352.65	343.29
Radiation-Diagnostic/Oncology	5407.50	8774.38	9437.50	9547.75	9658.00	9809.75	9961.50	20285.75	41297.00	13765.67
Surgery	2024.15	2145.88	2289.73	2292.77	2525.40	2514.80	2782.44	3162.88	2840.44	1966.46
Urology	4913.00	9798.50	4885.50	3263.17	4904.00	3288.17	4960.50	10061.00	3400.33	3400.33

Supplementary Table 20: Number of active physicians per U01 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	5731.86	5777.21	5822.57	3421.21	4594.56	2770.43	2983.00	2800.97	3522.25	3251.31
Dermatology	3606.67	2218.30	1623.29	1922.42	1463.25	2375.70	2410.20	2047.25	1390.67	1137.82

Emergency Medicine	3398 .40	2739 .42	2190. 65	2743. 57	4947. 38	8192. 70	10587 .00	5471 .88	15067 .33	6457. 43
Family Medicine	9686 .27	7695 .21	9076. 42	10009 .64	7419. 67	7493. 63	8731. 85	7723 .73	7879. 87	11819 .80
Internal Medicine/Med icine	282. 51	275. 81	257.0 5	295.4 5	273.5 9	277.3 5	263.2 3	240. 05	213.0 7	204.0 3
Neurology	391. 39	325. 90	328.9 0	245.8 1	239.1 4	173.7 8	221.2 4	199. 02	208.0 3	186.1 3
Neurosurgery	841. 17	1277 .25	646.3 8	751.2 1	411.2 3	201.4 3	221.2 4	268. 55	574.8 0	718.5 0
Obstetrics and Gynecology	2691 .80	2388 .32	5103. 25	3165. 65	1803. 52	3197. 58	2603. 50	3515 .67	4746. 67	3883. 64
Ophthalmolog y	4485 .75	2590 .00	3663. 40	3691. 00	3718. 60	3741. 00	3136. 17	1906 .45	1609. 33	2414. 00
Orthopedics	Inf	Inf	19374 .00	9629. 75	19145 .00	19073 .00	Inf	Inf	19069 .00	19069 .00
Otolaryngolog y	2308 .00	2319 .00	3106. 67	2341. 38	3137. 00	3156. 17	2381. 50	1930 .30	2444. 25	2444. 25
Pathology	277. 31	265. 60	298.0 4	409.0 3	458.1 4	408.2 0	401.2 2	364. 03	332.7 1	341.7 0
Pediatrics	426. 99	436. 61	485.0 2	474.1 9	464.0 6	563.0 0	536.1 0	541. 15	546.1 1	551.0 7
Physical Medicine & Rehab	2125 .75	2901 .50	1272. 29	1290. 71	1145. 50	1850. 70	1868. 60	1592 .50	3255. 67	3255. 67
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	7229 .50	7317. 00	7317. 00
Psychiatry	722. 43	434. 40	472.1 0	441.3 6	362.8 5	457.4 8	509.4 0	437. 48	421.6 5	491.0 4
Radiation- Diagnostic/On cology	2317 .50	1949 .86	1715. 91	1468. 89	1136. 24	1353. 07	996.1 5	751. 32	737.4 5	842.8 0

Surgery	515. 96	485. 86	441.8 8	536.6 1	495.1 8	535.0 6	481.5 8	401. 63	448.4 9	440.7 6
Urology	701. 86	653. 23	574.7 6	489.4 8	576.9 4	616.5 3	522.1 6	773. 92	680.0 7	728.6 4

Supplementary Table 21: Number of active physicians per P30 grant, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	Inf	Inf	Inf	4105 4.50	Inf	Inf	Inf	Inf	Inf	Inf
Dermatology	983.6 4	1386. 44	1420. 38	1048. 59	1463. 25	989.8 8	1095.5 5	2456.7 0	3129. 00	3129. 00
Emergency Medicine	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Family Medicine	Inf	2693 3.25	2722 9.25	2752 6.50	2782 3.75	2810 1.12	11351 4.00	11585 6.00	2954 9.50	2954 9.50
Internal Medicine/Medicine	439.7 1	507.1 3	539.0 6	453.9 0	365.6 7	325.2 8	408.33	211.23	360.8 7	330.1 4
Neurology	861.0 7	686.1 1	822.2 5	948.1 4	956.5 7	847.1 6	857.31	773.97	673.6 2	442.0 6
Neurosurgery	1682. 33	1703. 00	1723. 67	2629. 25	2673. 00	5438. 50	5531.0 0	5639.5 0	2874. 00	Inf
Obstetrics and Gynecology	1345 9.00	1353 3.83	2041 3.00	1371 7.83	8296. 20	6928. 08	Inf	14062. 67	7120. 00	4272. 00
Ophthalmology	578.8 1	490.0 0	610.5 7	636.3 8	581.0 3	645.0 0	648.86	614.98	665.9 3	742.7 7
Orthopedics	4955. 50	4899. 50	4843. 50	3851. 90	3829. 00	3814. 60	3800.2 0	3807.0 0	3178. 17	3178. 17
Otolaryngology	615.4 7	1159. 50	1331. 43	1170. 69	1568. 50	1893. 70	9526.0 0	158.22	9777. 00	1629. 50

Pathology	880.8 8	796.8 1	685.5 0	586.8 7	511.0 0	483.8 0	475.52	637.05	972.5 4	842.8 7
Pediatrics	3265. 24	2661. 21	2446. 17	3161. 25	3196. 83	2899. 45	3246.3 9	4960.5 4	4329. 86	2424. 72
Physical Medicine & Rehab	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Plastic Surgery	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
Psychiatry	2945. 31	2519. 50	2193. 88	2501. 07	1886. 80	2920. 81	3473.1 8	4277.6 1	3526. 55	4310. 22
Radiation- Diagnostic/O ncology	6489. 00	5849. 58	7550. 00	5455. 86	4829. 00	5605. 57	3984.6 0	4057.1 5	3441. 42	3754. 27
Surgery	2024. 15	2340. 96	1679. 13	2101. 71	1052. 25	931.4 1	1252.1 0	199.24	1162. 00	881.5 2
Urology	1403. 71	1633. 08	1954. 20	1631. 58	1634. 67	1096. 06	Inf	Inf	Inf	Inf

Supplementary Table 22: Total R01-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	7451 5	8433 8	8163 4	8814 8	8433 8	8581 4	8844 3	1053 16	1105 91	1207 92
Dermatology	3982 1	4388 1	4155 0	3938 2	3980 3	4203 0	3987 1	4863 4	5051 3	4968 0
Emergency Medicine	1211 9	1290 3	1380 2	1551 9	1662 8	1852 8	2135 6	2419 5	3106 3	4062 9
Family Medicine	3754 1	4149 9	3694 2	3372 5	3898 2	3871 1	3884 9	4507 0	4599 9	5259 5

Internal Medicine/Med icine	1291 238	1251 856	1150 256	1184 510	1191 770	1289 757	1394 581	1518 667	1645 808	1793 562
Neurology	2133 23	2219 96	2134 88	2172 59	2195 83	2456 91	2824 68	3369 10	3477 90	4166 38
Neurosurgery	4818 8	5093 2	4689 4	4763 5	6123 5	6521 7	6946 3	7709 6	8549 2	9797 4
Obstetrics and Gynecology	5017 0	4703 0	4791 4	4801 5	5214 0	6377 4	7544 3	7906 5	9733 0	1152 59
Ophthalmolog y	1435 57	1467 41	1434 66	1561 56	1478 80	1478 40	1571 63	1695 90	1863 35	1988 53
Orthopedics	3763 5	4076 9	4405 8	4446 6	4209 2	4713 6	5195 8	5550 2	6082 8	7014 5
Otolaryngolog y	5199 2	5581 3	5630 7	5813 8	6342 3	6365 5	6754 9	7862 0	9174 9	9113 4
Pathology	3241 76	3183 96	2945 84	2793 72	2877 86	2957 75	2977 70	3335 07	3601 75	3872 11
Pediatrics	3124 75	3361 73	3115 85	3233 44	3140 62	3120 97	2993 04	3258 46	3446 60	3939 39
Physical Medicine & Rehab	1124 7	1307 6	1320 3	1508 8	1366 9	1753 6	2349 0	2705 0	2845 1	3075 5
Plastic Surgery	967		537	302			333		284	
Psychiatry	4702 53	4593 42	4060 53	4200 40	4007 79	4316 51	4545 70	4940 86	5106 76	5459 09
Radiation- Diagnostic/On cology	2056 33	2083 97	2027 47	2013 25	2115 87	2311 75	2568 33	2937 65	3052 37	3119 46
Surgery	1466 86	1401 98	1274 21	1345 51	1428 24	1451 84	1629 32	1767 66	2023 67	2294 16
Urology	2401 3	2510 2	2502 1	2324 3	2170 3	2060 3	2324 0	2414 8	2514 7	2830 3

Supplementary Table 23: Total R03-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	450081	721092	442962	532855	322574	308213	386668	763750	792285	627476
Dermatology	325896	415990	151115	318146	629917	704687	535792	310250	389937	515420
Emergency Medicine	63905	86342	68643	114000	415309	415491	451612	350895	194750	345317
Family Medicine	736834	719578	845671	507967	429418	407502	155583	179250	552565	412944
Internal Medicine/Medicine	9494800	11557791	10699669	10753491	9694220	7907586	7842786	8562404	11413933	13026076
Neurology	964605	656875	855875	1051369	1257543	1688365	1381103	1185473	1536028	1461973
Neurosurgery	391304	780722	767885	386897	593779	357615	161800	161079	160250	565458
Obstetrics and Gynecology	600862	864239	764424	803596	746483	1003704	1331211	1390082	1124544	764667
Ophthalmology	0	0	0	195625	271238	81000	117750	194000	322473	329957
Orthopedics	816678	787365	876856	1189895	818017	500294	231895	359624	739085	632940
Otolaryngology	1718440	2272345	2379761	1968522	1885934	1684593	1797130	1311104	320436	474811
Pathology	1925448	1586299	1437747	1451656	1241119	736439	1033500	1799423	2429442	2721395
Pediatrics	2921374	2413639	2699566	2605049	3022060	4009767	3103581	3812411	3215103	3705303
Physical Medicine & Rehab	672332	544268	461397	600245	412624	395279	172249	491150	839096	725944
Plastic Surgery	0	0	0	0	0	77000	77625	0	0	0
Psychiatry	2652569	2711582	2647613	2383628	2119936	2248675	2639599	2116041	1885175	1799338
Radiation-Diagnostic/Oncology	783679	518000	742731	1377746	1544365	726500	928242	1578939	2227240	2127308
Surgery	1364197	1739046	1377657	1564172	1504562	1191847	2115365	1802267	1024105	1631792

Urology	7800 0	24062 0	15345 5	35560 4	4711 48	2998 55	8100 0	8475 0	28525 1	38256 1
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Supplementary Table 24: Total R21-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	5363	4959	5614	5048	6017	6011	5305	7608	9044	7261
Dermatology	3480	3878	3706	4881	3694	2887	3101	3214	3172	4305
Emergency Medicine	1418	1238	677	1135	1061	859	1056	1709	1601	1225
Family Medicine	2736	3339	3520	3912	4672	4043	2436	2462	2749	3270
Internal Medicine/Medicin e	7751 7	8220 1	7648 6	7407 8	7428 1	7967 1	7656 4	7659 4	7744 4	8491 0
Neurology	1290 4	1572 1	1468 8	1487 8	1521 1	1692 8	1746 2	1947 9	2580 6	2014 5
Neurosurgery	2414	3721	4435	4831	7289	7888	5719	5571	1174 5	1011 9
Obstetrics and Gynecology	6800	5278	5734	4890	5247	4730	4449	5749	6279	9901
Ophthalmology	3884	3860	5863	5643	8032	6662	4941	6515	1147 4	1121 5
Orthopedics	2763	3619	3394	2686	2878	2916	5150	7074	4837	5113
Otolaryngology	2673	3242	4612	5060	4484	2935	2973	5233	5598	6832
Pathology	2426 7	2131 6	2245 7	2884 5	3301 3	3318 0	2828 1	2435 9	2405 3	2573 4
Pediatrics	1994 3	1942 6	1982 0	2209 8	2476 0	2498 0	2366 3	2469 7	2738 2	3032 9

Physical Medicine & Rehab	781	1430	2185	1664	700	1979	2772	2106	2839	2457
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	2522 3	3486 1	3825 9	3637 2	3181 8	3114 4	3168 5	3100 6	3352 9	3924 8
Radiation-Diagnostic/Oncology	2043 8	2177 8	2027 1	2369 4	2549 6	2402 0	2273 5	1806 6	2187 2	2485 9
Surgery	1114 9	1066 2	8942	1023 7	1282 3	1337 1	9947	9617	1032 0	1247 1
Urology	1626	1730	838	740	1802	2463	1761	1385	1519	2247

Supplementary Table 25: Total F32-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	192	309	397	305	24	58	171	288	122	390
Dermatology	173	223	156	86	149	167	231	233	66	198
Emergency Medicine	59	54	62	0	0	0	0	0	0	65
Family Medicine	0	0	0	56	20	0	0	0	0	0
Internal Medicine/Medicine	6543	5803	5850	5543	5833	6417	6236	6436	6670	7700
Neurology	732	449	964	1539	1457	1296	1234	1520	1584	1393
Neurosurgery	421	365	338	413	503	538	529	802	443	726
Obstetrics and Gynecology	209	290	175	215	276	229	146	356	310	304
Ophthalmology	180	351	385	491	644	398	430	420	532	567
Orthopedics	247	288	252	231	321	288	331	429	446	471
Otolaryngology	527	384	355	508	297	463	595	542	500	434
Pathology	1141	865	955	1023	1207	1368	892	1052	980	726

Pediatrics	1339	1416	1246	1229	867	773	737	762	1158	667
Physical Medicine & Rehab	51	52	0	56	41	69	188	246	197	137
Plastic Surgery	0	0	0	0	0	0	0	0	71	0
Psychiatry	1921	1391	1318	1254	1424	1560	1178	1385	1700	2021
Radiation-Diagnostic/Oncology	708	400	185	55	112	478	383	429	269	456
Surgery	831	760	662	983	1149	1027	942	1285	1008	1091
Urology	116	106	111	223	121	156	118	74	66	80

Supplementary Table 26: Total T32-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	2305	2641	2729	3258	4813	4967	5373	5038	5083	4496
Dermatology	2246	2446	2263	1840	2359	2357	2268	2180	1957	2035
Emergency Medicine	0	0	0	0	0	169	740	894	916	731
Family Medicine	1235	1172	1528	1487	1507	1328	2196	1739	1472	1750
Internal Medicine/Medicine	1150 16	1159 50	1116 68	1114 59	1153 27	1198 32	1200 62	1326 78	1345 51	1392 63
Neurology	9544	8462	8315	1003 0	9009	9960	1080 2	1127 6	9092	1152 4
Neurosurgery	592	531	582	600	1739	1820	1644	2273	3672	4010
Obstetrics and Gynecology	2392	2382	2526	2622	2685	2442	2154	1666	1762	2863
Ophthalmology	2879	3175	4438	4390	4005	3857	3762	4064	4869	4752
Orthopedics	1751	2082	1823	1617	1686	1676	1832	1568	1675	2073

Otolaryngology	2477	3339	2847	3672	3961	3768	4342	4372	4284	4832
Pathology	3274 7	2919 5	2624 6	2690 6	2447 8	2405 1	2507 0	2467 5	2280 5	2017 9
Pediatrics	2447 0	2400 6	2265 7	2165 3	2448 2	2454 8	2192 7	2424 6	2504 7	2578 6
Physical Medicine & Rehab	1431	1068	1092	844	939	1004	1063	1287	1263	1605
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	2005 6	2066 3	2032 3	1911 2	1813 4	2031 1	2113 2	2154 5	2270 2	2607 5
Radiation- Diagnostic/Onco logy	5579	4095	4651	4886	5477	7208	6005	7795	7771	6639
Surgery	1260 9	1227 3	1125 3	1080 6	1050 1	1232 7	1319 8	1601 2	1786 3	1644 2
Urology	1084	1224	1151	1166	648	906	623	335	989	1156

Supplementary Table 27: Total K01-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	480	485	463	613	884	888	1031	1209	655	990
Dermatology	375	467	596	445	647	779	1280	1341	1030	940
Emergency Medicine	0	136	134	132	276	0	0	41	123	247
Family Medicine	1241	1561	1182	896	930	1072	1086	1278	1167	2082
Internal Medicine/Medicin e	1657 6	1539 3	1561 2	1872 1	2055 7	1898 0	1947 3	2201 7	2436 6	2477 1
Neurology	1619	1813	2313	2554	2501	2809	2734	2635	2983	2344

Neurosurgery	298	241	127	0	0	105	0	318	454	328
Obstetrics and Gynecology	279	171	313	640	779	742	953	771	1024	1114
Ophthalmology	0	0	0	131	0	0	145	253	260	145
Orthopedics	618	472	808	850	1105	885	750	615	700	588
Otolaryngology	274	274	274	260	0	0	0	0	0	130
Pathology	1538	1635	1698	1500	1507	2011	2106	2359	2072	2764
Pediatrics	2485	2140	2285	2465	2174	3086	3156	3056	3452	3592
Physical Medicine & Rehab	344	365	489	733	864	992	1686	1664	1336	1510
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	1204 1	1215 1	1104 2	1143 3	1073 2	1018 0	1047 5	1018 9	1110 1	1221 9
Radiation-Diagnostic/Oncology	2091	1961	1517	1575	1710	1929	2705	2437	1931	1512
Surgery	999	861	1240	886	1353	1716	2081	1590	1374	1012
Urology	106	106	106	137	440	594	846	700	699	869

Supplementary Table 28: Total K08-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1636	1831	2071	2275	2120	2058	2662	3792	4516	3980
Dermatology	2225	2309	1938	1733	1802	1934	1958	1802	2016	1629
Emergency Medicine	283	568	875	593	746	1091	1136	1284	1113	1121
Family Medicine	611	616	678	275	148	146	168	168	515	504

Internal Medicine/Medicin e	3752 8	3634 6	3327 7	3424 1	3202 2	3717 8	3744 3	4160 2	4661 0	4712 3
Neurology	6333	5782	6588	5789	5803	5416	5683	5691	6525	7391
Neurosurgery	1160	1197	1446	1153	1658	1867	2222	2009	2370	1805
Obstetrics and Gynecology	1072	1077	952	598	244	374	334	907	1110	1675
Ophthalmology	4904	5063	5336	6174	6111	5435	5502	5280	5054	4877
Orthopedics	179	269	519	438	485	871	1201	1031	847	990
Otolaryngology	1995	2189	2122	1833	2265	2069	1684	1933	2167	1880
Pathology	4861	4286	4572	4859	4564	3929	3803	4681	4720	5225
Pediatrics	1501 4	1322 0	1296 0	1237 2	1167 0	1342 0	1714 1	1954 8	1939 7	1877 3
Physical Medicine & Rehab	125	125	125	0	0	0	0	171	171	172
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	5684	5023	3287	4502	3704	3895	4264	3698	3256	4261
Radiation- Diagnostic/Oncolo gy	811	820	820	915	832	172	532	610	2888	3757
Surgery	7904	8045	6671	6572	5420	6127	6343	7333	7654	8321
Urology	1217	1197	1391	1060	662	824	843	830	1111	1098

Supplementary Table 29: Total K23-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1200	1558	1839	2035	1853	1538	2247	2154	3073	2977
Dermatology	368	491	252	123	257	669	694	1364	1557	1339

Emergency Medicine	2344	2111	2311	2158	2213	3113	3733	3333	3579	2590
Family Medicine	1388	1256	901	440	648	585	808	801	985	1100
Internal Medicine/Medicin e	4438 6	4617 6	4566 9	4407 7	4058 7	4338 8	4324 8	4408 7	4495 3	5023 5
Neurology	8996	8961	7778	8382	8632	7030	8764	9346	1030 1	1053 4
Neurosurgery	372	712	922	695	840	727	734	735	927	1123
Obstetrics and Gynecology	1602	1806	1387	1695	1160	648	1143	1352	1734	2034
Ophthalmology	2853	2347	2644	2238	2693	4070	4562	4059	4513	4234
Orthopedics	337	391	320	318	195	347	173	369	494	548
Otolaryngology	1485	1252	1235	1902	2599	2144	2433	2431	2297	1823
Pathology	517	400	265	405	277	137	146	142	190	528
Pediatrics	1295 0	1274 3	1230 1	1211 2	1097 4	1025 3	1488 3	1637 8	1882 5	2228 3
Physical Medicine & Rehab	994	943	1511	1638	1305	1231	992	270	454	442
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	1906 8	1820 3	1684 1	1611 5	1564 7	1531 8	1808 4	1791 0	1934 9	1964 2
Radiation-Diagnostic/Oncology	952	659	632	650	647	694	723	359	196	578
Surgery	1704	1671	1479	1572	1469	1940	1610	1465	1556	2246
Urology	314	154	297	465	301	436	312	144	505	503

Supplementary Table 30: Total U01-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	3304	3157	3516	6975	5936	1208 6	9053	8374	1142 6	1025 7
Dermatology	810	2506	2458	2239	4082	2749	3182	3562	8176	5268
Emergency Medicine	1824 3	1687 5	8205	7022	4410	3305	6454	2526 3	1974	1428 4
Family Medicine	5269	8212	8912	9833	1183 0	9649	6264	8843	9972	8087
Internal Medicine/Medic ine	3948 66	3847 02	4276 05	4160 81	3698 49	3556 12	3921 59	4205 65	6163 27	6980 31
Neurology	6174 5	6881 9	7151 6	7922 0	6468 2	8785 2	7039 8	1118 16	1028 85	1392 49
Neurosurgery	4610	4594	1565 5	1503 8	1144 1	2576 4	2726 5	1388 4	6841	5592
Obstetrics and Gynecology	2540 1	1705 1	5216	1101 0	4741 4	9749	8790	1228 7	8037	8465
Ophthalmology	2346	2450	1937	1356	2967	3727	3876	6158	6809	7941
Orthopedics	0	0	522	657	197	197	0	0	705	648
Otolaryngology	1413	830	1142	1049	2611	2399	2901	4027	2151	3110
Pathology	4526 2	2968 0	2722 2	1965 3	1964 1	2484 7	2706 1	3252 4	2990 7	3218 2
Pediatrics	9805 3	9934 6	9110 2	1010 82	9401 7	8503 2	8497 7	8793 3	8276 0	7389 3
Physical Medicine & Rehab	569	622	3799	3484	3891	3623	3575	1940	5081	7806
Plastic Surgery	0	0	0	0	0	0	0	430	430	430
Psychiatry	4154 8	5872 6	5347 0	6094 1	6738 3	5938 0	5137 0	5861 5	9270 4	7893 9
Radiation- Diagnostic/Onco logy	6629	8597	1387 3	1715 9	1955 8	1733 8	3511 4	3746 2	3960 1	3837 6

Surgery	2943 3	3919 9	3881 3	3428 9	4016 7	3572 1	3184 7	3918 4	4017 1	3272 2
Urology	1345 3	1134 3	1181 0	7735	6550	7265	7641	6918	1061 7	5158

Supplementary Table 31: Total P30-grant-funding, by specialty, 2011-2020, in thousands of dollars

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	0	0	0	1000	0	0	0	0	0	0
Dermatology	5597	4335	6056	6889	6479	7431	6547	3292	3102	3109
Emergency Medicine	0	0	0	0	0	0	0	0	0	0
Family Medicine	0	480	473	475	475	475	1499	1632	2024	2317
Internal Medicine/Medicine	2962 35	3204 54	3394 82	3956 55	3591 49	3709 38	3822 60	3907 65	4538 63	4911 28
Neurology	1364 4	1506 3	1399 8	1296 4	1337 1	1459 3	1461 7	1664 3	2110 5	4901 4
Neurosurgery	1890	2651	2501	1789	1749	638	625	612	698	0
Obstetrics and Gynecology	5801	5801	5158	5379	5786	5762	0	2477	2907	5170
Ophthalmology	1874 9	2160 9	1762 4	1728 4	1666 1	1568 5	1570 3	1755 6	1758 8	1721 5
Orthopedics	2502	2510	2391	3072	3059	3517	3485	3459	4536	4510
Otolaryngology	4978	4832	4602	4455	2996	2292	615	5495	5130	7681
Pathology	2499 4	1723 3	3630 5	3624 2	3370 8	4277 7	3562 4	1409 0	1285 8	1637 5
Pediatrics	2628 9	2322 3	2224 4	1706 9	1697 6	1490 6	1437 0	1093 5	1168 1	1715 5

Physical Medicine & Rehab	0	0	0	0	0	0	0	0	0	0
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	1766 8	1715 9	1952 0	1617 9	1831 6	1346 4	1166 6	9558	8712	9759
Radiation-Diagnostic/Oncology	2851	3786	4292	5930	1182 3	6816	8877	8628	1130 8	1289 7
Surgery	2523 8	2148 4	2429 8	1597 3	2529 6	2536 3	3762 9	3424 2	2982 5	4273 9
Urology	4835	4726	3941	5304	5342	6332	0	0	0	0

Supplementary Table 32: R01-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1857. 17	2085. 47	2002. 89	2147. 10	2039. 57	2065. 00	2117. 78	2506. 67	2616. 49	2857. 83
Dermatology	3680. 31	3956. 23	3656. 59	3414. 25	3400. 26	3538. 30	3308. 52	3959. 33	4035. 89	3969. 33
Emergency Medicine	356.5 9	362.3 2	370.6 1	404.0 5	420.1 2	452.3 0	504.3 0	552.7 0	687.1 9	898.8 4
Family Medicine	352.3 4	385.2 0	339.1 7	306.2 9	350.2 5	344.3 9	342.2 4	389.0 1	389.1 7	444.9 7
Internal Medicine/Medicine	11841 .01	11375 .60	10358 .28	10522 .61	10445 .97	11232 .57	12068 .33	12884 .91	13695 .55	14925 .08
Neurology	16516 .17	17029 .48	16227 .40	16367 .29	16396 .56	18126 .12	20592 .56	24183 .35	24585 .73	29452 .72
Neurosurgery	9547. 89	9969. 06	9068. 75	9058. 58	11454 .43	11991 .81	12558 .93	13670 .75	14873 .42	17044 .80

Obstetrics and Gynecology	1242.54	1158.34	1173.61	1166.74	1256.97	1534.18	1811.10	1874.12	2278.34	2698.02
Ophthalmology	8000.73	8093.83	7832.38	8461.44	7953.54	7903.77	8352.17	8895.57	9648.68	10296.89
Orthopedics	1898.66	2080.26	2274.09	2308.81	2198.59	2471.33	2734.49	2915.80	3189.91	3678.49
Otolaryngology	5631.72	6016.96	6041.57	6207.68	6739.23	6722.77	7091.05	8145.93	9384.18	9321.23
Pathology	21647.85	22199.46	21486.80	20697.31	21660.82	22643.09	23192.63	26175.89	28488.09	30626.48
Pediatrics	5629.26	6015.39	5538.10	5682.43	5457.86	5382.00	5122.00	5473.96	5685.77	6498.71
Physical Medicine & Rehab	1322.77	1502.20	1482.51	1669.98	1491.60	1895.05	2514.18	2830.94	2912.92	3148.88
Plastic Surgery	141.77	0.00	77.41	43.23	0.00	0.00	46.66	0.00	38.79	0.00
Psychiatry	12281.68	12154.31	10887.32	11196.29	10620.60	11368.05	11898.19	12833.89	13164.48	14072.72
Radiation-Diagnostic/Oncology	6337.90	5937.65	5370.79	5271.53	5476.99	5891.45	6445.64	7240.69	7391.27	7553.73
Surgery	5574.43	5444.49	5059.00	5335.00	5655.51	5773.19	6506.34	6985.99	7916.08	8974.18
Urology	2443.77	2561.83	2560.75	2374.32	2212.76	2088.62	2342.54	2400.19	2465.14	2774.51

Supplementary Table 33: R03-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	11.22	17.83	10.87	12.98	7.80	7.42	9.26	18.18	18.74	14.85
Dermatology	30.12	37.51	13.30	27.58	53.81	59.32	44.46	25.26	31.16	41.18

Emergency Medicine	1.88	2.42	1.84	2.97	10.49	10.14	10.66	8.02	4.31	7.64
Family Medicine	6.92	6.68	7.76	4.61	3.86	3.63	1.37	1.55	4.67	3.49
Internal Medicine/Medicine	87.07	105.03	96.35	95.53	84.97	68.87	67.87	72.65	94.98	108.40
Neurology	74.68	50.39	65.06	79.21	93.90	124.56	100.69	85.09	108.58	103.35
Neurosurgery	77.53	152.81	148.50	73.58	111.07	65.76	29.25	28.56	27.88	98.37
Obstetrics and Gynecology	14.88	21.29	18.72	19.53	18.00	24.15	31.96	32.95	26.32	17.90
Ophthalmology	0.00	0.00	0.00	10.60	14.59	4.33	6.26	10.18	16.70	17.09
Orthopedics	41.20	40.18	45.26	61.78	42.73	26.23	12.20	18.89	38.76	33.19
Otolaryngology	186.14	244.97	255.34	210.19	200.40	177.92	188.66	135.84	32.77	48.56
Pathology	128.58	110.60	104.87	107.55	93.42	56.38	80.50	141.23	192.16	215.25
Pediatrics	52.63	43.19	47.98	45.78	52.52	69.15	53.11	64.05	53.04	61.13
Physical Medicine & Rehab	79.07	62.53	51.81	66.44	45.03	42.72	18.44	51.40	85.91	74.33
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	10.87	10.87	0.00	0.00	0.00
Psychiatry	69.28	71.75	70.99	63.54	56.18	59.22	69.09	54.96	48.60	46.38
Radiation-Diagnostic/Oncology	24.15	14.76	19.67	36.08	39.98	18.51	23.30	38.92	53.93	51.51
Surgery	51.84	67.53	54.70	62.02	59.58	47.39	84.47	71.23	40.06	63.83
Urology	7.94	24.56	15.71	36.33	48.04	30.40	8.16	8.42	27.96	37.50

Supplementary Table 34: R21-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	133.6 6	122.6 4	137.7 4	122.9 6	145.5 1	144.6 5	127.0 3	181.0 7	213.9 7	171.7 9
Dermatology	321.6 1	349.6 7	326.1 5	423.1 6	315.5 7	243.0 0	257.3 0	261.6 4	253.4 1	343.9 6
Emergency Medicine	41.72	34.77	18.18	29.54	26.80	20.98	24.94	39.04	35.41	27.11
Family Medicine	25.67	30.99	32.31	35.53	41.98	35.97	21.46	21.25	23.26	27.66
Internal Medicine/Medi cine	710.8 5	746.9 6	688.7 7	658.0 7	651.0 8	693.8 6	662.5 6	649.8 5	644.4 5	706.5 8
Neurology	999.0 5	1205. 96	1116. 44	1120. 83	1135. 85	1248. 89	1273. 00	1398. 18	1824. 26	1424. 04
Neurosurgery	478.3 9	728.3 6	857.7 1	918.7 0	1363. 36	1450. 45	1033. 97	987.8 9	2043. 24	1760. 36
Obstetrics and Gynecology	168.4 0	129.9 9	140.4 4	118.8 3	126.5 0	113.7 9	106.8 0	136.2 7	146.9 8	231.7 7
Ophthalmology	216.4 9	212.9 0	320.0 6	305.7 6	431.9 8	356.1 6	262.6 0	341.7 2	594.1 6	580.7 1
Orthopedics	139.3 7	184.6 7	175.1 7	139.4 9	150.3 2	152.8 6	271.0 4	371.6 1	253.6 8	268.1 2
Otolaryngology	289.5 6	349.5 0	494.8 1	540.2 8	476.4 3	309.9 9	312.1 2	542.1 5	572.5 6	698.8 1
Pathology	1620. 52	1486. 19	1638. 03	2136. 97	2484. 83	2540. 07	2202. 75	1911. 83	1902. 49	2035. 47
Pediatrics	359.2 7	347.6 0	352.2 7	388.3 5	430.2 9	430.7 7	404.9 5	414.8 9	451.7 1	500.3 4
Physical Medicine & Rehab	91.84	164.2 8	245.2 9	184.1 9	76.42	213.8 4	296.6 7	220.4 5	290.6 4	251.5 2
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	658.7 5	922.4 3	1025. 81	969.5 1	843.1 7	820.2 3	829.3 4	805.3 9	864.3 4	1011. 76

Radiation-Diagnostic/Oncology	629.93	620.50	536.98	620.40	659.97	612.15	570.57	445.28	529.63	601.95
Surgery	423.69	414.06	355.02	405.89	507.77	531.70	397.22	380.08	403.68	487.83
Urology	165.44	176.52	85.77	75.55	183.77	249.72	177.50	137.68	148.87	220.27

Supplementary Table 35: F32-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4.78	7.64	9.74	7.42	0.57	1.40	4.10	6.85	2.88	9.23
Dermatology	16.02	20.11	13.69	7.43	12.72	14.03	19.18	18.95	5.28	15.79
Emergency Medicine	1.74	1.52	1.67	0.00	0.00	0.00	0.00	0.00	0.00	1.44
Family Medicine	0.00	0.00	0.00	0.51	0.18	0.00	0.00	0.00	0.00	0.00
Internal Medicine/Medicine	60.00	52.73	52.68	49.24	51.13	55.89	53.96	54.60	55.50	64.07
Neurology	56.70	34.41	73.27	115.95	108.80	95.65	89.98	109.07	111.97	98.51
Neurosurgery	83.50	71.52	65.43	78.52	94.00	99.01	95.66	142.17	76.98	126.36
Obstetrics and Gynecology	5.19	7.15	4.29	5.23	6.65	5.51	3.51	8.43	7.26	7.12
Ophthalmology	10.05	19.35	21.02	26.60	34.64	21.27	22.87	22.01	27.56	29.37
Orthopedics	12.45	14.72	13.01	12.01	16.79	15.13	17.44	22.53	23.41	24.71
Otolaryngology	57.13	41.39	38.07	54.29	31.56	48.85	62.45	56.16	51.10	44.43

Pathology	76.2 1	60.3 1	69.6 6	75.78	90.87	104.7 6	69.5 0	82.55	77.49	57.40
Pediatrics	24.1 2	25.3 3	22.1 5	21.59	15.07	13.34	12.6 1	12.81	19.10	11.01
Physical Medicine & Rehab	6.04	5.95	0.00	6.20	4.45	7.45	20.1 5	25.75	20.18	14.01
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.64	0.00
Psychiatry	50.1 7	36.8 2	35.3 4	33.44	37.73	41.09	30.8 3	35.99	43.81	52.11
Radiation- Diagnostic/Oncolo gy	21.8 2	11.3 8	4.91	1.44	2.89	12.18	9.61	10.57	6.52	11.04
Surgery	31.5 8	29.5 1	26.2 8	38.96	45.51	40.85	37.6 0	50.79	39.44	42.67
Urology	11.8 5	10.8 3	11.3 9	22.73	12.31	15.78	11.9 2	7.36	6.43	7.88

Supplementary Table 36: T32-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	57.45	65.31	66.96	79.36	116.4 0	119.5 2	128.6 6	119.9 2	120.2 7	106.3 8
Dermatology	207.6 1	220.5 3	199.1 2	159.4 8	201.5 2	198.4 6	188.1 6	177.4 5	156.3 6	162.6 2
Emergency Medicine	0.00	0.00	0.00	0.00	0.00	4.12	17.46	20.42	20.27	16.17
Family Medicine	11.59	10.88	14.03	13.50	13.54	11.82	19.34	15.01	12.46	14.80
Internal Medicine/Medi cine	1054. 73	1053. 63	1005. 59	990.1 5	1010. 85	1043. 62	1038. 99	1125. 69	1119. 66	1158. 87
Neurology	738.9 2	649.1 1	632.0 1	755.6 2	672.6 9	734.8 4	787.5 0	809.4 2	642.7 0	814.6 6
Neurosurgery	117.2 1	104.0 3	112.5 2	114.0 8	325.3 0	334.6 2	297.2 0	403.1 2	638.7 8	697.7 0

Obstetrics and Gynecology	59.25	58.68	61.87	63.72	64.74	58.75	51.70	39.48	41.24	67.03
Ophthalmology	160.46	175.12	242.27	237.86	215.42	206.22	199.95	213.17	252.12	246.06
Orthopedics	88.32	106.23	94.12	83.97	88.05	87.90	96.42	82.36	87.83	108.73
Otolaryngology	268.30	359.98	305.44	392.08	420.92	397.90	455.84	453.01	438.15	494.20
Pathology	2186.81	2035.57	1914.38	1993.36	1842.40	1841.23	1952.68	1936.68	1803.78	1596.10
Pediatrics	440.82	429.56	402.71	380.54	425.45	423.31	375.23	407.32	413.19	425.38
Physical Medicine & Rehab	168.31	122.68	122.60	93.41	102.48	108.48	113.81	134.73	129.29	164.28
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	523.79	546.74	544.91	509.45	480.55	534.91	553.12	559.63	585.23	672.18
Radiation-Diagnostic/Oncology	171.95	116.67	123.22	127.95	141.77	183.69	150.70	192.13	188.18	160.75
Surgery	479.19	476.61	446.78	428.48	415.80	490.17	527.02	632.80	698.75	643.16
Urology	110.36	124.87	117.82	119.16	66.07	91.89	62.83	33.26	96.93	113.31

Supplementary Table 37: K01-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	11.97	11.98	11.36	14.94	21.38	21.37	24.69	28.77	15.50	23.43
Dermatology	34.67	42.10	52.45	38.57	55.29	65.58	106.25	109.18	82.28	75.10

Emergency Medicine	0.00	3.83	3.60	3.44	6.97	0.00	0.00	0.93	2.73	5.47
Family Medicine	11.65	14.49	10.85	8.14	8.35	9.53	9.57	11.03	9.88	17.62
Internal Medicine/Medicine	152.01	139.88	140.59	166.31	180.19	165.29	168.51	186.80	202.76	206.13
Neurology	125.34	139.07	175.80	192.43	186.72	207.22	199.33	189.16	210.88	165.72
Neurosurgery	59.06	47.18	24.49	0.00	0.00	19.26	0.00	56.31	78.98	57.08
Obstetrics and Gynecology	6.92	4.21	7.66	15.55	18.77	17.85	22.88	18.27	23.96	26.07
Ophthalmology	0.00	0.00	0.00	7.10	0.00	0.00	7.72	13.28	13.46	7.52
Orthopedics	31.17	24.07	41.73	44.16	57.72	46.40	39.47	32.31	36.72	30.81
Otolaryngology	29.72	29.58	29.44	27.75	0.00	0.00	0.00	0.00	0.00	13.27
Pathology	102.72	114.00	123.82	111.14	113.43	153.99	164.00	185.13	163.88	218.65
Pediatrics	44.76	38.30	40.61	43.32	37.79	53.22	54.02	51.33	56.95	59.26
Physical Medicine & Rehab	40.44	41.98	54.95	81.08	94.27	107.23	180.41	174.18	136.74	154.63
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	314.48	321.51	296.05	304.76	284.39	268.10	274.19	264.67	286.16	314.98
Radiation-Diagnostic/Oncology	64.43	55.86	40.20	41.23	44.27	49.16	67.88	60.06	46.75	36.61
Surgery	37.96	33.43	49.24	35.12	53.59	68.22	83.10	62.83	53.73	39.57
Urology	10.77	10.80	10.83	14.04	44.88	60.18	85.28	69.62	68.52	85.16

Supplementary Table 38: K08-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	40.78	45.27	50.82	55.42	51.27	49.53	63.75	90.26	106.84	94.17
Dermatology	205.68	208.13	170.54	150.23	153.90	162.85	162.50	146.67	161.06	130.13
Emergency Medicine	8.33	15.95	23.50	15.43	18.84	26.64	26.82	29.34	24.63	24.80
Family Medicine	5.73	5.72	6.22	2.50	1.33	1.30	1.48	1.45	4.35	4.26
Internal Medicine/Medicine	344.14	330.28	299.67	304.18	280.67	323.79	324.02	352.97	387.86	392.13
Neurology	490.32	443.51	500.72	436.15	433.34	399.55	414.33	408.50	461.26	522.45
Neurosurgery	229.79	234.21	279.63	219.26	310.07	343.34	401.77	356.15	412.35	314.03
Obstetrics and Gynecology	26.56	26.52	23.33	14.54	5.88	8.99	8.01	21.51	25.98	39.20
Ophthalmology	273.33	279.28	291.34	334.57	328.66	290.54	292.39	276.97	261.70	252.56
Orthopedics	9.04	13.71	26.79	22.73	25.33	45.65	63.20	54.19	44.41	51.90
Otolaryngology	216.07	235.99	227.68	195.77	240.71	218.56	176.78	200.32	221.60	192.27
Pathology	324.60	298.86	333.48	359.99	343.54	300.77	296.19	367.42	373.30	413.28
Pediatrics	270.48	236.56	230.35	217.43	202.81	231.42	293.33	328.39	319.98	309.69
Physical Medicine & Rehab	14.69	14.35	14.03	0.00	0.00	0.00	0.00	17.91	17.51	17.58
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	148.44	132.90	88.13	119.99	98.17	102.58	111.62	96.05	83.94	109.84

Radiation-Diagnostic/Oncology	25.01	23.36	21.72	23.96	21.53	4.38	13.36	15.04	69.92	90.98
Surgery	300.38	312.41	264.84	260.59	214.63	243.63	253.30	289.80	299.40	325.49
Urology	123.84	122.20	142.34	108.32	67.48	83.58	85.01	82.50	108.92	107.64

Supplementary Table 39: K23-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	29.91	38.53	45.12	49.58	44.81	37.01	53.81	51.26	72.70	70.44
Dermatology	33.98	44.24	22.18	10.66	21.97	56.29	57.57	111.06	124.41	107.01
Emergency Medicine	68.98	59.28	62.06	56.18	55.92	75.99	88.16	76.13	79.18	57.31
Family Medicine	13.02	11.66	8.27	3.99	5.82	5.20	7.11	6.91	8.33	9.31
Internal Medicine/Medicine	407.03	419.60	411.26	391.56	355.75	377.87	374.26	374.05	374.07	418.03
Neurology	696.50	687.37	591.24	631.47	644.54	518.67	638.91	670.83	728.21	744.63
Neurosurgery	73.70	139.35	178.37	132.14	157.06	133.72	132.76	130.34	161.29	195.31
Obstetrics and Gynecology	39.68	44.49	33.98	41.18	27.96	15.59	27.45	32.06	40.59	47.61
Ophthalmology	159.02	129.45	144.34	121.28	144.82	217.56	242.46	212.90	233.70	219.24
Orthopedics	17.02	19.94	16.53	16.51	10.16	18.17	9.12	19.40	25.89	28.72
Otolaryngology	160.86	134.92	132.49	203.04	276.16	226.42	255.43	251.86	234.92	186.50
Pathology	34.49	27.91	19.31	30.02	20.86	10.49	11.37	11.18	15.03	41.74

Pediatrics	233.2 9	228.0 2	218.6 4	212.8 6	190.7 1	176.8 0	254.6 9	275.1 3	310.5 6	367.6 0
Physical Medicine & Rehab	116.9 2	108.3 1	169.6 8	181.3 3	142.3 9	133.0 4	106.1 9	28.27	46.51	45.29
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	498.0 0	481.6 6	451.5 5	429.5 6	414.6 4	403.4 3	473.3 4	465.2 1	498.7 9	506.3 5
Radiation- Diagnostic/Oncol ogy	29.33	18.78	16.73	17.03	16.74	17.70	18.13	8.86	4.74	13.99
Surgery	64.76	64.88	58.74	62.32	58.19	77.12	64.29	57.90	60.88	87.85
Urology	31.99	15.71	30.39	47.54	30.71	44.21	31.45	14.34	49.54	49.35

Supplementary Table 40: U01-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	82.34	78.08	86.27	169.9 1	143.5 5	290.8 4	216.7 8	199.3 1	270.3 4	242.6 6
Dermatology	74.83	225.9 5	216.3 1	194.1 0	348.6 7	231.4 5	264.0 7	290.0 1	653.2 5	420.9 0
Emergency Medicine	536.8 1	473.8 5	220.3 1	182.8 0	111.4 1	80.69	152.4 0	577.1 0	43.66	316.0 1
Family Medicine	49.45	76.23	81.82	89.31	106.2 9	85.84	55.19	76.33	84.37	68.42
Internal Medicine/Medi cine	3621. 03	3495. 78	3850. 67	3696. 26	3241. 76	3097. 05	3393. 64	3568. 23	5128. 75	5808. 65
Neurology	4780. 51	5279. 12	5436. 02	5968. 05	4829. 93	6481. 36	5132. 20	8026. 10	7273. 08	9843. 68
Neurosurgery	913.4 2	899.2 9	3027. 48	2859. 72	2140. 20	4737. 37	4929. 55	2461. 91	1190. 18	972.8 7

Obstetrics and Gynecology	629.1 1	419.9 6	127.7 6	267.5 4	1143. 03	234.5 2	211.0 1	291.2 4	188.1 4	198.1 6
Ophthalmology	130.7 7	135.1 6	105.7 6	73.45	159.5 9	199.2 7	205.9 6	323.0 0	352.5 7	411.2 0
Orthopedics	0.00	0.00	26.92	34.13	10.27	10.31	0.00	0.00	36.97	34.00
Otolaryngology	153.0 2	89.48	122.5 0	112.0 1	277.4 7	253.3 6	304.5 7	417.2 8	220.0 1	318.1 2
Pathology	3022. 50	2069. 40	1985. 57	1456. 02	1478. 29	1902. 17	2107. 76	2552. 67	2365. 47	2545. 45
Pediatrics	1766. 44	1777. 68	1619. 25	1776. 41	1633. 86	1466. 35	1454. 22	1477. 21	1365. 27	1218. 99
Physical Medicine & Rehab	66.88	71.50	426.5 3	385.6 4	424.5 9	391.4 9	382.6 0	203.0 0	520.2 3	799.2 4
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.53	58.82	58.82
Psychiatry	1085. 13	1553. 90	1433. 67	1624. 39	1785. 65	1563. 86	1344. 58	1522. 54	2389. 77	2034. 94
Radiation-Diagnostic/Oncology	204.3 3	244.9 6	367.5 1	449.2 9	506.2 6	441.8 5	881.2 3	923.3 7	958.9 3	929.2 8
Surgery	1118. 53	1522. 26	1540. 99	1359. 58	1590. 53	1420. 41	1271. 76	1548. 58	1571. 38	1279. 99
Urology	1369. 09	1157. 66	1208. 71	790.0 8	667.8 7	736.4 7	770.2 3	687.6 1	1040. 73	505.6 6

Supplementary Table 41: P30-grant-funding per active physician, by specialty, 2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	0.00	0.00	0.00	24.35	0.00	0.00	0.00	0.00	0.00	0.00
Dermatology	517.2 7	390.8 5	532.9 7	597.2 4	553.4 5	625.5 8	543.2 6	268.0 0	247.8 2	248.3 8
Emergency Medicine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Family Medicine	0.00	4.46	4.35	4.32	4.27	4.23	13.21	14.08	17.13	19.61
Internal Medicine/Medicine	2716.56	2911.97	3057.10	3514.81	3147.97	3230.52	3307.98	3315.39	3776.81	4086.91
Neurology	1056.37	1155.52	1063.99	976.67	998.45	1076.64	1065.60	1194.65	1491.94	3464.85
Neurosurgery	374.49	518.96	483.66	340.21	327.09	117.33	113.03	108.60	121.46	0.00
Obstetrics and Gynecology	143.68	142.88	126.34	130.71	139.49	138.61	0.00	58.71	68.05	121.03
Ophthalmology	1044.94	1191.91	962.15	936.54	896.10	838.56	834.51	920.85	910.75	891.43
Orthopedics	126.20	128.06	123.40	159.49	159.80	184.41	183.39	181.70	237.86	236.51
Otolaryngology	539.17	520.92	493.72	475.65	318.33	242.09	64.56	569.30	524.67	785.66
Pathology	1669.05	1201.52	2648.08	2685.00	2537.14	3274.77	2774.65	1105.85	1017.01	1295.16
Pediatrics	473.59	415.55	395.36	299.96	295.02	257.04	245.91	183.70	192.70	283.01
Physical Medicine & Rehab	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	461.43	454.04	523.37	431.27	485.37	354.58	305.35	248.26	224.58	251.57
Radiation-Diagnostic/Oncology	87.87	107.87	113.69	155.26	306.04	173.72	222.79	212.66	273.83	312.30
Surgery	959.11	834.32	964.72	633.35	1001.65	1008.56	1502.64	1353.30	1166.66	1671.84
Urology	492.04	482.37	403.34	541.80	544.71	641.88	0.00	0.00	0.00	0.00

Supplementary Table 42: Mean (standard deviation) R01-grant-funding-amount, by specialty.

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	374,4 47.70	394,1 00.80	381,4 65.50	388,3 18.40	397,8 22.70	406,7 01.40	407,5 69.50	421,2 65.70	442,3 63.80	457,5 45.10
Dermatology	346,2 69.00	353,8 75.30	329,7 60.60	339,4 97.10	343,1 33.50	378,6 46.10	376,1 41.70	401,9 37.20	407,3 64.50	451,6 37.40
Emergency Medicine	466,0 96.40	430,1 06.60	460,0 62.20	470,2 84.20	426,3 57.60	487,5 72.10	508,4 76.20	493,7 67.40	575,2 32.50	549,0 43.00
Family Medicine	487,5 46.90	488,2 25.60	486,0 72.70	495,9 50.50	506,2 53.30	545,2 24.90	554,9 83.50	600,9 27.30	516,8 41.30	531,2 60.10
Internal Medicine/ Medicine	397,3 04.00	402,0 09.00	394,3 28.30	418,4 06.80	425,0 24.90	444,2 84.30	460,8 66.00	476,9 68.20	496,1 73.70	519,1 20.80
Neurology	410,2 36.30	402,8 97.10	396,8 17.20	416,2 05.80	415,8 76.30	454,9 82.50	501,7 19.70	527,2 46.30	523,7 79.60	591,8 15.60
Neurosurgery	349,1 90.00	361,2 19.40	334,9 60.60	363,6 22.60	380,3 44.00	392,8 76.40	396,9 33.90	405,7 69.40	419,0 80.50	439,3 43.10
Obstetrics and Gynecology	346,0 00.80	353,6 12.00	344,7 03.60	366,5 29.30	395,0 03.60	414,1 15.00	426,2 31.40	462,3 69.60	470,1 95.60	498,9 58.80
Ophthalmology	422,2 26.60	405,3 62.00	408,7 34.00	420,9 05.30	413,0 73.10	423,6 10.60	413,5 86.50	415,6 60.80	427,3 74.40	424,9 00.50
Orthopedics	339,0 55.70	342,5 96.00	328,7 92.10	358,6 00.80	347,8 68.40	359,8 13.70	376,5 07.60	393,6 33.10	400,1 86.80	394,0 73.30
Otolaryngology	366,1 40.90	374,5 85.90	354,1 34.70	370,3 05.90	386,7 24.90	405,4 42.80	444,4 03.50	441,6 87.90	468,1 07.80	484,7 53.40
Pathology	349,3 28.10	361,4 02.70	346,1 62.30	361,4 13.00	377,6 71.50	394,8 93.70	419,3 94.60	430,8 87.60	438,1 69.00	450,2 44.80
Pediatrics	406,3 39.10	418,6 46.40	401,0 10.10	423,2 25.40	439,2 47.30	436,4 98.90	440,8 01.40	452,5 63.40	469,5 64.00	498,0 26.20

Physical Medicine & Rehab	362,8 21.50	373,5 96.10	400,0 98.60	407,7 91.90	402,0 30.10	417,5 19.40	469,7 98.90	450,8 26.50	466,4 02.00	512,5 84.80
Plastic Surgery	322,3 74.70	NaN	537,4 02.00	301,7 65.00	NaN	NaN	333,2 50.00	NaN	283,8 22.00	NaN
Psychiatry	465,5 97.40	463,9 81.70	449,1 74.00	468,7 94.70	487,5 65.50	510,2 25.30	526,1 23.20	549,5 94.60	565,5 33.20	585,7 39.30
Radiation- Diagnostic/ Oncology	388,7 20.60	403,8 69.50	385,4 50.80	406,7 17.20	420,6 50.40	463,2 76.00	488,2 75.40	483,9 62.90	505,3 59.40	503,9 52.00
Surgery	355,1 71.00	359,4 83.10	345,3 14.60	374,7 95.10	396,7 34.30	414,8 11.60	424,3 01.40	429,0 44.80	450,7 05.20	469,1 53.20
Urology	307,8 52.70	326,0 01.30	301,4 58.50	305,8 33.90	344,4 87.90	343,3 86.80	380,9 88.50	402,4 71.80	412,2 44.80	422,4 29.80

Supplementary Table 43: Mean (standard deviation) R03-grant-funding-amount, by specialty,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiol ogy	75,01 3.50	80,12 1.33	73,82 7.00	88,80 9.17	80,64 3.50	77,05 3.25	64,44 4.67	84,86 1.11	99,03 5.62	125,4 95.20
Dermatolog y	65,17 9.20	69,33 1.67	75,55 7.50	79,53 6.50	78,73 9.62	78,29 8.56	76,54 1.71	77,56 2.50	97,48 4.25	103,0 84.00
Emergency Medicine	63,90 5.00	86,34 2.00	68,64 3.00	114,0 00.00	103,8 27.20	103,8 72.80	90,32 2.40	87,72 3.75	97,37 5.00	86,32 9.25
Family Medicine	92,10 4.25	79,95 3.11	93,96 3.44	72,56 6.71	71,56 9.67	81,50 0.40	77,79 1.50	89,62 5.00	110,5 13.00	137,6 48.00
Internal Medicine/ Medicine	80,46 4.41	83,14 9.58	81,05 8.10	86,72 1.70	88,12 9.27	87,86 2.07	86,18 4.46	83,94 5.14	95,11 6.11	107,6 53.50

Neurology	96,46 0.50	72,98 6.11	77,80 6.82	87,61 4.08	96,73 4.08	105,5 22.80	92,07 3.53	79,03 1.53	102,4 01.90	112,4 59.50
Neurosurge ry	130,4 34.70	97,59 0.25	95,98 5.62	77,37 9.40	84,82 5.57	89,40 3.75	80,90 0.00	80,53 9.50	80,12 5.00	94,24 3.00
Obstetrics and Gynecology	75,10 7.75	72,01 9.92	76,44 2.40	66,96 6.33	74,64 8.30	91,24 5.82	88,74 7.40	81,76 9.53	80,32 4.57	76,46 6.70
Ophthalmol ogy	NaN	NaN	NaN	97,81 2.50	90,41 2.67	81,00 0.00	117,7 50.00	97,00 0.00	107,4 91.00	109,9 85.70
Orthopedics	81,66 7.80	78,73 6.50	73,07 1.33	84,99 2.50	81,80 1.70	71,47 0.57	77,29 8.33	119,8 74.70	105,5 83.60	90,42 0.00
Otolaryngol ogy	132,1 87.70	126,2 41.40	125,2 50.60	131,2 34.80	134,7 09.60	140,3 82.80	149,7 60.80	131,1 10.40	160,2 18.00	158,2 70.30
Pathology	77,01 7.92	68,96 9.52	68,46 4.14	72,58 2.80	82,74 1.27	81,82 6.56	86,12 5.00	85,68 6.81	93,44 0.08	108,8 55.80
Pediatrics	76,87 8.26	83,22 8.93	77,13 0.46	76,61 9.09	88,88 4.12	93,25 0.40	88,67 3.74	92,98 5.63	84,60 7.97	105,8 65.80
Physical Medicine & Rehab	96,04 7.43	77,75 2.57	92,27 9.40	85,74 9.29	82,52 4.80	79,05 5.80	57,41 6.33	122,7 87.50	119,8 70.90	90,74 3.00
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	77,00 0.00	77,62 5.00	NaN	NaN	NaN
Psychiatry	106,1 02.80	96,84 2.21	88,25 3.77	108,3 46.70	105,9 96.80	97,76 8.48	91,02 0.66	92,00 1.78	94,25 8.75	112,4 58.60
Radiation- Diagnostic/ Oncology	97,95 9.88	74,00 0.00	74,27 3.10	81,04 3.88	73,54 1.19	80,72 2.22	84,38 5.64	87,71 8.83	101,2 38.20	96,69 5.82
Surgery	90,94 6.47	86,95 2.30	81,03 8.65	92,01 0.12	79,18 7.47	85,13 1.93	84,61 4.60	85,82 2.24	93,10 0.45	108,7 86.10
Urology	78,00 0.00	80,20 6.67	76,72 7.50	88,90 1.00	94,22 9.60	99,95 1.67	81,00 0.00	84,75 0.00	95,08 3.67	95,64 0.25

Supplementary Table 44: Mean (standard deviation) R21-grant-funding-amount, by specialty,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	198,6 26.80	206,6 45.70	207,9 25.40	240,3 74.70	214,8 90.20	222,6 42.60	204,0 33.30	205,6 08.50	231,8 93.00	220,0 26.40
Dermatology	183,1 50.90	215,4 67.50	205,8 91.90	187,7 26.20	175,9 05.80	206,1 79.00	206,7 12.70	200,8 69.70	211,4 43.40	215,2 52.90
Emergency Medicine	236,2 97.20	247,6 28.80	225,6 41.70	226,9 48.40	176,7 74.30	171,8 78.60	150,8 68.10	170,9 14.20	266,7 71.70	245,0 92.00
Family Medicine	195,3 93.30	208,6 57.20	185,2 39.90	195,6 14.40	194,6 81.40	175,7 92.70	173,9 67.60	205,1 90.60	171,8 00.00	204,3 67.60
Internal Medicine/ Medicine	206,7 11.70	201,9 68.50	194,6 21.30	201,2 98.10	195,9 91.70	202,2 11.70	204,1 70.20	203,7 08.00	205,4 22.00	220,5 45.90
Neurology	201,6 19.80	201,5 49.90	201,2 04.50	203,8 06.60	211,2 68.70	214,2 79.00	212,9 47.40	209,4 48.60	241,1 77.10	287,7 78.60
Neurosurge ry	185,7 24.80	206,7 32.60	201,6 00.70	230,0 48.00	208,2 43.30	219,1 18.90	211,8 09.70	214,2 77.20	286,4 52.30	306,6 22.90
Obstetrics and Gynecology	206,0 47.70	188,4 85.70	212,3 58.60	195,6 06.80	218,6 35.10	197,0 80.80	211,8 48.40	205,3 17.70	190,2 72.70	230,2 60.90
Ophthalmol ogy	184,9 74.60	203,1 52.80	195,4 18.10	194,5 78.50	223,1 06.90	195,9 40.80	205,8 87.20	210,1 55.00	224,9 89.80	215,6 66.20
Orthopedics	197,3 22.00	180,9 57.80	178,6 17.30	179,0 97.70	179,8 69.40	182,2 21.90	198,0 79.80	196,4 86.30	186,0 53.10	189,3 59.10
Otolaryngol ogy	190,9 45.80	202,6 19.80	219,6 00.80	180,7 14.10	194,9 43.90	209,6 49.70	198,2 19.80	168,7 91.10	186,5 98.10	207,0 36.90
Pathology	195,7 03.40	204,9 58.00	200,5 12.00	206,0 34.70	206,3 34.40	199,8 77.40	204,9 35.70	208,1 93.80	212,8 59.80	238,2 81.30
Pediatrics	191,7 59.30	204,4 81.70	194,3 09.80	204,6 12.00	204,6 28.20	203,0 89.60	203,9 95.10	209,2 93.80	215,6 02.60	229,7 68.60

Physical Medicine & Rehab	195,2 26.20	204,2 76.70	198,5 93.80	184,9 09.80	175,0 84.50	219,8 59.90	213,2 17.90	210,6 36.60	218,3 63.20	272,9 56.00
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Psychiatry	206,7 45.70	210,0 05.50	200,3 07.60	203,1 95.30	203,9 61.00	206,2 54.10	207,0 92.30	208,0 95.90	216,3 18.70	248,4 06.50
Radiation- Diagnostic/ Oncology	210,7 00.90	215,6 24.70	198,7 34.30	206,0 31.30	210,7 10.10	203,5 60.50	197,6 94.80	202,9 85.80	212,3 49.50	246,1 25.20
Surgery	192,2 24.20	197,4 50.10	194,3 89.40	213,2 68.20	206,8 25.20	196,6 33.60	198,9 45.20	196,2 67.10	202,3 44.50	230,9 40.30
Urology	203,2 00.80	192,1 79.90	167,6 21.00	184,9 01.50	180,2 40.60	189,4 91.20	195,6 61.90	197,8 86.00	189,8 22.10	224,7 01.10

Supplementary Table 45: Mean (standard deviation) F32-grant-funding-amount, by speciality,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	47,91 4.25	51,49 0.00	49,63 3.25	43,53 4.29	23,74 1.00	58,00 2.00	57,06 6.00	57,56 0.40	60,91 8.00	64,99 0.00
Dermatology	43,34 3.50	55,75 4.00	51,85 7.67	42,83 6.00	49,62 8.00	55,55 4.00	46,23 8.00	58,17 9.75	66,11 0.00	65,89 4.00
Emergency Medicine	59,23 4.00	54,03 3.00	62,23 4.00	NaN	NaN	NaN	NaN	NaN	NaN	65,31 0.00
Family Medicine	NaN	NaN	NaN	56,03 0.00	20,30 7.00	NaN	NaN	NaN	NaN	NaN
Internal Medicine/Me dicine	51,92 6.46	51,81 1.16	50,42 9.82	51,31 9.95	53,51 8.16	53,92 3.50	47,24 0.95	55,96 1.90	61,75 5.06	66,37 8.50
Neurology	48,82 4.33	44,86 0.50	48,19 7.95	49,64 7.19	50,24 4.97	56,36 7.65	42,55 8.86	56,27 9.00	54,61 6.14	63,34 0.64

Neurosurger y	52,67 6.12	45,67 6.25	42,29 3.62	51,61 3.00	50,25 3.00	53,84 4.20	58,78 7.33	53,45 1.73	55,31 3.00	60,52 4.92
Obstetrics and Gynecology	52,34 3.00	48,36 8.00	43,78 7.75	53,76 8.00	55,17 0.80	57,28 1.00	48,73 0.00	59,25 0.00	62,02 7.60	60,79 8.40
Ophthalmolo gy	45,09 4.75	50,12 3.71	55,00 8.00	54,53 6.44	53,67 6.33	49,73 8.75	43,04 0.30	59,95 3.43	59,13 1.89	56,72 7.30
Orthopedics	49,33 8.00	48,07 5.67	50,39 2.60	46,26 9.20	53,57 4.33	48,08 2.83	55,24 0.00	61,27 1.14	63,76 2.00	67,32 1.00
Otolaryngolo gy	52,74 7.00	54,84 3.71	50,68 1.71	50,84 3.50	49,50 8.33	57,82 2.62	42,48 9.86	54,20 4.30	62,45 6.62	72,39 5.00
Pathology	51,87 3.14	50,88 6.24	43,41 3.09	46,49 4.82	52,48 9.91	54,73 7.84	37,18 0.08	61,86 9.82	61,22 8.88	55,82 8.23
Pediatrics	53,55 9.40	52,42 7.22	51,92 9.29	51,19 0.00	48,16 4.61	45,49 1.18	49,13 2.40	58,63 9.23	60,93 9.11	55,60 0.83
Physical Medicine & Rehab	51,32 6.00	51,82 1.00	NaN	55,98 2.00	40,79 5.00	68,94 9.00	62,76 3.00	61,51 6.50	65,69 4.00	68,43 6.00
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	70,55 2.00	NaN
Psychiatry	49,25 5.31	47,98 0.59	47,06 8.46	48,24 8.08	52,73 3.33	53,79 7.79	40,61 0.76	55,41 8.88	58,60 5.48	63,16 9.34
Radiation- Diagnostic/O ncology	50,56 6.64	49,94 0.50	37,04 0.60	55,09 4.00	55,88 0.00	53,11 5.56	47,84 8.12	61,25 3.57	67,27 1.25	65,12 0.57
Surgery	48,88 8.53	50,66 6.33	50,92 1.23	51,72 1.74	54,73 2.95	51,36 0.80	55,39 3.12	64,26 2.30	67,22 0.20	72,71 6.73
Urology	58,20 2.00	53,06 6.00	55,67 0.00	44,50 0.00	60,38 0.00	51,87 8.67	39,43 4.67	74,08 6.00	65,60 6.00	80,35 8.00

Supplementary Table 46: Mean (standard deviation) T32-grant-funding-amount, by specialty,
2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	177,3 13.40	176,0 64.90	194,9 42.40	191,6 64.00	229,1 97.30	261,4 18.50	214,9 19.70	265,1 84.00	254,1 69.90	299,7 45.20
Dermatology	187,1 96.80	203,8 36.20	188,5 49.20	167,2 28.80	214,4 51.50	214,3 13.90	206,1 42.70	217,9 67.20	279,5 71.00	254,4 16.00
Emergency Medicine	NaN	NaN	NaN	NaN	NaN	168,9 66.00	369,7 97.00	446,9 84.50	458,0 56.00	365,5 62.00
Family Medicine	246,9 91.00	292,8 99.00	254,7 36.30	297,3 05.80	376,7 85.20	332,1 18.50	243,9 77.20	347,8 68.00	368,0 96.20	349,9 01.40
Internal Medicine/ Medicine	301,0 89.20	298,0 71.10	312,7 95.30	315,7 49.30	340,1 96.50	351,4 12.10	265,6 24.40	362,5 08.90	387,7 54.70	381,5 41.10
Neurology	257,9 44.60	248,8 75.60	259,8 35.60	313,4 42.20	310,6 45.00	332,0 14.40	284,2 66.30	313,2 33.30	259,7 61.20	311,4 63.30
Neurosurgery	197,1 92.30	177,1 60.70	193,9 40.30	199,9 63.30	347,8 13.40	363,9 70.00	273,9 69.30	568,3 51.80	611,9 50.20	501,2 94.40
Obstetrics and Gynecology	199,3 58.80	216,5 80.20	210,5 01.20	238,3 99.90	223,7 88.80	244,2 05.40	165,6 55.80	237,9 66.30	220,2 05.90	260,3 06.00
Ophthalmology	191,9 42.20	198,4 28.80	211,3 19.40	231,0 37.90	235,6 02.10	214,2 93.00	139,3 47.60	184,7 28.10	187,2 65.60	206,6 01.10
Orthopedics	218,8 41.90	231,3 24.10	227,9 27.00	231,0 27.90	240,8 19.90	239,4 98.30	229,0 04.50	223,9 53.60	239,2 65.70	259,1 78.40
Otolaryngology	206,4 10.50	278,2 68.20	258,7 90.70	262,2 84.30	264,0 87.20	251,1 68.30	149,7 35.40	257,1 86.90	267,7 36.80	301,9 86.80
Pathology	380,7 84.30	389,2 68.50	374,9 45.80	340,5 87.00	359,9 71.80	343,5 85.70	281,6 90.50	368,2 87.30	386,5 28.50	366,8 98.70
Pediatrics	226,5 69.60	242,4 87.10	251,7 49.30	248,8 90.50	272,0 19.20	292,2 32.50	249,1 66.00	332,1 39.50	338,4 72.10	358,1 33.20
Physical Medicine & Rehab	159,0 13.20	266,9 58.20	272,9 75.00	281,3 19.30	313,0 34.30	250,9 43.80	212,6 67.80	257,4 76.20	315,6 93.50	320,9 02.00
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

Psychiatry	260,4 61.80	261,5 52.40	254,0 36.70	241,9 28.30	255,4 08.40	286,0 70.20	197,4 95.20	312,2 47.00	333,8 55.00	367,2 56.80
Radiation-Diagnostic/ Oncology	253,5 84.50	204,7 44.00	211,4 28.10	187,9 40.40	195,6 05.00	266,9 52.50	181,9 65.90	243,5 91.80	259,0 48.50	255,3 30.70
Surgery	233,5 08.00	219,1 60.50	208,3 87.80	225,1 32.50	218,7 62.10	251,5 69.50	231,5 38.90	302,1 09.40	307,9 81.10	298,9 42.30
Urology	154,9 11.30	152,9 47.90	164,4 63.90	145,8 10.40	129,5 97.00	151,0 69.50	155,8 45.80	167,2 94.00	247,1 90.80	288,9 56.20

Supplementary Table 47: Mean (standard deviation) K01-grant-funding-amount, by specialty,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	120,0 86.20	121,1 51.50	115,7 88.80	122,6 31.20	176,8 29.40	177,6 05.20	171,8 22.00	151,0 97.00	131,0 69.00	141,4 91.00
Dermatology	93,78 5.25	116,7 32.20	99,33 0.00	111,2 10.00	107,8 73.70	111,2 86.00	116,4 04.90	103,1 61.40	102,9 86.40	117,4 90.50
Emergency Medicine	NaN	136,3 04.00	134,0 16.00	132,1 82.00	137,9 36.00	NaN	NaN	40,55 6.00	123,2 54.00	123,6 60.00
Family Medicine	112,8 45.90	120,0 51.80	118,1 57.40	128,0 02.10	132,8 17.90	133,9 41.40	135,7 47.60	141,9 63.10	129,6 95.10	138,8 19.10
Internal Medicine/ Medicine	127,5 09.60	123,1 47.00	123,9 03.40	130,0 04.80	129,2 90.10	132,7 24.20	144,2 42.50	142,9 69.40	143,3 27.00	140,7 42.80
Neurology	134,9 05.80	139,4 54.80	144,5 48.50	150,2 52.70	147,0 94.90	147,8 26.80	136,7 08.40	138,6 98.20	129,7 02.90	123,3 81.30
Neurosurgery	99,35 3.33	80,34 7.00	126,6 44.00	NaN	NaN	104,7 60.00	NaN	158,7 80.50	151,3 24.70	109,3 57.30
Obstetrics and Gynecology	139,6 35.50	171,0 26.00	156,3 77.50	159,9 80.20	155,7 28.00	148,4 07.80	136,1 59.00	128,4 88.00	127,9 63.10	139,2 34.20

Ophthalmology	NaN	NaN	NaN	131,1 22.00	NaN	NaN	145,2 08.00	126,6 03.50	129,9 63.00	145,2 08.00
Orthopedics	123,5 79.60	117,9 38.50	115,4 94.70	121,4 95.10	110,5 10.50	126,4 30.90	124,9 89.00	123,0 20.40	116,7 02.50	117,5 02.00
Otolaryngology	137,1 82.00	137,1 82.00	137,1 88.00	129,9 52.00	NaN	NaN	NaN	NaN	NaN	129,7 71.00
Pathology	118,3 30.60	116,7 86.60	113,1 68.80	107,1 58.60	115,9 22.80	167,6 22.70	161,9 73.60	147,4 23.50	121,8 76.90	131,6 35.80
Pediatrics	124,2 42.00	133,7 66.00	126,9 37.50	129,7 47.30	135,8 99.90	123,4 47.50	137,2 37.00	145,5 05.60	150,0 86.00	133,0 47.70
Physical Medicine & Rehab	114,6 34.30	91,35 3.75	122,3 54.20	122,0 99.50	123,4 07.00	124,0 27.90	129,6 60.80	128,0 24.50	133,5 54.80	125,8 54.80
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Psychiatry	148,6 55.30	144,6 51.20	145,2 83.70	152,4 43.40	149,0 52.30	151,9 38.30	149,6 47.70	156,7 58.20	154,1 75.90	150,8 47.70
Radiation-Diagnostic/ Oncology	122,9 74.40	130,7 06.80	116,7 22.90	143,1 48.50	122,1 57.10	137,7 92.70	142,3 46.30	135,3 74.40	128,7 13.10	137,4 45.50
Surgery	124,8 55.50	122,9 72.90	112,7 57.30	126,5 19.10	135,3 41.40	142,9 70.80	160,0 80.20	176,6 46.70	171,6 99.50	144,5 24.30
Urology	105,8 23.00	105,8 23.00	105,8 23.00	137,4 84.00	146,7 30.30	148,4 09.80	141,0 16.20	140,0 84.40	139,7 84.40	144,7 82.30

Supplementary Table 48: Mean (standard deviation) K08-grant-funding-amount, by specialty.

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	125,8 68.50	130,7 66.60	138,0 82.60	151,6 76.50	163,0 94.40	171,5 24.70	166,3 95.30	180,5 76.00	180,6 29.80	173,0 59.70

Dermatology	123,6 34.20	121,5 01.10	113,9 92.10	108,3 00.60	120,1 00.30	161,1 98.20	139,8 80.80	163,7 78.70	143,9 89.70	162,8 67.30
Emergency Medicine	141,5 86.00	142,0 15.50	125,0 40.90	148,1 79.80	149,1 05.00	155,8 94.10	162,2 61.10	160,5 46.60	159,0 30.30	160,1 15.70
Family Medicine	122,2 05.80	123,1 84.80	135,5 54.20	137,6 68.00	148,1 87.00	145,8 19.00	168,0 48.00	168,0 48.00	171,5 62.00	167,9 57.70
Internal Medicine/ Medicine	135,4 78.30	134,6 15.70	136,9 43.70	142,6 69.50	140,4 45.70	154,2 66.60	162,7 95.70	165,7 45.00	165,8 70.80	171,9 82.30
Neurology	162,3 83.80	160,5 99.20	168,9 10.60	175,4 36.80	156,8 46.60	164,1 11.20	183,3 34.50	189,6 98.70	186,4 28.20	189,5 01.70
Neurosurge ry	165,6 81.90	170,9 39.90	160,6 63.30	164,7 08.70	150,6 93.80	155,6 05.60	158,7 27.40	182,5 94.00	182,3 23.80	180,5 07.00
Obstetrics and Gynecology	134,0 50.10	134,5 79.40	136,0 49.00	119,6 64.60	121,8 78.00	124,5 69.00	166,8 88.00	181,4 63.60	184,9 82.20	186,0 92.80
Ophthalmol ogy	204,3 50.20	210,9 72.40	184,0 14.60	212,9 11.40	203,6 95.00	194,0 94.20	203,7 72.30	195,5 69.10	202,1 54.30	195,0 95.20
Orthopedics	179,2 80.00	134,3 64.00	129,7 74.80	109,4 54.50	121,2 47.50	174,1 53.00	171,5 47.70	147,3 46.10	120,9 88.70	141,3 96.10
Otolaryngol ogy	166,2 28.00	156,3 62.90	176,8 30.70	183,3 44.60	188,7 73.70	188,1 30.90	187,1 16.00	193,3 39.30	180,5 46.90	187,9 86.70
Pathology	127,9 19.40	129,8 89.90	127,0 00.10	147,2 48.60	142,6 33.30	163,7 02.00	152,1 11.60	167,1 91.40	174,7 99.40	174,1 70.30
Pediatrics	131,7 01.80	137,7 11.50	139,3 56.10	143,8 65.50	142,3 23.10	147,4 70.40	161,7 04.00	167,0 77.30	171,6 53.00	172,2 28.00
Physical Medicine & Rehab	124,9 29.00	124,9 29.00	124,9 29.00	NaN	NaN	NaN	NaN	171,0 84.00	171,0 45.00	171,7 20.00
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Psychiatry	167,1 65.70	162,0 22.70	156,5 12.70	160,7 74.70	168,3 84.70	169,3 55.80	170,5 72.30	160,7 70.60	171,3 69.90	177,5 36.00

Radiation-Diagnostic/ Oncology	162,2 87.60	163,9 95.20	163,9 95.20	152,4 87.80	138,6 29.30	171,7 20.00	177,4 45.30	203,3 90.30	206,2 62.70	208,7 23.60
Surgery	133,9 71.00	141,1 33.80	133,4 10.60	142,8 76.00	142,6 39.40	161,2 31.70	162,6 46.80	166,6 54.40	170,0 87.20	173,3 47.90
Urology	152,1 09.50	149,6 71.80	126,4 33.20	151,4 79.60	165,4 70.20	164,8 94.80	168,6 76.40	166,0 15.60	222,2 28.60	219,6 11.00

Supplementary Table 49: Mean (standard deviation) K23-grant-funding-amount, by specialty,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	133,3 40.70	155,8 30.60	141,4 49.70	156,5 72.20	154,4 26.80	153,8 13.90	172,8 64.50	179,4 65.90	180,7 55.90	175,1 25.70
Dermatology	122,5 63.30	122,6 75.50	83,99 5.33	123,0 12.00	85,71 0.67	167,1 54.20	173,4 53.20	151,5 82.90	155,7 09.10	167,4 17.10
Emergency Medicine	130,2 36.80	140,7 47.70	154,0 86.90	154,1 24.70	147,5 63.30	163,8 34.90	177,7 80.20	175,4 07.00	178,9 53.30	172,6 96.90
Family Medicine	154,1 95.60	156,9 56.10	150,1 09.50	146,5 38.00	107,9 60.80	146,2 44.80	161,5 28.00	160,1 74.80	164,1 66.00	157,2 10.60
Internal Medicine/ Medicine	145,0 51.40	146,5 90.90	149,2 45.80	148,4 08.90	147,0 55.30	165,6 04.00	175,0 93.50	178,4 88.30	180,5 32.60	175,6 48.40
Neurology	147,4 74.40	151,8 74.90	162,0 50.10	167,6 42.70	165,9 94.60	163,4 94.20	182,5 82.00	176,3 33.10	177,6 08.00	184,7 99.30
Neurosurgery	185,9 74.00	177,9 87.20	184,4 67.40	173,7 11.80	167,9 26.40	145,4 47.80	183,5 68.00	183,7 66.00	185,4 17.40	187,1 05.50
Obstetrics and Gynecology	133,5 24.90	129,0 24.90	126,1 27.10	121,0 42.70	115,9 83.90	129,6 04.80	163,3 54.60	169,0 60.50	173,4 01.20	169,4 82.20
Ophthalmology	190,2 13.70	213,3 59.00	203,3 72.30	203,4 70.50	207,1 28.10	203,4 77.50	217,2 57.90	193,2 81.00	214,9 18.40	211,7 00.00

Orthopedics	168,7 29.00	130,2 44.00	106,7 38.30	106,0 01.00	97,25 2.50	173,2 99.00	173,2 32.00	123,0 99.70	164,5 54.30	136,9 15.80
Otolaryngology	185,6 35.10	208,5 91.80	205,7 98.00	211,2 81.60	216,5 75.50	194,8 94.20	202,7 67.70	202,5 68.80	191,3 98.80	151,9 49.50
Pathology	129,1 32.00	133,4 31.30	132,3 75.00	135,0 50.00	138,5 77.00	136,9 84.00	146,0 11.00	142,3 88.00	190,0 80.00	175,9 13.00
Pediatrics	137,7 62.10	137,0 20.20	138,2 14.20	136,0 91.10	138,9 11.50	157,7 33.50	175,0 92.30	176,1 04.60	174,3 08.50	172,7 38.90
Physical Medicine & Rehab	142,0 22.90	157,1 35.50	151,1 14.80	136,5 24.80	144,9 86.60	123,1 12.70	165,3 57.30	135,0 80.00	151,4 05.00	147,4 40.30
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Psychiatry	160,2 34.10	155,5 82.30	161,9 32.10	162,7 80.60	156,4 67.60	164,7 14.30	177,2 92.20	173,8 83.30	175,9 00.20	173,8 24.60
Radiation- Diagnostic/ Oncology	158,6 02.70	164,7 72.20	157,9 04.80	162,6 07.20	161,6 41.00	173,6 02.00	180,6 37.50	179,6 85.00	195,6 96.00	192,5 98.70
Surgery	131,0 87.50	139,2 26.80	134,4 89.40	142,8 86.30	146,9 46.70	193,9 53.80	178,8 72.20	183,1 33.10	172,9 33.60	172,7 45.80
Urology	157,1 60.00	153,9 43.00	148,4 64.50	155,1 36.30	150,5 95.50	145,3 59.70	156,0 11.50	144,3 13.00	168,4 59.00	167,7 96.70

Supplementary Table 50: Mean (standard deviation) U01-grant-funding-amount, by specialty.

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	471,9 64.90	451,0 71.30	502,3 29.90	581,2 82.50	659,5 61.00	805,7 47.30	646,6 45.70	558,2 55.40	952,1 99.00	788,9 65.70
Dermatology	269,8 79.00	501,2 25.00	351,1 36.30	373,1 38.20	510,1 95.50	549,8 49.80	636,4 70.60	593,7 21.30	908,4 51.60	478,9 07.70

Emergency Medicine	1,824, 301.0 0	1,298, 073.0 0	482,6 28.40	501,5 35.70	551,2 03.10	661,0 67.80	1,613, 430.0 0	3,157, 825.0 0	657,9 01.70	2,040, 631.0 0
Family Medicine	478,9 66.10	586,5 68.90	742,6 43.20	893,9 27.70	788,6 54.90	643,2 50.80	481,8 80.50	589,5 15.60	664,7 95.80	808,7 22.80
Internal Medicine/ Medicine	1,022, 969.0 0	964,1 65.60	989,8 27.10	1,092, 075.0 0	886,9 28.90	858,9 66.50	893,3 01.00	856,5 48.70	1,092, 779.0 0	1,185, 112.0 0
Neurology	1,871, 063.0 0	1,720, 465.0 0	1,787, 908.0 0	1,467, 034.0 0	1,155, 044.0 0	1,126, 302.0 0	1,135, 458.0 0	1,597, 367.0 0	1,513, 014.0 0	1,832, 220.0 0
Neurosurg ery	768,3 40.80	1,148, 616.0 0	1,956, 889.0 0	2,148, 264.0 0	880,1 15.20	954,2 29.30	1,090, 613.0 0	661,1 40.50	684,1 17.00	699,0 07.20
Obstetrics and Gynecolo gy	1,693, 429.0 0	1,003, 004.0 0	651,9 69.90	846,9 32.70	2,061, 479.0 0	749,8 91.80	549,3 67.70	1,023, 898.0 0	893,0 43.90	769,5 62.20
Ophthalm ology	586,6 12.20	350,0 67.90	387,4 25.60	271,1 15.80	593,4 46.80	745,4 73.40	645,9 30.80	615,7 81.70	567,4 01.30	992,6 40.80
Orthopedi cs	NaN	NaN	521,6 39.00	328,7 01.50	196,6 80.00	196,6 80.00	NaN	NaN	705,0 76.00	648,4 12.00
Otolaryng ology	353,1 77.20	207,4 93.50	380,5 67.70	262,2 56.00	870,4 22.00	799,6 32.30	725,3 23.20	805,4 66.80	537,7 63.50	777,5 54.20
Pathology	838,1 84.80	549,6 37.20	591,7 87.10	595,5 58.00	677,2 60.50	776,4 69.70	845,6 71.50	929,2 43.10	787,0 17.40	869,7 87.10
Pediatrics	754,2 55.50	776,1 44.10	785,3 61.80	842,3 53.10	758,2 05.00	825,5 54.30	779,6 08.50	799,3 93.60	745,5 82.70	671,7 52.30
Physical Medicine & Rehab	142,1 61.00	207,4 61.00	542,6 62.10	497,7 52.60	486,3 71.40	724,5 39.40	714,9 31.60	323,2 80.20	1,693, 692.0 0	2,602, 043.0 0
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	430,3 75.00	430,3 74.00	430,3 75.00

Psychiatry	783,9 33.80	675,0 10.60	676,8 36.10	716,9 49.10	647,9 15.90	715,4 27.10	684,9 31.10	666,0 83.20	1,007, 650.0 0	999,2 33.70
Radiation-Diagnostic /Oncology	473,5 32.00	477,6 37.40	630,6 09.80	659,9 58.20	575,2 29.00	597,8 57.80	877,8 38.40	693,7 46.60	707,1 58.00	783,1 93.20
Surgery	577,1 15.30	739,6 04.80	680,9 29.60	729,5 61.00	787,5 91.30	760,0 11.10	612,4 48.50	621,9 61.60	704,7 49.40	564,1 66.70
Urology	960,9 07.90	756,2 19.90	694,7 23.70	386,7 26.50	385,3 23.20	454,0 59.60	402,1 82.40	532,1 57.50	707,7 67.40	368,4 46.40

Supplementary Table 51: Mean (standard deviation) P30-grant-funding-amount, by specialty,

2011-2020

Specialty	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	NaN	NaN	NaN	999,6 65.00	NaN	NaN	NaN	NaN	NaN	NaN
Dermatology	508,8 03.50	541,8 94.10	757,0 22.80	626,2 58.90	809,8 39.80	619,2 43.90	595,1 69.40	658,4 03.00	775,4 27.80	777,1 73.80
Emergency Medicine	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Family Medicine	NaN	119,9 90.50	118,3 47.00	118,7 86.20	118,7 93.20	118,7 69.50	1,499, 404.0 0	1,631, 702.0 0	506,1 08.00	579,3 30.50
Internal Medicine/ Medicine	1,322, 479.0 0	1,476, 749.0 0	1,647, 969.0 0	1,595, 381.0 0	1,386, 675.0 0	1,343, 980.0 0	1,410, 555.0 0	1,289, 653.0 0	1,454, 688.0 0	1,360, 467.0 0
Neurology	909,6 00.70	792,8 08.50	874,8 68.00	926,0 21.70	955,0 91.90	972,8 88.10	913,5 50.00	924,6 25.30	1,004, 999.0 0	1,531, 679.0 0
Neurosurgery	945,0 27.00	883,7 90.30	833,6 61.70	894,4 94.50	874,3 01.50	638,0 89.00	625,1 69.00	612,4 61.00	349,0 65.00	NaN

Obstetrics and Gynecology	1,933,778.00	1,933,777.00	2,578,935.00	1,793,093.00	1,157,198.00	960,318.00	NaN	825,564.00	484,487.50	517,036.80
Ophthalmology	604,815.60	584,035.50	587,455.10	595,992.60	595,040.80	627,412.80	628,117.10	566,308.50	676,475.90	662,129.10
Orthopedics	625,387.50	627,439.20	597,681.80	614,321.00	611,879.20	703,440.00	696,916.40	691,739.60	755,961.70	751,669.50
Otolaryngology	622,200.80	604,010.00	657,359.40	556,833.40	499,296.20	458,450.40	614,973.00	1,831,543.00	5,129,654.00	1,280,229.00
Pathology	1,470,235.00	957,377.10	1,815,262.00	1,575,747.00	1,348,339.00	1,711,069.00	1,424,948.00	704,481.40	989,077.50	1,091,643.00
Pediatrics	1,546,389.00	1,105,870.00	967,114.30	948,261.30	943,137.20	828,083.70	898,125.40	911,258.60	834,352.40	686,218.80
Physical Medicine & Rehab	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Plastic Surgery	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN
Psychiatry	1,359,067.00	1,143,958.00	1,148,220.00	1,078,633.00	964,003.10	1,121,970.00	1,060,552.00	1,061,952.00	791,983.70	1,084,308.00
Radiation-Diagnostic /Oncology	570,185.40	631,016.30	858,373.40	847,082.90	1,477,880.00	973,777.90	887,744.60	862,805.50	942,347.40	1,172,460.00
Surgery	1,941,377.00	1,953,115.00	1,619,891.00	1,331,107.00	1,580,976.00	1,334,913.00	1,881,459.00	1,268,240.00	1,355,662.00	1,473,755.00
Urology	690,688.70	787,747.80	788,214.80	883,989.70	890,415.50	703,540.90	NaN	NaN	NaN	NaN

Supplementary Table 52: Average grant-dollar-amount (in thousands of dollars), 2011-2020, by grant-type and specialty

Year	R01	R03	R21	F32	T32	K01	K08	K23	U01	P30
Anesthesiology	409	85	215	52	229	145	161	162	667	1,000
Dermatology	372	80	200	53	209	108	133	145	539	644
Emergency Medicine	498	93	207	60	383	121	152	161	1,191	0
Family Medicine	521	88	190	38	302	129	142	151	663	328
Internal Medicine/Medicine	445	88	204	54	329	134	151	160	992	1,217
Neurology	471	93	219	52	288	139	173	168	1,487	1,022
Neurosurgery	390	92	234	53	380	117	167	177	1,013	731
Obstetrics and Gynecology	417	79	206	55	220	141	152	141	1,120	1,079
Ophthalmology	418	101	208	53	197	133	201	206	591	580
Orthopedics	367	84	188	55	234	119	142	134	418	674
Otolaryngology	413	134	194	54	241	135	180	196	569	365
Pathology	392	83	207	51	357	130	149	143	738	1,312
Pediatrics	438	87	207	53	276	134	152	156	774	940
Physical Medicine & Rehab	437	92	213	61	252	125	148	144	674	0
Plastic Surgery	346	77	0	71	0	0	0	0	430	0
Psychiatry	507	98	211	52	272	150	166	166	755	1,068
Radiation-Diagnostic/Oncology	448	87	210	53	226	132	184	169	683	953

Surgery	405	88	203	57	251	143	152	158	675	940
Urology	351	90	194	53	169	139	162	156	553	782

For peer review only

Appendix I

NIH centers and institutes are: National Cancer Institute (NCI), National Eye Institute (NEI), National Heart, Lung, and Blood Institute (NHLBI), National Human Genome Research Institute (NHGRI), National Institute on Aging (NIA), National Institute on Alcohol Abuse and Alcoholism (NIAAA), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institute of Child Health and Human Development (NICHD), National Institute on Deafness and Other Communication Disorders (NIDCD), National Institute of Dental and Craniofacial Research (NIDCR), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute on Drug Abuse (NIDA), National Institute of Environmental Health Sciences (NIEHS), National Institute of General Medical Sciences (NIGMS), National Institute of Mental Health (NIMH), National Institute on Minority Health and Health Disparities (NIMHHD), National Institute of Neurological Disorders and Stroke (NINDS), National Institute of Nursing Research (NINR), National Library of Medicine (NLM), Center for Information Technology (CIT), Center for Scientific Review (CSR), Fogarty International Center (FIC), National Center for Advancing Translational Sciences (NCATS), National Center for Complementary and Integrative Health (NCCIH) and the NIH Clinical Center (NIH CC).

Appendix II

Grants included in the analysis are C06, D43, D71, DP1, DP2, DP3, DP5, DP7, F05, F30, F31, F32, F33, F99, G08, G11, G12, G13, G20, H25, H79, K00, K01, K02, K05, K06, K07, K08, K12, K18, K22, K23, K24, K25, K26, K30, K38, K76, K99, KL1, KL2, M01, N01, OT2, OT3, P01, P20, P2C, P30, P40, P41, P42, P50, P51, P60, PL1, PN2, R00, R01, R03, R13, R15, R18,

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3 R21, R24, R25, R33, R34, R35, R36, R37, R38, R49, R50, R55, R56, R61, R90, RC2, RC4,
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5 RF1, RL1, RL5, RL9, RM1, S10, S21, SC1, SC2, SC3, T01, T03, T15, T32, T34, T35, T36,
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7 T37, T42, T90, TL1, U01, U10, U13, U18, U19, U24, U2C, U2G, U2R, U34, U38, U41, U42,
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9 U45, U47, U48, U49, U50, U51, U52, U54, U56, U58, U59, U60, U62, U65, U79, U90, UC2,
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11 UC4, UC7, UD1, UE5, UF1, UG1, UG3, UH2, UH3, UH4, UL1, UM1, UM2, UR3, and UR6.
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Does NIH funding differ between medical specialties? A longitudinal analysis of NIH grant data by specialty and type of grant, 2011-2020

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3 **Does NIH funding differ between medical specialties? A longitudinal analysis of NIH grant**
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5 **data by specialty and type of grant, 2011-2020**
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Abstract

Importance: Differences in National Institutes of Health (NIH) funding between specialties may affect research and patient outcomes in less-well-funded specialties.

Objective: The aim of this study is to evaluate how NIH funding has been awarded by medical specialty. This study assesses differences and trends in the amount of funding, by medical specialty, for the years of 2011 through 2020, via a retrospective analysis of data from the NIH RePORTER (Research Portfolio Online Reporting Tools Expenditures and Results).

Data Source: NIH RePORTER data from years 2011-2020, for awarded NIH grants (F32, T32, K01, K08, K23, R01, R03, R21, U01, P30) in the following medical specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology.

Main Outcomes and Measures: The following measures were studied: (1) number of grants by specialty, (2) number of grants per active physician in each specialty, (3) total dollar-amount of grants by specialty, (4) total dollar-amount of grants per active physician in each specialty, and (5) mean dollar-amount awarded by specialty for each grant-type. We investigated whether any of these measures varied between medical specialties.

Results: In general, Internal Medicine/Medicine, Psychiatry, Pediatrics, Pathology, and Neurology received the most grants per year, had the highest number of grants per active physician, had the highest total amounts of funding and the highest amount of funding per active physician, whereas fields like Emergency Medicine, Plastic Surgery, Orthopedics and Obstetrics and Gynecology had the lowest. The mean dollar-amount awarded by grant-type differed significantly between specialties ($P < \text{Bonferroni corrected alpha} = 0.00029$).

Conclusions and Relevance: NIH funding varies significantly between medical specialties. This may affect research progress and the careers of scientists and may affect patient outcomes in less well-funded specialties.

Article Summary

Strengths and Limitations of this Study:

- This study compares NIH funding across all medical specialties in the publicly available NIH database and evaluates an important clinical question - whether there are differences in funding between specialties.

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- We compare several funding measures by specialty including: (1) the number of grants awarded, (2) the number of grants per active physician, (3) the total dollar-amount of grants awarded, (4) the total-dollar amount of grants awarded per active physician and (5) the mean dollar amount of each grant.
 - This study was limited because there was no data on the success rate of grant applications by specialty.
 - The NIH data did not state whether the principal investigator was a physician or not, which limits the ability to evaluate if the funding of physician researchers varied by specialty.

Introduction

The United States (US) National Institutes of Health (NIH) is a part of the US Department of Health and Human Services (HHS), and is the primary agency responsible for public health and biomedical research [1]. The NIH is comprised of over 27 separate institutes and centers covering several biomedical disciplines and specialties in medicine (Appendix I) [1].

Approximately 80% of NIH funding goes towards funding extramural research in the form of research grants [1].

NIH funding is used for the advancement of research across many fields of basic science and clinical medicine [2]. In fiscal year 2020, the total NIH funding was \$40.3 billion [2]. NIH funding is spread across many medical specialties, and the number of physicians in these medical specialties vary. Assuming that the number of active physicians can be viewed as a rough approximation of the demand for a specialty and a proxy for the disease burden (diseases treated by that specialty) in society, we hypothesized that the amount of funding for each specialty would be proportional to the number of active physicians in the specialty.

We investigated whether NIH funding metrics ((1) the number of grants, (2) number of active physicians per grant in that specialty, (3) the total dollar-amount of grants, (4) total dollar-amount of grants per active physician in that specialty, and (5) the mean dollar of each grant-type) varies between specialties, and evaluated the trends in these NIH funding metrics between 2011 and 2020.

Methods

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3 This study was evaluated by the Mayo Clinic Institutional Review Board (IRB). The study
4 involves freely available, public data, and was determined to be exempt.
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10 Patient and Public Involvement Statement

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12 Neither patients nor members of the public were involved, in any way, with this research.
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16 Study Design and Data Source

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18 We carried out a retrospective analysis of the NIH's Research Portfolio Online Reporting
19 Tools Expenditures and Results (RePORTER) database (<https://reporter.nih.gov/>), which has
20 data on grants that were awarded by the NIH [3]. Unlike the federal Query/View/Report (QVR)
21 database, the RePORTER database shows data only for grants that were awarded and therefore
22 does not allow for analysis of data involving grant-applications that did not result in the
23 awarding of a grant. As a result, we could not evaluate the success-rates of grant applications by
24 specialty.
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38 The RePORTER database was searched for grants awarded between 2011 and 2020, which were
39 classified, based on the department name on the grant application, into one of the following 19
40 specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal
41 Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic
42 Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic
43 Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology [3, 4]. These
44 specialties were chosen because they were the medical specialties in clinical medicine available
45 in the RePORTER database. The grants that were not classified as one of these specialties were
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3 excluded. We included all grants for each specialty from the RePORTER database. The grant-
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5 types appearing in the data set are listed in Appendix II.
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10 Number of active physicians

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12 The number of active physicians was obtained from the Physician Specialty Data Report by the
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14 American Association of Medical Colleges (AAMC) [5]. The number of active physicians
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16 included those from all training-pathways, including Doctor of (Allopathic) Medicine (M.D.),
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18 Doctor of Osteopathic Medicine (D.O.), and international medical graduates (IMG) [5]. Because
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20 the number of active physicians per specialty was only available for certain years, during the
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22 time-period of 2010-2020, linear interpolation was used to estimate the number of active
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24 physicians in the unlisted years (2011, 2012, 2014, 2016, 2018, and 2020) [5]. This data is shown
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27 in Appendix III.
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33 *(1) Number of NIH grants by specialty*

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35 We evaluated all grants awarded over the 10-year time period to identify the mostly frequently
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37 awarded grant-types. The ten most frequently awarded grant-types were R01, R03, R21, F32,
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39 T32, K01, K08, K23, U01, and P30. The titles and descriptions of these grant-types appear in
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41 Appendix IV. Plots of the number of grants by specialty and the percent-change in the number of
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43 grants from 2011 by specialty were created. We systematically evaluated NIH grants awarded at
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45 critical periods in the academic career pipeline including training grants (pre-doctoral T32, and
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47 post-doctoral F32); career development grants (K01, K08, and K23); and grants typically
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49 awarded in the later/advanced career stages, including the R01, R03, R21, P30 and U01 grants.
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3 *(2) Number of active physicians in each specialty per grant*
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5 To evaluate how many active physicians existed per grant type, the total number of active
6 physicians was divided by the total number of each grant type for each year for each specialty.
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8 This metric gauges how rare it is for a physician of each specialty to have any grant type.
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15 *(3) Total dollar-amount of NIH grants awarded in each specialty*
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17 To evaluate whether the differences in numbers of grants resulted in differences in dollar-
18 amounts of funding for each specialty, we calculated the total dollar-amounts of funding by
19 specialty from 2011-2020 after adjusting for inflation [6]. The total dollar-amount of funding
20 was calculated for each specialty for each grant type during the study period. The annual funding
21 each year from 2012 through 2020 was converted to year-2011 dollars, using the Gross Domestic
22 Product (GDP) Price Index for the relevant years [6]. To evaluate changes in funding over the
23 time-period studied, for each year after 2011, we calculated the percent-change in the dollar-
24 amount of funding after adjusting for inflation (compared to 2011) by specialty.
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38 *(4) Dollar-amount of grants per active physician*
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40 Because the total dollar-amount of grants may be affected by the number of researchers in that
41 specialty and therefore the number of active physicians, we calculated the number of dollars of
42 funding per active physician to adjust for the differing sizes of the medical specialties. We
43 divided the dollar-amount of funding for each specialty by the number of active physicians in
44 that specialty to calculate the dollar-amount of grants per active physician.
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54 *(5) Mean dollar-amount per grant for each specialty by grant-type*
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3 The dollar-amounts vary by grant-type, with smaller grants awarded to early-stage investigators
4 and larger grants awarded to more seasoned investigators. We hypothesized that there should be
5 no differences between specialties when evaluated the mean dollar-amount per grant for a given
6 grant-type. To test this hypothesis, we calculated the mean and standard deviation of the
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All analyses were performed in Excel, version 2107 (Microsoft, Redmond, Washington, USA) and R, version 4.1.2 (R Foundation for Statistical Computing, Vienna, Austria). Qualitative variables were compared between specialties using Chi-squared tests, while quantitative variables were compared between specialties using t-tests with unequal variances. All test-statistics were two-sided. To control for false-positive findings due to multiple comparisons between specialties, we used the Bonferroni-adjusted Type I error rate of $\frac{0.05}{\binom{19}{2}} = 0.0002924$, so that P-values less than this Bonferroni-adjusted Type I error rate were considered statistically significant.

Results

(1) Number of grants

From 2011 through 2020, there were 184,382 grants awarded by the NIH in the specialties considered. Internal Medicine/Medicine, 72,205 (37.2%); Psychiatry, 19,029 (10.3%); Pediatrics, 17,422 (9.4%); and Pathology, 14,946 (8.1%), were the specialties that received the most NIH grants (Table 1). In comparison, Plastic Surgery, 16 grants (0.009%); Emergency Medicine, 1258 (0.7%); Family Medicine, 2015 (1.1%); and Neurosurgery, 2956 (1.6%), were the specialties that received the fewest NIH grants (Table 1).

Table 1: NIH funding per active physician by specialty, 2011-2020

Specialty	Rank (based on average dollars of funding per active physician per year)	Number of grants	Percentage of total grant s awar ded	Average numb er of grants per active physic ian	Dollar s of fundin g (K, round ed to MM)	Percentage of total	Average number of active physicia ns, 2011- 2020	Average dollars of funding per active physician per year (K)
Pathology	1	14,946	8.1	0.112	6366.7	7.6	13,311	47.8
Neurology	2	12,448	6.8	0.092	6001.6	7.2	13,539	44.3
Internal Medicine/Med icine	3	72,205	39.2	0.063	36022. 6	43.2	114,639	31.4
Psychiatry	4	19,029	10.3	0.050	8267.6	9.9	38,089	21.7
Neurosurgery	5	2,956	1.6	0.055	1111.6	1.3	5,410	20.5
Pediatrics	6	17,422	9.4	0.030	7896.5	9.5	57,967	13.6
Ophthalmolog y	7	5,957	3.2	0.032	2380.8	2.9	18,684	12.7
Surgery	8	8,171	4.4	0.032	3212.5	3.9	25,378	12.7

Otolaryngolog y	9	3,198	1.7	0.034	110.23	1.3	9,485	11.6
Radiation- Diagnostic/On cology	10	9,562	5.2	0.025	3999.4	4.8	38,702	10.3
Dermatology	11	2,270	1.2	0.019	764.5	0.9	11,803	6.5
Urology	12	1,474	0.8	0.015	572.7	0.7	9,922	5.8
Obstetrics & Gynecology	13	4,343	2.4	0.010	1697.8	2	41,552	4.1
Physical Medicine & Rehab	14	1,124	0.6	0.012	357.9	0.4	9,220	3.9
Orthopedics	15	2,218	1.2	0.012	750.2	0.9	19,222	3.9
Anesthesiolog y	16	3,770	2		1434.7	1.7	41,391	3.5
Emergency Medicine	17	1,258	0.7		550.2	0.7	40,395	1.4
Family Medicine	18	2,015	1.1		848.5	1.0	112,396	0.8
Plastic Surgery	19	16	0.0		4.6	0.0	7,079	0.1
Total	-	18,438	100		83342.	100	627,782	133
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Internal Medicine/Medicine received the greatest number of grants, in aggregate over the time period from 2011 through 2020, followed by Psychiatry, Pediatrics, Pathology, and Neurology (Supplementary Figures 1a and 1b). Internal Medicine/Medicine consistently received the greatest number of grants during the study.

The average percentage-change in the number of grants by specialty from 2012-2020 compared to the initial year (2011), was highest for Emergency Medicine (40.8%), Neurosurgery (34.2%), and Orthopedics (32.2%) (Supplementary Figure 2). The average percentage-change was lowest for Plastic Surgery (-51.9%), Otolaryngology (-36.8%) and Radiation-Diagnostic/Oncology (-24.5%) (Supplementary Figure 2).

Table 2 shows the number of the most-commonly awarded grant-types for each specialty, and shows R01 and R21 were the most commonly awarded grant-types. The numbers of the most commonly awarded NIH training grants (F32, T32) (Supplementary Table 1), NIH career development grants (K01, K08, K23) (Supplementary Table 2), and NIH advanced career grants (R01, R03, R21, P30 and U01) (Supplementary Table 3) are shown for each year.

Table 2: Total number of NIH grants awarded by specialty and grant-type aggregated from 2011 through 2020

	Training Grants		Career Development Grants			Advanced Career Grants				
Specialty	F32	T32	K01	K08	K23	R01	R03	R21	P30	U01

Anesthesiology	43	178	53	167	126	2,258	63	289	1	111
Dermatology	32	105	73	146	49	1,169	54	182	82	65
Emergency Medicine	4	9	9	58	171	415	27	58	0	89
Family Medicine	2	51	97	27	59	787	56	174	30	131
Internal Medicine/Medicine	1,16	3,69	1,46	2,53	2,79	30,80	1,14	3,82	3,12	4,51
Neurology	235	340	175	352	529	5,769	129	791	181	577
Neurosurgery	96	46	16	101	44	1,669	47	272	18	129
Obstetrics & Gynecology	46	107	48	55	103	1,620	119	286	41	137
Ophthalmology	83	204	7	268	166	3,823	15	327	303	67
Orthopedics	60	76	62	48	26	1,349	83	215	49	7
Otolaryngology	86	157	9	112	100	1,642	118	225	118	38
Pathology	201	718	148	306	21	8,110	197	1282	206	390
Pediatrics	194	865	208	1,00	924	7,467	362	1,14	186	1,16
				7				6		1
Physical Medicine & Rehabilitation	17	46	80	6	68	443	58	89	0	51
Plastic Surgery	1	0	0	0	0	7	2	0	0	3
Psychiatry	293	772	743	250	1,06	9,066	236	1,58	133	825
					0			0		

Radiation- Diagnostic/Oncology	65	266	147	66	36	5,424	145	1,062	81	342
Surgery	172	532	92	464	106	3,975	174	540	300	536
Urology	22	55	33	63	22	686	27	83	39	160

(2) Number of active physicians per grant:

More F32 grants were awarded in Neurology, Internal Medicine/Medicine and Pathology than in Emergency Medicine. A F32 training grant was awarded for every 428-1,304 Neurologists, for every 875-1113 Internal Medicine/Medicine physicians and for every 523-973 Pathologists (Supplementary Table 4). However, a F32 training grant was only awarded for every 33,984-45,202 Emergency Medicine physicians. T32 grants were also more commonly awarded in Neurology, Internal Medicine/Medicine and Pathology than in Emergency Medicine. A T32 grant was awarded for every 349-462 Neurologists, every 256-337 Internal Medicine/Medicine physician, every 144-230 Pathologists and every 21,174 -40,974 Emergency Medicine physician (Supplementary Table 4).

Career development grants (K01, K08, and K23) were more frequently awarded in Internal Medicine/Medicine, Neurology, and Pathology as these specialties consistently had the lowest numbers of physicians per awarded grant (Supplementary Table 5) while Emergency Medicine, Family Medicine and Radiation-Oncology/Diagnostic had the highest numbers of physicians per career development grant.

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3 For the advanced career researcher grants (R01, R03, R21, P30, U01), Internal
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5 Medicine/Medicine, Neurology, and Pathology consistently had the lowest numbers of
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7 physicians per awarded grant (Supplementary Table 6). There was a R01 grant awarded for
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9 every 34-41 Internal Medicine/Medicine physicians, for every 20-25 Neurologists, and for every
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11 15-17 Pathologists, while there was a R01 grant awarded for every 2,274-7,317 Plastic Surgeons,
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13 and for every 1,194-1,622 Family Medicine physicians.
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17 U01 grants were more commonly awarded in Internal Medicine/Medicine, and Neurology, and
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19 least commonly awarded in Orthopedics, and Family Medicine. A U01 grant was awarded for
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21 every 204-295 Internal Medicine/Medicine physicians, for every 174-391 Neurologists, for every
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23 9629-19374 Orthopedists, and for every 7,420-11,820 Family Medicine physicians.
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26 (3) Dollar-amount of grants: The total dollar-amount of funding awarded from 2011 to 2020 was
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28 \$83,342 MM USD (\$1 MM USD is 1 million United States Dollars). Of this total, the specialties
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30 receiving the largest total amounts of funding were Internal Medicine/Medicine (\$36,023MM
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32 (43.2%)), Psychiatry (\$8,268MM (9.9%)), and Pediatrics (\$7,897MM (9.5%)). The specialties
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34 receiving the least funding were Plastic Surgery (\$4.6MM (<0.1%)), Physical Medicine & Rehab
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36 (\$358MM (0.4%)), and Emergency Medicine (\$550MM (0.7%)) (Table 1). Internal
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38 Medicine/Medicine was consistently the most-funded specialty, after adjusting for inflation
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40 (Figure 1a), and after adjusting for both inflation and the number of active physicians per
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42 specialty (Figure 1b). Physical Medicine and Rehabilitation had the largest average percent-
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44 increase in the inflation-adjusted amount of funding compared to the baseline year of 2011 of the
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46 specialties considered (Figure 2).
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3 The dollar-amount of funding for each specialty for the NIH training grants (F32, T32) from
4 2011-2020 is shown in Supplementary Table 7. Emergency Medicine, Family Medicine, and
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6 Plastic Surgery had the least amount of funding for these NIH training grants. For the NIH career
7
8 development grants, we found that Emergency Medicine and Family Medicine were also among
9
10 the least funded (Supplementary Table 8). Finally, we found that most of the more advanced
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12 career NIH grants were in Internal Medicine/Medicine (Supplementary Table 9).
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19 (4) Dollar-amount of grants per active physician: Pathology (\$47.8K/year) and Neurology
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21 (\$44.3K/year) had the highest amounts of funding per physician over 2011-2020 (Table 1), and
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23 in each of the ten years studied (Figure 1b). Both Internal Medicine/Medicine and Neurology
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25 were among the highest-funded per active physician for many of the grant-types studied. For
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27 instance, for NIH T32 training grants, Internal Medicine/Medicine, Neurology, Pathology, and
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29 Psychiatry had the highest amounts of funding per physician (Supplementary Table 10).
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31 Likewise, Internal Medicine/Medicine, Neurology, Neurosurgery, and Pathology had the highest
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33 amounts of F32 funding per physician (Supplementary Table 10). Internal Medicine/Medicine,
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35 Neurology, Pathology, and Psychiatry had the highest amounts of K01 and K08 funding per
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37 physician (Supplementary Table 11). Internal Medicine/Medicine, Neurology, Pediatrics, and
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39 Psychiatry had the highest amounts of K23 funding per active physician (Supplementary Table
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41 11). Internal Medicine/Medicine, Neurology, Neurosurgery, and Psychiatry, had the highest
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43 amounts of R01 and U01 funding per physician (Supplementary Table 12).
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51 *(5) Mean dollar-amount per grant for each specialty by grant-type*
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3 We compared the mean dollar-amount of each grant for each grant type between specialties to
4 assess whether the amount of funding varies between specialties. We found that the mean dollar-
5 amount of the NIH training grants (Supplementary Table 13) varied between specialties
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7 (Supplementary Figure 3 and Supplementary Figure 4). Pathology, Psychiatry and Neurology
8 had significantly different F32 funding than Physical Medicine and Rehab ($P<0.0002924$); and
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10 Urology, Ophthalmology, Dermatology, Surgery, Orthopedics and Otolaryngology had
11 significantly different T32 funding than Pathology ($P<0.0002924$). The mean dollar-amount of
12 the NIH career development grants (Supplementary Table 14) varied between specialties.
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14 Significant variation in mean K01 funding (Supplementary Figure 5), mean K08 funding
15 (Supplementary Figure 6) and K23 funding (Supplementary Figure 7) was noted. For example,
16 the mean K01 funding for Dermatology was statistically significantly different from that for
17 Physical Medicine and Rehabilitation, Psychiatry, Neurology, Urology, Anesthesiology,
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19 Obstetrics and Gynecology, Radiology, Family Medicine, Pathology, Pediatrics, Otolaryngology,
20 and Internal Medicine/Medicine. The mean dollar-amount of the NIH advanced career grants
21 (Supplementary Table 15) varied between specialties (Supplementary Figures 8-12). Psychiatry
22 had significantly different R01 funding than all other specialties except Plastic Surgery, Family
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24 Medicine and Emergency Medicine ($P<0.0002924$).
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45 **Discussion**

46 The data show that the number of NIH grants awarded over the investigated period varied
47 substantially across specialties. Internal Medicine/Medicine consistently received the greatest
48 number of grants followed by Psychiatry, Pediatrics, Pathology and Neurology. After adjusting
49 for the number of active physicians in each specialty, we find that Neurology, Internal
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3 Medicine/Medicine and Pathology were the specialties with the greatest number of grants per
4 active physician, while Emergency Medicine, Family Medicine and Plastic Surgery were the
5 fields with the fewest number of grants per active physician, and this pattern was consistent
6 across training grants, career development grants and advanced career grants. We found that
7 Internal Medicine/Medicine had the greatest dollar amount of funding of all medical specialties.
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9 After we adjusted the dollar amount of funding by the number of active physicians in each
10 specialty, we found that Pathology, Neurology, Internal Medicine/Medicine, and Psychiatry were
11 the specialties with the highest levels of funding per active physician, and Plastic Surgery,
12 Family Medicine, Emergency Medicine, and Anesthesiology were the specialties with the lowest
13 levels of funding per active physician. When we analyzed the mean amount of funding for each
14 grant-type, we found significant funding-amount differences between specialties.
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31 Our results have tremendous clinical and biomedical ramifications. We show that there are
32 differences in the amount of funding, the amount of funding adjusted for the number of
33 physicians, the dollar amount of NIH funding adjusted for the number of physicians, and
34 differences in the funding-amount for each grant-type between specialties. It is unclear why these
35 differences exist.
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45 One speculation is that some of the better funded specialties (Internal Medicine/Medicine,
46 Neurology, Pathology) are more closely aligned with the NIH mission than other specialties,
47 however the NIH's mission is "To seek fundamental knowledge about the nature and behavior of
48 living systems and the application of that knowledge to enhance health, lengthen life, and reduce
49 illness and disability." (<https://www.nih.gov/about-nih/what-we-do/nih-almanac/about-nih>),
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3 which is largely applicable to all medical specialties. Another speculation is that the better
4 funded specialties are intrinsically better than the less funded specialties at doing research, and in
5 having a pipeline of training grants, career development grants and this has resulted in the
6 discrepancies that we have noted. One may speculate that a better funded specialty at the training
7 and career-development levels may result in that specialty being better funded status at the more
8 advanced research career levels.
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12 The differences in research-funding between specialties have likely already had
13 significant consequences for future progress in research. It has been shown that the proportion of
14 individuals with M.D./Ph.D.'s who spend at least 50% of their time on research differs markedly
15 by specialty [7]. We note that the three specialties that were most highly funded, on a per-
16 physician basis (Pathology, Neurology, and Internal Medicine/Medicine) in our study were noted
17 to have higher proportions of individuals spending at least 50% of their time on research, while
18 Family Medicine and Emergency Medicine (which were among the lowest-funded in our study)
19 had much lower proportions of faculty with more than 50% time dedicated to research [8, 9].
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40 Whether specialty-choice is a driver of subsequent research-focus in physicians' careers is
41 unknown; however, it is easy to speculate that greater availability of NIH funding in certain
42 specialties may facilitate research-focused careers in those specialties. The specialties of internal
43 medicine, pathology, pediatrics, and neurology together accounted for approximately 60% of the
44 specialties in which Medical Scientist Training Program (MSTP) M.D./Ph.D. graduates attended
45 residency programs [8, 9]. Three of these specialties were the three specialties with the highest
46 amount of NIH funding per active physician. The temporal trend is difficult to assess, and it is
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3 unclear which is the cause and which is the effect. MD-PhD program graduates were more likely
4 to choose specialties like Pathology, and less likely to choose Emergency Medicine, or Family
5 Medicine [10]. MSTP graduates may be more attracted to these better funded specialties because
6 of increased NIH funding per active physician, or alternatively MSTP graduates in these better
7 funded specialties were able to acquire more NIH funding per active physician.
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17 However, the distribution of specialties pursued by MSTP graduates has changed over time, and
18 many specialties now have substantial representation [7], which means a larger proportion of
19 these MSTP graduates are in less well funded specialties. The presence of substantial numbers of
20 M.D./Ph.D.'s in specialties with lower levels of funding (e.g., the 12.9% of M.D./Ph.D.'s in
21 Pediatrics, the 7.0% in Surgical specialties, and the 4.2% in Radiation-Diagnostic/Oncology)
22 leaves the possibility of a mismatch between the supply of such well-trained physician-scientists,
23 and the amount of funding available to them, which could lead to increased competition for
24 research-grants in these specialties, and increased attrition, ultimately further exacerbating the
25 relatively lower levels of research in these specialties [7]. This problem is not unique to
26 M.D./Ph.D.'s and physicians, and may occur for nurses, nurse practitioners, public health
27 scientists, social workers, engineers, Pharmacists, Ph.D.'s, and other biomedical research
28 professionals who do research in one of the less funded specialties.
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47 The importance of having a diverse biomedical workforce has been stressed. Diversity in
48 race/ethnicity and gender have been at the forefront of these discussions because of the
49 tremendous health disparities that exist across races/ethnicities and genders. However, this
50 research shows that there are disparities in funding based on physician specialty. The current
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3 status quo makes some specialties (better NIH-funded specialties) more attractive to physician-
4 researchers. However, the inequity in NIH-funding may create significant societal problems. For
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8 example, one of the worst instances of healthcare inequalities in the United States is the
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10 inequality seen in the difference between Black and White maternal mortality [11]. The mortality
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12 rate for non-Hispanic Black women was 3.55 times that of non-Hispanic White women [11].
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14 Here, our data shows that Obstetrics and Gynecology was one of the worst NIH-funded
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16 specialties. Further research is required to understand the etiology of this disparity so that the
17
18 NIH research dollars are appropriately distributed among all specialties.
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24 This study has a few limitations. We assumed that the size of the active physician workforce was
25
26 a proxy for the relative amount of clinical/public health need for given medical specialty.
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28 However, deviations from proportionality may arise if the diseases treated by certain specialties
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30 result in greater morbidity/mortality or cost to society and if the NIH funding depends on
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32 morbidity/mortality or cost to society. There are several non-physician researchers including
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34 Ph.D.'s, individuals with degrees in public health, nursing, social work, pharmacy, or
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36 engineering who are funded by the NIH. These non-MD researchers may be more likely to be
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38 hired in some specialties, and as a result, change the funding landscape of those specialties. The
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40 categorization of grants into specialties was done by the NIH. The NIH did not provide the
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42 training-backgrounds of the principal investigators (PIs). The NIH did not provide information
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44 on whether the PIs were clinicians, and therefore we could not determine whether the
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46 categorization was based on the specialty in which these PI was clinically practicing, or if
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48 categorization was based on the clinical department that the PI was affiliated with. The analyses
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50 in this study were based only on grants that were awarded and did not include any data for grant-
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3 applications which were rejected to assess differences in funding rates. The grant-application
4 data is not included in the RePORTER database and can only be accessed through an internal
5 database at the NIH and was unavailable for this study. Finally, the study was limited to only the
6 principal investigator, and did not investigate the specialties of the co-investigators since this
7 data was not available in the RePORTER database.
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17 In conclusion, the number of NIH grants, total dollar amount of funding, dollar amount of
18 funding per active physician, and the mean funding-amount per grant (by grant-type) vary by
19 specialty. This may affect research progress and the careers of scientists and may affect patient
20 outcomes in these less well-funded specialties. Further research is required to understand why
21 this discrepancy exists.
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Figures and Tables

Table 1: Number of grants, number of grants per active physician, dollars of funding, and dollars of funding per active physician from 2011-2020 by specialty

Table 2: Number of each grant-type from 2011-2020

Figure 1a – Inflation-adjusted Dollar-amount of grant-funding by specialty

Figure 1b – Inflation-adjusted Dollar-amount of grant-funding adjusted by the number of active physicians

Figure 2: Percent change in inflation-adjusted dollar-amount of grant-funding from 2011-2020 by specialty

Supplemental Figures and Tables

Supplementary Table 1: Number of NIH training grants (F32, T32) awarded from 2011-2020 by specialty

Supplementary Table 2: Number of NIH career development grants (K01, K08, K23) awarded from 2011-2020 by specialty

Supplementary Table 3: Number of NIH advanced career grants (R01, R03, R21, P30, U01) awarded from 2011-2020 by specialty

Supplementary Table 4: Number of active physicians per awarded NIH training grant (F32, T32) from 2011-2020 by specialty

Supplementary Table 5: Number of active physicians per awarded NIH career development grant (K01, K08, K23) from 2011-2020 by specialty

Supplementary Table 6: Number of active physicians per awarded NIH advanced career grant (R01, R03, R21, P30, U01) from 2011-2020 by specialty

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3 Supplementary Table 7: Total NIH training grant (F32, T32) funding in thousands of dollars
4 from 2011-2020 by specialty

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8 Supplementary Table 8: Total NIH career development grant (K01, K08, K23) funding in
9 thousands of dollars from 2011-2020 by specialty

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12 Supplementary Table 9: Total NIH advanced career grant (R01, R03, R21, P30, U01) funding in
13 thousands of dollars from 2011-2020 by specialty

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17 Supplementary Table 10: Dollar amount for each NIH training grant (F32, T32) spent per active
18 physician from 2011-2020 by specialty

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22 Supplementary Table 11: Dollar amount for each NIH career development grant (F32, T32)
23 spent per active physician from 2011-2020 by specialty

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27 Supplementary Table 12: Dollar amount for each NIH advanced career grant (R01, R03, R21,
28 P30, U01) spent per active physician from 2011-2020 by specialty

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32 Supplementary Table 13: Mean NIH training grant (F32, T32) funding amount from 2011-2020
33 by specialty

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37 Supplementary Table 14: Mean NIH career development grant (K01, K08, K23) funding amount
38 from 2011-2020 by specialty

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42 Supplementary Table 15: Mean NIH advanced career grant (R01, R03, R21, P30, U01) funding
43 amount from 2011-2020 by specialty

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45 Supplementary Figure 1a: Number of Grants from 2011 to 2020 by specialty

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47 Supplementary Figure 1b: Number of Grants from 2011 to 2020 by specialty (excluding Internal
48 Medicine/Medicine)

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51 Supplementary Figure 2: Percent-Change in Number of Grants (compared to 2011) by specialty

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54 Supplementary Figure 3: P-values comparing mean F32 funding amount by specialty

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3 Supplementary Figure 3 caption:

4 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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10 Supplementary Figure 4: P-values comparing mean T32 funding amount by specialty

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12 Supplementary Figure 4 caption:

13 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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19 Supplementary Figure 5: P-values comparing mean K01 funding amount by specialty

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22 Supplementary Figure 5 caption:

23 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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29 Supplementary Figure 6: P-values comparing mean K08 funding amount by specialty

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32 Supplementary Figure 6 caption:

33 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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39 Supplementary Figure 7: P-values comparing mean K23 funding amount by specialty

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42 Supplementary Figure 7 caption:

43 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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49 Supplementary Figure 8: P-values comparing mean R01 funding amount by specialty

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52 Supplementary Figure 8 caption:

53 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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3 Supplementary Figure 9: P-values comparing mean R03 funding amount by specialty

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5 Supplementary Figure 9 caption:

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7 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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12 Supplementary Figure 10: P-values comparing mean R21 funding amount by specialty

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14 Supplementary Figure 10 caption:

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16 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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18 for comparison

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21 Supplementary Figure 11: P-values comparing mean P30 funding amount by specialty

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23 Supplementary Figure 11 caption:

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25 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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27 for comparison

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31 Supplementary Figure 12: P-values comparing mean U01 funding amount by specialty

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33 Supplementary Figure 12 caption:

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35 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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37 for comparison

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3 **Contributorship Statement:** AS and RS analyzed the data and drafted and revised the paper.

4
5 Both authors contributed equally to this work.

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7
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9
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14 **Data-Sharing Statement:** Data are available in a public, open access repository.

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17 **Ethics Statement:** This study was evaluated by the local Institutional Review Board (IRB). The
18 study involves freely available, public data, and was determined to be exempt.
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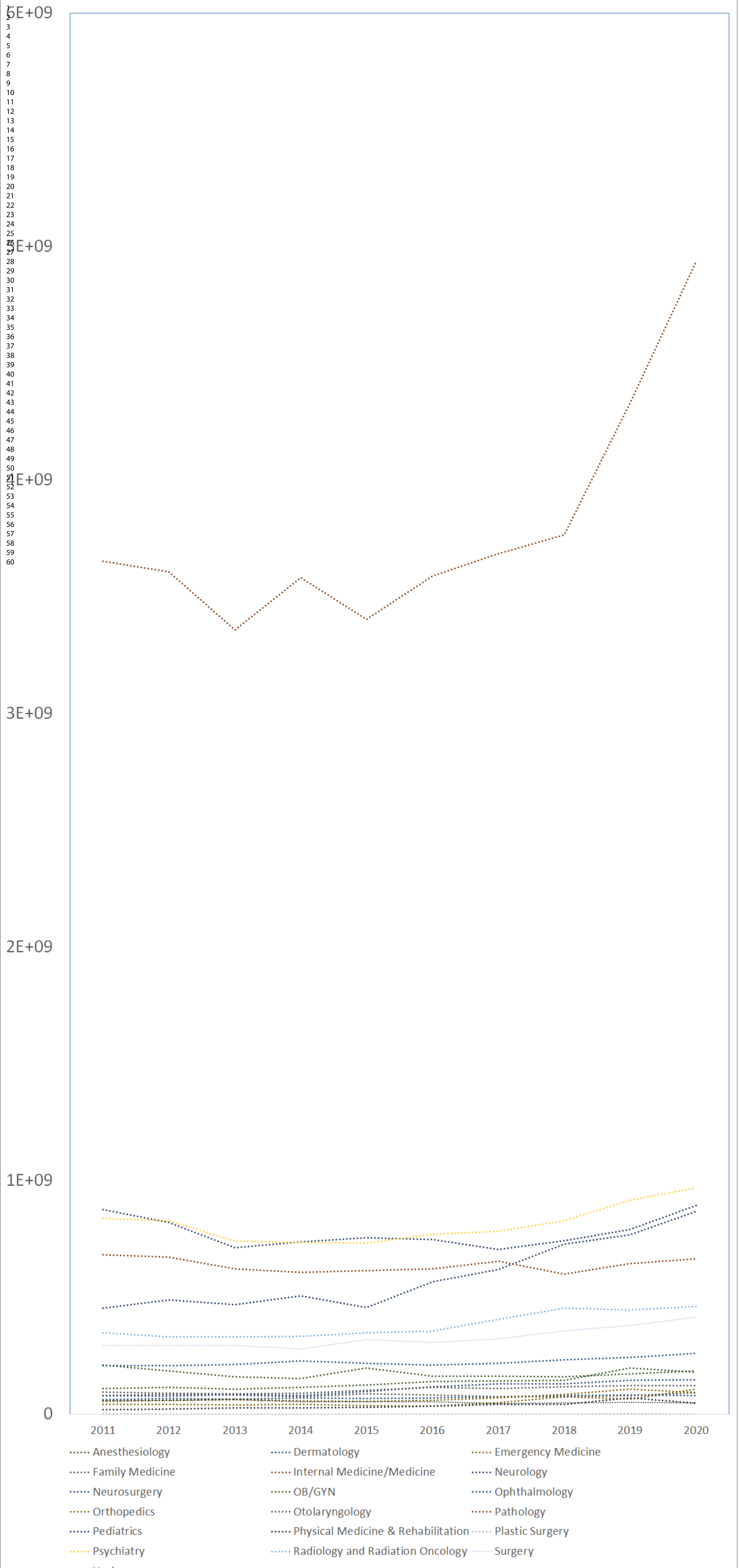
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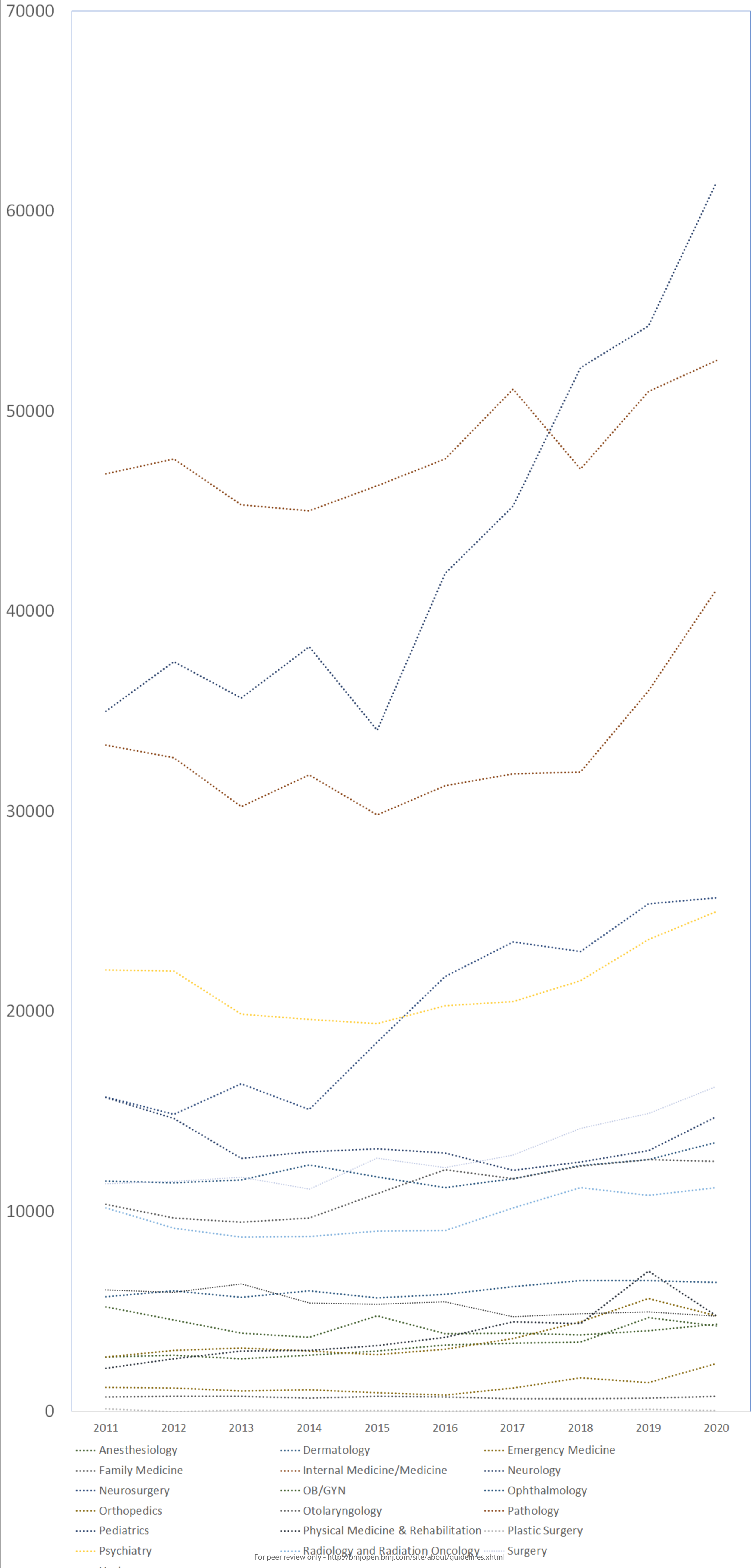
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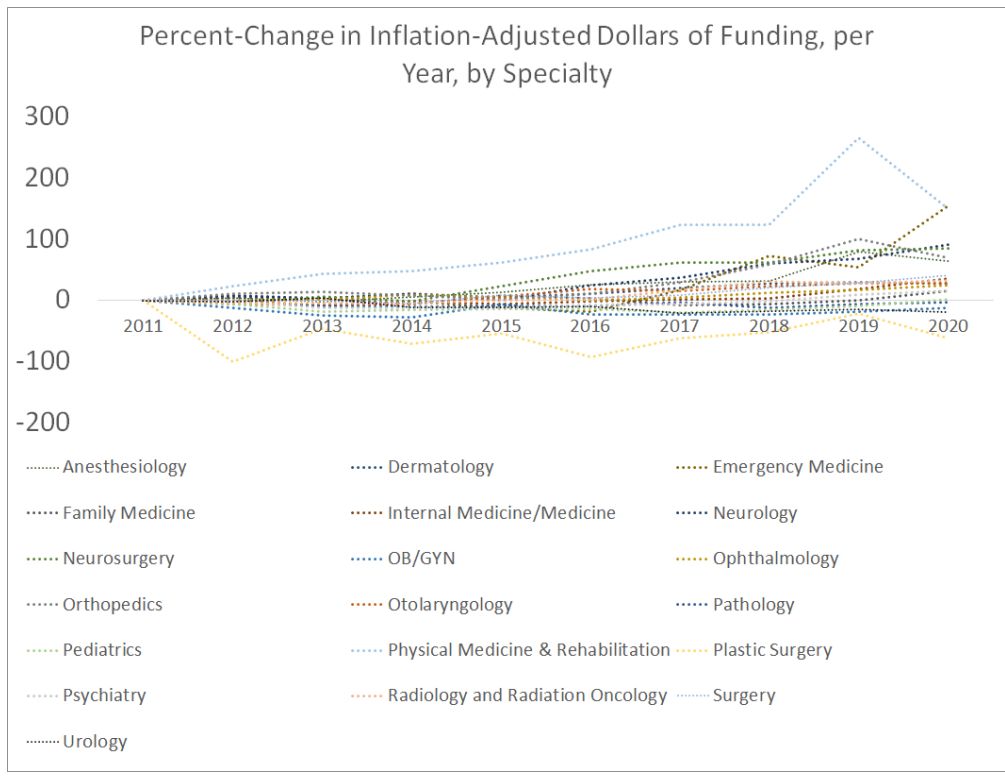
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Inflation-Adjusted Dollars of Funding per Active Physician, per Year, by Specialty



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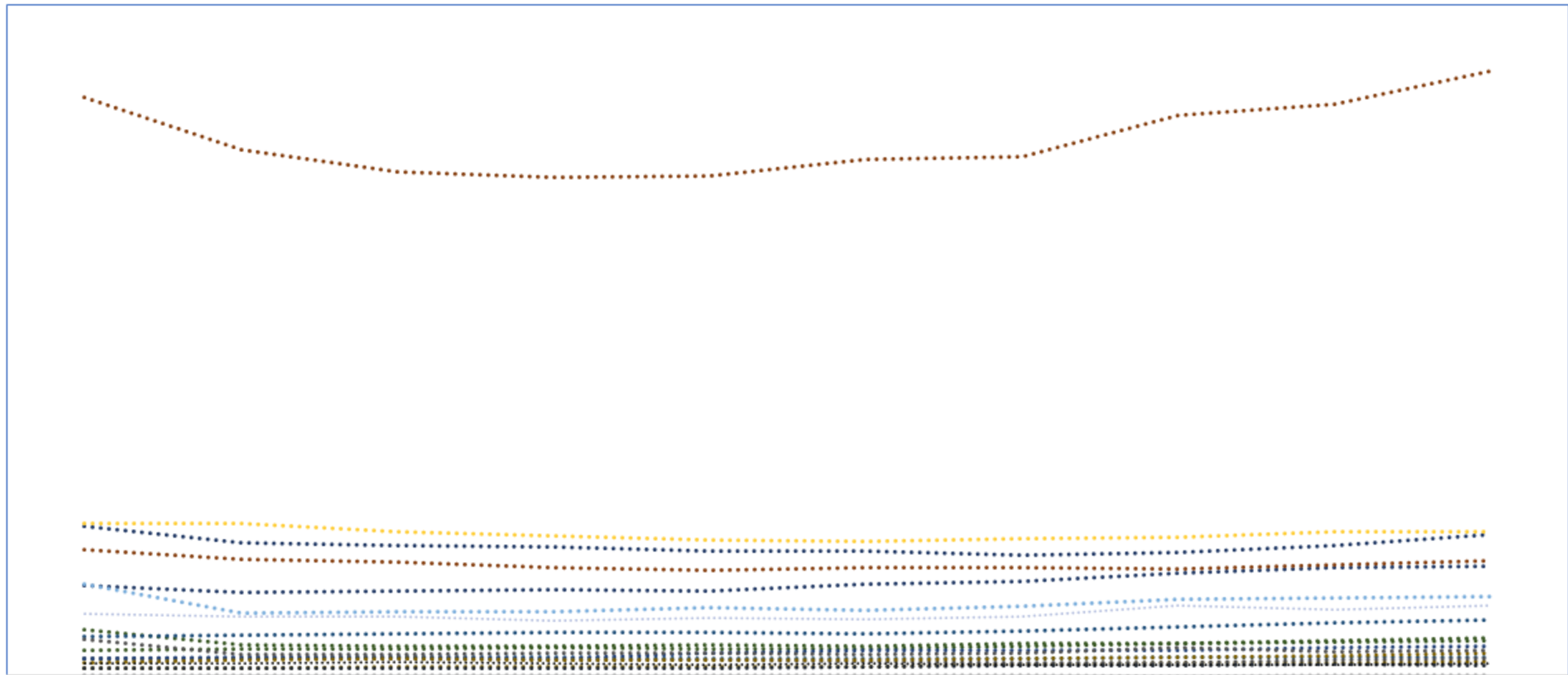


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Number of Grants, per Year, by Specialty

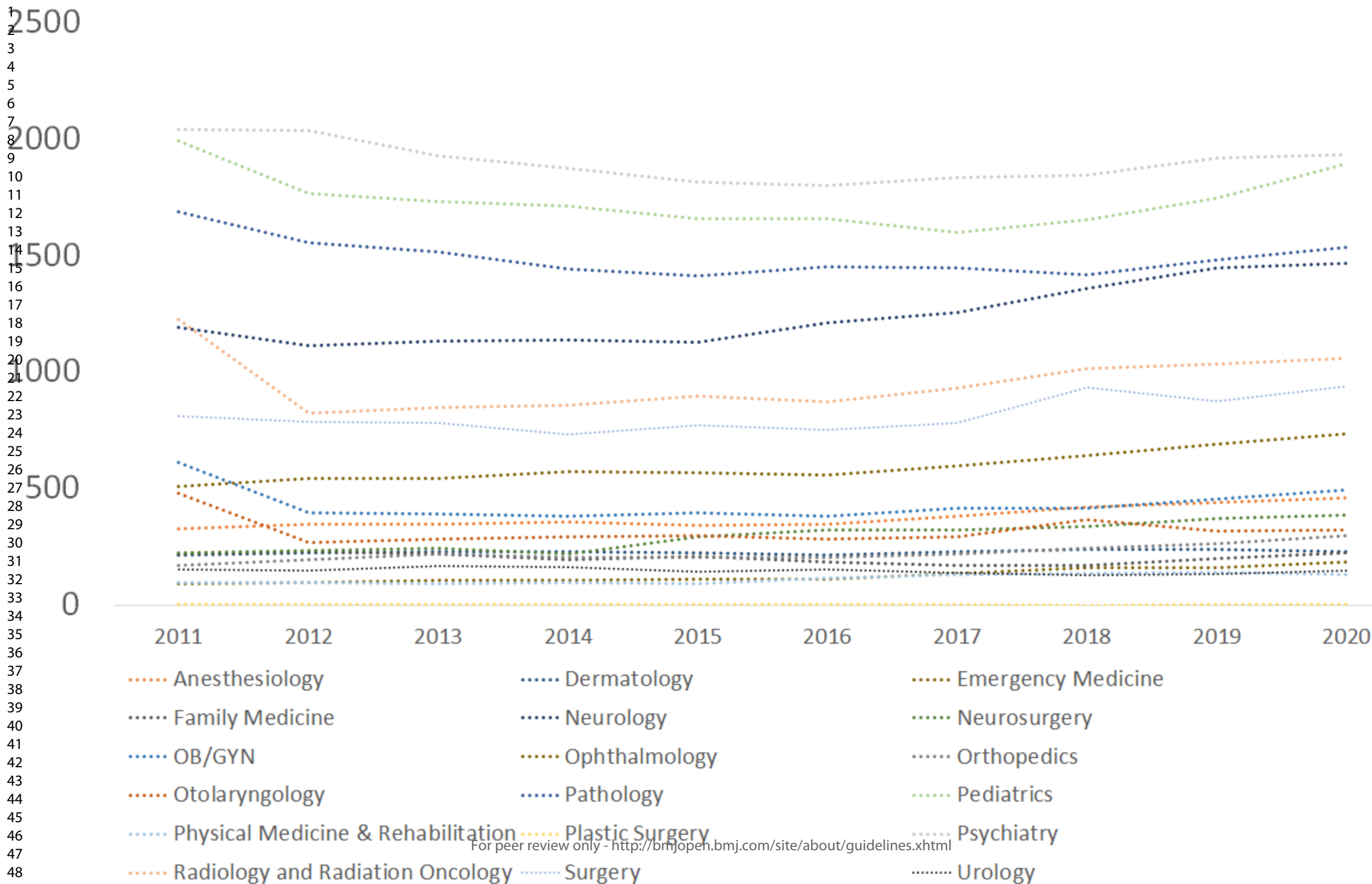
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- Anesthesiology
- Dermatology
- Emergency Medicine
- Family Medicine
- Internal Medicine/Medicine
- Neurology
- Neurosurgery
- OB/GYN
- Ophthalmology
- Orthopedics
- Otolaryngology
- Pathology
- Pediatrics
- Physical Medicine & Rehabilitation
- Plastic Surgery
- Psychiatry
- Radiology and Radiation Oncology
- Surgery
- Urology

Number of Grants, per Year, by Specialty, without Internal Medicine

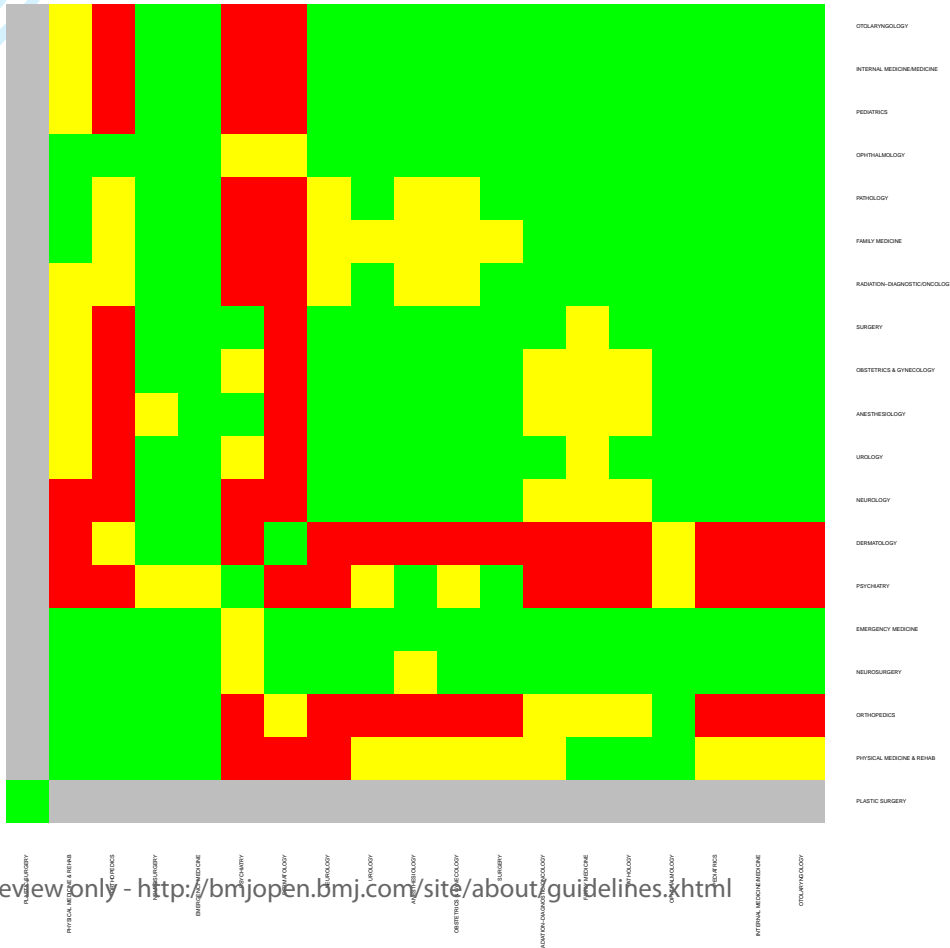


K01 grant dollar amount comparisons P-values

Supplementary Figure 5: P-values comparing mean K01 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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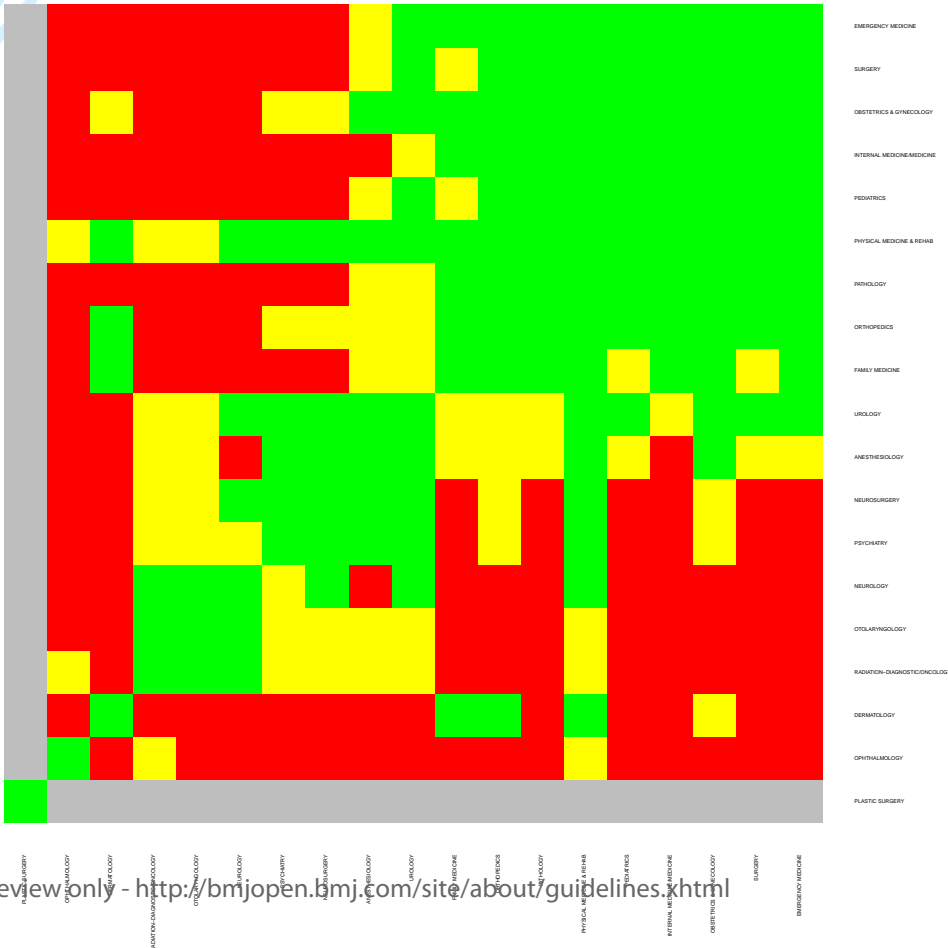


K08 grant dollar amount comparisons P-values

Supplementary Figure 6: P-values comparing mean K08 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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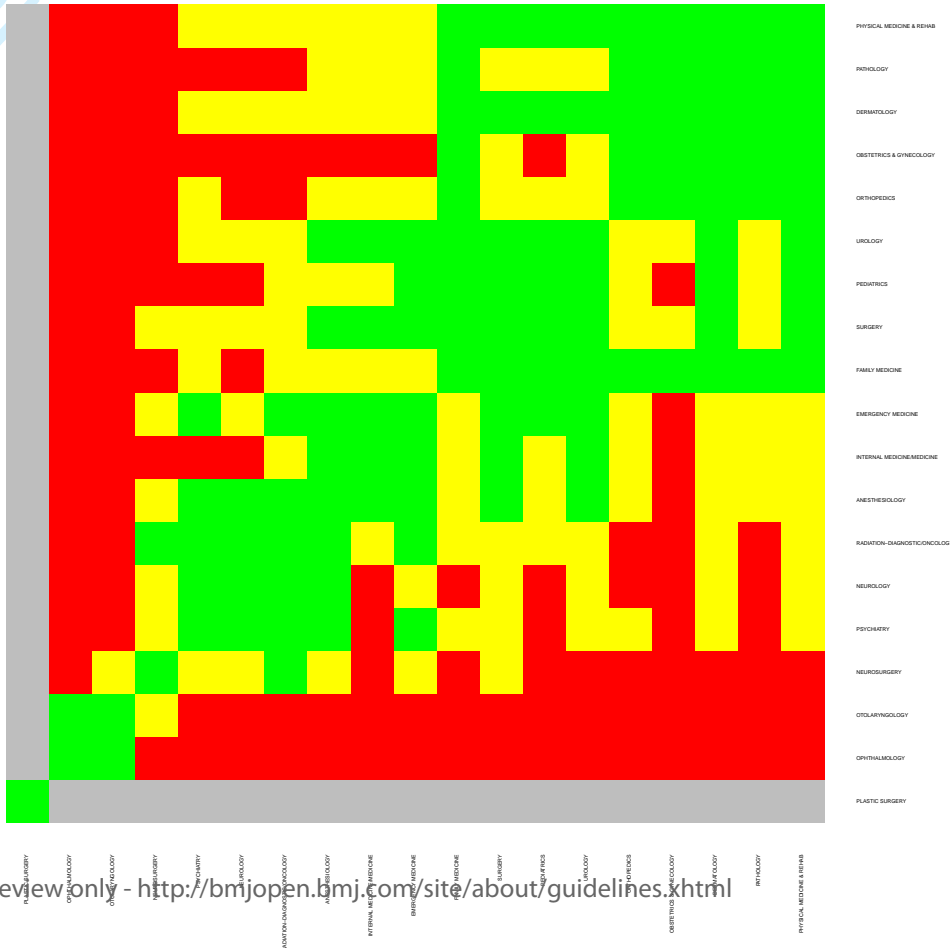
K23 grant dollar amount comparisons P-values

Supplementary Figure 7: P-values comparing mean K23 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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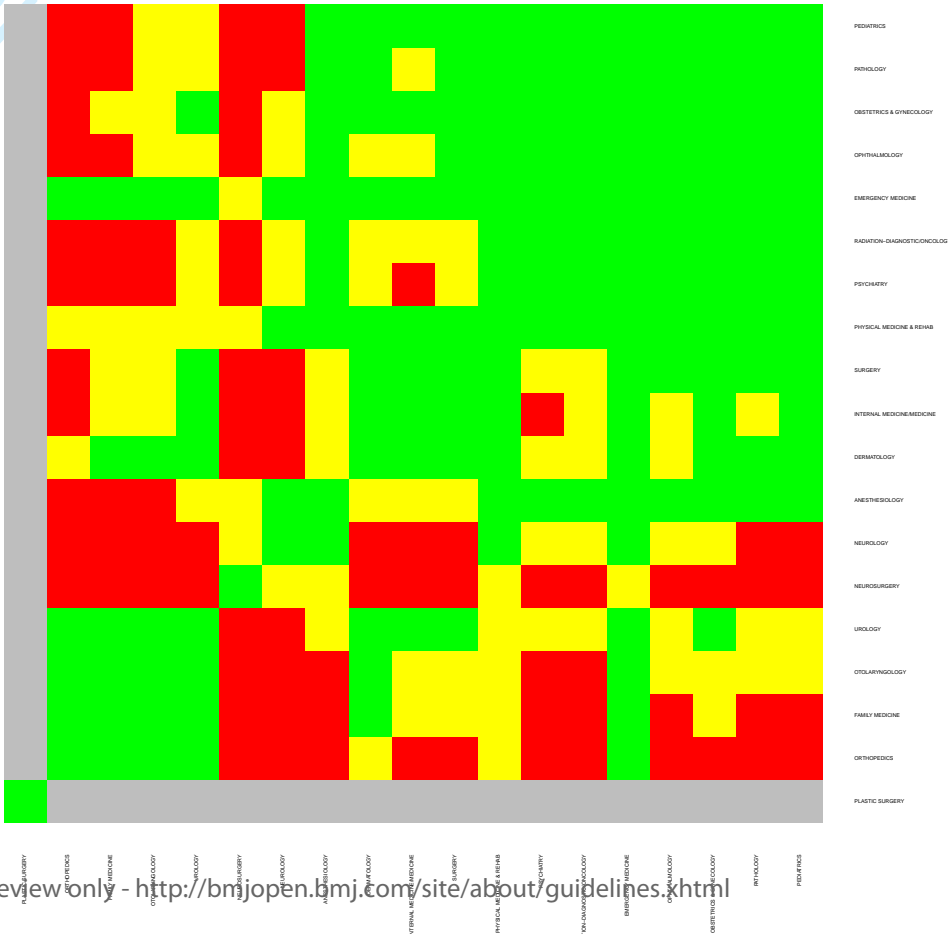


R21 grant dollar amount comparisons P-values

Supplementary Figure 10: P-values comparing mean R21 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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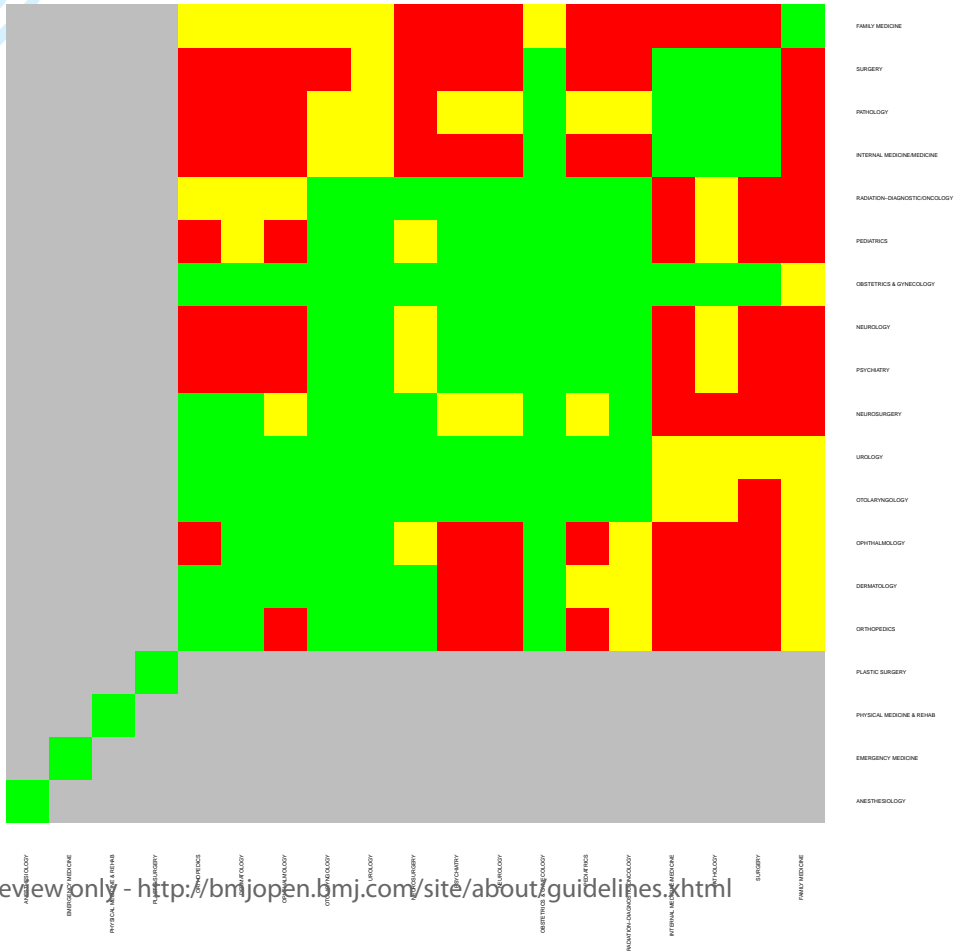
P30 grant dollar amount comparisons P-values

Supplementary Figure 11: P-values comparing mean P30 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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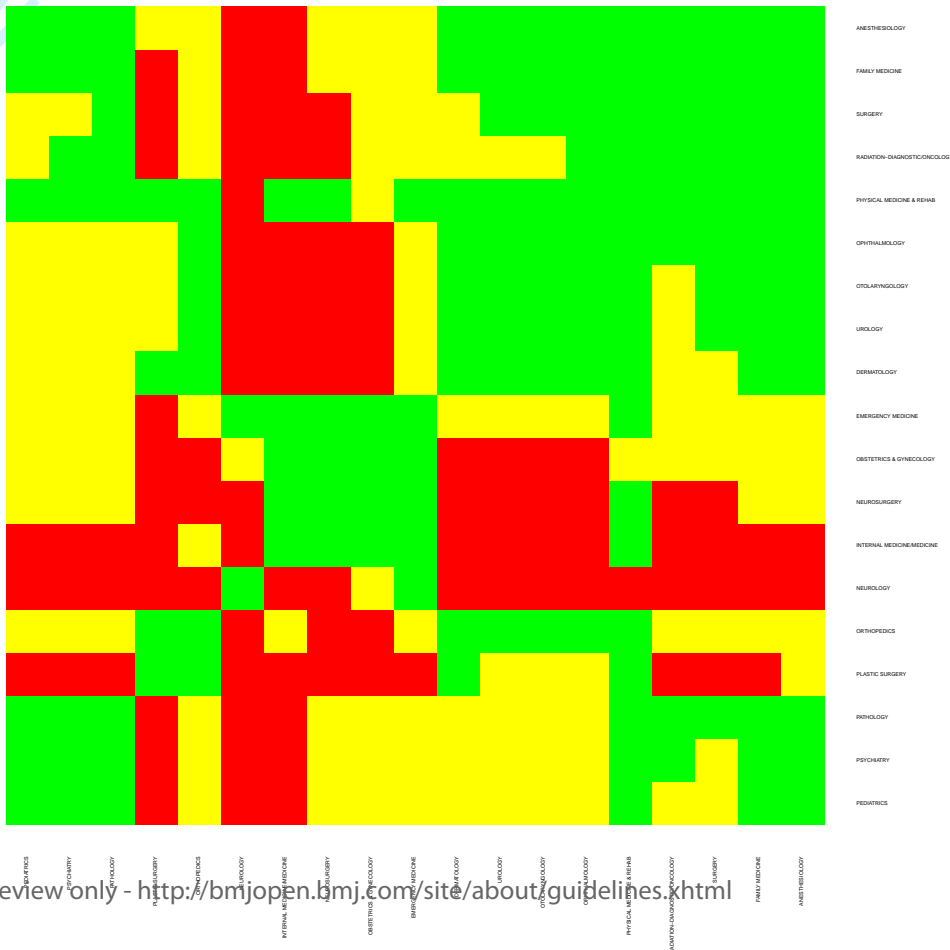


U01 grant dollar amount comparisons P-values

Supplementary Figure 12: P-values comparing mean U01 funding amount by specialty

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

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Supplementary Table 1 : Number of NIH training grants (F32, T32) awarded from 2

F32 grants	2011	2012	2013
Anesthesiology	4	6	8
Dermatology	4	4	3
Emergency Medicine	1	1	1
Family Medicine	0	0	0
Internal Medicine/Medicine	126	112	116
Neurology	15	10	20
Neurosurgery	8	8	8
Obstetrics and Gynecology	4	6	4
Ophthalmology	4	7	7
Orthopedics	5	6	5
Otolaryngology	10	7	7
Pathology	22	17	22
Pediatrics	25	27	24
Physical Medicine & Rehab	1	1	0
Plastic Surgery	0	0	0
Psychiatry	39	29	28
Radiation-Diagnostic/Oncology	14	8	5
Surgery	17	15	13
Urology	2	2	2
T32	2011	2012	2013
Anesthesiology	13	15	14
Dermatology	12	12	12
Emergency Medicine	0	0	0
Family Medicine	5	4	6
Internal Medicine/Medicine	382	389	357
Neurology	37	34	32
Neurosurgery	3	3	3
Obstetrics and Gynecology	12	11	12
Ophthalmology	15	16	21
Orthopedics	8	9	8
Otolaryngology	12	12	11
Pathology	86	75	70
Pediatrics	108	99	90
Physical Medicine & Rehab	9	4	4
Plastic Surgery	0	0	0
Psychiatry	77	79	80
Radiation-Diagnostic/Oncology	22	20	22

Surgery	54	56	54
Urology	7	8	7

Supplementary Table 2: Number of NIH career development grants (K01, K08, K23)

K01	2011	2012	2013
Anesthesiology	4	4	4
Dermatology	4	4	6
Emergency Medicine	0	1	1
Family Medicine	11	13	10
Internal Medicine/Medicine	130	125	126
Neurology	12	13	16
Neurosurgery	3	3	1
Obstetrics and Gynecology	2	1	2
Ophthalmology	0	0	0
Orthopedics	5	4	7
Otolaryngology	2	2	2
Pathology	13	14	15
Pediatrics	20	16	18
Physical Medicine & Rehab	3	4	4
Plastic Surgery	0	0	0
Psychiatry	81	84	76
Radiation-Diagnostic/Oncology	17	15	13
Surgery	8	7	11
Urology	1	1	1
K08	2011	2012	2013
Anesthesiology	13	14	15
Dermatology	18	19	17
Emergency Medicine	2	4	7
Family Medicine	5	5	5
Internal Medicine/Medicine	277	270	243
Neurology	39	36	39
Neurosurgery	7	7	9
Obstetrics and Gynecology	8	8	7
Ophthalmology	24	24	29
Orthopedics	1	2	4
Otolaryngology	12	14	12
Pathology	38	33	36
Pediatrics	114	96	93

Physical Medicine & Rehab	1	1	1
Plastic Surgery	0	0	0
Psychiatry	34	31	21
Radiation-Diagnostic/Oncology	5	5	5
Surgery	59	57	50
Urology	8	8	11
K23	2011	2012	2013
Anesthesiology	9	10	13
Dermatology	3	4	3
Emergency Medicine	18	15	15
Family Medicine	9	8	6
Internal Medicine/Medicine	306	315	306
Neurology	61	59	48
Neurosurgery	2	4	5
Obstetrics and Gynecology	12	14	11
Ophthalmology	15	11	13
Orthopedics	2	3	3
Otolaryngology	8	6	6
Pathology	4	3	2
Pediatrics	94	93	89
Physical Medicine & Rehab	7	6	10
Plastic Surgery	0	0	0
Psychiatry	119	117	104
Radiation-Diagnostic/Oncology	6	4	4
Surgery	13	12	11
Urology	2	1	2
Otolaryngology	142	149	159
Pathology	928	881	851
Pediatrics	769	803	777
Physical Medicine & Rehab	31	35	33
Plastic Surgery	3	0	1
Psychiatry	1010	990	904
Radiation-Diagnostic/Oncology	529	516	526
Surgery	413	390	369
Urology	78	77	83

Supplementary Table 3: Number of NIH advanced career grants (R01, R03, R21, P3

R01	2011	2012	2013
Anesthesiology	199	214	214
Dermatology	115	124	126
Emergency Medicine	26	30	30
Family Medicine	77	85	76
Internal Medicine/Medicine	3250	3114	2917
Neurology	520	551	538
Neurosurgery	138	141	140
Obstetrics and Gynecology	145	133	139
Ophthalmology	340	362	351
Orthopedics	111	119	134
Otolaryngology	142	149	159
Pathology	928	881	851
Pediatrics	769	803	777
Physical Medicine & Rehab	31	35	33
Plastic Surgery	3	0	1
Psychiatry	1010	990	904
Radiation-Diagnostic/Oncology	529	516	526
Surgery	413	390	369
Urology	78	77	83
R03	2011	2012	2013
Anesthesiology	6	9	6
Dermatology	5	6	2
Emergency Medicine	1	1	1
Family Medicine	8	9	9
Internal Medicine/Medicine	118	139	132
Neurology	10	9	11
Neurosurgery	3	8	8
Obstetrics and Gynecology	8	12	10
Ophthalmology	0	0	0
Orthopedics	10	10	12
Otolaryngology	13	18	19
Pathology	25	23	21
Pediatrics	38	29	35
Physical Medicine & Rehab	7	7	5
Plastic Surgery	0	0	0
Psychiatry	25	28	30
Radiation-Diagnostic/Oncology	8	7	10
Surgery	15	20	17
Urology	1	3	2

R21	2011	2012	2013
Anesthesiology	27	24	27
Dermatology	19	18	18
Emergency Medicine	6	5	3
Family Medicine	14	16	19
Internal Medicine/Medicine	375	407	393
Neurology	64	78	73
Neurosurgery	13	18	22
Obstetrics and Gynecology	33	28	27
Ophthalmology	21	19	30
Orthopedics	14	20	19
Otolaryngology	14	16	21
Pathology	124	104	112
Pediatrics	104	95	102
Physical Medicine & Rehab	4	7	11
Plastic Surgery	0	0	0
Psychiatry	122	166	191
Radiation-Diagnostic/Oncology	97	101	102
Surgery	58	54	46
Urology	8	9	5
P30	2011	2012	2013
Anesthesiology	0	0	0
Dermatology	11	8	8
Emergency Medicine	0	0	0
Family Medicine	0	4	4
Internal Medicine/Medicine	248	217	206
Neurology	15	19	16
Neurosurgery	3	3	3
Obstetrics and Gynecology	3	3	2
Ophthalmology	31	37	30
Orthopedics	4	4	4
Otolaryngology	15	8	7
Pathology	17	18	20
Pediatrics	17	21	23
Physical Medicine & Rehab	0	0	0
Plastic Surgery	0	0	0
Psychiatry	13	15	17
Radiation-Diagnostic/Oncology	5	6	5
Surgery	13	11	15

Urology	7	6	5
U01	2011	2012	2013
Anesthesiology	7	7	7
Dermatology	3	5	7
Emergency Medicine	10	13	17
Family Medicine	11	14	12
Internal Medicine/Medicine	386	399	432
Neurology	33	40	40
Neurosurgery	6	4	8
Obstetrics and Gynecology	15	17	8
Ophthalmology	4	7	5
Orthopedics	0	0	1
Otolaryngology	4	4	3
Pathology	54	54	46
Pediatrics	130	128	116
Physical Medicine & Rehab	4	3	7
Plastic Surgery	0	0	0
Psychiatry	53	87	79
Radiation-Diagnostic/Oncology	14	18	22
Surgery	51	53	57
Urology	14	15	17

Supplementary Table 4: Number of active physicians per awarded NIH training grant (F32)

F32	2011	2012	2013
Anesthesiology	1004	6740	5095
Dermatology	2705	2773	3788
Emergency Medicine	33984	35613	37241
Family Medicine	-	-	-
Internal Medicine/Medicine	865	983	957
Neurology	861	1304	658
Neurosurgery	631	639	646
Obstetrics and Gynecology	10094	6767	10207
Ophthalmology	4486	2590	2617
Orthopedics	3964	3266	3875
Otolaryngology	923	1325	1331
Pathology	681	844	623

Pediatrics	2220	2070	2344
Physical Medicine & Rehab	8503	8705	-
Plastic Surgery	-	-	-
Psychiatry	982	1303	1332
Radiation-Diagnostic/Oncology	2318	4387	7550
Surgery	1548	1717	1937
Urology	4913	4899	4886
T32	2011	2012	2013
Anesthesiology	3086	2696	2911
Dermatology	902	924	947
Emergency Medicine	-	-	-
Family Medicine	21310	26933	18153
Internal Medicine/Medicine	285	283	311
Neurology	349	383	411
Neurosurgery	1682	1703	1724
Obstetrics and Gynecology	3365	3691	3402
Ophthalmology	1196	1133	872
Orthopedics	2478	2178	2422
Otolaryngology	769	773	847
Pathology	174	191	196
Pediatrics	514	565	625
Physical Medicine & Rehab	945	2176	2227
Plastic Surgery	-	-	-
Psychiatry	497	478	466
Radiation-Diagnostic/Oncology	1475	1755	1716
Surgery	487	460	466
Urology	1404	1225	1396

Supplementary Table 5: Number of active physicians per awarded NIH career devel

K01	2011	2012	2013
Anesthesiology	10031	10110	10190
Dermatology	2705	2773	1894
Emergency Medicine	-	35613	37241
Family Medicine	9686	8287	10892
Internal Medicine/Medicine	839	880	881
Neurology	1076	1003	822
Neurosurgery	1682	1703	5171
Obstetrics and Gynecology	20189	40602	20413
Ophthalmology	-	-	-

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2	Orthopedics	3964	4900	2768
3	Otolaryngology	4616	4638	4660
4	Pathology	1152	1024	914
5	Pediatrics	2775	3493	3126
6	Physical Medicine & Rehab	2834	2176	2227
7	Plastic Surgery	-	-	-
8	Psychiatry	473	450	491
9	Radiation-Diagnostic/Oncology	1909	2340	2904
10	Surgery	3289	3679	2290
11	Urology	9826	9799	9771
12				
13				
14	K08	2011	2012	2013
15	Anesthesiology	3344	2889	2717
16	Dermatology	637	504	758
17	Emergency Medicine	11328	8903	6207
18	Family Medicine	21310	21547	21783
19	Internal Medicine/Medicine	405	409	461
20	Neurology	340	352	337
21	Neurosurgery	721	730	646
22	Obstetrics and Gynecology	5768	4511	5832
23	Ophthalmology	718	755	654
24	Orthopedics	19822	6533	4844
25	Otolaryngology	769	714	717
26	Pathology	428	410	416
27	Pediatrics	509	565	592
28	Physical Medicine & Rehab	-	4352	-
29	Plastic Surgery	-	-	-
30	Psychiatry	1160	1219	1963
31	Radiation-Diagnostic/Oncology	6489	7020	7550
32	Surgery	454	444	494
33	Urology	1092	1225	888
34				
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36	K23	2011	2012	2013
37	Anesthesiology	4458	4044	3135
38	Dermatology	3607	2773	3788
39	Emergency Medicine	1888	2374	2483
40	Family Medicine	11839	13467	18153
41	Internal Medicine/Medicine	356	349	363
42	Neurology	212	221	274
43	Neurosurgery	2524	1277	1034
44	Obstetrics and Gynecology	3365	2900	3711

Ophthalmology	1196	1648	1409
Orthopedics	9911	6533	6458
Otolaryngology	1154	1546	1553
Pathology	3744	4781	6855
Pediatrics	591	601	632
Physical Medicine & Rehab	1215	1451	891
Plastic Surgery	-	-	-
Psychiatry	322	323	359
Radiation-Diagnostic/Oncology	5408	8774	9438
Surgery	2024	2146	2290
Urology	4913	9799	4886

Supplementary Table 6: Number of active physicians per awarded NIH advanced career grant

R01	2011	2012	2013
Anesthesiology	202	189	190
Dermatology	94	89	90
Emergency Medicine	1307	1187	1241
Family Medicine	1384	1267	1433
Internal Medicine/Medicine	34	35	38
Neurology	25	24	24
Neurosurgery	37	36	37
Obstetrics and Gynecology	278	305	294
Ophthalmology	53	50	52
Orthopedics	179	165	145
Otolaryngology	65	62	59
Pathology	16	16	16
Pediatrics	72	70	72
Physical Medicine & Rehab	274	249	270
Plastic Surgery	2274	-	6942
Psychiatry	38	38	41
Radiation-Diagnostic/Oncology	61	68	72
Surgery	64	66	68
Urology	126	127	118
R03	2011	2012	2013
Anesthesiology	6687	4493	6793
Dermatology	2164	1849	5682
Emergency Medicine	33984	35613	37241
Family Medicine	13319	11970	12102

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2	Internal Medicine/Me dicine	924	792	841
3	Neurology	1292	1448	1196
4	Neurosurgery	1682	639	646
5	Obstetrics and Gynecology	5047	3383	4083
6	Ophthalmology	-	-	-
7	Orthopedics	1982	1960	1615
8	Otolaryngology	710	515	491
9	Pathology	599	624	653
10	Pediatrics	1461	1928	1607
11	Physical Medicine & Rehab	1215	1244	1781
12	Plastic Surgery	-	-	-
13	Psychiatry	1531	1350	1243
14	Radiation-Diagnostic/Oncology	4056	5014	3775
15	Surgery	1754	1288	1482
16	Urology	9826	3266	4886
17				
18	R21	2011	2012	2013
19	Anesthesiology	1486	1685	1510
20	Dermatology	569	616	631
21	Emergency Medicine	5664	7123	12414
22	Family Medicine	7611	6733	5732
23	Internal Medicine/Medicine	291	270	283
24	Neurology	202	167	180
25	Neurosurgery	388	284	235
26	Obstetrics and Gynecology	1224	1450	1512
27	Ophthalmology	854	954	611
28	Orthopedics	1416	980	1020
29	Otolaryngology	659	580	444
30	Pathology	121	138	122
31	Pediatrics	534	588	552
32	Physical Medicine & Rehab	2126	1244	810
33	Plastic Surgery	-	-	-
34	Psychiatry	314	228	195
35	Radiation-Diagnostic/Oncology	334	348	370
36	Surgery	454	477	548
37	Urology	1228	1089	1954
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39	P30	2011	2012	2013
40	Anesthesiology	-	-	-
41	Dermatology	984	1386	1420
42	Emergency Medicine	-	-	-
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2	Family Medicine	-	26933
3	Internal Medicine/Medicine	440	507
4	Neurology	861	686
5	Neurosurgery	1682	1703
6	Obstetrics and Gynecology	1345	13534
7	Ophthalmology	579	490
8	Orthopedics	4956	4900
9	Otolaryngology	615	1160
10	Pathology	881	797
11	Pediatrics	3265	2661
12	Physical Medicine & Rehab	-	-
13	Plastic Surgery	-	-
14	Psychiatry	2945	2520
15	Radiation-Diagnostic/Oncology	6489	5850
16	Surgery	2024	2341
17	Urology	1404	1633
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19	U01	2011	2012
20	Anesthesiology	5732	5777
21	Dermatology	3607	2218
22	Emergency Medicine	3398	2739
23	Family Medicine	9686	7695
24	Internal Medicine/Medicine	283	276
25	Neurology	391	326
26	Neurosurgery	841	1277
27	Obstetrics and Gynecology	2692	2388
28	Ophthalmology	4486	2590
29	Orthopedics	-	-
30	Otolaryngology	2308	2319
31	Pathology	277	266
32	Pediatrics	427	437
33	Physical Medicine & Rehab	2126	2902
34	Plastic Surgery	-	-
35	Psychiatry	722	434
36	Radiation-Diagnostic/Oncology	2318	1950
37	Surgery	516	486
38	Urology	702	653
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Supplementary Table 7: Total NIH training grant (F32, T32) funding in thousands of dolla

F32	2011	2012	2013
Anesthesiology	192	309	397
Dermatology	173	223	156
Emergency Medicine	59	54	62
Family Medicine	0	0	0
Internal Medicine/Medicine	6543	5803	5850
Neurology	732	449	964
Neurosurgery	421	365	338
Obstetrics and Gynecology	209	290	175
Ophthalmology	180	351	385
Orthopedics	247	288	252
Otolaryngology	527	384	355
Pathology	1141	865	955
Pediatrics	1339	1416	1246
Physical Medicine & Rehab	51	52	0
Plastic Surgery	0	0	0
Psychiatry	1921	1391	1318
Radiation-Diagnostic/Oncology	708	400	185
Surgery	831	760	662
Urology	116	106	111
T32	2011	2012	2013
Anesthesiology	2305	2641	2729
Dermatology	2246	2446	2263
Emergency Medicine	0	0	0
Family Medicine	1235	1172	1528
Internal Medicine/Medicine	115016	115950	111668
Neurology	9544	8462	8315
Neurosurgery	592	531	582
Obstetrics and Gynecology	2392	2382	2526
Ophthalmology	2879	3175	4438
Orthopedics	1751	2082	1823
Otolaryngology	2477	3339	2847
Pathology	327477	291955	262466
Pediatrics	24470	24006	22657
Physical Medicine & Rehab	1431	1068	1092
Plastic Surgery	0	0	0
Psychiatry	20056	20663	20323
Radiation-Diagnostic/Oncology	5579	4095	4651

Surgery	12609	12273	11253
Urology	1084	1224	1151

Supplementary Table 8: Total NIH career development grant (K01, K08, K23) funding in t

K01	2011	2012	2013
Anesthesiology	480	485	463
Dermatology	375	467	596
Emergency Medicine	0	136	134
Family Medicine	1241	1561	1182
Internal Medicine/Medicine	16576	15393	15612
Neurology	1619	1813	2313
Neurosurgery	298	241	127
Obstetrics and Gynecology	279	171	313
Ophthalmology	0	0	0
Orthopedics	618	472	808
Otolaryngology	274	274	274
Pathology	1538	1635	1698
Pediatrics	2485	2140	2285
Physical Medicine & Rehab	344	365	489
Plastic Surgery	0	0	0
Psychiatry	12041	12151	11042
Radiation-Diagnostic/Oncology	2091	1961	1517
Surgery	999	861	1240
Urology	106	106	106
K08	2011	2012	2013
Anesthesiology	1636	1831	2071
Dermatology	2225	2309	1938
Emergency Medicine	283	568	875
Family Medicine	611	616	678
Internal Medicine/Medicine	37528	36346	33277
Neurology	6333	5782	6588
Neurosurgery	1160	1197	1446
Obstetrics and Gynecology	1072	1077	952
Ophthalmology	4904	5063	5336
Orthopedics	179	269	519
Otolaryngology	1995	2189	2122
Pathology	4861	4286	4572
Pediatrics	15014	13220	12960

Physical Medicine & Rehab	125	125	125
Plastic Surgery	0	0	0
Psychiatry	5684	5023	3287
Radiation-Diagnostic/Oncology	811	820	820
Surgery	7904	8045	6671
Urology	1217	1197	1391
K23	2011	2012	2013
Anesthesiology	1200	1558	1839
Dermatology	368	491	252
Emergency Medicine	2344	2111	2311
Family Medicine	1388	1256	901
Internal Medicine/Medicine	44386	46176	45669
Neurology	8996	8961	7778
Neurosurgery	372	712	922
Obstetrics and Gynecology	1602	1806	1387
Ophthalmology	2853	2347	2644
Orthopedics	337	391	320
Otolaryngology	1485	1252	1235
Pathology	517	400	265
Pediatrics	12950	12743	12301
Physical Medicine & Rehab	994	943	1511
Plastic Surgery	0	0	0
Psychiatry	19068	18203	16841
Radiation-Diagnostic/Oncology	952	659	632
Surgery	1704	1671	1479
Urology	314	154	297

Supplementary Table 9: Total NIH advanced career grant (R01, R03, R21, P30, U01) fund

R01	2011	2012	2013
Anesthesiology	74515	84338	81634
Dermatology	39821	43881	41550
Emergency Medicine	12119	12903	13802
Family Medicine	37541	41499	36942
Internal Medicine/Medicine	1291238	1251856	1150256
Neurology	213323	221996	213488
Neurosurgery	48188	50932	46894
Obstetrics and Gynecology	50170	47030	47914
Ophthalmology	143557	146741	143466
Orthopedics	37635	40769	44058

Otolaryngology	51992	55813	56307
Pathology	324176	318396	294584
Pediatrics	312475	336173	311585
Physical Medicine & Rehab	11247	13076	13203
Plastic Surgery	967	0	537
Psychiatry	470253	459342	406053
Radiation-Diagnostic/Oncology	205633	208397	202747
Surgery	146686	140198	127421
Urology	24013	25102	25021
R03	2011	2012	2013
Anesthesiology	450081	721092	442962
Dermatology	325896	415990	151115
Emergency Medicine	63905	86342	68643
Family Medicine	736834	719578	845671
Internal Medicine/Medicine	9494800	11557791	10699669
Neurology	96465	656875	855875
Neurosurgery	39134	780722	767885
Obstetrics and Gynecology	600862	864239	764424
Ophthalmology	0	0	0
Orthopedics	816678	787365	876856
Otolaryngology	1718440	2272345	2379761
Pathology	1925448	1586299	1437747
Pediatrics	2921374	2413639	2699566
Physical Medicine & Rehab	672323	544268	461397
Plastic Surgery	0	0	0
Psychiatry	2652569	2711582	2647613
Radiation-Diagnostic/Oncology	783679	518000	742731
Surgery	1364197	1739046	1377657
Urology	78000	240620	153455
R21	2011	2012	2013
Anesthesiology	5363	4959	5614
Dermatology	3480	3878	3706
Emergency Medicine	1418	1238	677
Family Medicine	2736	3339	3520
Internal Medicine/Medicine	77517	82201	76486
Neurology	12904	15721	14688
Neurosurgery	2414	3721	4435
Obstetrics and Gynecology	6800	5278	5734
Ophthalmology	3884	3860	5863

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2	Orthopedics	2763	3619	3394
3	Otolaryngology	2673	3242	4612
4	Pathology	24267	21316	22457
5	Pediatrics	19943	19426	19820
6	Physical Medicine & Rehab	781	1430	2185
7	Plastic Surgery	0	0	0
8	Psychiatry	25223	34861	38259
9	Radiation-Diagnostic/Oncology	20438	21778	20271
10	Surgery	11149	10662	8942
11	Urology	1626	1730	838
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14	P30	2011	2012	2013
15	Anesthesiology	0	0	0
16	Dermatology	5597	4335	6056
17	Emergency Medicine	0	0	0
18	Family Medicine	0	480	473
19	Internal Medicine/Medicine	296235	320454	339482
20	Neurology	13644	15063	13998
21	Neurosurgery	1890	2651	2501
22	Obstetrics and Gynecology	5801	5801	5158
23	Ophthalmology	18749	21609	17624
24	Orthopedics	2502	2510	2391
25	Otolaryngology	4978	4832	4602
26	Pathology	24994	17233	36305
27	Pediatrics	26289	23223	22244
28	Physical Medicine & Rehab	0	0	0
29	Plastic Surgery	0	0	0
30	Psychiatry	17668	17159	19520
31	Radiation-Diagnostic/Oncology	2851	3786	4292
32	Surgery	25238	21484	24298
33	Urology	4835	4726	3941
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36	U01	2011	2012	2013
37	Anesthesiology	3304	3157	3516
38	Dermatology	810	2506	2458
39	Emergency Medicine	18243	16875	8205
40	Family Medicine	5269	8212	8912
41	Internal Medicine/Medicine	394866	38472	42765
42	Neurology	61745	68819	71516
43	Neurosurgery	4610	4594	15655
44	Obstetrics and Gynecology	25401	17051	5216
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Ophthalmology	2346	2450	1937
Orthopedics	0	0	522
Otolaryngology	1413	830	1142
Pathology	45262	29680	27222
Pediatrics	98053	99346	91102
Physical Medicine & Rehab	569	622	3799
Plastic Surgery	0	0	0
Psychiatry	41548	58726	53470
Radiation-Diagnostic/Oncology	6629	8597	13873
Surgery	29433	39199	38813
Urology	13453	11343	11810

Supplementary Table 10: Dollar amount for each NIH training grant (F32, T32) spe

F32	2011	2012	2013
Anesthesiology	4.78	7.64	9.74
Dermatology	16.02	20.11	13.69
Emergency Medicine	1.74	1.52	1.67
Family Medicine	0	0	0
Internal Medicine/Medicine	60.00	52.73	52.68
Neurology	56.70	34.41	73.72
Neurosurgery	83.50	71.52	65.43
Obstetrics and Gynecology	5.19	7.15	4.29
Ophthalmology	10.05	19.35	21.02
Orthopedics	12.45	14.72	13.01
Otolaryngology	57.13	41.39	38.07
Pathology	76.21	60.31	69.66
Pediatrics	24.12	25.33	22.15
Physical Medicine & Rehab	6.04	5.95	0
Plastic Surgery	0	0	0
Psychiatry	50.17	36.82	35.34
Radiation-Diagnostic/Oncology	21.82	11.38	4.91
Surgery	31.58	29.51	26.28
Urology	11.85	10.83	11.39
T32	2011	2012	2013
Anesthesiology	57.45	65.31	66.96
Dermatology	207.61	220.53	199.12
Emergency Medicine	0	0	0

Family Medicine	11.59	10.88	14.03
Internal Medicine/Medicine	1054.73	1053.63	100.59
Neurology	738.92	649.11	632.01
Neurosurgery	117.21	104.03	112.52
Obstetrics and Gynecology	59.25	58.68	61.87
Ophthalmology	160.46	175.12	242.27
Orthopedics	88.32	106.23	94.12
Otolaryngology	268.30	359.98	305.44
Pathology	2186.81	2035.57	1914.38
Pediatrics	440.82	429.56	402.71
Physical Medicine & Rehab	168.31	122.68	122.6
Plastic Surgery	0	0	0
Psychiatry	523.79	546.74	544.91
Radiation-Diagnostic/Oncology	171.95	116.67	123.22
Surgery	479.19	476.61	446.78
Urology	110.36	124.87	117.82

Supplementary Table 11: Dollar amount for each NIH career development grant (K01)

K01	2011	2012	2013
Anesthesiology	11.97	11.98	11.36
Dermatology	34.67	42.10	52.45
Emergency Medicine	0	3.83	3.60
Family Medicine	11.65	14.49	10.85
Internal Medicine/Medicine	152.01	139.88	140.59
Neurology	125.34	139.07	175.80
Neurosurgery	59.06	47.18	24.49
Obstetrics and Gynecology	6.92	4.21	7.66
Ophthalmology	0	0	0
Orthopedics	31.17	24.07	41.73
Otolaryngology	29.72	29.58	29.44
Pathology	102.72	114.00	123.82
Pediatrics	44.76	38.30	40.61
Physical Medicine & Rehab	40.44	41.98	54.95
Plastic Surgery	0	0	0
Psychiatry	314.48	321.51	296.05
Radiation-Diagnostic/Oncology	64.43	55.86	40.20
Surgery	37.96	33.43	49.24
Urology	10.77	10.80	10.83
K08	2011	2012	2013

Anesthesiology	40.78	45.27	50.82
Dermatology	205.68	208.13	170.54
Emergency Medicine	8.33	15.95	23.50
Family Medicine	5.73	5.72	6.22
Internal Medicine/Medicine	344.14	330.28	299.67
Neurology	490.32	443.51	500.72
Neurosurgery	229.79	234.21	279.63
Obstetrics and Gynecology	26.56	26.52	23.33
Ophthalmology	273.33	279.28	291.34
Orthopedics	9.04	13.71	26.79
Otolaryngology	216.07	235.99	227.68
Pathology	324.60	298.86	333.48
Pediatrics	270.48	236.56	230.35
Physical Medicine & Rehab	14.69	14.35	14.03
Plastic Surgery	0	0	0
Psychiatry	148.44	132.90	88.13
Radiation-Diagnostic/Oncology	25.01	23.36	21.72
Surgery	300.38	312.41	264.84
Urology	123.84	122.20	142.34
K23	2011	2012	2013
Anesthesiology	29.91	38.53	45.12
Dermatology	33.98	44.24	22.18
Emergency Medicine	68.98	59.28	62.06
Family Medicine	13.02	11.66	8.27
Internal Medicine/Medicine	407.03	419.60	411.26
Neurology	696.50	687.37	591.24
Neurosurgery	73.70	139.35	178.37
Obstetrics and Gynecology	39.68	44.49	33.98
Ophthalmology	159.02	129.45	144.34
Orthopedics	17.02	19.94	16.53
Otolaryngology	160.86	134.92	132.49
Pathology	34.49	27.91	19.31
Pediatrics	233.29	228.02	218.64
Physical Medicine & Rehab	116.92	108.31	169.68
Plastic Surgery	0	0	0
Psychiatry	498.00	481.66	451.55
Radiation-Diagnostic/Oncology	29.33	18.78	16.73
Surgery	64.76	64.88	58.74
Urology	31.99	15.71	30.39

Supplementary Table 12: Dollar amount for each NIH advanced career grant (R01, R03, R

R01	2011	2012	2013
Anesthesiology	1857.17	2085.47	2002.89
Dermatology	3680.31	3956.23	3656.59
Emergency Medicine	356.59	362.32	370.61
Family Medicine	352.34	385.20	339.17
Internal Medicine/Medicine	11841.01	11375.60	10358.28
Neurology	16516.17	17029.48	16227.40
Neurosurgery	9547.89	9969.06	9068.75
Obstetrics and Gynecology	1242.54	1158.34	1173.61
Ophthalmology	8000.73	8093.83	7832.38
Orthopedics	1898.66	2080.26	2274.09
Otolaryngology	5631.72	6016.96	6041.57
Pathology	21647.85	22199.46	21486.80
Pediatrics	5629.26	6015.39	5538.10
Physical Medicine & Rehab	1322.77	1502.20	1482.51
Plastic Surgery	141.77	0	77.41
Psychiatry	12281.68	12154.31	10887.32
Radiation-Diagnostic/Oncology	6337.90	5937.65	5370.79
Surgery	5574.43	5444.49	5059.00
Urology	2443.77	2561.83	2560.75
R03	2011	2012	2013
Anesthesiology	11.22	17.83	10.87
Dermatology	30.12	37.51	13.3
Emergency Medicine	1.88	2.42	1.84
Family Medicine	6.92	6.68	7.76
Internal Medicine/Medicine	87.07	105.03	96.35
Neurology	74.68	50.39	65.06
Neurosurgery	77.53	152.81	148.5
Obstetrics and Gynecology	14.88	21.29	18.72
Ophthalmology	0	0	0
Orthopedics	41.2	40.18	45.26
Otolaryngology	186.14	244.97	255.34
Pathology	128.58	110.6	104.87
Pediatrics	52.63	43.19	47.98
Physical Medicine & Rehab	79.07	62.53	51.81
Plastic Surgery	0	0	0
Psychiatry	69.28	71.75	70.99

Radiation-Diagnostic/Oncology	24.15	14.76	19.67
Surgery	51.84	67.53	54.7
Urology	7.94	24.56	15.71
R21	2011	2012	2013
Anesthesiology	133.66	122.64	137.74
Dermatology	321.61	349.67	326.15
Emergency Medicine	41.72	34.77	18.18
Family Medicine	25.67	30.99	32.31
Internal Medicine/Medicine	710.85	746.96	688.77
Neurology	999.05	1205.96	1116.44
Neurosurgery	478.39	728.36	857.71
Obstetrics and Gynecology	168.40	129.99	140.44
Ophthalmology	216.49	212.90	320.06
Orthopedics	139.37	184.67	175.17
Otolaryngology	289.56	349.50	494.81
Pathology	1620.52	1486.19	1638.03
Pediatrics	359.27	347.60	352.27
Physical Medicine & Rehab	91.84	164.28	245.29
Plastic Surgery	0	0	0
Psychiatry	658.75	922.43	1025.81
Radiation-Diagnostic/Oncology	629.93	620.50	536.98
Surgery	423.69	414.06	355.02
Urology	165.44	176.52	85.77
P30	2011	2012	2013
Anesthesiology	0	0	0
Dermatology	517.27	390.85	532.97
Emergency Medicine	0	0	0
Family Medicine	0	4.46	4.35
Internal Medicine/Medicine	2716.56	2911.97	3057.10
Neurology	1056.37	1155.52	1063.93
Neurosurgery	374.49	518.96	483.66
Obstetrics and Gynecology	143.68	142.88	126.34
Ophthalmology	1044.94	1191.91	962.15
Orthopedics	126.20	128.06	123.40
Otolaryngology	539.17	520.92	493.72
Pathology	1669.05	1201.52	2648.08
Pediatrics	473.59	415.55	395.36
Physical Medicine & Rehab	0	0	0
Psychiatry	461.43	454.04	523.37

Radiation-Diagnostic/Oncology	87.87	107.87	113.69
Surgery	959.11	834.32	964.72
Urology	492.04	482.37	403.34
U01	2011	2012	2013
Anesthesiology	82.34	78.08	86.27
Dermatology	74.83	225.95	216.31
Emergency Medicine	536.81	473.85	220.31
Family Medicine	49.45	76.23	81.82
Internal Medicine/Medicine	3621.03	3495.78	3850.67
Neurology	4780.51	5279.12	5436.02
Neurosurgery	913.42	899.29	3027.48
Obstetrics and Gynecology	629.11	419.96	127.76
Ophthalmology	130.77	135.16	105.76
Orthopedics	0	0	26.92
Otolaryngology	153.02	89.48	122.50
Pathology	3022.5	2069.4	1985.57
Pediatrics	1766.44	1777.68	1619.25
Physical Medicine & Rehab	66.88	71.50	426.53
Plastic Surgery	0	0	0
Psychiatry	1085.13	1553.90	1433.67
Radiation-Diagnostic/Oncology	204.33	244.96	367.51
Surgery	1118.53	1522.26	1540.99
Urology	1369.09	1157.66	1208.71

Supplementary Table 13: Mean NIH training grant (F32, T32) funding amount from

F32	2011	2012	2013
Anesthesiology	47,914.25	51,490.00	49,633.25
Dermatology	43,343.50	55,754.00	51,857.67
Emergency Medicine	59,234.00	54,033.00	62,234.00
Family Medicine	-	-	-
Internal Medicine/Medicine	51,926.46	51,811.16	50,429.82
Neurology	48,824.33	44,860.50	48,197.95
Neurosurgery	52,676.12	45,676.25	42,293.62
Obstetrics and Gynecology	52,343.00	48,368.00	43,787.75
Ophthalmology	45,094.75	50,123.71	55,008.00
Orthopedics	49,338.00	48,075.67	50,392.60
Otolaryngology	52,747.00	54,843.71	50,681.71

Pathology	51,873.14	50,886.24	43,413.09
Pediatrics	53,559.40	52,427.22	51,929.29
Physical Medicine & Rehab	51,326.00	51,821.00	-
Plastic Surgery	-	-	-
Psychiatry	49,255.31	47,980.59	47,068.46
Radiation-Diagnostic/Oncology	50,566.64	49,940.50	37,040.60
Surgery	48,888.53	50,666.33	50,921.23
Urology	58,202.00	53,066.00	55,670.00
T32	2011	2012	2013
Anesthesiology	177,313.40	176,064.90	194,942.40
Dermatology	187,196.80	203,836.20	188,549.20
Emergency Medicine	-	-	-
Family Medicine	246,991.00	292,899.00	254,736.30
Internal Medicine/ Medicine	301,089.20	298,071.10	312,795.30
Neurology	257,944.60	248,875.60	259,835.60
Neurosurgery	197,192.30	177,160.70	193,940.30
Obstetrics and Gynecology	199,358.80	216,580.20	210,501.20
Ophthalmology	191,942.20	198,428.80	211,319.40
Orthopedics	218,841.90	231,324.10	227,927.00
Otolaryngology	206,410.50	278,268.20	258,790.70
Pathology	380,784.30	389,268.50	374,945.80
Pediatrics	226,569.60	242,487.10	251,749.30
Physical Medicine & Rehab	159,013.20	266,958.20	272,975.00
Plastic Surgery	-	-	-
Psychiatry	260,461.80	261,552.40	254,036.70
Radiation-Diagnostic/ Oncology	253,584.50	204,744.00	211,428.10
Surgery	233,508.00	219,160.50	208,387.80
Urology	154,911.30	152,947.90	164,463.90

Supplementary Table 14: Mean NIH career development grant (K01, K08, K223) funding :

K01	2011	2012	2013
Anesthesiology	120,086.20	121,151.50	115,788.80
Dermatology	93,785.25	116,732.20	99,330.00
Emergency Medicine	-	136,304.00	134,016.00
Family Medicine	112,845.90	120,051.80	118,157.40
Internal Medicine/ Medicine	127,509.60	123,147.00	123,903.40
Neurology	134,905.80	139,454.80	144,548.50
Neurosurgery	99,353.33	80,347.00	126,644.00

1				
2	Obstetrics and Gynecology	139,635.50	171,026.00	156,377.50
3	Ophthalmology	-	-	-
4				
5	Orthopedics	123,579.60	117,938.50	115,494.70
6	Otolaryngology	137,182.00	137,182.00	137,188.00
7				
8	Pathology	118,330.60	116,786.60	113,168.80
9	Pediatrics	124,242.00	133,766.00	126,937.50
10				
11	Physical Medicine & Rehab	114,634.30	91,353.75	122,354.20
12	Plastic Surgery	-	-	-
13				
14	Psychiatry	148,655.30	144,651.20	145,283.70
15	Radiation-Diagnostic/ Oncology	122,974.40	130,706.80	116,722.90
16				
17	Surgery	124,855.50	122,972.90	112,757.30
18	Urology	105,823.00	105,823.00	105,823.00
19				
20				
21	K08	2011	2012	2013
22				
23	Anesthesiology	125,868.50	130,766.60	138,082.60
24	Dermatology	123,634.20	121,501.10	113,992.10
25				
26	Emergency Medicine	141,586.00	142,015.50	125,040.90
27	Family Medicine	122,205.80	123,184.80	135,554.20
28				
29	Internal Medicine/ Medicine	135,478.30	134,615.70	136,943.70
30	Neurology	162,383.80	160,599.20	168,910.60
31				
32	Neurosurgery	165,681.90	170,939.90	160,663.30
33	Obstetrics and Gynecology	134,050.10	134,579.40	136,049.00
34	Ophthalmology	204,350.20	210,972.40	184,014.60
35				
36	Orthopedics	179,280.00	134,364.00	129,774.80
37	Otolaryngology	166,228.00	156,362.90	176,830.70
38				
39	Pathology	127,919.40	129,889.90	127,000.10
40	Pediatrics	131,701.80	137,711.50	139,356.10
41				
42	Physical Medicine & Rehab	124,929.00	124,929.00	124,929.00
43	Plastic Surgery	-	-	-
44				
45	Psychiatry	167,165.70	162,011.70	156,512.70
46	Radiation-Diagnostic/ Oncology	162,287.60	163,995.20	163,995.20
47				
48	Surgery	133,971.00	141,133.80	133,410.60
49	Urology	152,109.50	149,671.80	126,433.20
50				
51				
52	K23	2011	2012	2013
53				
54	Anesthesiology	133,340.70	155,830.60	141,449.70
55	Dermatology	122,563.30	122,675.50	83,995.33
56				
57	Emergency Medicine	130,236.80	140,747.70	154,086.90
58	Family Medicine	154,195.60	156,956.10	150,109.50
59	Internal Medicine/ Medicine	145,051.40	146,590.90	149,245.80
60	Neurology	147,474.40	151,874.90	162,050.10

Neurosurgery	185,974	177,987.20	184,467.40
Obstetrics and Gynecology	133,524.90	129,024.90	126,127.10
Ophthalmology	190,213.70	213,359	203,372.30
Orthopedics	168,729.00	130,244.00	106,738.00
Otolaryngology	185,635.10	208,591.80	205,798.00
Pathology	129,132	133,431.30	132,375
Pediatrics	137,762.10	137,020.20	138,214.20
Physical Medicine & Rehab	142,022.90	157,135.50	151,114.80
Plastic Surgery	-	-	-
Psychiatry	160,234.10	155,582.30	161,932.10
Radiation-Diagnostic/ Oncology	158,602.70	164,772.20	157,904.80
Surgery	131,087.50	139,226.80	134,489.40
Urology	157,160	153,943.00	148,464.50

Supplementary Table 15: Mean NIH advanced career grant (R01, R03, R21,P30, U01) fund

R01	2011	2012	2013
Anesthesiology	374,447.70	394,100.80	381,465.50
Dermatology	346,269.00	353,875.30	329,760.60
Emergency Medicine	466,096.40	430,106.60	460,062.20
Family Medicine	487,546.90	488,225.60	486,072.70
Internal Medicine/ Medicine	397,304.00	402,009.00	394,328.30
Neurology	410,236.30	402,897.10	396,817.20
Neurosurgery	349,190.00	361,219.40	334,960.60
Obstetrics and Gynecology	346,000.80	353,612.00	344,703.60
Ophthalmology	422,226.60	405,362.00	408,734.00
Orthopedics	339,055.70	342,596.00	328,792.10
Otolaryngology	366,140.90	374,585.90	354,134.70
Pathology	349,328.10	361,402.70	346,162.30
Pediatrics	406,339.10	418,646.40	401,010.10
Physical Medicine & Rehab	362,821.50	373,596.10	400,098.60
Plastic Surgery	322,374.70	-	537,402.00
Psychiatry	465,597.40	463,981.70	449,174.00
Radiation-Diagnostic/ Oncology	388,720.60	403,869.50	385,450.80
Surgery	355,171.00	359,483.10	345,314.60
Urology	307,852.70	326,001.30	301,458.50
R03	2011	2012	2013
Anesthesiology	75,013.50	80,121.33	73,827.00
Dermatology	65,179.20	69,331.67	75,557.50

1				
2	Emergency Medicine	63,905.00	86,342.00	68,643.00
3	Family Medicine	92,104.25	79,953.11	93,963.44
4	Internal Medicine/ Medicine	80,464.41	83,149.58	81,058.10
5	Neurology	96,460.50	72,986.11	77,806.82
6	Neurosurgery	130,434.70	97,590.25	95,985.62
7	Obstetrics and Gynecology	75,107.75	72,019.92	76,442.40
8	Ophthalmology	-	-	-
9	Orthopedics	81,667.80	78,736.50	73,071.33
10	Otolaryngology	132,187.70	126,241.40	125,250.60
11	Pathology	77,017.92	68,969.52	68,464.14
12	Pediatrics	76,878.26	83,228.93	77,130.46
13	Physical Medicine & Rehab	96,047.43	77,752.57	92,279.40
14	Plastic Surgery	-	-	-
15	Psychiatry	106,102.80	96,842.21	88,253.77
16	Radiation-Diagnostic/ Oncology	97,959.88	74,000.00	74,273.10
17	Surgery	90,946.47	86,952.30	81,038.65
18	Urology	78,000.00	80,206.67	76,727.50
19				
20	R21	2011	2012	2013
21	Anesthesiology	198,626.80	206,645.70	207,925.40
22	Dermatology	183,150.90	215,467.50	205,891.90
23	Emergency Medicine	236,297.20	247,628.80	225,641.70
24	Family Medicine	195,393.30	208,657.20	185,239.90
25	Internal Medicine/ Medicine	206,711.70	201,968.50	194,621.30
26	Neurology	201,619.80	201,549.90	201,204.50
27	Neurosurgery	185,724.80	206,732.60	201,600.70
28	Obstetrics and Gynecology	206,047.70	188,485.70	212,358.60
29	Ophthalmology	184,974.60	203,152.80	195,418.10
30	Orthopedics	197,322.00	180,957.80	178,617.30
31	Otolaryngology	190,945.80	202,619.80	219,600.80
32	Pathology	195,703.40	204,958.00	200,512.00
33	Pediatrics	191,759.30	204,481.70	194,309.80
34	Physical Medicine & Rehab	195,226.20	204,276.70	198,593.80
35	Plastic Surgery	-	-	-
36	Psychiatry	206,745.70	210,005.50	200,307.60
37	Radiation-Diagnostic/ Oncology	210,700.90	215,624.70	198,734.30
38	Surgery	192,224.20	197,450.10	194,389.40
39	Urology	203,200.80	192,179.90	167,621.00
40				
41	P30	2011	2012	2013
42	Anesthesiology	-	-	-
43	Dermatology	508,803.50	541,894.10	757,022.80
44	Emergency Medicine	-	-	-
45				

1				
2	Family Medicine	-	119,990.50	118,347.00
3	Internal Medicine/ Medicine	1,322,479.00	1,476,749.00	1,647,969.00
4	Neurology	909,600.70	792,808.50	874,868.00
5	Neurosurgery	945,027.00	883,790.30	833,661.70
6	Obstetrics and Gynecology	1,933,778.00	1,933,777.00	2,578,935.00
7	Ophthalmology	604,815.60	584,035.50	587,455.10
8	Orthopedics	625,387.50	627,439.20	597,681.80
9	Otolaryngology	622,200.80	604,010.00	657,359.40
10	Pathology	1,470,235.00	957,377.10	1,815,262.00
11	Pediatrics	1,546,389.00	1,105,870.00	967,114.30
12	Physical Medicine & Rehab	-	-	-
13	Plastic Surgery	-	-	-
14	Psychiatry	1,359,067.00	1,143,958.00	1,148,220.00
15	Radiation-Diagnostic/Oncology	570,185.40	631,016.30	858,373.40
16	Surgery	1,941,337.00	1,953,115.00	1,619,891.00
17	Urology	690,688.70	787,747.80	788,214.80
18				
19				
20	U01	2011	2012	2013
21	Anesthesiology	471,964.90	451,071.30	502,329.90
22	Dermatology	269,879.00	501,225.00	351,136.30
23	Emergency Medicine	1,824,301.00	1,298,730.00	482,628.40
24	Family Medicine	478,966.10	586,568.90	742,643.20
25	Internal Medicine/ Medicine	1,022,969.00	964,165.60	989,827.10
26	Neurology	1,871,063.00	1,720,465.00	1,787,908.00
27	Neurosurgery	768,340.80	1,148,616.00	1,956,889.00
28	Obstetrics and Gynecology	1,693,429.00	1,003,004.00	651,969.90
29	Ophthalmology	586,612.20	350,067.90	387,425.60
30	Orthopedics	-	-	521,639.00
31	Otolaryngology	353,177.20	207,493.50	380,567.70
32	Pathology	838,184.80	549,637.20	591,787.10
33	Pediatrics	754,255.50	776,144.10	785,361.80
34	Physical Medicine & Rehab	142,161.00	207,461.00	542,662.10
35	Plastic Surgery	-	-	-
36	Psychiatry	783,933.80	675,010.60	676,836.10
37	Radiation-Diagnostic/Oncology	473,532.00	477,637.40	630,609.80
38	Surgery	577,115.30	739,604.80	680,929.60
39	Urology	960,907.90	756,219.90	694,723.70
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60				

2011-2020 by specialty

	2014	2015	2016	2017	2018	2019
	7	1	1	3	5	2
	2	3	3	5	4	1
	0	0	0	0	0	0
	1	1	0	0	0	0
	108	109	119	132	115	108
	31	29	23	29	27	29
	8	10	10	9	15	8
	4	5	4	3	6	5
	9	12	8	10	7	9
	5	6	6	6	7	7
	10	6	8	14	10	8
	22	23	25	24	17	16
	24	18	17	15	13	19
	1	1	1	3	4	3
	0	0	0	0	0	1
	26	27	29	29	25	29
	1	2	9	8	7	4
	19	21	20	17	20	15
	5	2	3	3	1	1
	2014	2015	2016	2017	2018	2019
	17	21	19	25	19	20
	11	11	11	11	10	7
	0	0	1	2	2	2
	5	4	4	9	5	4
	353	339	341	452	366	347
	32	29	30	38	36	35
	3	5	5	6	4	6
	11	12	10	13	7	8
	19	17	18	27	22	26
	7	7	7	8	7	7
	14	15	15	29	17	16
	79	68	70	89	67	59
	87	90	84	88	73	74
	3	3	4	5	5	4
	0	0	0	0	0	0
	79	71	71	107	69	68
	26	28	27	33	32	30

48	48	49	57	53	58
8	5	6	4	2	4

) awarded from 2011-2020 by specialty

2014	2015	2016	2017	2018	2019
5	5	5	6	8	5
4	6	7	11	13	10
1	2	0	0	1	1
7	7	8	8	9	9
144	159	143	135	154	170
17	17	19	20	19	23
0	0	1	0	2	3
4	5	5	7	6	8
1	0	0	1	2	2
7	10	7	6	5	6
2	0	0	0	0	0
14	13	12	13	16	17
19	16	25	23	21	23
6	7	8	13	13	10
0	0	0	0	0	0
75	72	67	70	65	72
11	14	14	19	18	15
7	10	12	13	9	8
1	3	4	6	5	5
2014	2015	2016	2017	2018	2019
15	13	12	16	21	25
16	15	12	14	11	14
4	5	7	7	8	7
2	1	1	1	1	3
0	228	241	230	251	281
33	37	33	31	30	35
7	11	12	14	11	13
5	2	3	2	5	6
29	30	28	27	27	25
4	4	5	7	7	7
10	12	11	9	10	12
33	32	24	25	28	27
86	82	91	106	117	113

1						
2	0	0	0	0	1	1
3	0	0	0	0	0	0
4						
5	28	22	23	25	23	19
6	6	6	1	3	3	14
7						
8	46	38	38	39	44	45
9	7	4	5	5	5	5
10						
11						
12	2014	2015	2016	2017	2018	2019
13	13	12	10	13	12	17
14	1	3	4	4	9	10
15						
16	14	15	19	21	19	20
17	3	6	4	5	5	6
18						
19	297	276	262	247	247	249
20	50	52	43	48	53	58
21	4	5	5	4	4	5
22						
23	14	10	5	7	8	10
24						
25	11	13	20	21	21	21
26	3	2	2	1	3	3
27	9	12	11	12	12	12
28	3	2	1	1	1	1
29						
30	89	79	65	85	93	108
31	12	9	10	6	2	3
32	0	0	0	0	0	0
33	99	100	93	102	103	110
34	4	4	4	4	2	1
35						
36	11	10	10	9	8	9
37	3	2	3	2	1	3
38						
39	157	164	157	152	178	196
40	773	762	749	710	774	822
41						
42	764	715	715	679	720	734
43	37	34	42	50	60	61
44	1	0	0	1	0	1
45						
46	896	822	846	864	899	903
47	495	503	499	526	607	604
48						
49	359	360	350	384	412	449
50	76	63	60	61	60	61
51						
52						
53						
54						
55						
56						
57						
58	0, U01) awarded from 2011-2020	by specialty				
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26						
27						
28						
29						
30						
31						
32						
33	2014	2015	2016	2017	2018	2019
34	6	4	4	6	9	8
35	4	8	9	7	4	4
36	1	4	4	5	4	2
37	7	6	5	2	2	5
38	124	110	90	91	102	120
39	12	13	16	15	15	15
40	5	7	4	2	2	2
41	12	10	11	15	17	14
42	2	3	1	1	2	3
43	14	10	7	3	3	7
44	15	14	12	12	10	2
45	20	15	9	12	21	26
46	34	34	43	35	41	38
47	7	5	5	3	4	7
48	0	0	1	1	0	0
49	22	20	23	29	23	20
50	17	21	9	11	18	22
51	17	19	14	25	21	11
52	4	5	3	1	1	3
53						
54						
55						
56						
57						
58						
59						
60						

1						
2						
3						
4	2014	2015	2016	2017	2018	2019
5	21	28	27	26	37	39
6	26	21	14	15	16	15
7	5	6	5	7	10	6
8	20	24	23	14	12	16
9	368	379	394	375	376	377
10	73	72	79	82	93	107
11	21	35	36	27	26	41
12	25	24	24	21	28	33
13	29	36	34	24	31	51
14	15	16	16	26	36	26
15	28	23	14	15	31	30
16	140	160	166	138	117	113
17	108	121	123	116	118	127
18	9	4	9	13	10	13
19	0	0	0	0	0	0
20	179	156	151	153	149	155
21	115	121	118	115	89	103
22	48	62	68	50	49	51
23	4	10	13	9	7	8
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34	2014	2015	2016	2017	2018	2019
35	1	0	0	0	0	0
36	11	8	12	11	5	4
37	0	0	0	0	0	0
38	4	4	4	1	1	4
39	248	312	353	283	558	333
40	14	14	16	16	18	21
41	2	2	1	1	1	2
42	3	5	6	0	3	6
43	29	32	29	29	31	29
44	5	5	5	5	5	6
45	8	6	5	1	61	1
46	23	26	27	27	20	13
47	18	18	20	18	12	14
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	15	20	13	11	9	11
51	7	8	7	10	10	12
52	12	24	27	20	127	22

1						
2	2371	3197	3411	3896	4579	3190
3	9035	9164	9254	3114	2389	3256
4						
5	-	-	-	-	-	7317
6	1443	1398	1309	1317	1540	1338
7						
8	38191	19316	4360	4981	5796	10324
9	1327	1203	1257	1473	1265	1704
10						
11	1958	4904	3288	3307	10061	10201
12						
13						
14	2014	2015	2016	2017	2018	2019
15	2415	1969	2187	1670	2211	2113
16	1049	1064	1080	1096	1228	1788
17						
18	-	-	40964	21174	21888	22601
19						
20	22021	27824	28101	12613	23171	29550
21	319	337	337	256	322	346
22	415	462	452	361	387	404
23						
24	1753	1069	1088	922	1410	958
25						
26	3741	3457	4157	3204	6027	5340
27	971	1094	1039	697	867	743
28	2751	2735	2725	2375	2719	2724
29						
30	669	627	631	328	568	611
31	171	195	187	144	190	214
32						
33	654	639	690	664	815	819
34	3012	3055	2313	1869	1911	2442
35						
36	-	-	-	-	-	-
37	475	531	535	357	558	570
38						
39	1469	1380	1453	1207	1268	1377
40	525	526	513	439	477	441
41						
42	1224	1962	1644	2480	5031	2550

opment grant (K01, K08, K23) from 2011-2020 by specialty

46						
47	2014	2015	2016	2017	2018	2019
48	8211	8270	8311	6960	5252	8453
49	2884	1951	1697	1096	945	1252
50						
51	38410	19790	-	-	43775	45202
52	15729	15899	14051	14189	12873	13133
53	782	718	803	856	765	707
54	781	788	713	686	733	615
55						
56	-	-	5439	-	2820	1916
57						
58	10288	8296	8314	5951	7031	5340
59						
60	18455	-	-	18817	9532	9656

1						
2	2751	1915	2725	3167	3807	3178
3	4683	-	-	-	-	-
4						
5	964	1022	1089	988	796	744
6	2995	3596	2320	2541	2835	2636
7						
8	1506	1309	1157	719	735	977
9	-	-	-	-	-	-
10						
11	500	524	567	546	592	539
12	3472	2759	2803	2097	2254	2753
13						
14	3603	2525	2096	1926	2811	3196
15	9790	3269	2466	1654	2012	2040
16						
17						
18	2014	2015	2016	2017	2018	2019
19	2737	3446	2770	2784	1827	1691
20						
21	769	732	914	927	945	1043
22						
23	9603	7916	5852	4705	5472	7534
24	55053	111295	112405	113514	115856	39399
25						
26	467	496	471	490	481	437
27	415	352	411	416	464	393
28						
29	657	486	418	395	513	479
30	8231	20741	13856	20828	7031	6103
31						
32	595	563	693	752	706	840
33	4815	4786	4768	2714	2379	2724
34						
35	851	724	861	1058	877	1086
36	375	403	568	514	439	452
37						
38	677	710	630	513	518	532
39	-	-	-	-	9555	9767
40	-	-	-	-	-	-
41						
42	1501	1509	1726	1661	1674	1940
43	5456	12877	19620	13282	10143	2950
44						
45	587	683	613	626	588	568
46	1632	2452	1973	1984	2515	1700
47						
48						
49	2014	2015	2016	2017	2018	2019
50	3158	3446	4156	3212	3501	2486
51						
52	11535	3902	2970	3013	1365	1252
53						
54	2744	2639	2156	2017	2304	2260
55	36702	18549	28101	22703	23171	19700
56						
57	379	413	438	468	477	483
58	265	258	315	286	263	244
59						
60	1315	1069	1088	1383	1410	1150
	2940	4148	8314	5951	5274	4272

1						
2	908	1037	1276	1270	1156	1001
3	1106	1030	847	914	929	944
4						
5	1052	764	1360	2766	2820	2874
6	3429	4148	3779	2777	2482	3051
7						
8	9228	6198	18705	18817	9532	6437
9	1376	1915	2725	6334	6345	2724
10						
11	624	672	789	794	965	4889
12	675	886	1451	1070	607	486
13						
14	1674	1692	1349	1670	1452	1595
15	1291	1833	1851	3114	2389	1395
16						
17	-	-	7081	7142	-	-
18	1705	1887	1651	1317	1674	1940
19						
20	2247	1840	4360	3622	2254	1877
21	1484	1329	1796	1002	1205	2324
22						
23	2447	1962	3288	9921	10061	3400
24						
25						
26	2014	2015	2016	2017	2018	2019
27	1955	1477	1539	1606	1136	1084
28	444	557	848	803	768	834
29						
30	7682	6597	8193	6050	4378	7534
31						
32	5505	4637	4887	8108	9655	7387
33	306	301	291	308	313	319
34	182	186	172	167	150	132
35						
36	250	153	151	205	217	140
37						
38	1646	1728	1732	1984	1507	1295
39	636	516	550	784	615	379
40	1284	1197	1192	731	529	733
41						
42	334	409	676	635	311	326
43	96	83	79	93	109	112
44						
45	527	476	471	504	504	477
46	1004	2291	1028	719	956	751
47						
48	-	-	-	-	-	-
49	210	242	251	250	258	250
50						
51	332	319	333	346	456	401
52	525	407	370	501	516	501
53						
54	2447	981	759	1102	1437	1275
55						
56						
57	2014	2015	2016	2017	2018	2019
58	41055	-	-	-	-	-
59	1049	1463	990	1096	2457	3129
60	-	-	-	-	-	-

1						
2	27527	27824	28101	11351	11585	29550
3	454	366	325	408	211	361
4	948	957	847	857	774	674
5	2629	2673	5439	5531	5640	2874
6	13718	8296	6928	-	14063	7120
7	636	581	645	649	615	666
8	3852	3829	3815	3800	3807	3178
9	1171	1569	1894	9526	158	9777
10	587	511	484	476	637	973
11	3161	3197	2899	3246	4961	4330
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	2501	1887	2921	3473	4278	3527
15	5456	4829	5606	3985	4057	3441
16	2102	1052	931	1252	199	1162
17	1632	1635	1096	-	-	-
18						
19						
20	2014	2015	2016	2017	2018	2019
21	3421	4595	2770	2983	2801	3522
22	1922	1463	2376	2410	2047	1391
23	2744	4947	8193	10587	5472	15067
24	10010	7420	7494	8732	7724	7880
25	295	274	277	263	240	213
26	246	239	174	221	199	208
27	751	411	201	221	269	575
28	3166	1804	3198	2604	3516	4747
29	3691	3719	3741	3136	1906	1609
30	9629	19145	19073	-	-	19069
31	2341	3137	3156	2382	1930	2444
32	409	458	408	401	364	333
33	474	464	563	536	541	546
34	1291	1146	1851	1869	1593	3256
35	-	-	-	-	7230	7317
36	441	363	457	509	437	422
37	1469	1136	1353	996	751	737
38	537	495	535	482	402	448
39	489	577	617	522	774	680
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
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52						
53						
54						
55						
56						
57						
58						
59						
60						

rs from 2011-2020 by specialty

	2014	2015	2016	2017	2018	2019
	305	24	58	171	288	122
	86	149	167	231	233	66
	0	0	0	0	0	0
	56	20	0	0	0	0
	5543	5833	6417	6236	6436	6670
	1539	1457	1296	1234	1520	1584
	413	503	538	529	802	443
	215	276	229	146	356	310
	491	644	398	430	420	532
	231	321	288	331	429	446
	508	297	463	595	542	500
	1023	1207	1368	892	1052	980
	1229	867	773	737	762	1158
	56	41	69	188	246	197
	0	0	0	0	0	71
	1254	1424	1560	1178	1385	1700
	55	112	478	383	429	269
	983	1149	1027	942	1285	1008
	223	121	156	118	74	66
	2014	2015	2016	2017	2018	2019
	3258	4813	4967	5373	5038	5083
	1840	2359	2357	2268	2180	1957
	0	0	169	740	894	916
	1487	1507	1328	2196	1739	1472
	111459	115327	119832	120062	132678	134551
	10030	9009	9960	10802	11276	9092
	600	1739	1820	1644	2273	3672
	2622	2685	2442	2154	1666	1762
	4390	4005	3857	3762	4064	4869
	1617	1686	1676	1832	1568	1675
	3672	3961	3768	4342	4372	4284
	26906	24478	24051	25070	24675	22805
	21653	24482	24548	21927	24246	25047
	844	939	1004	1063	1287	1263
	0	0	0	0	0	0
	19112	18134	20311	21132	21545	22702
	4886	5477	7208	6005	7795	7771

10806	10501	12327	13198	16012	17863
1166	648	906	623	335	989

thousands of dollars from 2011-2020 by specialty

2014	2015	2016	2017	2018	2019
613	884	888	1031	1209	655
445	647	779	1280	1341	1030
132	276	0	0	41	123
896	930	1072	1086	1278	1167
18721	20557	18980	19473	22017	24366
2554	2501	2809	2734	2635	2983
0	0	105	0	318	454
640	779	742	953	771	1024
131	0	0	145	253	260
850	1105	885	750	615	700
260	0	0	0	0	0
1500	1507	2011	2106	2359	2072
2465	2174	3086	3156	3056	3452
733	864	992	1686	1664	1336
0	0	0	0	0	0
11433	10732	10180	10475	10189	11101
1575	1710	1929	2705	2437	1931
886	1353	1716	2081	1590	1374
137	440	594	846	700	699
2014	2015	2016	2017	2018	2019
2275	2120	2058	2662	3792	4516
1733	1802	1934	1958	1802	2016
593	746	1091	1136	1284	1113
275	148	146	168	168	515
34241	32022	37178	37443	41602	46610
5789	5803	5416	5683	5691	6525
1153	1658	1867	2222	2009	2370
598	244	374	334	907	1110
6174	6111	5435	5502	5280	5054
438	485	871	1201	1031	847
1833	2265	2069	1684	1933	2167
4859	4564	3929	3803	4681	4720
12372	11670	13420	17141	19548	19397

0	0	0	0	171	171
0	0	0	0	0	0
4502	3704	3895	4264	3698	3256
915	832	172	532	610	2888
6572	5420	6127	6343	7333	7654
1060	662	824	843	830	1111
2014	2015	2016	2017	2018	2019
2035	1853	1538	2247	2154	3073
123	257	669	694	1364	1557
2158	2213	3113	3733	3333	3579
440	648	585	808	801	985
44077	40587	43388	43248	44087	44953
8382	8632	7030	8764	9346	10301
695	840	727	734	735	927
1695	1160	648	1143	1352	1734
2238	2693	4070	4562	4059	4513
318	195	347	173	369	494
1902	2599	2144	2433	2431	2297
405	277	137	146	142	190
12112	10974	10253	14883	16378	18825
1638	1305	1231	992	270	454
0	0	0	0	0	0
16115	15647	15318	18084	17910	19349
650	647	694	723	359	196
1572	1469	1940	1610	1465	1556
465	301	436	312	144	505

ling in thousands of dollars from 2011-2020 by specialty

2014	2015	2016	2017	2018	2019
88148	84338	85814	88443	105316	110591
39382	39803	42030	39871	48634	50513
15519	16628	18528	21356	24195	31063
33725	38982	38711	38849	45070	45999
1184510	1191770	1289757	1394581	1518667	1645808
217259	219583	245691	282468	336910	347790
47635	61235	65217	69463	77096	85492
48015	52140	63774	75443	79065	97330
156156	147880	147840	157163	169590	186335
44466	42092	47136	51958	55502	60828

1						
2	58138	63423	63655	67549	78620	91749
3	279372	287786	295775	297770	33357	360175
4	323344	314062	312097	29934	325846	344660
5	15088	13669	17536	23490	27050	28451
6	302	0	0	333	0	284
7	420040	400779	431651	454570	494086	510676
8	201325	211587	231175	256833	293765	305237
9	134551	142824	145184	162932	176766	202367
10	23243	21703	20603	23240	24148	25147
11						
12						
13						
14						
15						
16						
17	2014	2015	2016	2017	2018	2019
18	532855	322574	308213	386668	763750	792285
19	318146	629917	704687	535792	310250	389937
20	114000	41539	415491	451612	350895	194750
21	507967	429418	40752	155583	179250	552565
22	10753491	9694220	7907586	7842786	8562404	11413933
23	1051369	1257543	1688365	1381103	1185473	1536028
24	386897	593779	357615	16180	161079	160250
25	803596	746483	1003704	1331211	139082	1124544
26	195625	271238	81000	117750	19400	322473
27	1189895	818017	500294	231895	359624	739085
28	1968522	1885934	1684593	1797130	1311104	320436
29	1451656	1241119	736439	1033500	1799423	2429442
30	2605049	302260	4009767	3103581	3812411	321513
31	600245	412624	395279	172249	491150	839096
32	0	0	77000	77625	0	0
33	2383628	2119936	2248675	2639599	211641	1885175
34	1377746	1544365	72650	928242	1578939	2227240
35	1564172	1504562	1191847	2115365	1802267	102415
36	355604	471148	299855	81000	84750	285251
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48	2014	2015	2016	2017	2018	2019
49	5048	6017	6011	5305	7608	9044
50	4881	3694	2887	3101	3214	3172
51	1135	1061	859	1056	1709	1601
52	3912	4672	4043	2436	2462	2749
53	74078	74281	79671	76564	76594	77444
54	14878	15211	16928	17462	19479	25806
55	4831	7289	7888	5719	5571	11745
56	4890	5247	4730	4449	5749	6279
57	5643	8032	6662	4941	6515	11474

1						
2	2686	2878	2916	5150	7074	4837
3	5060	4484	2935	2973	5233	5598
4						
5	28845	33013	33180	28281	24359	24053
6	22098	24760	24980	23663	24697	27382
7						
8	1664	700	1979	2772	2106	2839
9	0	0	0	0	0	0
10						
11	36372	31818	31144	31685	31006	33529
12	23694	25496	24020	22735	18066	21872
13						
14	10237	12823	13371	9947	9617	10320
15	740	1802	2463	1761	1385	1519
16						
17						
18	2014	2015	2016	2017	2018	2019
19	1000	0	0	0	0	0
20						
21	6889	6479	7431	6547	3292	3102
22	0	0	0	0	0	0
23						
24	475	475	475	1499	1632	2024
25						
26	395655	359149	370938	382260	390765	453863
27	12964	13371	14593	14617	16643	21105
28						
29	1789	1749	638	625	612	698
30	5379	5786	5762	0	2477	2907
31						
32	17284	16661	15685	15703	17556	17588
33	3072	3059	3517	3485	3459	4536
34	4455	2996	2292	615	5495	5130
35						
36	36242	33708	42777	35624	14090	12858
37	17069	16976	14906	14370	10935	11681
38						
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41						
42	16179	18316	13464	11666	9558	8712
43	5930	11823	6816	8877	8628	11308
44						
45	15973	25296	25363	37629	34242	29825
46	5304	5342	6332	0	0	0
47						
48						
49	2014	2015	2016	2017	2018	2019
50	6975	5936	12086	9053	8374	11426
51						
52	2239	4082	2749	3182	3562	8176
53						
54	7022	4410	3305	6454	25263	1974
55	9833	11830	9649	6264	8843	9972
56						
57	416081	369849	355612	392159	420565	616327
58	79220	64682	87852	70398	111816	102885
59	15038	11441	25764	27265	13884	6841
60	11010	47414	9749	8790	12287	8037

1						
2	13.50	13.54	11.82	19.34	15.01	12.46
3	990.15	1010.85	1043.62	1038.99	1125.69	1119.66
4	755.62	672.69	734.84	787.50	809.40	642.70
5	114.08	325.3	334.6	297.2	403.1	638.7
6	63.72	64.74	58.75	51.7	39.48	41.24
7	237.86	215.42	206.22	199.95	213.17	252.12
8	83.97	88.05	87.9	96.42	82.36	87.83
9	392.08	420.92	397.90	455.84	453.01	438.15
10	1993.36	1842.40	1841.23	1952.68	1936.68	1803.78
11	380.54	425.45	423.31	375.23	407.32	413.19
12	93.41	102.48	108.48	113.81	134.73	129.29
13	0	0	0	0	0	0
14	509.45	480.55	534.91	553.12	559.63	585.23
15	127.95	141.77	183.69	150.70	192.13	188.18
16	428.48	415.80	490.17	527.02	632.8	698.7
17	119.16	66.07	91.89	62.83	33.26	96.93
18						
19						
20						
21						
22						
23						
24						
25						
26						

01, K08, K23) spent per active physician from 2011-2020 by specialty

	2014	2015	2016	2017	2018	2019
27	14.94	21.38	21.37	24.69	28.77	15.50
28	38.57	55.29	65.58	106.25	109.18	82.28
29	3.44	6.97	0	0	0.93	2.73
30	8.14	8.35	9.53	9.57	11.03	9.88
31	166.31	180.19	165.29	168.51	186.80	202.76
32	192.43	186.72	207.22	199.33	189.16	210.88
33	0	0	19.26	0	56.31	78.98
34	15.55	18.77	17.85	22.88	18.27	23.96
35	7.10	0	0	7.72	13.28	13.46
36	44.16	57.72	46.4	39.47	32.31	36.72
37	27.75	0	0	0	0	0
38	111.14	113.43	153.99	164.00	185.13	163.88
39	43.32	37.79	53.22	54.02	51.33	56.95
40	81.08	94.27	107.23	180.41	174.18	136.74
41	0	0	0	0	0	0
42	304.76	284.39	268.10	274.19	264.67	286.16
43	41.23	44.27	49.16	67.88	60.06	46.75
44	35.12	53.59	68.22	83.1	62.83	53.73
45	14.04	44.88	60.18	85.28	69.62	68.52
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
	2014	2015	2016	2017	2018	2019

1						
2	55.42	51.27	49.53	63.75	90.26	106.84
3	150.23	153.90	162.85	162.50	146.67	161.06
4						
5	15.43	18.84	26.64	26.82	29.34	24.63
6						
7	2.50	1.33	1.30	1.48	1.45	4.35
8	304.18	280.67	323.79	324.02	352.97	387.86
9	436.15	433.34	399.55	414.33	408.50	461.26
10						
11	219.26	310.07	343.34	401.77	356.15	412.35
12	14.54	5.88	8.99	8.01	21.51	25.98
13						
14	334.57	328.66	290.54	292.39	276.97	261.70
15	22.73	25.33	45.65	63.2	54.19	44.41
16						
17	195.77	240.71	218.56	176.78	200.32	221.60
18	359.99	343.54	300.77	296.19	367.42	373.30
19						
20	217.43	202.81	231.42	293.33	328.39	319.98
21	0	0	0	0	17.91	17.51
22						
23	0	0	0	0	0	0
24	119.99	98.17	102.58	111.62	96.05	83.94
25						
26	23.96	21.53	4.38	13.36	15.04	69.92
27	260.59	214.63	243.63	253.30	289.80	299.40
28						
29	108.32	67.48	83.58	85.01	82.5	108.92
30						
31						
32	2014	2015	2016	2017	2018	2019
33	49.58	44.81	37.01	53.81	51.26	72.70
34	10.66	21.97	56.29	57.57	111.06	124.41
35	56.18	55.92	75.99	88.16	76.13	79.18
36	3.99	5.82	5.20	7.11	6.91	8.33
37	391.56	355.75	377.87	374.26	374.05	374.07
38	631.47	644.54	518.67	638.91	670.83	728.21
39						
40	132.14	157.06	133.72	132.76	130.34	161.29
41	41.18	27.96	15.59	27.45	32.06	40.59
42	121.28	144.82	217.56	242.46	212.90	233.70
43	16.51	10.16	18.17	9.12	19.40	25.89
44	203.04	276.16	226.42	255.43	251.86	234.92
45	30.02	20.86	10.49	11.37	11.18	15.03
46	212.86	190.71	176.80	254.69	275.13	310.56
47	181.33	142.39	133.04	106.19	28.27	46.51
48						
49	0	0	0	0	0	0
50	429.56	414.64	403.43	473.34	465.21	498.79
51	17.03	16.74	17.70	18.13	8.86	4.74
52	62.32	58.19	77.12	64.29	57.90	60.88
53						
54	47.54	30.71	44.21	31.45	14.34	49.54

(21, P30, U01) spent per active physician from 2011-2020 by specialty

2014	2015	2016	2017	2018	2019
2147.10	2039.57	2065.00	2117.78	2506.67	2616.49
3414.25	3400.26	3538.3	3308.52	3959.33	4035.89
404.05	420.12	452.30	504.30	552.70	687.19
306.29	350.25	344.39	342.24	389.01	389.17
10522.61	10445.97	11232.57	12068.33	12884.91	13695.55
16367.29	16396.56	18126.12	20592.56	24183.35	24585.73
9058.58	11454.43	11991.81	12558.93	13670.75	14873.42
1166.74	1256.97	1534.18	1811.10	1874.12	2278.34
8461.44	7953.54	7903.77	8352.17	8895.57	9648.68
2308.81	2198.59	2471.33	2734.49	2915.80	3189.91
6207.68	6739.23	6722.77	7091.05	8145.93	9384.18
20697.31	21660.82	22643.09	23192.63	26175.89	28488.09
5682.43	5457.86	5382.00	5122.00	5473.96	5685.77
1669.98	1491.60	1895.05	2514.18	2830.94	2912.92
43.23	0	0	46.66	0	38.79
11196.29	10620.6	11368.05	11898.19	12833.89	13164.48
5271.53	5476.99	5891.45	6445.64	7240.69	7391.27
5335.00	5655.51	5773.19	6506.34	6985.99	7916.08
2374.32	2212.76	2088.62	2342.54	2400.19	2465.14
2014	2015	2016	2017	2018	2019
12.98	7.8	7.42	9.26	18.18	18.74
27.58	53.81	59.32	44.46	25.26	31.16
2.97	10.49	10.14	10.66	8.02	4.31
4.61	3.86	3.63	1.37	1.55	4.67
95.53	84.97	68.87	67.87	72.65	94.98
79.21	93.9	124.56	100.69	85.09	108.58
73.58	111.07	65.76	29.25	28.56	27.88
19.53	18	24.15	31.96	32.95	26.32
10.6	14.59	4.33	6.26	10.18	16.7
61.78	42.73	26.23	12.2	18.89	38.76
210.19	200.4	177.92	188.66	135.84	32.77
107.55	93.42	56.38	80.5	141.23	192.16
45.78	52.52	69.15	53.11	64.05	53.04
66.44	45.03	42.72	18.44	51.4	85.91
0	0	10.87	10.87	0	0
63.54	56.18	59.22	69.09	54.96	48.6

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2	36.08	39.98	18.51	23.3	38.92	53.93
3	62.02	59.58	47.39	84.47	71.23	40.06
4						
5	36.33	48.04	30.4	8.16	8.42	27.96
6						
7						
8	2014	2015	2016	2017	2018	2019
9	122.96	145.51	144.65	127.03	181.07	213.97
10						
11	423.16	315.57	243	257.3	261.64	253.41
12	29.54	26.80	20.98	24.94	39.04	35.41
13						
14	35.53	41.98	35.97	21.46	21.25	23.26
15	658.07	651.08	693.86	662.56	649.85	644.45
16						
17	1120.83	1135.85	1248.89	1273.00	1398.18	1824.26
18	918.7	1363.36	1450.45	1033.97	987.89	2043.24
19						
20	118.83	126.50	113.79	106.80	136.27	146.98
21	305.76	431.98	356.16	262.60	341.72	594.16
22						
23	139.49	150.32	152.86	271.04	371.61	253.68
24	540.28	476.43	309.99	312.12	542.15	572.56
25						
26	2136.97	2484.83	2540.07	2202.75	1911.83	1902.49
27	388.35	430.29	430.77	404.95	414.89	451.71
28						
29	184.19	76.42	213.84	296.67	220.45	290.64
30	0	0	0	0	0	0
31						
32	969.51	843.17	820.23	829.34	805.39	864.34
33	620.40	659.97	612.15	570.57	445.28	529.63
34						
35	405.89	507.77	531.70	397.22	380.08	403.68
36	75.55	183.77	249.72	177.50	137.68	148.87
37						
38						
39	2014	2015	2016	2017	2018	2019
40	24.35	0	0	0	0	0
41						
42	597.24	553.45	625.58	543.26	268.00	247.82
43	0	0	0	0	0	0
44						
45	4.32	4.27	4.23	13.21	14.08	17.13
46	3514.81	3147.97	3230.52	3307.98	3315.39	3776.81
47						
48	976.67	998.45	1076.64	1065.6	1194.65	1491.94
49	340.21	327.09	117.33	113.03	108.60	121.46
50						
51	130.71	139.49	138.61	0	58.71	68.05
52	936.54	896.10	838.56	834.51	920.85	910.75
53						
54	159.49	159.80	184.41	183.39	181.70	237.86
55	475.65	318.33	242.09	64.56	569.30	524.67
56						
57	2685.00	2537.14	3274.77	2774.65	1105.85	1017.10
58	299.96	295.02	257.04	245.91	183.70	192.70
59	0	0	0	0	0	0
60	431.27	485.37	354.58	305.35	248.26	224.58

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2	155.26	306.04	173.72	222.79	212.66	273.83
3	633.35	1001.65	1008.56	1502.64	1353.30	1166.66
4	541.80	544.71	641.88	0	0	0
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6						
7						
8	2014	2015	2016	2017	2018	2019
9	169.91	143.55	290.84	216.78	199.31	270.34
10	194.10	348.67	231.45	264.07	290.01	653.25
11	182.80	111.41	80.69	152.40	577.1	43.66
12	89.31	106.29	85.84	55.19	76.33	84.37
13	3696.26	3241.76	3097.05	3393.64	3568.23	5128.75
14	5968.05	4829.93	6481.36	5132.2	8026.10	7273.08
15	2859.72	2140.20	4737.37	4929.55	2461.91	1190.18
16	267.54	1143.03	234.52	211.01	291.24	188.14
17	73.45	159.59	199.27	205.96	323.00	352.57
18	34.13	10.27	10.31	0	0	36.97
19	112.01	277.47	253.36	304.57	417.28	220.01
20	1456.02	1478.29	1902.17	2107.76	2552.67	2365.47
21	1776.41	1633.86	1466.35	1454.22	1477.21	1365.27
22	385.64	424.59	391.49	382.60	203.00	520.23
23	0	0	0	0	59.53	58.82
24	1624.39	1785.65	1563.86	1344.58	1522.54	2389.77
25	449.29	506.26	441.85	881.23	923.37	958.93
26	1359.58	1590.53	1420.41	1271.76	1548.58	157.381
27	790.08	667.87	736.47	770.23	687.61	1040.73
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2011-2020 by specialty

2014	2015	2016	2017	2018	2019
43,534.29	23,741.00	58,002.00	57,066.00	57,560.40	60,918.00
42,836.00	49,628.00	55,554.00	46,238.00	58,179.75	66,110.00
-	-	-	-	-	-
56,030.00	20,307.00	-	-	-	-
51,319.95	53,518.16	53,923.50	47,240.95	55,961.90	61,755.06
49,647.19	50,244.97	56,367.65	42,558.86	56,279.00	54,616.14
51,613.00	50,253.00	53,844.20	58,787.33	53,451.73	55,313.00
53,768.00	55,170.80	57,281.00	48,730.00	59,250.00	62,027.60
54,536.44	53,676.33	49,738.75	43,040.30	59,953.43	59,131.89
46,269.20	53,574.33	48,082.83	55,240.00	61,271.14	63,762.00
50,843.50	49,508.33	57,822.62	42,489.86	54,204.30	62,456.62

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2	46,494.82	52,489.91	54,737.84	37,180.08	61,869.82	61,228.88
3	51,190.00	48,164.61	45,491.18	49,132.40	58,639.23	60,939.11
4	55,982.00	40,795.00	68,949.00	62,763.00	61,516.50	65,694.00
5						
6	-	-	-	-	-	70,552.00
7						
8	48,248.08	52,733.33	53,797.79	40,610.76	55,418.88	58,605.48
9	55,094.00	55,880.00	53,115.56	47,848.12	61,253.57	67,271.25
10						
11	51,721.74	54,732.95	51,360.80	55,393.12	64,262.30	67,220.20
12	44,500.00	60,380.00	51,878.67	39,434.67	74,086.00	65,606.00
13						
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15	2014	2015	2016	2017	2018	2019
16	191,664.00	229,197.30	261,418.50	214,919.70	265,184.00	254,169.90
17	167,228.80	214,451.50	214,313.90	206,142.70	217,967.20	279,571.00
18						
19	-	-	168,966.00	369,797.00	446,984.50	458,056.00
20	297,305.80	376,785.20	332,118.50	243,977.20	347,868.00	368,096.20
21	315,749.30	340,196.50	351,412.10	265,624.40	362,508.90	387,754.70
22	313,442.20	310,645.00	332,014.40	284,266.30	313,233.30	259,761.20
23	199,963.30	347,813.40	363,970.00	273,969.30	568,351.80	611,950.20
24	238,399.90	223,788.80	244,205.40	165,655.80	237,966.30	220,205.90
25	231,037.90	235,602.10	214,293.00	139,347.60	184,728.10	187,265.60
26	231,027.90	240,819.90	239,498.30	229,004.50	223,953.60	239,265.70
27	262,284.30	264,087.20	251,168.30	149,735.40	257,186.90	267,736.80
28	340,587.00	359,971.80	343,585.70	281,690.50	368,287.30	386,528.50
29	248,890.50	272,019.20	292,232.50	249,166.00	332,139.50	338,472.10
30	281,319.30	313,034.30	250,943.80	212,667.80	257,476.20	315,693.50
31						
32	-	-	-	-	-	-
33	241,928.30	255,408.40	286,070.20	197,495.20	312,247.00	333,855.00
34	187,940.40	195,605.00	266,952.50	181,965.90	243,591.80	259,048.50
35	225,132.50	218,762.10	251,569.50	231,538.90	302,109.40	307,981.10
36	145,810.40	129,597.00	151,069.50	155,845.80	167,294.00	247,190.80
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amount from 2011-2020 by specialty

2014	2015	2016	2017	2018	2019
122,631.20	176,829.40	177,605.20	171,822.00	151,097.00	131,069.00
111,210.00	107,873.70	111,286.00	116,404.90	103,161.40	102,986.40
132,182.00	137,936.00	-	-	40,556.00	123,254.00
128,002.10	132,817.90	133,941.40	135,747.60	141,963.10	129,695.10
130,004.80	129,290.10	132,724.20	144,242.50	142,969.40	143,327.00
150,252.70	147,094.90	147,826.80	136,708.40	138,698.20	129,702.90
-	-	104,760.00	-	158,780.50	151,324.70

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2	159,980.20	155,728.00	148,407.80	136,159.00	128,488.00	127,963.10
3	131,122.00	-	-	145,208.00	126,603.50	129,963.00
4	121,495.10	110,510.50	126,430.90	124,989.00	123,020.40	116,702.50
5	129,952.00	-	-	-	-	-
6	107,158.60	115,922.80	167,622.70	161,973.60	147,423.50	121,876.90
7	129,747.30	135,899.90	123,447.50	137,237.00	145,505.60	150,086.00
8	122,099.50	123,407.00	124,027.90	129,660.80	128,024.50	133,554.80
9	-	-	-	-	-	-
10	152,443.40	149,052.30	151,938.30	149,647.70	156,758.20	154,175.90
11	143,148.50	122,157.10	137,792.70	142,346.30	135,374.40	128,713.10
12	126,519.10	135,341.40	142,970.80	160,080.20	176,646.70	171,699.50
13	137,484.00	146,730.30	148,409.80	141,016.20	140,084.40	139,784.40
14						
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20						
21	2014	2015	2016	2017	2018	2019
22	151,676.50	163,094.40	171,524.70	166,395.30	180,576.00	180,629.80
23	108,300.60	120,100.30	161,198.20	139,880.80	163,778.70	143,989.70
24	148,179.80	149,105.00	155,894.10	162,261.10	160,546.60	159,030.30
25	137,668.00	148,187.00	145,819.00	168,048.00	168,048.00	171,562.00
26	142,669.50	140,445.70	154,266.60	162,795.70	165,745.00	165,870.80
27	175,436.80	156,846.60	164,111.20	183,334.50	189,698.70	186,428.20
28	164,708.70	150,693.80	155,605.60	158,727.40	182,594.00	182,323.80
29	119,664.60	121,878.00	124,569.00	166,888.00	181,463.60	184,982.20
30	212,911.40	203,695.00	194,094.20	203,772.30	195,569.10	202,154.30
31	109,454.50	121,247.50	174,153.00	171,547.70	147,346.10	120,988.70
32	183,344.60	188,773.70	188,130.90	187,116.00	193,339.30	180,546.90
33	147,248.60	142,633.30	163,702.00	152,111.60	167,191.40	174,799.40
34	143,865.50	142,323.10	147,470.40	161,704.00	167,077.30	171,653.00
35	-	-	-	-	171,084.00	171,045.00
36	-	-	-	-	-	-
37	160,774.70	168,384.70	169,355.80	170,572.30	160,770.60	171,369.90
38	152,487.80	138,629.30	171,720.00	177,445.30	203,390.30	206,262.70
39	142,876.00	142,639.40	161,231.70	162,646.80	166,654.40	170,087.20
40	151,479.60	165,470.20	164,894.80	168,676.40	166,015.60	222,228.60
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52	2014	2015	2016	2017	2018	2019
53	156,572.20	154,426.80	153,813.90	172,864.50	179,465.90	180,755.90
54	123,012.00	85,710.67	167,154.20	173,453.20	151,582.90	155,709.10
55	154,124.70	147,563.30	163,834.90	177,780.20	175,407	178,953.30
56	146,538	107,960.80	146,244.80	161,528	160,174.80	164,166.00
57	148,408.90	147,055.30	165,604.00	175,093.50	178,488.30	180,532.60
58	167,642.70	165,994.60	163,494.20	182,582.00	176,333.10	177,608.00

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2	173,711.80	167,926.40	145,447.80	183,568.00	183,766.00	185,417.40
3	121,042.70	115,983.90	129,604.80	163,354.60	169,060.50	173,401.20
4	203,470.50	207,128.10	203,477.50	217,257.90	193,281.00	214,918.40
5	106,001.00	97,252.50	173,299.00	173,232.00	123,099.70	164,554.30
6	211,281.60	216,575.50	194,894.20	202,767.70	202,568.80	191,398.80
7	135,050.00	138,577.00	136,984.00	146,011.00	142,388.00	190,080.00
8	136,091.10	138,911.50	157,733.50	175,092.30	176,104.60	174,308.50
9	136,524.80	144,986.60	123,112.70	165,357.30	135,080.00	151,405
10	-	-	-	-	-	-
11	162,780.60	156,467.60	164,714.30	177,292.20	173,883.30	175,900.20
12	162,607.20	161,641	173,602.00	180,637.50	179,685	195,696.00
13	142,886.30	146,946.70	193,953.80	178,872.20	183,133.10	172,933.60
14	155,136.30	150,595.50	145,359.70	156,011.50	144,313.00	168,459.00
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ling amount from 2011-2020 by specialty

	2014	2015	2016	2017	2018	2019
	388,318.40	397,822.70	406,701.40	407,569.50	421,265.70	442,363.80
	339,497.10	343,133.50	378,646.10	376,141.70	401,937.20	407,364.50
	470,284.20	426,357.60	487,572.10	508,476.20	493,767.40	575,232.50
	495,950.50	506,253.30	545,224.90	554,983.50	600,927.30	516,841.30
	418,406.80	425,024.90	444,284.30	460,866.00	476,968.20	496,173.70
	416,205.80	415,876.30	454,982.50	501,719.70	527,246.30	523,779.60
	363,622.60	380,344.00	392,876.40	396,933.90	405,769.40	419,080.50
	366,529.30	395,003.60	414,115.00	426,231.40	462,369.60	470,195.60
	420,905.30	413,073.10	423,610.60	413,586.50	415,660.80	427,374.40
	358,600.80	347,868.40	359,813.70	376,507.60	393,633.10	400,186.80
	370,305.90	386,724.90	405,442.80	444,403.50	441,687.90	468,107.80
	361,413.00	377,671.50	394,893.70	419,394.60	430,887.60	438,169.00
	423,225.40	439,247.30	436,498.90	440,801.40	452,563.40	469,564.00
	407,791.90	402,030.10	417,519.40	469,798.90	450,826.50	466,402.00
	301,765.00	-	-	333,250.00	-	283,822.00
	468,794.70	487,565.50	510,225.30	526,123.20	549,594.60	565,533.20
	406,717.20	420,650.40	463,276.00	488,275.40	483,962.90	505,359.40
	374,795.10	396,734.30	414,811.60	424,301.40	429,044.80	450,705.20
	305,833.90	344,487.90	343,386.80	380,988.50	402,471.80	412,244.80
	2014	2015	2016	2017	2018	2019
	88,809.17	80,643.50	77,053.25	64,444.67	84,861.11	99,035.62
	79,536.50	78,739.62	78,298.56	76,541.71	77,562.50	97,484.25

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2	114,000.00	103,827.20	103,872.80	90,322.40	87,723.75	97,375.00
3	72,566.71	71,569.67	81,500.40	77,791.50	89,625.00	110,513.00
4	86,721.70	88,129.27	87,862.07	86,184.46	83,945.14	95,116.11
5	87,614.08	96,734.08	105,522.80	92,073.53	79,031.53	102,401.90
6	77,379.40	84,825.57	89,403.75	80,900.00	80,539.50	80,125.00
7	66,966.33	74,648.30	91,245.82	88,747.40	81,769.53	80,324.57
8	97,812.50	90,412.67	81,000.00	117,750.00	97,000.00	107,491.00
9	84,992.50	81,801.70	71,470.57	77,298.33	119,874.70	105,583.60
10	131,234.80	134,709.60	140,382.80	149,760.80	131,110.40	160,218.00
11	72,582.80	82,741.27	81,826.56	86,125.00	85,686.81	93,440.08
12	76,619.09	88,884.12	93,250.40	88,673.74	92,985.63	84,607.97
13	85,749.29	82,524.80	79,055.80	57,416.33	122,787.50	119,870.90
14	-	-	77,000.00	77,625.00	-	-
15	108,346.70	105,996.80	97,768.48	91,020.66	92,001.78	94,258.75
16	81,043.88	73,541.19	80,722.22	84,385.64	87,718.83	101,238.20
17	92,010.12	79,187.47	85,131.93	84,614.60	85,822.24	93,100.45
18	88,901.00	94,229.60	99,951.67	81,000.00	84,750.00	95,083.67
19						
20	2014	2015	2016	2017	2018	2019
21	240,374.70	214,890.20	222,642.60	204,033.30	205,608.50	231,893.00
22	187,726.20	175,905.80	206,179.00	206,712.70	200,869.70	211,443.40
23	226,948.40	176,774.30	171,878.60	150,868.10	170,914.20	266,771.70
24	195,614.40	194,681.40	175,792.70	173,967.60	205,190.60	171,800.00
25	201,298.10	195,991.70	202,211.70	204,170.20	203,708.00	205,422.00
26	203,806.60	211,268.70	214,279.00	212,947.40	209,448.60	241,177.10
27	230,048.00	208,243.30	219,118.90	211,809.70	214,277.20	286,452.30
28	195,606.80	218,635.10	197,080.80	211,848.40	205,317.70	190,272.70
29	194,578.50	223,106.90	195,940.80	205,887.20	210,155.00	224,989.80
30	179,097.70	179,869.40	182,221.90	198,079.80	196,486.30	186,053.10
31	180,714.10	194,943.90	209,649.70	198,219.80	168,791.10	186,598.10
32	206,034.70	206,334.40	199,877.40	204,935.70	208,193.80	212,859.80
33	204,612.00	204,628.20	203,089.60	203,995.10	209,293.80	215,602.60
34	184,909.80	175,084.50	219,859.90	213,217.90	210,636.60	218,363.20
35	-	-	-	-	-	-
36	203,195.30	203,961.00	206,254.10	207,092.30	208,095.90	216,318.70
37	206,031.30	210,710.10	203,560.50	197,694.80	202,985.80	212,349.50
38	213,268.20	206,825.20	196,633.60	198,945.20	196,267.10	202,344.50
39	184,901.50	180,240.60	189,491.20	195,661.90	197,886.00	189,822.10
40						
41	2014	2015	2016	2017	2018	2019
42	999,665.00	-	-	-	-	-
43	626,258.90	809,839.80	619,243.90	595,169.40	658,403.00	775,427.80
44	-	-	-	-	-	-

1						
2	118,786.20	118,793.20	118,769.50	1,499,404.00	1,631,702.00	506,108.00
3	1,595,381.00	1,386,675.00	1,343,980.00	1,410,555.00	1,289,653.00	1,454,688.00
4	926,021.70	955,091.90	972,888.10	913,550.00	924,625.30	1,004,999.00
5	894,494.50	874,301.50	638,089.00	625,169.00	612,461.00	349,065.00
6	1,793,093.00	1,157,198.00	960,318.00	-	825,564.00	484,487.50
7	595,992.60	595,040.80	627,412.80	628,117.10	566,308.50	676,475.90
8	614,321.00	611,879.20	703,440.00	696,916.40	691,739.60	755,961.70
9	556,833.40	499,296.20	458,450.40	614,973.00	1,831,543.00	5,129,654.00
10	1,575,747.00	1,348,339.00	1,711,069.00	1,424,948.00	704,481.40	989,077.50
11	948,261.30	943,137.20	828,083.70	898,125.40	911,258.60	834,352.40
12	-	-	-	-	-	-
13	-	-	-	-	-	-
14	1,078,633.00	964,003.10	1,121,970.00	1,060,552.00	1,061,952.00	791,983.70
15	847,082.90	1,477,880.00	973,777.90	887,744.60	862,805.50	942,347.40
16	1,331,107.00	1,580,976.00	1,334,913.00	1,881,459.00	1,268,240.00	1,355,662.00
17	883,989.70	890,415.50	703,540.90	-	-	-
18						
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20						
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25						
26	2014	2015	2016	2017	2018	2019
27	581,282.50	659,561.00	805,747.30	646,645.70	558,255.40	952,199.00
28	373,138.20	510,195.50	549,849.80	636,470.60	593,721.30	908,451.60
29	501,535.70	551,203.10	661,067.80	1,613,430.00	3,157,825.00	657,901.70
30	893,927.70	788,654.90	643,250.80	481,880.50	589,515.60	664,795.80
31	1,092,75.00	886,928.90	858,966.50	893,301.00	856,548.70	1,092,779.00
32	1,467,034.00	1,155,044.00	1,126,302.00	1,135,458.00	1,597,367.00	1,513,014.00
33	2,148,264.00	880,115.20	954,229.30	1,090,613.00	661,140.50	684,117.00
34	846,932.70	2,061,479.00	749,891.80	549,367.70	1,023,898.00	893,043.90
35	271,115.80	593,446.80	745,473.40	645,930.80	615,781.70	567,401.30
36	328,701.50	196,680.00	196,680.00	-	-	705,076.00
37	262,256.00	870,422.00	799,632.30	725,323.20	805,466.80	537,763.50
38	595,558.00	677,260.50	776,469.70	845,671.50	929,243.10	787,017.40
39	842,353.10	758,205.00	825,554.30	779,608.50	799,393.60	745,582.70
40	497,752.60	486,371.40	724,539.40	714,931.60	323,280.20	1,693,692.00
41	-	-	-	-	430,375.00	430,374.00
42	716,949.10	647,915.90	715,427.10	684,931.10	666,083.20	1,007,650.00
43	659,958.20	575,229.00	597,857.80	877,838.40	693,746.60	707,158.00
44	729,561.00	787,591.30	760,011.10	612,448.50	621,961.60	704,749.40
45	386,726.50	385,323.20	454,059.60	402,182.40	532,157.50	707,767.40
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34	0
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38	7
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For peer review only

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For peer review only

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23	20
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32	13
33	3
34	188
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36	791
37	60
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39	932
40	619
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For peer review only

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14	231
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32	
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For peer review only

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For peer review only

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For peer review only

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8	1704
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12	
13	2020
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18	329
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22	840
23	2384
24	611
25	230
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For peer review only

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21	575
22	6103
23	805
24	3178
25	978
26	506
27	606
28	9767
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35	
36	2020
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43	958
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For peer review only

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For peer review only

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	441
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For peer review only

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26	434
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28	726
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For peer review only

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22	1114
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24	145
25	588
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27	130
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37	1012
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39	869
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41	2020
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43	3980
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For peer review only

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29	1823
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32	22283
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35	0
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37	578
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39	2246
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For peer review only

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25	2721395
26	370533
27	725944
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31	1631792
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35	2020
36	7261
37	4305
38	1225
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40	84910
41	20145
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43	9901
44	11215
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For peer review only

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14	2020
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24	4510
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26	16375
27	17155
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35	
36	2020
37	10257
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43	5592
44	8465

For peer review only

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12	7806
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14	430
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16	78939
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20	32722
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22	5158
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24	
25	2020
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28	15.79
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30	1.44
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32	0
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34	64.07
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36	98.51
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38	126.36
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40	7.12
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42	29.37
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44	24.71
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46	44.43
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52	14.01
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54	0
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58	11.04
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60	42.67
	7.88
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	162.62
	16.17

For peer review only

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5	697.7
6	67.03
7	246.06
8	108.73
9	494.20
10	1596.10
11	425.38
12	164.28
13	0
14	672.18
15	160.75
16	643.1
17	113.31
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29	
30	2020
31	23.43
32	75.10
33	5.47
34	17.62
35	206.13
36	165.72
37	57.08
38	26.07
39	7.52
40	30.81
41	13.27
42	218.65
43	59.26
44	154.63
45	0
46	314.98
47	36.61
48	39.57
49	85.16
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For peer review only

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9	392.13
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11	522.45
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17	252.56
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19	51.9
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21	192.27
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23	413.28
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25	309.69
26	
27	17.58
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29	0
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31	109.84
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33	90.98
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35	325.49
36	
37	107.64
38	
39	
40	2020
41	
42	70.44
43	
44	107.01
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46	57.31
47	
48	9.31
49	
50	418.03
51	
52	744.63
53	
54	195.31
55	
56	47.61
57	
58	219.24
59	
60	28.72
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	41.74
	367.60
	45.29
	0
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	13.99
	87.85
	49.35

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6	2020
7	2857.83
8	
9	3969.33
10	
11	898.84
12	444.97
13	
14	14925.08
15	29452.72
16	
17	17044.80
18	2698.02
19	
20	10296.89
21	3678.49
22	
23	9321.23
24	
25	30626.48
26	6498.71
27	3148.88
28	0
29	
30	14072.72
31	7553.73
32	
33	8974.18
34	2774.51
35	
36	
37	2020
38	14.85
39	
40	41.18
41	
42	7.64
43	3.49
44	
45	108.40
46	103.35
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48	98.37
49	17.9
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51	17.09
52	33.19
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54	48.56
55	215.25
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57	61.13
58	74.33
59	0
60	46.38

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2	51.51
3	
4	63.83
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6	37.5
7	
8	2020
9	
10	171.79
11	
12	343.96
13	
14	27.11
15	
16	27.66
17	
18	706.58
19	
20	1424.04
21	
22	1760.36
23	
24	231.77
25	
26	580.71
27	
28	268.12
29	
30	698.81
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32	2035.47
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34	500.34
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36	251.52
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38	0
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40	1011.76
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42	601.95
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44	487.83
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46	220.27
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50	2020
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52	0
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54	248.38
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56	0
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58	19.61
59	
60	4086.91
	3464.85
	0
	121.03
	891.43
	236.51
	785.66
	1295.16
	283.01
	0
	251.57

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2	312.30
3	1671.84
4	
5	0
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7	
8	2020
9	242.66
10	420.90
11	316.01
12	68.42
13	5808.65
14	9843.68
15	972.87
16	198.16
17	411.20
18	34
19	318.12
20	2545.45
21	1218.99
22	799.24
23	58.82
24	2034.94
25	929.28
26	1279.99
27	505.66
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44	2020
45	64,990.00
46	65,894.00
47	65,310.00
48	-
49	66,378.50
50	63,340.64
51	60,524.92
52	60,798.40
53	56,727.30
54	67,321.00
55	72,395.00
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2	55,828.23
3	55,600.83
4	68,436.00
5	-
6	63,169.34
7	65,120.57
8	72,716.73
9	80,358.00
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15	2020
16	299,745.20
17	254,416.00
18	365,562.00
19	349,901.40
20	381,541.10
21	311,463.30
22	501,294.40
23	260,306.00
24	206,601.10
25	259,178.40
26	301,986.80
27	366,898.70
28	358,133.20
29	320,902.00
30	-
31	367,256.80
32	255,330.70
33	298,942.30
34	288,956.20
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49	
50	2020
51	141,491.00
52	117,490.50
53	123,660.00
54	138,819.10
55	140,742.80
56	123,381.30
57	109,357.30
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4	117,502.00
5	129,771.00
6	131,635.80
7	133,047.70
8	125,854.80
9	-
10	150,847.70
11	137,445.50
12	144,524.30
13	144,782.30
14	
15	
16	2020
17	173,059.70
18	162,867.30
19	160,115.70
20	167,957.70
21	171,982.30
22	189,501.70
23	180,507.00
24	186,092.80
25	195,095.20
26	141,396.10
27	187,986.70
28	174,170.30
29	172,228.00
30	171,720.00
31	-
32	177,536.00
33	208,723.60
34	173,347.90
35	219,611.00
36	
37	
38	2020
39	175,125.70
40	167,417.10
41	172,696.90
42	157,210.60
43	175,648.40
44	184,799.30

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1	
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3	169,482.20
4	211,700.00
5	136,915.80
6	151,949.50
7	175,913.00
8	172,738.90
9	147,440.30
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14	-
15	173,824.60
16	192,598.70
17	172,745.80
18	167,796.70
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28	2020
29	457,545.10
30	451,637.40
31	549,043.00
32	531,260.10
33	519,120.80
34	591,815.60
35	439,343.10
36	498,958.80
37	424,900.50
38	394,073.30
39	484,753.40
40	450,244.80
41	498,026.20
42	512,584.80
43	-
44	585,739.30
45	503,952.00
46	469,153.20
47	422,429.80
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50	2020
51	125,495.20
52	103,084.00
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1	
2	86,329.25
3	137,648.00
4	107,653.50
5	112,459.50
6	94,243.00
7	76,466.70
8	109,985.70
9	90,420.00
10	158,270.30
11	108,855.80
12	105,865.80
13	90,743.00
14	
15	-
16	112,458.60
17	96,695.82
18	108,786.10
19	95,640.25
20	
21	
22	2020
23	220,026.40
24	215,252.90
25	245,092.00
26	204,367.60
27	220,545.90
28	287,778.60
29	306,622.90
30	230,260.90
31	215,666.20
32	189,359.10
33	207,036.90
34	238,281.30
35	229,768.60
36	272,956.00
37	
38	-
39	248,406.50
40	246,125.20
41	230,940.30
42	224,701.10
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45	2020
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47	777,173.80
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2	579,330.50
3	1,360,467.00
4	1,531,679.00
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6	-
7	517,036.80
8	662,129.10
9	
10	751,669.50
11	1,280,229.00
12	1,091,643.00
13	686,218.80
14	
15	-
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17	-
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19	1,084,308.00
20	1,172,460.00
21	1,473,755.00
22	
23	-
24	
25	
26	2020
27	788,965.70
28	478,907.70
29	2,040,631.00
30	808,722.80
31	1,185,112.00
32	1,832,220.00
33	699,007.20
34	769,562.20
35	992,640.80
36	648,412.00
37	777,554.20
38	869,787.10
39	671,752.30
40	2,602,043.00
41	430,375.00
42	999,233.70
43	783,193.20
44	564,166.70
45	368,446.40
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Inflation Adjusted

	1.000	0.982	0.964
F32	2011	2012	2013
Anesthesiology	192	303	383
Dermatology	173	219	150
Emergency Medicine	59	53	60
Family Medicine	0	0	0
Internal Medicine/Medicine	6543	5699	5641
Neurology	732	441	930
Neurosurgery	421	358	326
Obstetrics and Gynecology	209	285	169
Ophthalmology	180	345	371
Orthopedics	247	283	243
Otolaryngology	527	377	342
Pathology	1141	849	921
Pediatrics	1339	1391	1202
Physical Medicine & Rehab	51	51	0
Plastic Surgery	0	0	0
Psychiatry	1921	1366	1271
Radiation-Diagnostic/Oncology	708	393	178
Surgery	831	746	638
Urology	116	104	107
T32			
Anesthesiology	2305	2594	2632
Dermatology	2246	2402	2182
Emergency Medicine	0	0	0
Family Medicine	1235	1151	1474
Internal Medicine/Medicine	115016	113866	107687
Neurology	9544	8310	8019
Neurosurgery	592	521	561
Obstetrics and Gynecology	2392	2339	2436
Ophthalmology	2879	3118	4280
Orthopedics	1751	2045	1758
Otolaryngology	2477	3279	2745
Pathology	327477	286708	253108
Pediatrics	24470	23575	21849
Physical Medicine & Rehab	1431	1049	1053
Plastic Surgery	0	0	0
Psychiatry	20056	20292	19598
Radiation-Diagnostic/Oncology	5579	4021	4485

Surgery	12609	12052	10852
Urology	1084	1202	1110

Inflation Adjusted

K01	2011	2012	2013
Anesthesiology	480	476	446
Dermatology	375	459	575
Emergency Medicine	0	134	129
Family Medicine	1241	1533	1140
Internal Medicine/Medicine	16576	15116	15055
Neurology	1619	1780	2231
Neurosurgery	298	237	122
Obstetrics and Gynecology	279	168	302
Ophthalmology	0	0	0
Orthopedics	618	464	779
Otolaryngology	274	269	264
Pathology	1538	1606	1637
Pediatrics	2485	2102	2204
Physical Medicine & Rehab	344	358	472
Plastic Surgery	0	0	0
Psychiatry	12041	11933	10648
Radiation-Diagnostic/Oncology	2091	1926	1463
Surgery	999	846	1196
Urology	106	104	102
K08	2011	2012	2013
Anesthesiology	1636	1798	1997
Dermatology	2225	2268	1869
Emergency Medicine	283	558	844
Family Medicine	611	605	654
Internal Medicine/Medicine	37528	35693	32091
Neurology	6333	5678	6353
Neurosurgery	1160	1175	1394
Obstetrics and Gynecology	1072	1058	918
Ophthalmology	4904	4972	5146
Orthopedics	179	264	500
Otolaryngology	1995	2150	2046
Pathology	4861	4209	4409
Pediatrics	15014	12982	12498

Physical Medicine & Rehab	125	123	121
Plastic Surgery	0	0	0
Psychiatry	5684	4933	3170
Radiation-Diagnostic/Oncology	811	805	791
Surgery	7904	7900	6433
Urology	1217	1175	1341
K23	2011	2012	2013
Anesthesiology	1200	1530	1773
Dermatology	368	482	243
Emergency Medicine	2344	2073	2229
Family Medicine	1388	1233	869
Internal Medicine/Medicine	44386	45346	44041
Neurology	8996	8800	7501
Neurosurgery	372	699	889
Obstetrics and Gynecology	1602	1774	1338
Ophthalmology	2853	2305	2550
Orthopedics	337	384	309
Otolaryngology	1485	1229	1191
Pathology	517	393	256
Pediatrics	12950	12514	11862
Physical Medicine & Rehab	994	926	1457
Plastic Surgery	0	0	0
Psychiatry	19068	17876	16241
Radiation-Diagnostic/Oncology	952	647	609
Surgery	1704	1641	1426
Urology	314	151	286

Inflation Adjusted

R01	2011	2012	2013
Anesthesiology	74515	82822	78723
Dermatology	39821	43092	40069
Emergency Medicine	12119	12671	13310
Family Medicine	37541	40753	35625
Internal Medicine/Medicine	1291238	1229358	1109245
Neurology	213323	218006	205876
Neurosurgery	48188	50017	45222
Obstetrics and Gynecology	50170	46185	46206
Ophthalmology	143557	144104	138351
Orthopedics	37635	40036	42487

Otolaryngology	51992	54810	54299
Pathology	324176	312674	284081
Pediatrics	312475	330131	300476
Physical Medicine & Rehab	11247	12841	12732
Plastic Surgery	967	0	518
Psychiatry	470253	451087	391576
Radiation-Diagnostic/Oncology	205633	204652	195518
Surgery	146686	137678	122878
Urology	24013	24651	24129
R03	2011	2012	2013
Anesthesiology	450081	708133	427169
Dermatology	325896	408514	145727
Emergency Medicine	63905	84790	66196
Family Medicine	736834	706646	815519
Internal Medicine/Medicine	9494800	11350077	10318182
Neurology	96465	645070	825360
Neurosurgery	39134	766691	740507
Obstetrics and Gynecology	600862	848707	737169
Ophthalmology	0	0	0
Orthopedics	816678	773215	845592
Otolaryngology	1718440	2231507	2294913
Pathology	1925448	1557790	1386485
Pediatrics	2921374	2370262	2603315
Physical Medicine & Rehab	672323	534487	444946
Plastic Surgery	0	0	0
Psychiatry	2652569	2662850	2553215
Radiation-Diagnostic/Oncology	783679	508691	716250
Surgery	1364197	1707792	1328538
Urology	78000	236296	147984
R21	2011	2012	2013
Anesthesiology	5363	4870	5414
Dermatology	3480	3808	3574
Emergency Medicine	1418	1216	653
Family Medicine	2736	3279	3394
Internal Medicine/Medicine	77517	80724	73759
Neurology	12904	15438	14164
Neurosurgery	2414	3654	4277
Obstetrics and Gynecology	6800	5183	5530
Ophthalmology	3884	3791	5654

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2	Orthopedics	2763	3554	3273
3	Otolaryngology	2673	3184	4448
4	Pathology	24267	20933	21656
5	Pediatrics	19943	19077	19113
6	Physical Medicine & Rehab	781	1404	2107
7	Plastic Surgery	0	0	0
8	Psychiatry	25223	34234	36895
9	Radiation-Diagnostic/Oncology	20438	21387	19548
10	Surgery	11149	10470	8623
11	Urology	1626	1699	808
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18	P30	2011	2012	2013
19	Anesthesiology	0	0	0
20	Dermatology	5597	4257	5840
21	Emergency Medicine	0	0	0
22	Family Medicine	0	471	456
23	Internal Medicine/Medicine	296235	314695	327378
24	Neurology	13644	14792	13499
25	Neurosurgery	1890	2603	2412
26	Obstetrics and Gynecology	5801	5697	4974
27	Ophthalmology	18749	21221	16996
28	Orthopedics	2502	2465	2306
29	Otolaryngology	4978	4745	4438
30	Pathology	24994	16923	35011
31	Pediatrics	26289	22806	21451
32	Physical Medicine & Rehab	0	0	0
33	Plastic Surgery	0	0	0
34	Psychiatry	17668	16851	18824
35	Radiation-Diagnostic/Oncology	2851	3718	4139
36	Surgery	25238	21098	23432
37	Urology	4835	4641	3800
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49	U01	2011	2012	2013
50	Anesthesiology	3304	3100	3391
51	Dermatology	810	2461	2370
52	Emergency Medicine	18243	16572	7912
53	Family Medicine	5269	8064	8594
54	Internal Medicine/Medicine	394866	37781	41240
55	Neurology	61745	67582	68966
56	Neurosurgery	4610	4511	15097
57	Obstetrics and Gynecology	25401	16745	5030

Ophthalmology	2346	2406	1868
Orthopedics	0	0	503
Otolaryngology	1413	815	1101
Pathology	45262	29147	26251
Pediatrics	98053	97561	87854
Physical Medicine & Rehab	569	611	3664
Plastic Surgery	0	0	0
Psychiatry	41548	57671	51564
Radiation-Diagnostic/Oncology	6629	8442	13378
Surgery	29433	38495	37429
Urology	13453	11139	11389

Inflation Adjusted

F32	2011	2012	2013
Anesthesiology	4.78	7.50	9.39
Dermatology	16.02	19.75	13.20
Emergency Medicine	1.74	1.49	1.61
Family Medicine	0.00	0.00	0.00
Internal Medicine/Medicine	60.00	51.78	50.80
Neurology	56.70	33.79	71.09
Neurosurgery	83.50	70.23	63.10
Obstetrics and Gynecology	5.19	7.02	4.14
Ophthalmology	10.05	19.00	20.27
Orthopedics	12.45	14.46	12.55
Otolaryngology	57.13	40.65	36.71
Pathology	76.21	59.23	67.18
Pediatrics	24.12	24.87	21.36
Physical Medicine & Rehab	6.04	5.84	0.00
Plastic Surgery	0.00	0.00	0.00
Psychiatry	50.17	36.16	34.08
Radiation-Diagnostic/Oncology	21.82	11.18	4.73
Surgery	31.58	28.98	25.34
Urology	11.85	10.64	10.98
T32	2011	2012	2013
Anesthesiology	57.45	64.14	64.57
Dermatology	207.61	216.57	192.02
Emergency Medicine	0.00	0.00	0.00

Family Medicine	11.59	10.68	13.53
Internal Medicine/Medicine	1054.73	1034.69	97.00
Neurology	738.92	637.44	609.48
Neurosurgery	117.21	102.16	108.51
Obstetrics and Gynecology	59.25	57.63	59.66
Ophthalmology	160.46	171.97	233.63
Orthopedics	88.32	104.32	90.76
Otolaryngology	268.30	353.51	294.55
Pathology	2186.81	1998.99	1846.12
Pediatrics	440.82	421.84	388.35
Physical Medicine & Rehab	168.31	120.48	118.23
Plastic Surgery	0.00	0.00	0.00
Psychiatry	523.79	536.91	525.48
Radiation-Diagnostic/Oncology	171.95	114.57	118.83
Surgery	479.19	468.04	430.85
Urology	110.36	122.63	113.62

Inflation Adjusted

K01	2011	2012	2013
Anesthesiology	11.97	11.76	10.95
Dermatology	34.67	41.34	50.58
Emergency Medicine	0	3.76	3.47
Family Medicine	11.65	14.23	10.46
Internal Medicine/Medicine	152.01	137.37	135.58
Neurology	125.34	136.57	169.53
Neurosurgery	59.06	46.33	23.62
Obstetrics and Gynecology	6.92	4.13	7.39
Ophthalmology	0	0.00	0.00
Orthopedics	31.17	23.64	40.24
Otolaryngology	29.72	29.05	28.39
Pathology	102.72	111.95	119.41
Pediatrics	44.76	37.61	39.16
Physical Medicine & Rehab	40.44	41.23	52.99
Plastic Surgery	0	0.00	0.00
Psychiatry	314.48	315.73	285.49
Radiation-Diagnostic/Oncology	64.43	54.86	38.77
Surgery	37.96	32.83	47.48
Urology	10.77	10.61	10.44
K08	2011	2012	2013

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2	Anesthesiology	40.78	44.46	49.01
3	Dermatology	205.68	204.39	164.46
4	Emergency Medicine	8.33	15.66	22.66
5	Family Medicine	5.73	5.62	6.00
6	Internal Medicine/Medicine	344.14	324.34	288.99
7	Neurology	490.32	435.54	482.87
8	Neurosurgery	229.79	230.00	269.66
9	Obstetrics and Gynecology	26.56	26.04	22.50
10	Ophthalmology	273.33	274.26	280.95
11	Orthopedics	9.04	13.46	25.83
12	Otolaryngology	216.07	231.75	219.56
13	Pathology	324.6	293.49	321.59
14	Pediatrics	270.48	232.31	222.14
15	Physical Medicine & Rehab	14.69	14.09	13.53
16	Plastic Surgery	0	0.00	0.00
17	Psychiatry	148.44	130.51	84.99
18	Radiation-Diagnostic/Oncology	25.01	22.94	20.95
19	Surgery	300.38	306.80	255.40
20	Urology	123.84	120.00	137.26
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32	K23	2011	2012	2013
33	Anesthesiology	29.91	37.84	43.51
34	Dermatology	33.98	43.44	21.39
35	Emergency Medicine	68.98	58.21	59.85
36	Family Medicine	13.02	11.45	7.98
37	Internal Medicine/Medicine	407.03	412.06	396.60
38	Neurology	696.5	675.02	570.16
39	Neurosurgery	73.7	136.85	172.01
40	Obstetrics and Gynecology	39.68	43.69	32.77
41	Ophthalmology	159.02	127.12	139.19
42	Orthopedics	17.02	19.58	15.94
43	Otolaryngology	160.86	132.50	127.77
44	Pathology	34.49	27.41	18.62
45	Pediatrics	233.29	223.92	210.84
46	Physical Medicine & Rehab	116.92	106.36	163.63
47	Plastic Surgery	0	0.00	0.00
48	Psychiatry	498	473.00	435.45
49	Radiation-Diagnostic/Oncology	29.33	18.44	16.13
50	Surgery	64.76	63.71	56.65
51	Urology	31.99	15.43	29.31
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Inflation Adjusted

R01	2011	2012	2013
Anesthesiology	1857.17	2047.99	1931.48
Dermatology	3680.31	3885.13	3526.22
Emergency Medicine	356.59	355.81	357.40
Family Medicine	352.34	378.28	327.08
Internal Medicine/Medicine	11841.01	11171.16	9988.96
Neurology	16516.17	16723.43	15648.83
Neurosurgery	9547.89	9789.90	8745.41
Obstetrics and Gynecology	1242.54	1137.52	1131.77
Ophthalmology	8000.73	7948.37	7553.12
Orthopedics	1898.66	2042.87	2193.01
Otolaryngology	5631.72	5908.82	5826.16
Pathology	21647.85	21800.50	20720.71
Pediatrics	5629.26	5907.28	5340.64
Physical Medicine & Rehab	1322.77	1475.20	1429.65
Plastic Surgery	141.77	0.00	74.65
Psychiatry	12281.68	11935.88	10499.14
Radiation-Diagnostic/Oncology	6337.9	5830.94	5179.30
Surgery	5574.43	5346.64	4878.63
Urology	2443.77	2515.79	2469.45
R03	2011	2012	2013
Anesthesiology	11.22	17.51	10.48
Dermatology	30.12	36.84	12.83
Emergency Medicine	1.88	2.38	1.77
Family Medicine	6.92	6.56	7.48
Internal Medicine/Medicine	87.07	103.14	92.91
Neurology	74.68	49.48	62.74
Neurosurgery	77.53	150.06	143.21
Obstetrics and Gynecology	14.88	20.91	18.05
Ophthalmology	0	0.00	0.00
Orthopedics	41.2	39.46	43.65
Otolaryngology	186.14	240.57	246.24
Pathology	128.58	108.61	101.13
Pediatrics	52.63	42.41	46.27
Physical Medicine & Rehab	79.07	61.41	49.96
Plastic Surgery	0	0.00	0.00
Psychiatry	69.28	70.46	68.46

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2	Radiation-Diagnostic/Oncology	24.15	14.49	18.97
3	Surgery	51.84	66.32	52.75
4	Urology	7.94	24.12	15.15
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8	R21	2011	2012	2013
9	Anesthesiology	133.66	120.44	132.83
10	Dermatology	321.61	343.39	314.52
11	Emergency Medicine	41.72	34.15	17.53
12	Family Medicine	25.67	30.43	31.16
13	Internal Medicine/Medicine	710.85	733.54	664.21
14	Neurology	999.05	1184.29	1076.63
15	Neurosurgery	478.39	715.27	827.13
16	Obstetrics and Gynecology	168.4	127.65	135.43
17	Ophthalmology	216.49	209.07	308.65
18	Orthopedics	139.37	181.35	168.92
19	Otolaryngology	289.56	343.22	477.17
20	Pathology	1620.52	1459.48	1579.63
21	Pediatrics	359.27	341.35	339.71
22	Physical Medicine & Rehab	91.84	161.33	236.54
23	Plastic Surgery	0	0.00	0.00
24	Psychiatry	658.75	905.85	989.24
25	Radiation-Diagnostic/Oncology	629.93	609.35	517.83
26	Surgery	423.69	406.62	342.36
27	Urology	165.44	173.35	82.71
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39	P30	2011	2012	2013
40	Anesthesiology	0	0.00	0.00
41	Dermatology	517.27	383.83	513.97
42	Emergency Medicine	0	0.00	0.00
43	Family Medicine	0	4.38	4.19
44	Internal Medicine/Medicine	2716.56	2859.64	2948.10
45	Neurology	1056.37	1134.75	1026.00
46	Neurosurgery	374.49	509.63	466.42
47	Obstetrics and Gynecology	143.68	140.31	121.84
48	Ophthalmology	1044.94	1170.49	927.85
49	Orthopedics	126.2	125.76	119.00
50	Otolaryngology	539.17	511.56	476.12
51	Pathology	1669.05	1179.93	2553.67
52	Pediatrics	473.59	408.08	381.26
53	Physical Medicine & Rehab	0	0.00	0.00
54	Psychiatry	461.43	445.88	504.71

Radiation-Diagnostic/Oncology	87.87	105.93	109.64
Surgery	959.11	819.33	930.32
Urology	492.04	473.70	388.96
U01	2011	2012	2013
Anesthesiology	82.34	76.68	83.19
Dermatology	74.83	221.89	208.60
Emergency Medicine	536.81	465.33	212.46
Family Medicine	49.45	74.86	78.90
Internal Medicine/Medicine	3621.03	3432.95	3713.38
Neurology	4780.51	5184.24	5242.20
Neurosurgery	913.42	883.13	2919.54
Obstetrics and Gynecology	629.11	412.41	123.20
Ophthalmology	130.77	132.73	101.99
Orthopedics	0	0.00	25.96
Otolaryngology	153.02	87.87	118.13
Pathology	3022.5	2032.21	1914.78
Pediatrics	1766.44	1745.73	1561.52
Physical Medicine & Rehab	66.88	70.22	411.32
Plastic Surgery	0	0.00	0.00
Psychiatry	1085.13	1525.97	1382.55
Radiation-Diagnostic/Oncology	204.33	240.56	354.41
Surgery	1118.53	1494.90	1486.05
Urology	1369.09	1136.85	1165.61

Inflation Adjusted

F32	2011	2012	2013
Anesthesiology	47,914.25	50,564.63	47,863.62
Dermatology	43,343.50	54,752.00	50,008.73
Emergency Medicine	59,234.00	53,061.93	60,015.10
Family Medicine	-	-	-
Internal Medicine/Medicine	51,926.46	50,880.02	48,631.79
Neurology	48,824.33	44,054.28	46,479.50
Neurosurgery	52,676.12	44,855.37	40,785.68
Obstetrics and Gynecology	52,343.00	47,498.74	42,226.54
Ophthalmology	45,094.75	49,222.90	53,046.74
Orthopedics	49,338.00	47,211.67	48,595.90
Otolaryngology	52,747.00	53,858.07	48,874.70

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2	Pathology	51,873.14	49,971.73	41,865.24
3	Pediatrics	53,559.40	51,485.01	50,077.80
4	Physical Medicine & Rehab	51,326.00	50,889.69	-
5	Plastic Surgery	-	-	-
6	Psychiatry	49,255.31	47,118.30	45,390.28
7	Radiation-Diagnostic/Oncology	50,566.64	49,042.98	35,719.95
8	Surgery	48,888.53	49,755.77	49,105.68
9	Urology	58,202.00	52,112.31	53,685.14
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15	T32	2011	2012	2013
16	Anesthesiology	177,313.40	172,900.71	187,991.91
17	Dermatology	187,196.80	200,172.91	181,826.65
18	Emergency Medicine	-	-	-
19	Family Medicine	246,991.00	287,635.09	245,653.91
20	Internal Medicine/ Medicine	301,089.20	292,714.24	301,642.87
21	Neurology	257,944.60	244,402.87	250,571.40
22	Neurosurgery	197,192.30	173,976.81	187,025.53
23	Obstetrics and Gynecology	199,358.80	212,687.88	202,995.97
24	Ophthalmology	191,942.20	194,862.69	203,785.00
25	Orthopedics	218,841.90	227,166.80	219,800.47
26	Otolaryngology	206,410.50	273,267.23	249,563.75
27	Pathology	380,784.30	382,272.67	361,577.45
28	Pediatrics	226,569.60	238,129.18	242,773.41
29	Physical Medicine & Rehab	159,013.20	262,160.50	263,242.32
30	Plastic Surgery	-	-	-
31	Psychiatry	260,461.80	256,851.85	244,979.25
32	Radiation-Diagnostic/ Oncology	253,584.50	201,064.39	203,889.82
33	Surgery	233,508.00	215,221.80	200,957.92
34	Urology	154,911.30	150,199.16	158,600.09
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Inflation Adjusted

50	K01	2011	2012	2013
51	Anesthesiology	120,086.20	118,974.20	111,660.46
52	Dermatology	93,785.25	114,634.32	95,788.48
53	Emergency Medicine	-	133,854.38	129,237.78
54	Family Medicine	112,845.90	117,894.26	113,944.60
55	Internal Medicine/ Medicine	127,509.60	120,933.83	119,485.74
56	Neurology	134,905.80	136,948.55	139,394.75
57	Neurosurgery	99,353.33	78,903.02	122,128.62
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2	Obstetrics and Gynecology	139,635.50	167,952.36	150,802.00
3	Ophthalmology	-	-	-
4	Orthopedics	123,579.60	115,818.94	111,376.84
5	Otolaryngology	137,182.00	134,716.60	132,296.69
6	Pathology	118,330.60	114,687.74	109,133.87
7	Pediatrics	124,242.00	131,361.99	122,411.66
8	Physical Medicine & Rehab	114,634.30	89,711.96	117,991.77
9	Plastic Surgery	-	-	-
10	Psychiatry	148,655.30	142,051.57	140,103.74
11	Radiation-Diagnostic/ Oncology	122,974.40	128,357.77	112,561.25
12	Surgery	124,855.50	120,762.86	108,737.04
13	Urology	105,823.00	103,921.18	102,049.98
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15	K08	2011	2012	2013
16	Anesthesiology	125,868.50	128,416.50	133,159.39
17	Dermatology	123,634.20	119,317.51	109,927.81
18	Emergency Medicine	141,586.00	139,463.23	120,582.68
19	Family Medicine	122,205.80	120,970.95	130,721.14
20	Internal Medicine/ Medicine	135,478.30	132,196.42	132,061.10
21	Neurology	162,383.80	157,712.95	162,888.25
22	Neurosurgery	165,681.90	167,867.81	154,935.00
23	Obstetrics and Gynecology	134,050.10	132,160.77	131,198.30
24	Ophthalmology	204,350.20	207,180.86	177,453.73
25	Orthopedics	179,280.00	131,949.24	125,147.80
26	Otolaryngology	166,228.00	153,552.79	170,525.96
27	Pathology	127,919.40	127,555.55	122,472.03
28	Pediatrics	131,701.80	135,236.58	134,387.48
29	Physical Medicine & Rehab	124,929.00	122,683.81	120,474.77
30	Plastic Surgery	-	-	-
31	Psychiatry	167,165.70	159,100.07	150,932.38
32	Radiation-Diagnostic/ Oncology	162,287.60	161,047.92	158,148.10
33	Surgery	133,971.00	138,597.38	128,653.97
34	Urology	152,109.50	146,981.94	121,925.34
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36	K23	2011	2012	2013
37	Anesthesiology	133,340.70	153,030.05	136,406.44
38	Dermatology	122,563.30	120,470.81	81,000.55
39	Emergency Medicine	130,236.80	138,218.22	148,593.07
40	Family Medicine	154,195.60	154,135.32	144,757.48
41	Internal Medicine/ Medicine	145,051.40	143,956.41	143,924.58
42	Neurology	147,474.40	149,145.44	156,272.35

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2	Neurosurgery	185,974.00	174,788.46	177,890.38
3	Obstetrics and Gynecology	133,524.90	126,706.10	121,630.15
4	Ophthalmology	190,213.70	209,524.57	196,121.24
5	Orthopedics	168,729.00	127,903.29	102,932.35
6	Otolaryngology	185,635.10	204,843.04	198,460.46
7	Pathology	129,132.00	131,033.31	127,655.29
8	Pediatrics	137,762.10	134,557.71	133,286.30
9	Physical Medicine & Rehab	142,022.90	154,311.50	145,726.94
10	Plastic Surgery	-	-	-
11	Psychiatry	160,234.10	152,786.21	156,158.56
12	Radiation-Diagnostic/ Oncology	158,602.70	161,810.96	152,274.85
13	Surgery	131,087.50	136,724.65	129,694.30
14	Urology	157,160.00	151,176.38	143,171.13
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28	R01	2011	2012	2013
29	Anesthesiology	374,447.70	387,018.12	367,864.69
30	Dermatology	346,269.00	347,515.54	318,003.28
31	Emergency Medicine	466,096.40	422,376.83	443,659.10
32	Family Medicine	487,546.90	479,451.33	468,742.22
33	Internal Medicine/ Medicine	397,304.00	394,784.20	380,268.88
34	Neurology	410,236.30	395,656.34	382,669.04
35	Neurosurgery	349,190.00	354,727.66	323,017.88
36	Obstetrics and Gynecology	346,000.80	347,256.98	332,413.51
37	Ophthalmology	422,226.60	398,076.94	394,160.96
38	Orthopedics	339,055.70	336,438.95	317,069.32
39	Otolaryngology	366,140.90	367,853.94	341,508.35
40	Pathology	349,328.10	354,907.66	333,820.20
41	Pediatrics	406,339.10	411,122.59	386,712.45
42	Physical Medicine & Rehab	362,821.50	366,881.93	385,833.45
43	Plastic Surgery	322,374.70	-	518,241.42
44	Psychiatry	465,597.40	455,643.14	433,159.11
45	Radiation-Diagnostic/ Oncology	388,720.60	396,611.26	371,707.90
46	Surgery	355,171.00	353,022.56	333,002.72
47	Urology	307,852.70	320,142.49	290,710.27
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51	R03			
52	Anesthesiology	75,013.50	78,681.41	71,194.77
53	Dermatology	65,179.20	68,085.66	72,863.57
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2	Emergency Medicine	63,905.00	84,790.28	66,195.60
3	Family Medicine	92,104.25	78,516.21	90,613.26
4	Internal Medicine/ Medicine	80,464.41	81,655.24	78,168.05
5	Neurology	96,460.50	71,674.42	75,032.69
6	Neurosurgery	130,434.70	95,836.38	92,563.34
7	Obstetrics and Gynecology	75,107.75	70,725.60	73,716.92
8	Ophthalmology	-	-	-
9	Orthopedics	81,667.80	77,321.47	70,466.04
10	Otolaryngology	132,187.70	123,972.62	120,784.90
11	Pathology	77,017.92	67,730.02	66,023.11
12	Pediatrics	76,878.26	81,733.16	74,380.44
13	Physical Medicine & Rehab	96,047.43	76,355.22	88,989.26
14	Plastic Surgery	-	-	-
15	Psychiatry	106,102.80	95,101.79	85,107.16
16	Radiation-Diagnostic/ Oncology	97,959.88	72,670.09	71,624.96
17	Surgery	90,946.47	85,389.62	78,149.29
18	Urology	78,000.00	78,765.22	73,991.85
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20	R21			
21	Anesthesiology	198,626.80	202,931.92	200,512.01
22	Dermatology	183,150.90	211,595.17	198,551.01
23	Emergency Medicine	236,297.20	243,178.48	217,596.65
24	Family Medicine	195,393.30	204,907.27	178,635.34
25	Internal Medicine/ Medicine	206,711.70	198,338.77	187,682.25
26	Neurology	201,619.80	197,927.70	194,030.74
27	Neurosurgery	185,724.80	203,017.25	194,412.81
28	Obstetrics and Gynecology	206,047.70	185,098.28	204,787.15
29	Ophthalmology	184,974.60	199,501.79	188,450.64
30	Orthopedics	197,322.00	177,705.67	172,248.86
31	Otolaryngology	190,945.80	198,978.37	211,771.13
32	Pathology	195,703.40	201,274.55	193,362.93
33	Pediatrics	191,759.30	200,806.81	187,381.86
34	Physical Medicine & Rehab	195,226.20	200,605.49	191,513.12
35	Plastic Surgery	-	-	-
36	Psychiatry	206,745.70	206,231.33	193,165.81
37	Radiation-Diagnostic/ Oncology	210,700.90	211,749.55	191,648.61
38	Surgery	192,224.20	193,901.58	187,458.62
39	Urology	203,200.80	188,726.09	161,644.63
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41	P30			
42	Anesthesiology	-	-	-
43	Dermatology	508,803.50	532,155.32	730,031.84
44	Emergency Medicine	-	-	-
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2	Family Medicine	-	117,834.06	114,127.44
3	Internal Medicine/ Medicine	1,322,479.00	1,450,209.24	1,589,212.16
4	Neurology	909,600.70	778,560.35	843,675.37
5	Neurosurgery	945,027.00	867,907.05	803,938.25
6	Obstetrics and Gynecology	1,933,778.00	1,899,023.65	2,486,985.41
7	Ophthalmology	604,815.60	573,539.36	566,509.92
8	Orthopedics	625,387.50	616,163.02	576,372.00
9	Otolaryngology	622,200.80	593,154.89	633,921.85
10	Pathology	1,470,235.00	940,171.36	1,750,540.48
11	Pediatrics	1,546,389.00	1,085,995.59	932,632.72
12	Physical Medicine & Rehab	-	-	-
13	Plastic Surgery	-	-	-
14	Psychiatry	1,359,067.00	1,123,399.08	1,107,281.26
15	Radiation-Diagnostic/Oncology	570,185.40	619,675.84	827,768.87
16	Surgery	1,941,337.00	1,918,014.11	1,562,135.25
17	Urology	690,688.70	773,590.60	760,111.72
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20	U01			
21	Anesthesiology	471,964.90	442,964.76	484,419.78
22	Dermatology	269,879.00	492,217.11	338,616.85
23	Emergency Medicine	1,824,301.00	1,275,389.55	465,420.72
24	Family Medicine	478,966.10	576,027.23	716,164.93
25	Internal Medicine/ Medicine	1,022,969.00	946,837.86	954,535.71
26	Neurology	1,871,063.00	1,689,545.24	1,724,161.76
27	Neurosurgery	768,340.80	1,127,973.37	1,887,117.89
28	Obstetrics and Gynecology	1,693,429.00	984,978.27	628,724.50
29	Ophthalmology	586,612.20	343,776.57	373,612.29
30	Orthopedics	-	-	503,040.43
31	Otolaryngology	353,177.20	203,764.48	366,998.90
32	Pathology	838,184.80	539,759.26	570,687.47
33	Pediatrics	754,255.50	762,195.44	757,360.44
34	Physical Medicine & Rehab	142,161.00	203,732.56	523,313.97
35	Plastic Surgery	-	-	-
36	Psychiatry	783,933.80	662,879.48	652,704.12
37	Radiation-Diagnostic/Oncology	473,532.00	469,053.42	608,125.98
38	Surgery	577,115.30	726,312.81	656,651.67
39	Urology	960,907.90	742,629.31	669,953.96
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	0.946	0.935	0.928	0.911	0.891
	2014	2015	2016	2017	2018
	289	22	54	156	257
	81	139	155	211	208
	0	0	0	0	0
	53	19	0	0	0
	5244	5456	5953	5684	5732
	1456	1363	1202	1125	1354
	391	470	499	482	714
	203	258	212	133	317
	465	602	369	392	374
	219	300	267	302	382
	481	278	430	542	483
	968	1129	1269	813	937
	1163	811	717	672	679
	53	38	64	171	219
	0	0	0	0	0
	1186	1332	1447	1074	1234
	52	105	443	349	382
	930	1075	953	859	1145
	211	113	145	108	66
	3082	4502	4608	4897	4487
	1741	2206	2187	2067	1942
	0	0	157	674	796
	1407	1410	1232	2002	1549
	105445	107871	111165	109429	118174
	9489	8427	9240	9845	10043
	568	1627	1688	1498	2025
	2481	2511	2265	1963	1484
	4153	3746	3578	3429	3620
	1530	1577	1555	1670	1397
	3474	3705	3495	3957	3894
	25454	22895	22311	22850	21978
	20485	22899	22773	19985	21595
	798	878	931	969	1146
	0	0	0	0	0
	18081	16962	18842	19260	19190
	4622	5123	6687	5473	6943

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2	10223	9822	11435	12029	14262
3	1103	606	840	568	298
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	2014	2015	2016	2017	2018
10					
11					
12	580	827	824	940	1077
13	421	605	723	1167	1194
14	125	258	0	0	37
15	848	870	994	990	1138
16					
17	17711	19228	17607	17748	19610
18	2416	2339	2606	2492	2347
19	0	0	97	0	283
20	605	729	688	869	687
21	124	0	0	132	225
22	804	1034	821	684	548
23	246	0	0	0	0
24	1419	1410	1866	1919	2101
25	2332	2033	2863	2876	2722
26	693	808	920	1537	1482
27	0	0	0	0	0
28	10816	10038	9444	9547	9075
29	1490	1599	1789	2465	2171
30	838	1266	1592	1897	1416
31	130	412	551	771	623
32					
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43	2152	1983	1909	2426	3377
44	1639	1686	1794	1785	1605
45	561	698	1012	1035	1144
46	260	138	135	153	150
47					
48	32393	29952	34489	34127	37054
49	5477	5428	5024	5180	5069
50	1091	1551	1732	2025	1789
51	566	228	347	304	808
52	5841	5716	5042	5015	4703
53	414	454	808	1095	918
54	1734	2119	1919	1535	1722
55	4597	4269	3645	3466	4169
56	11704	10916	12449	15623	17411
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2	0	0	0	0	152
3	0	0	0	0	0
4					
5	4259	3465	3613	3886	3294
6	866	778	160	485	543
7					
8	6217	5070	5684	5781	6531
9	1003	619	764	768	739
10					

	2014	2015	2016	2017	2018
12					
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14	1925	1733	1427	2048	1919
15	116	240	621	633	1215
16					
17	2042	2070	2888	3402	2969
18	416	606	543	736	713
19					
20	41699	37963	40250	39418	39267
21	7930	8074	6522	7988	8324
22					
23	657	786	674	669	655
24	1604	1085	601	1042	1204
25					
26	2117	2519	3776	4158	3615
27	301	182	322	158	329
28					
29	1799	2431	1989	2218	2165
30	383	259	127	133	126
31					
32	11458	10265	9511	13565	14588
33	1550	1221	1142	904	240
34	0	0	0	0	0
35					
36	15245	14635	14210	16482	15952
37	615	605	644	659	320
38					
39	1487	1374	1800	1467	1305
40	440	282	404	284	128
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	2014	2015	2016	2017	2018
46					
47	83392	78886	79607	80610	93803
48					
49	37257	37230	38990	36340	43317
50					
51	14682	15553	17188	19465	21550
52	31905	36462	35911	35408	40143
53					
54	1120596	1114722	1196474	1271073	1352645
55	205536	205387	227921	257452	300079
56	45065	57276	60500	63311	68668
57					
58	45424	48769	59162	68762	70422
59	147730	138320	137147	143244	151050
60	42067	39371	43727	47356	49434

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2	55001	59323	59051	61567	70025
3	264298	269181	274383	271399	29710
4	305897	293758	289524	27283	290224
5	14274	12785	16268	21410	24093
6					
7	286	0	0	304	0
8	397375	374869	400432	414312	440072
9	190462	197908	214455	234087	261650
10	127291	133590	134683	148502	157442
11					
12	21989	20300	19113	21182	21508
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	2014	2015	2016	2017	2018
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17					
18	504103	301720	285921	352424	680256
19	300979	589193	653720	488341	276333
20	107849	38853	385440	411616	312535
21	480558	401656	37805	141804	159654
22					
23	10173250	9067487	7335664	7148206	7626355
24	994639	1176243	1566253	1258789	1055876
25	366021	555391	331750	14747	143470
26	760235	698223	931110	1213315	123877
27	185069	253702	75142	107322	17279
28	1125690	765132	464110	211358	320310
29	1862304	1764008	1562754	1637971	1167773
30	1373327	1160880	683176	941970	1602709
31	2464485	282719	3719758	2828719	3395635
32	567857	385948	366690	156994	437457
33	0	0	71431	70750	0
34	2255011	1982882	2086038	2405828	188504
35	1303405	1444522	67396	846034	1406328
36	1479772	1407292	1105646	1928022	1605242
37	336416	440688	278168	73826	75485
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	2014	2015	2016	2017	2018
48					
49	4776	5628	5576	4835	6776
50	4618	3455	2678	2826	2863
51	1074	992	797	962	1522
52	3701	4370	3751	2220	2193
53	70081	69479	73909	69783	68221
54	14075	14228	15704	15916	17350
55	4570	6818	7317	5213	4962
56	4626	4908	4388	4055	5121
57	5339	7513	6180	4503	5803
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2	2541	2692	2705	4694	6301
3	4787	4194	2723	2710	4661
4					
5	27289	30879	30780	25776	21696
6	20906	23159	23173	21567	21997
7					
8	1574	655	1836	2527	1876
9	0	0	0	0	0
10					
11	34409	29761	28891	28879	27616
12	22416	23848	22283	20722	16091
13					
14	9685	11994	12404	9066	8566
15	700	1686	2285	1605	1234
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18					
19					
20	946	0	0	0	0
21	6517	6060	6894	5967	2932
22					
23	0	0	0	0	0
24	449	444	441	1366	1454
25					
26	374306	335930	344110	348406	348046
27	12264	12507	13538	13322	14824
28					
29	1692	1636	592	570	545
30	5089	5412	5345	0	2206
31					
32	16351	15584	14551	14312	15637
33	2906	2861	3263	3176	3081
34	4215	2802	2126	561	4894
35					
36	34286	31529	39683	32469	12550
37	16148	15878	13828	13097	9740
38					
39	0	0	0	0	0
40	0	0	0	0	0
41					
42	15306	17132	12490	10633	8513
43	5610	11059	6323	8091	7685
44					
45	15111	23661	23529	34296	30499
46	5018	4997	5874	0	0
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	2014	2015	2016	2017	2018
49					
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51	6599	5552	11212	8251	7459
52	2118	3818	2550	2900	3173
53	6643	4125	3066	5882	22501
54	9302	11065	8951	5709	7876
55					
56					
57	393630	345938	329892	357428	374589
58	74945	60500	81498	64163	99592
59	14227	10701	23901	24850	12366
60	10416	44349	9044	8012	10944

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2	1283	2775	3457	3533	5485
3	622	184	183	0	0
4	992	2442	2225	2644	3587
5	18593	18371	23050	24664	28968
6	95628	87939	78882	77451	78320
7	3296	3639	3361	3258	1728
8	0	0	0	0	383
9	57653	63027	55085	46821	52207
10	16233	18294	16084	32004	33367
11	32439	37570	33137	29027	34900
12	7318	6127	6740	6964	6162
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25					
26	7.02	0.53	1.30	3.74	6.10
27	7.03	11.90	13.02	17.48	16.88
28	0.00	0.00	0.00	0.00	0.00
29	0.48	0.17	0.00	0.00	0.00
30	46.58	47.82	51.85	49.18	48.63
31	109.69	101.77	88.73	82.01	8.98
32	74.28	87.92	91.85	87.19	126.63
33	4.95	6.22	5.11	3.20	7.51
34	25.16	32.40	19.73	20.84	19.60
35	11.36	15.70	14.04	15.90	20.07
36	51.36	29.52	45.32	56.92	50.02
37	71.69	85.00	97.18	63.34	73.53
38	20.43	14.10	12.38	11.49	11.41
39	5.87	4.16	6.91	18.37	22.93
40	0.00	0.00	0.00	0.00	0.00
41	31.64	35.29	38.12	28.10	32.06
42	1.36	2.70	11.30	8.76	9.41
43	36.86	42.57	37.90	34.27	45.24
44	21.50	11.51	14.64	10.86	6.56
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57	75.08	108.87	110.88	117.27	106.81
58	150.87	188.49	184.11	171.50	158.05
59	0.00	0.00	3.82	15.91	18.19
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2	12.77	12.66	10.97	17.63	13.37
3	936.72	945.50	968.14	946.97	1002.63
4	714.85	629.20	681.69	717.76	720.92
5	107.92	304.27	310.40	270.88	359.03
6	60.28	60.55	54.50	47.12	35.16
7	225.03	201.49	191.30	182.24	189.87
8	79.44	82.36	81.54	87.88	73.36
9	370.92	393.71	369.12	415.47	403.49
10	1885.80	1723.29	1708.06	1779.74	1724.96
11	360.01	397.94	392.69	342.00	362.79
12	88.37	95.85	100.63	103.73	120.00
13	0.00	0.00	0.00	0.00	0.00
14	481.96	449.48	496.22	504.13	498.45
15	121.05	132.60	170.40	137.35	171.13
16	405.36	388.92	454.72	480.35	563.62
17	112.73	61.80	85.24	57.27	29.62
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	2014	2015	2016	2017	2018
30	14.13	20.00	19.82	22.50	25.62
31	36.49	51.72	60.84	96.84	97.24
32	3.25	6.52	0.00	0.00	0.83
33	7.70	7.81	8.84	8.72	9.82
34	157.34	168.54	153.34	153.59	166.38
35	182.05	174.65	192.23	181.68	168.48
36	0.00	0.00	17.87	0.00	50.15
37	14.71	17.56	16.56	20.85	16.27
38	6.72	0.00	0.00	7.04	11.83
39	41.78	53.99	43.04	35.97	28.78
40	26.25	0.00	0.00	0.00	0.00
41	105.14	106.10	142.85	149.48	164.89
42	40.98	35.35	49.37	49.24	45.72
43	76.71	88.18	99.47	164.43	155.14
44	0.00	0.00	0.00	0.00	0.00
45	288.32	266.00	248.71	249.91	235.74
46	39.01	41.41	45.60	61.87	53.49
47	33.22	50.13	63.29	75.74	55.96
48	13.28	41.98	55.83	77.73	62.01
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2	52.43	47.96	45.95	58.10	80.39
3	142.12	143.95	151.07	148.11	130.64
4	14.60	17.62	24.71	24.44	26.13
5	2.37	1.24	1.21	1.35	1.29
6	287.77	262.52	300.37	295.32	314.38
7	412.62	405.32	370.65	377.64	363.84
8	207.43	290.02	318.51	366.19	317.22
9	13.76	5.50	8.34	7.30	19.16
10	316.52	307.41	269.53	266.50	246.69
11	21.50	23.69	42.35	57.60	48.27
12	185.21	225.15	202.75	161.12	178.42
13	340.57	321.33	279.02	269.96	327.25
14	205.70	189.70	214.68	267.35	292.49
15	0.00	0.00	0.00	0.00	15.95
16	0.00	0.00	0.00	0.00	0.00
17	113.52	91.82	95.16	101.73	85.55
18	22.67	20.14	4.06	12.18	13.40
19	246.53	200.75	226.01	230.87	258.12
20	102.48	63.12	77.54	77.48	73.48

	2014	2015	2016	2017	2018
21	46.90	41.91	34.33	49.04	45.66
22	10.08	20.55	52.22	52.47	98.92
23	53.15	52.30	70.49	80.35	67.81
24	3.77	5.44	4.82	6.48	6.15
25	370.43	332.75	350.54	341.11	333.16
26	597.40	602.87	481.16	582.33	597.49
27	125.01	146.91	124.05	121.00	116.09
28	38.96	26.15	14.46	25.02	28.56
29	114.74	135.46	201.82	220.99	189.63
30	15.62	9.50	16.86	8.31	17.28
31	192.08	258.31	210.04	232.81	224.33
32	28.40	19.51	9.73	10.36	9.96
33	201.37	178.38	164.01	232.13	245.05
34	171.55	133.18	123.42	96.79	25.18
35	0.00	0.00	0.00	0.00	0.00
36	406.38	387.83	374.25	431.42	414.35
37	16.11	15.66	16.42	16.52	7.89
38	58.96	54.43	71.54	58.60	51.57
39	44.97	28.72	41.01	28.66	12.77

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2014	2015	2016	2017	2018
2031.25	1907.71	1915.65	1930.22	2232.64
3230.02	3180.43	3282.39	3015.51	3526.49
382.25	392.96	419.59	459.64	492.28
289.76	327.61	319.48	311.93	346.48
9954.83	9770.64	10420.17	10999.52	11476.32
15484.14	15336.52	16815.14	18768.82	21539.61
8569.79	10713.90	11124.49	11446.67	12176.25
1103.78	1175.71	1423.22	1650.70	1669.24
8004.87	7439.34	7332.12	7612.48	7923.10
2184.23	2056.45	2292.59	2492.32	2597.04
5872.72	6303.54	6236.54	6463.05	7255.41
19580.52	20260.44	21005.41	21138.62	23314.32
5375.82	5105.01	4992.74	4668.38	4875.54
1579.87	1395.17	1757.99	2291.52	2521.46
40.90	0.00	0.00	42.53	0.00
10592.16	9933.98	10545.85	10844.45	11430.88
4987.09	5122.90	5465.35	5874.80	6449.13
5047.13	5289.88	5355.64	5930.12	6222.28
2246.21	2069.70	1937.56	2135.08	2137.80

2014	2015	2016	2017	2018
12.28	7.30	6.88	8.44	16.19
26.09	50.33	55.03	40.52	22.50
2.81	9.81	9.41	9.72	7.14
4.36	3.61	3.37	1.25	1.38
90.38	79.48	63.89	61.86	64.71
74.94	87.83	115.55	91.77	75.79
69.61	103.89	61.00	26.66	25.44
18.48	16.84	22.40	29.13	29.35
10.03	13.65	4.02	5.71	9.07
58.45	39.97	24.33	11.12	16.82
198.85	187.44	165.05	171.95	120.99
101.75	87.38	52.30	73.37	125.79
43.31	49.12	64.15	48.41	57.05
62.86	42.12	39.63	16.81	45.78
0.00	0.00	10.08	9.91	0.00
60.11	52.55	54.94	62.97	48.95

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2	34.13	37.40	17.17	21.24	34.67
3	58.67	55.73	43.96	76.99	63.44
4					
5	34.37	44.93	28.20	7.44	7.50
6					

	2014	2015	2016	2017	2018
9	116.33	136.10	134.19	115.78	161.28
10					
11	400.33	295.17	225.42	234.51	233.04
12	27.95	25.07	19.46	22.73	34.77
13					
14	33.61	39.27	33.37	19.56	18.93
15	622.56	608.99	643.68	603.88	578.81
16					
17	1060.35	1062.42	1158.56	1160.26	1245.33
18	869.13	1275.22	1345.55	942.40	879.89
19					
20	112.42	118.32	105.56	97.34	121.37
21	289.26	404.05	330.40	239.34	304.36
22					
23	131.96	140.60	141.80	247.04	330.99
24	511.13	445.63	287.57	284.48	482.88
25					
26	2021.66	2324.19	2356.36	2007.67	1702.83
27	367.40	402.47	399.61	369.09	369.53
28					
29	174.25	71.48	198.37	270.40	196.35
30	0.00	0.00	0.00	0.00	0.00
31					
32	917.20	788.66	760.91	755.89	717.34
33	586.92	617.30	567.88	520.04	396.60
34					
35	383.99	474.94	493.24	362.04	338.53
36	71.47	171.89	231.66	161.78	122.63

	2014	2015	2016	2017	2018
39					
40	23.04	0.00	0.00	0.00	0.00
41					
42	565.01	517.67	580.33	495.15	238.70
43	0.00	0.00	0.00	0.00	0.00
44					
45	4.09	3.99	3.92	12.04	12.54
46	3325.16	2944.45	2996.87	3015.02	2952.95
47					
48	923.97	933.90	998.77	971.23	1064.05
49	321.85	305.94	108.84	103.02	96.73
50					
51	123.66	130.47	128.58	0.00	52.29
52	886.01	838.17	777.91	760.60	820.18
53					
54	150.88	149.47	171.07	167.15	161.84
55	449.98	297.75	224.58	58.84	507.06
56					
57	2540.12	2373.11	3037.92	2528.92	984.96
58	283.77	275.95	238.45	224.13	163.62
59					
60	0.00	0.00	0.00	0.00	0.00
	408.00	453.99	328.93	278.31	221.12

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2	146.88	286.25	161.16	203.06	189.41
3	599.18	936.89	935.62	1369.56	1205.36
4					
5	512.57	509.49	595.46	0.00	0.00
6					
7					

	2014	2015	2016	2017	2018
9	160.74	134.27	269.80	197.58	177.52
10					
11	183.63	326.13	214.71	240.68	258.31
12	172.94	104.21	74.85	138.90	514.01
13					
14	84.49	99.42	79.63	50.30	67.99
15	3496.82	3032.18	2873.05	3093.09	3178.15
16	5646.02	4517.67	6012.59	4677.68	7148.68
17					
18	2705.41	2001.84	4394.74	4492.97	2192.77
19					
20	253.10	1069.13	217.56	192.32	259.40
21	69.49	149.27	184.86	187.72	287.69
22					
23	32.29	9.61	9.56	0.00	0.00
24	105.97	259.53	235.04	277.60	371.66
25					
26	1377.46	1382.72	1764.59	1921.09	2273.61
27	1680.56	1528.23	1360.30	1325.43	1315.72
28					
29	364.83	397.14	363.18	348.72	180.81
30	0.00	0.00	0.00	0.00	53.02
31	1536.74	1670.21	1450.75	1225.50	1356.09
32					
33	425.05	473.53	409.89	803.19	822.43
34					
35	1286.22	1487.70	1317.68	1159.13	1379.29
36	747.45	624.69	683.20	702.02	612.44
37					
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	2014	2015	2016	2017	2018
45	41,185.25	22,206.14	53,806.97	52,012.07	51,267.85
46	40,524.64	46,419.54	51,536.02	42,143.03	51,819.50
47					
48					
49	-	-	-	-	-
50	-	-	-	-	-
51					
52	48,550.81	50,058.20	50,023.45	43,057.15	49,844.10
53	46,968.31	46,996.62	52,290.82	38,789.72	50,126.54
54	48,828.05	47,004.14	49,949.88	53,580.95	47,608.35
55	50,866.76	51,604.00	53,138.11	44,414.33	52,772.74
56	51,593.74	50,206.15	46,141.36	39,228.53	53,399.28
57	43,772.59	50,110.74	44,605.21	50,347.79	54,572.93
58					
59					
60	48,100.07	46,307.61	53,640.56	38,726.83	48,278.64

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2	43,986.03	49,096.43	50,778.89	33,887.30	55,106.16
3	48,427.87	45,050.76	42,201.00	44,781.09	52,228.74
4					
5	52,961.30	38,157.60	63,962.22	57,204.53	54,791.47
6	-	-	-	-	-
7					
8	45,644.69	49,324.11	49,906.83	37,014.15	49,360.45
9	52,121.22	52,267.35	49,273.94	43,610.55	54,557.28
10					
11	48,930.92	51,194.46	47,646.10	50,487.34	57,237.10
12	42,098.85	56,476.42	48,126.51	35,942.22	65,986.86
13					
14					

	2014	2015	2016	2017	2018
15					
16	181,322.12	214,379.66	242,511.23	195,885.79	236,193.88
17	158,205.40	200,587.18	198,813.50	187,886.10	194,138.86
18					
19	-	-	-	-	-
20					
21	281,263.65	352,425.98	308,097.80	222,369.87	309,838.80
22	298,711.97	318,202.74	325,995.98	242,099.93	322,879.15
23	296,529.36	290,561.75	308,001.23	259,090.85	278,990.40
24	189,173.60	325,327.21	337,645.62	249,705.78	506,219.15
25	225,536.22	209,320.82	226,543.08	150,984.84	211,951.64
26	218,571.46	220,370.39	198,794.11	127,006.57	164,533.48
27	218,562.00	225,250.86	222,176.42	208,723.20	199,470.82
28	248,131.86	247,013.92	233,002.38	136,474.40	229,071.03
29	322,209.47	336,699.57	318,735.63	256,743.17	328,025.85
30	235,460.77	254,433.12	271,096.59	227,099.14	295,829.76
31	266,139.76	292,796.58	232,794.12	193,833.32	229,328.70
32					
33	-	-	-	-	-
34					
35	228,874.24	238,896.21	265,379.98	180,004.45	278,111.92
36	177,799.44	182,959.11	247,644.98	165,850.47	216,962.16
37	212,984.71	204,619.10	233,374.57	211,033.14	269,082.57
38	137,942.70	121,218.53	140,143.30	142,043.64	149,005.29
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	2014	2015	2016	2017	2018
50					
51	116,014.22	165,397.35	164,759.78	156,604.95	134,578.96
52	105,209.29	100,899.65	103,237.16	106,095.74	91,883.72
53	125,049.67	129,018.42	-	-	36,122.39
54	121,095.31	124,231.20	124,254.00	123,725.40	126,443.59
55	122,989.95	120,931.47	123,124.83	131,467.97	127,339.88
56	142,145.30	137,585.19	137,135.13	124,601.11	123,535.61
57					
58	-	-	97,183.16	-	141,422.49
59					
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2	151,347.92	145,660.16	137,674.11	124,100.36	114,441.59
3	124,046.87	-	-	132,347.96	112,763.11
4					
5	114,939.42	103,365.98	117,286.70	113,919.61	109,571.72
6	122,940.00	-	-	-	-
7					
8	101,376.49	108,428.37	155,499.27	147,628.75	131,307.05
9	122,746.34	127,113.95	114,519.08	125,082.89	129,598.82
10					
11	115,511.21	115,428.72	115,057.50	118,177.66	114,028.76
12	-	-	-	-	-
13					
14	144,217.80	139,416.05	140,949.26	136,394.47	139,621.27
15	135,424.44	114,259.62	127,826.75	129,739.70	120,575.17
16					
17	119,692.33	126,591.56	132,630.34	145,903.03	157,335.55
18	130,065.58	137,244.16	137,675.96	128,527.40	124,770.27
19					
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	2014	2015	2016	2017	2018
21					
22					
23	143,492.28	152,550.32	159,119.06	151,658.85	160,835.29
24	102,456.87	112,335.80	149,539.43	127,492.55	145,874.29
25					
26	140,184.25	139,465.34	144,618.95	147,890.79	142,995.52
27	130,239.65	138,606.69	135,272.54	153,165.18	149,676.86
28					
29	134,971.28	131,365.86	143,109.16	148,378.04	147,625.63
30	165,970.51	146,706.44	152,241.75	167,097.87	168,960.69
31					
32	155,821.28	140,951.42	144,351.32	144,670.04	162,632.68
33	113,207.69	113,998.57	115,559.46	152,107.91	161,625.86
34					
35	201,423.04	190,526.09	180,056.21	185,725.63	174,189.34
36	103,548.51	113,408.83	161,557.27	156,354.94	131,238.11
37					
38	173,451.62	176,569.45	174,524.21	170,544.46	172,203.30
39	139,303.30	133,412.03	151,862.14	138,640.16	148,913.91
40	136,102.75	133,121.89	136,804.50	147,383.02	148,812.28
41					
42	-	-	-	-	152,380.97
43	-	-	-	-	-
44					
45	152,099.55	157,498.60	157,107.03	155,465.92	143,195.04
46	144,259.80	129,666.89	159,300.23	161,730.23	181,155.52
47					
48	135,166.64	133,417.74	-	148,242.33	148,435.61
49	143,306.00	154,772.53	152,968.67	153,737.93	147,866.65
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	2014	2015	2016	2017	2018
52					
53					
54	148,123.81	144,443.08	142,689.21	157,555.12	159,846.55
55	116,374.47	80,169.46	155,064.66	158,091.68	135,011.74
56					
57	145,808.38	138,023.31	151,985.43	162,035.47	156,231.37
58	138,631.04	100,981.12	135,667.55	147,222.61	142,664.37
59	140,400.99	137,548.15	153,626.58	159,586.71	158,975.82
60	158,596.97	155,263.02	151,669.37	166,412.01	157,056.23

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2	164,338.59	157,069.93	134,928.19	167,310.69	163,676.56
3	114,511.43	108,485.52	120,231.04	148,887.44	150,578.68
4					
5	192,491.56	193,737.24	188,760.85	198,016.91	172,151.37
6	100,281.36	90,965.11	160,765.03	157,890.07	109,642.35
7					
8	199,881.18	202,573.86	180,798.34	184,810.00	180,423.82
9	127,762.92	129,617.97	127,076.54	133,079.84	126,822.03
10					
11	128,747.84	129,930.85	146,325.32	159,585.62	156,852.71
12	129,158.14	135,613.19	114,208.49	150,712.78	120,312.95
13					
14	-	-	-	-	-
15	153,997.22	146,351.94	152,801.23	161,590.69	154,874.24
16	153,833.18	151,190.88	161,046.12	164,639.72	160,041.70
17	135,176.38	137,446.57	179,925.96	163,030.76	163,112.85
18	146,765.39	140,859.48	134,846.46	142,194.67	128,536.59
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	2014	2015	2016	2017	2018
28					
29	367,365.36	372,103.40	377,286.45	371,473.96	375,212.61
30	321,178.38	320,949.86	351,260.26	342,829.50	357,997.12
31	444,908.42	398,793.51	452,308.12	463,444.07	439,788.37
32	469,189.80	473,523.94	505,791.14	505,832.55	535,233.47
33	395,830.24	397,546.97	412,151.14	420,050.37	424,825.67
34	393,748.00	388,989.83	422,075.58	457,285.95	469,607.33
35	344,002.11	355,754.70	364,461.35	361,780.28	361,410.38
36	346,751.96	369,466.55	384,163.85	388,483.11	411,823.00
37	398,193.92	386,367.86	392,972.68	376,958.08	370,220.44
38	339,251.27	325,378.65	333,789.93	343,163.00	350,600.83
39	350,324.79	361,723.07	376,118.87	405,045.84	393,402.24
40	341,911.73	353,254.98	366,332.75	382,251.80	383,782.64
41	400,388.83	410,849.89	404,928.82	401,762.75	403,088.82
42	385,788.10	376,038.79	387,322.03	428,192.15	401,541.80
43	285,482.24	-		303,736.41	-
44	443,499.29	456,044.31	473,322.91	479,528.20	489,512.50
45	384,771.39	393,455.28	429,769.25	445,032.31	431,055.71
46	354,571.76	371,085.36	384,810.07	386,724.04	382,141.29
47	289,331.59	322,216.70	318,551.12	347,247.05	358,473.27
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58	84,017.17	75,429.88	71,480.32	58,737.26	75,584.03
59	75,244.84	73,649.09	72,635.56	69,762.95	69,083.31
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2	107,848.74	97,114.76	96,360.13	82,323.19	78,133.72
3	68,651.13	66,942.68	75,605.83	70,902.06	79,827.13
4	82,042.34	82,431.70	81,507.39	78,551.71	74,768.19
5	82,886.56	90,480.21	97,890.79	83,919.23	70,391.74
6	73,204.13	79,341.58	82,937.56	73,735.26	71,734.86
7	63,352.93	69,822.28	84,646.40	80,887.67	72,830.42
8	92,534.69	84,567.48	75,141.62	107,321.72	86,395.89
9	80,406.44	76,513.21	66,301.41	70,452.57	106,769.91
10	124,153.58	126,000.60	130,229.52	136,497.55	116,777.31
11	68,666.35	77,392.03	75,908.40	78,497.52	76,319.46
12	72,484.85	83,137.75	86,506.00	80,820.54	82,820.37
13	81,122.40	77,189.56	73,338.04	52,331.37	109,364.28
14	-	-	71,430.92	70,750.30	-
15	102,500.49	99,144.09	90,697.31	82,959.61	81,944.08
16	76,670.88	68,786.74	74,883.93	76,912.20	78,129.34
17	87,045.40	74,067.99	78,974.71	77,120.89	76,440.09
18	84,104.04	88,137.64	92,722.60	73,826.41	75,485.07
19					
20					
21	227,404.47	200,997.51	206,539.82	185,963.52	183,131.22
22	177,596.79	164,533.46	191,266.96	188,405.62	178,910.47
23	214,702.63	165,345.81	159,447.36	137,506.78	152,229.73
24	185,059.36	182,095.22	163,078.37	158,560.52	182,759.01
25	190,436.38	183,320.81	187,586.60	186,088.30	181,438.49
26	192,809.52	197,610.15	198,781.13	194,088.16	186,551.52
27	217,634.98	194,780.34	203,270.98	193,051.22	190,852.25
28	185,052.17	204,500.31	182,826.80	193,086.49	182,872.21
29	184,079.36	208,683.00	181,769.25	187,653.23	187,180.69
30	169,433.87	168,240.81	169,042.58	180,537.28	175,006.27
31	170,963.06	182,340.75	194,486.64	180,664.88	150,338.73
32	194,917.40	192,994.85	185,421.13	186,786.00	185,433.89
33	193,571.46	191,398.95	188,401.01	185,928.70	186,413.64
34	174,932.36	163,765.26	203,958.38	194,334.70	187,609.65
35	-	-	-	-	-
36	192,231.21	190,774.89	191,336.63	188,751.61	185,346.70
37	194,914.18	197,087.66	188,837.85	180,186.38	180,795.24
38	201,760.59	193,453.92	182,411.94	181,326.04	174,811.03
39	174,924.51	168,588.02	175,786.12	178,333.51	176,252.95
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58	945,724.67	-	-	-	-
59	592,466.97	757,483.53	574,456.67	542,459.47	586,425.88
60	-	-	-	-	-

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2	112,376.69	111,113.20	110,179.42	1,366,612.43	1,453,323.09
3	1,509,296.79	1,297,026.24	1,246,775.74	1,285,632.16	1,148,667.15
4	876,055.05	893,345.06	902,523.31	832,643.36	823,544.55
5	846,229.01	817,777.77	591,938.78	569,802.22	545,506.29
6	1,696,340.57	1,082,384.97	890,862.35	-	735,312.71
7	563,833.79	556,571.32	582,034.74	572,489.23	504,399.22
8	581,173.22	572,321.11	652,563.23	635,195.46	616,118.10
9	526,787.56	467,016.62	425,292.66	560,509.21	1,631,317.32
10	1,490,722.21	1,261,168.67	1,587,314.77	1,298,750.47	627,466.95
11	897,094.64	882,163.23	768,191.98	818,584.81	811,639.11
12	-	-	-	-	-
13	-	-	-	-	-
14	1,020,431.69	901,680.15	1,040,822.76	966,626.44	945,858.60
15	801,375.66	1,382,334.82	903,348.75	809,123.36	768,482.94
16	1,259,282.59	1,478,765.65	1,238,364.51	1,714,831.54	1,129,595.03
17	836,291.03	832,850.00	652,656.83	-	-
18					
19	549,917.43	616,920.28	747,471.08	589,376.88	497,226.49
20	353,004.26	477,211.28	510,081.54	580,102.92	528,815.23
21	474,473.64	515,567.73	613,255.62	1,470,539.96	2,812,609.16
22	845,692.79	737,668.24	596,727.25	439,203.77	525,069.30
23	-	829,588.81	796,841.17	814,187.67	762,910.14
24	1,387,875.19	1,080,370.22	1,044,841.44	1,034,898.55	1,422,741.62
25	2,032,347.11	823,215.61	885,214.02	994,025.15	588,864.11
26	801,233.56	1,928,204.06	695,655.37	500,714.10	911,964.69
27	256,486.82	555,080.37	691,556.53	588,725.30	548,463.97
28	310,965.29	183,964.61	182,454.99	-	-
29	248,105.09	814,149.08	741,798.35	661,086.47	717,412.55
30	563,422.64	633,475.50	720,311.00	770,776.38	827,657.53
31	796,901.07	709,186.93	765,845.53	710,564.11	712,003.28
32	470,894.67	454,927.41	672,136.60	651,615.18	287,938.96
33	-	-	-	-	383,326.08
34	678,263.67	606,028.03	663,683.35	624,271.62	593,266.48
35	624,347.91	538,040.35	554,617.33	800,094.49	617,905.69
36	690,195.05	736,673.40	705,042.78	558,208.29	553,968.28
37	365,859.36	360,411.99	421,219.43	366,563.96	473,981.64
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	0.874	0.862
	2019	2020
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6	107	336
7		
8	58	171
9	0	56
10		
11	0	0
12	5827	6638
13		
14	1384	1201
15	387	626
16		
17	271	262
18	465	489
19		
20	390	406
21	437	374
22		
23	856	626
24	1012	575
25		
26	172	118
27	62	0
28		
29	1485	1742
30	235	393
31	881	941
32		
33	58	69
34		
35		
36		
37	4440	3876
38		
39	1710	1754
40	800	630
41		
42	1286	1509
43	117542	120064
44		
45	7943	9935
46	3208	3457
47		
48	1539	2468
49	4253	4097
50		
51	1463	1787
52	3742	4166
53		
54	19922	17397
55	21881	22231
56		
57	1103	1384
58	0	0
59	19832	22480
60	6789	5724

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2	15605	14175
3		
4	864	997
5		
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9		
10	2019	2020
11		
12	572	854
13	900	810
14		
15	107	213
16	1019	1795
17		
18	21286	21356
19	2606	2021
20		
21	397	283
22	895	960
23		
24	227	125
25	612	507
26		
27	0	112
28	1810	2383
29		
30	3016	3097
31	1167	1302
32		
33	0	0
34	9698	10535
35	1687	1304
36		
37	1200	872
38		
39	611	749
40		
41	2019	2020
42		
43	3945	3431
44	1761	1404
45		
46	972	966
47	450	435
48		
49	40718	40627
50	5700	6372
51		
52	2070	1556
53	970	1444
54		
55	4415	4205
56	740	854
57		
58	1893	1621
59	4123	4505
60	16945	16185

1		
2	149	148
3	0	0
4		
5	2844	3674
6	2523	3239
7		
8	6686	7174
9	971	947
10		
11		
12	2019	2020
13		
14	2685	2567
15	1360	1154
16		
17	3127	2233
18	860	948
19		
20	39270	43310
21	8999	9082
22		
23	810	968
24	1515	1754
25		
26	3942	3650
27	432	472
28		
29	2007	1572
30	166	455
31		
32	16445	19211
33	397	381
34	0	0
35		
36	16903	16934
37	171	498
38		
39	1359	1936
40	441	434
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46	2019	2020
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48	96611	104140
49	44127	42831
50		
51	27136	35028
52	40184	45344
53		
54	1437753	1546304
55	303824	359201
56	74685	84467
57		
58	85026	99370
59	162779	171439
60	53138	60475

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2	80151	78570
3		
4	314643	333831
5	301090	339631
6	24854	26515
7		
8	248	0
9	446119	47072
10		
11	266650	268941
12	176785	197789
13		
14	21968	24401
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	2019	2020
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18	692128	540973
19		
20	340643	444365
21	170131	297712
22		
23	482712	356016
24	9971038	1123091
25		
26	1341851	1260427
27	139992	487505
28	982384	659251
29		
30	281707	284470
31	645653	545684
32		
33	279928	409354
34		
35	2122323	2346227
36	280869	319452
37	733021	625866
38		
39	0	0
40	1646860	1551283
41		
42	1945683	183410
43	89468	1406835
44		
45	249191	329822
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	2019	2020
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49	7901	6260
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51	2771	3712
52	1399	1056
53		
54	2401	2819
55	67654	73204
56		
57	22544	17368
58	10260	8724
59	5485	8536
60	10024	9669

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2	4226	4408
3	4890	5890
4		
5	21012	22186
6	23920	26148
7		
8	2480	2118
9	0	0
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11	29290	33837
12	19107	21432
13		
14	9015	10752
15	1327	1937
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17		
18	2019	2020
19		
20	0	0
21	2710	2680
22		
23	0	0
24	1768	1998
25		
26	396488	423422
27	18437	42257
28		
29	610	0
30	2540	4457
31		
32	15365	14842
33	3963	3888
34		
35	4481	6622
36	11233	14118
37		
38	10204	14790
39	0	0
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41	0	0
42	7611	8414
43		
44	9878	11119
45	26055	36847
46		
47	0	0
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49	2019	2020
50		
51	9982	8843
52	7142	4542
53		
54	1724	12315
55	8711	6972
56		
57	538414	601801
58	89879	120052
59		
60	5976	4821
	7021	7298

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2	5948	6846
3	616	559
4	1879	2681
5	26126	27745
6	72298	63706
7	4439	6730
8	376	371
9	80985	68057
10	34595	33086
11	35093	28211
12	9275	4447
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	2019	2020
25		
26	2.52	7.96
27	4.61	13.61
28	0.00	1.24
29	0.00	0.00
30	48.48	55.24
31	97.82	84.93
32	67.25	108.94
33	6.34	6.14
34	24.08	25.32
35	20.45	21.30
36	44.64	38.30
37	67.69	49.49
38	16.69	9.49
39	17.63	12.08
40	8.42	0.00
41	38.27	44.93
42	5.70	9.52
43	34.45	36.79
44	5.62	6.79
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57	105.07	91.71
58	136.59	140.20
59	17.71	13.94
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1		
2	10.88	12.76
3		
4	978.12	999.11
5	561.45	702.30
6		
7	557.96	601.52
8	36.03	57.79
9		
10	220.25	212.14
11	76.73	93.74
12		
13	382.76	426.07
14	1575.75	1376.06
15		
16	360.96	366.74
17	112.95	141.63
18	0.00	0.00
19		
20	511.25	579.51
21	164.39	138.59
22		
23	610.37	554.44
24	84.68	97.69
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	2019	2020
30		
31	13.54	20.20
32		
33	71.88	64.75
34	2.38	4.72
35		
36	8.63	15.19
37	177.13	177.71
38		
39	184.22	142.87
40	69.00	49.21
41		
42	20.93	22.48
43	11.76	6.48
44		
45	32.08	26.56
46	0.00	11.44
47	143.16	188.51
48		
49	49.75	51.09
50		
51	119.45	133.31
52	0.00	0.00
53		
54	249.99	271.56
55	40.84	31.56
56	46.94	34.11
57		
58	59.86	73.42
59		
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	2019	2020

1		
2	93.33	81.19
3		
4	140.70	112.19
5	21.52	21.38
6	3.80	3.67
7		
8	338.83	338.07
9	402.95	450.43
10		
11	360.22	270.74
12	22.70	33.80
13		
14	228.62	217.74
15	38.80	44.75
16		
17	193.59	165.76
18	326.11	356.31
19		
20	279.53	267.00
21	15.30	15.16
22		
23	0.00	0.00
24	73.33	94.70
25		
26	61.08	78.44
27	261.55	280.62
28		
29	95.15	92.80
30		
31		
32	2019	2020
33	63.51	60.73
34	108.68	92.26
35	69.17	49.41
36	7.28	8.03
37		
38	326.78	360.40
39	636.15	641.98
40	140.90	168.38
41	35.46	41.05
42	204.16	189.02
43	22.62	24.76
44		
45	205.22	160.79
46	13.13	35.99
47		
48	271.30	316.92
49	40.63	39.05
50		
51	0.00	0.00
52	435.74	436.55
53	4.14	12.06
54		
55	53.18	75.74
56		
57	43.28	42.55
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	2019	2020
	2285.73	2463.85
	3525.69	3422.12
	600.32	774.93
	339.97	383.63
	11964.22	12867.53
	21477.72	25392.40
	12993.19	14695.02
	1990.32	2326.07
	8428.94	8877.37
	2786.66	3171.38
	8197.88	8036.22
	24886.76	26404.35
	4967.00	5602.81
	2544.68	2714.78
	33.89	0.00
	11500.29	12132.67
	6456.90	6512.38
	6915.37	7737.01
	2153.51	2392.02
	2019	2020
	16.37	12.80
	27.22	35.50
	3.77	6.59
	4.08	3.01
	82.97	93.46
	94.85	89.10
	24.36	84.81
	22.99	15.43
	14.59	14.73
	33.86	28.61
	28.63	41.87
	167.87	185.58
	46.33	52.70
	75.05	64.08
	0.00	0.00
	42.46	39.99

1		
2	47.11	44.41
3		
4	35.00	55.03
5	24.43	32.33
6		
7		
8	2019	2020
9	186.92	148.11
10		
11	221.38	296.54
12	30.93	23.37
13		
14	20.32	23.85
15	562.98	609.17
16		
17	1593.65	1227.72
18	1784.94	1517.68
19		
20	128.40	199.82
21	519.05	500.65
22		
23	221.61	231.16
24	500.18	602.47
25		
26	1661.99	1754.86
27	394.61	431.36
28		
29	253.90	216.85
30	0.00	0.00
31		
32	755.07	872.28
33	462.68	518.97
34		
35	352.65	420.58
36	130.05	189.90
37		
38		
39	2019	2020
40	0.00	0.00
41		
42	216.49	214.14
43	0.00	0.00
44		
45	14.96	16.91
46	3299.36	3523.49
47		
48	1303.34	2987.19
49	106.11	0.00
50		
51	59.45	104.34
52	795.62	768.54
53		
54	207.79	203.91
55	458.34	677.35
56		
57	888.52	1116.61
58	168.34	243.99
59		
60	0.00	0.00
	196.19	216.89

1		
2	239.21	269.25
3	1019.18	1441.36
4		
5	0.00	0.00
6		

	2019	2020
9	236.16	209.21
10		
11	570.67	362.88
12	38.14	272.45
13		
14	73.70	58.99
15	4480.40	5007.88
16		
17	6353.65	8486.64
18	1039.72	838.75
19		
20	164.36	170.84
21	308.00	354.51
22		
23	32.30	29.31
24	192.20	274.26
25		
26	2066.44	2194.54
27	1192.68	1050.94
28		
29	454.46	689.06
30	51.38	50.71
31		
32	2087.67	1754.41
33	837.71	801.17
34		
35	137.49	1103.53
36	909.17	435.95
37		
38		
39		
40		
41		
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43		

	2019	2020
45	53,217.04	56,030.55
46		
47	57,752.69	56,809.93
48		
49	-	56,306.44
50	-	-
51		
52	53,948.28	57,227.64
53	47,711.83	54,608.57
54		
55	48,320.59	52,181.02
56	54,186.37	52,416.80
57		
58	51,656.72	48,906.94
59	55,701.51	58,040.20
60	54,561.15	62,414.71

1		
2	53,488.62	48,131.81
3	53,235.48	47,935.76
4		
5	57,389.28	59,001.49
6	-	-
7		
8	51,196.85	54,460.89
9	58,767.14	56,143.12
10		
11	58,722.54	62,692.09
12	57,312.40	69,279.94
13		

	2019	2020
15		
16	222,038.95	258,422.67
17	244,228.96	219,342.50
18		
19	-	-
20		
21	321,563.23	301,664.40
22	338,736.59	328,942.29
23	226,923.42	268,525.33
24	534,590.36	432,186.53
25	192,368.52	224,420.52
26	163,592.37	178,119.31
27	209,018.87	223,448.37
28	233,890.79	260,355.25
29	337,665.40	316,318.47
30	295,684.06	308,761.37
31	275,785.03	276,662.82
32		
33	-	-
34		
35	291,650.64	316,627.20
36	226,300.82	220,131.11
37	269,047.59	257,730.46
38	215,942.11	249,121.03
39		
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	2019	2020
50		
51	114,499.88	121,985.21
52	89,967.35	101,293.40
53	107,672.81	106,612.38
54	113,299.66	119,681.66
55	125,208.28	121,340.16
56	113,306.48	106,372.10
57	132,194.95	94,281.43
58		
59		
60		

1		
2	111,786.61	120,039.53
3	113,533.69	125,189.79
4		
5	101,949.52	101,303.31
6	-	111,880.92
7		
8	106,469.80	-
9	131,112.84	114,705.90
10		
11	116,671.44	108,504.60
12	-	-
13		
14	134,685.71	130,052.01
15	112,441.80	118,497.42
16		
17	149,994.06	124,600.35
18	122,113.52	124,822.78
19		
20		
21	2019	2020
22		
23	157,795.44	149,201.89
24	125,787.21	140,414.60
25		
26	138,926.44	138,042.33
27	149,873.95	144,803.25
28		
29	144,902.20	148,273.02
30	162,860.83	163,377.21
31		
32	159,275.29	155,622.51
33	161,597.63	160,438.26
34		
35	176,598.91	168,199.60
36	105,693.88	121,903.40
37		
38	157,723.02	162,071.07
39	152,702.09	150,159.38
40		
41	149,953.44	148,484.85
42	149,422.30	148,046.88
43		
44	-	-
45	149,706.13	153,061.09
46	180,187.95	179,949.21
47		
48	148,585.58	149,450.36
49	194,135.52	189,335.68
50		
51		
52	2019	2020
53		
54	157,905.60	150,983.07
55	136,025.10	144,337.17
56		
57	156,330.87	148,889.11
58	143,412.91	135,537.73
59		
60	157,710.53	151,433.71
	155,155.64	159,323.08

1		
2	161,977.81	161,311.35
3	151,480.64	146,117.58
4	187,749.44	182,515.28
5	143,752.13	118,040.75
6	167,203.07	131,001.92
7	166,050.99	151,661.84
8	152,273.25	148,925.32
9	132,265.10	127,114.35
10		
11	-	-
12	153,663.73	149,861.34
13	170,957.04	166,047.27
14	151,072.16	148,931.26
15	147,163.21	144,664.44
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27		
28	2019	2020
29	386,442.27	394,468.46
30	355,867.41	389,375.19
31	502,514.34	473,352.57
32	451,504.68	458,021.20
33	433,449.78	447,555.41
34	457,565.87	510,228.59
35	366,102.33	378,775.77
36	410,755.71	430,172.92
37	373,347.76	366,324.21
38	349,597.09	339,746.81
39	408,931.84	417,925.86
40	382,777.76	388,174.57
41	410,203.95	429,368.88
42	407,441.67	441,920.45
43	247,942.57	-
44	494,041.18	504,989.96
45	441,474.26	434,477.76
46	393,729.19	404,476.28
47	360,130.77	364,194.12
48		
49		
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51		
52		
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54		
55		
56		
57		
58	86,516.01	108,194.58
59	85,160.75	88,872.96
60		

1		
2	85,065.31	74,428.00
3	96,542.47	118,672.01
4	83,091.98	92,812.51
5	89,456.74	96,955.96
6	69,995.98	81,250.77
7	70,170.32	65,925.09
8	93,902.50	94,823.20
9	92,236.22	77,954.80
10	139,964.00	136,451.34
11	81,627.83	93,849.07
12	73,912.23	91,271.26
13	104,717.39	78,233.28
14		
15	-	-
16	82,343.01	96,955.19
17	88,440.15	83,365.45
18	81,331.13	93,788.97
19	83,063.64	82,455.40
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23		
24		
25		
26		
27		
28	202,578.19	189,693.82
29	184,713.73	185,578.38
30	233,047.69	-
31	150,081.86	176,193.72
32	179,453.53	190,141.70
33	210,688.64	248,105.78
34	250,240.36	264,352.22
35	166,219.33	198,517.40
36	196,547.66	185,934.71
37	162,533.15	163,254.27
38	163,009.25	178,495.03
39	185,951.08	205,432.12
40	188,347.14	198,092.97
41	190,758.76	235,326.60
42		
43	-	-
44	188,972.72	214,161.47
45	185,505.28	212,194.66
46	176,765.07	199,103.14
47	165,825.69	193,724.07
48		
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54		
55		
56		
57		
58	-	-
59	677,401.90	670,033.52
60		
	-	-

1		
2	442,128.23	499,464.67
3	1,270,793.25	1,172,914.59
4	877,951.80	1,320,523.51
5	304,937.86	-
6	423,240.89	445,758.70
7	590,959.03	570,848.75
8	660,396.61	648,045.21
9	4,481,187.51	1,103,738.11
10	864,043.02	941,150.36
11	728,877.53	591,617.47
12	-	-
13	-	-
14	691,864.88	934,826.55
15	823,220.32	1,010,826.02
16	1,184,285.65	1,270,584.84
17	-	-
18		
19		
20	831,826.52	680,199.80
21	793,609.46	412,886.04
22	574,732.89	1,759,311.97
23	580,755.47	697,233.21
24	954,635.07	1,021,733.83
25	1,321,745.96	1,579,632.27
26	597,634.18	602,642.88
27	780,149.53	663,471.25
28	495,673.12	855,796.49
29	615,943.64	559,022.67
30	469,781.99	670,361.48
31	687,526.40	749,879.26
32	651,329.68	579,145.31
33	1,479,583.50	2,243,328.36
34	375,968.16	371,044.00
35	880,267.67	861,480.50
36	617,762.44	675,223.09
37	615,658.33	486,391.33
38	618,294.81	317,652.81
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Appendices

Appendix I: NIH institutes and centers

NIH centers and institutes are: National Cancer Institute (NCI), National Eye Institute (NEI), National Heart, Lung, and Blood Institute (NHLBI), National Human Genome Research Institute (NHGRI), National Institute on Aging (NIA), National Institute on Alcohol Abuse and Alcoholism (NIAAA), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institute of Child Health and Human Development (NICHD), National Institute on Deafness and Other Communication Disorders (NIDCD), National Institute of Dental and Craniofacial Research (NIDCR), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute on Drug Abuse (NIDA), National Institute of Environmental Health Sciences (NIEHS), National Institute of General Medical Sciences (NIGMS), National Institute of Mental Health (NIMH), National Institute on Minority Health and Health Disparities (NIMHHD), National Institute of Neurological Disorders and Stroke (NINDS), National Institute of Nursing Research (NINR), National Library of Medicine (NLM), Center for Information Technology (CIT), Center for Scientific Review (CSR), Fogarty International Center (FIC), National Center for Advancing Translational Sciences (NCATS), National Center for Complementary and Integrative Health (NCCIH) and the NIH Clinical Center (NIH CC).

Appendix II: NIH Grants included in the analysis

Grants included in the analysis are: C06, D43, D71, DP1, DP2, DP3, DP5, DP7, F05, F30, F31, F32, F33, F99, G08, G11, G12, G13, G20, H25, H79, K00, K01, K02, K05, K06, K07, K08, K12, K18, K22, K23, K24, K25, K26, K30, K38, K76, K99, KL1, KL2, M01, N01, OT2, OT3, P01, P20, P2C, P30, P40, P41, P42, P50, P51, P60, PL1, PN2, R00, R01, R03, R13, R15, R18, R21, R24, R25, R33, R34, R35, R36, R37, R38, R49, R50, R55, R56, R61, R90, RC2, RC4, RF1, RL1, RL5, RL9, RM1, S10, S21, SC1, SC2, SC3, T01, T03, T15, T32, T34, T35, T36, T37, T42, T90, TL1, U01, U10, U13, U18, U19, U24, U2C, U2G, U2R, U34, U38, U41, U42, U45, U47, U48, U49, U50, U51, U52, U54, U56, U58, U59, U60, U62, U65, U79, U90, UC2, UC4, UC7, UD1, UE5, UF1, UG1, UG3, UH2, UH3, UH4, UL1, UM1, UM2, UR3, and UR6.

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Appendix III: Number of active physicians from 2010-2020 by specialty

Specialty	Year	Number of physicians
Anesthesiology	2010	40123
Anesthesiology	2011	40335
Anesthesiology	2012	40546
Anesthesiology	2013	40758
Anesthesiology	2014	41055
Anesthesiology	2015	41351
Anesthesiology	2016	41557
Anesthesiology	2017	41762
Anesthesiology	2018	42015
Anesthesiology	2019	42267
Anesthesiology	2020	42267
Dermatology	2010	10820
Dermatology	2011	11001
Dermatology	2012	11182
Dermatology	2013	11363
Dermatology	2014	11535
Dermatology	2015	11706
Dermatology	2016	11879
Dermatology	2017	12051
Dermatology	2018	12284
Dermatology	2019	12516
Dermatology	2020	12516

Emergency Medicine	2010	33984
Emergency Medicine	2011	35070
Emergency Medicine	2012	36155
Emergency Medicine	2013	37241
Emergency Medicine	2014	38410
Emergency Medicine	2015	39579
Emergency Medicine	2016	40964
Emergency Medicine	2017	42348
Emergency Medicine	2018	43775
Emergency Medicine	2019	45202
Emergency Medicine	2020	45202
Family Medicine	2010	106549
Family Medicine	2011	107338
Family Medicine	2012	108128
Family Medicine	2013	108917
Family Medicine	2014	110106
Family Medicine	2015	111295
Family Medicine	2016	112405
Family Medicine	2017	113514
Family Medicine	2018	115856
Family Medicine	2019	118198
Family Medicine	2020	118198
Internal Medicine/Medicine	2010	109048
Internal Medicine/Medicine	2011	109714
Internal Medicine/Medicine	2012	110381
Internal Medicine/Medicine	2013	111047
Internal Medicine/Medicine	2014	112568
Internal Medicine/Medicine	2015	114089
Internal Medicine/Medicine	2016	114823
Internal Medicine/Medicine	2017	115557

Internal Medicine/Medicine	2018	117864
Internal Medicine/Medicine	2019	120171
Internal Medicine/Medicine	2020	120171
Neurology	2010	12916
Neurology	2011	12996
Neurology	2012	13076
Neurology	2013	13156
Neurology	2014	13274
Neurology	2015	13392
Neurology	2016	13555
Neurology	2017	13717
Neurology	2018	13932
Neurology	2019	14146
Neurology	2020	14146
Neurosurgery	2010	5047
Neurosurgery	2011	5088
Neurosurgery	2012	5130
Neurosurgery	2013	5171
Neurosurgery	2014	5259
Neurosurgery	2015	5346
Neurosurgery	2016	5439
Neurosurgery	2017	5531
Neurosurgery	2018	5640
Neurosurgery	2019	5748
Neurosurgery	2020	5748
Obstetrics & Gynecology	2010	40377
Obstetrics & Gynecology	2011	40527
Obstetrics & Gynecology	2012	40676
Obstetrics & Gynecology	2013	40826
Obstetrics & Gynecology	2014	41154
Obstetrics & Gynecology	2015	41481

Obstetrics & Gynecology	2016	41569
Obstetrics & Gynecology	2017	41656
Obstetrics & Gynecology	2018	42188
Obstetrics & Gynecology	2019	42720
Obstetrics & Gynecology	2020	42720
Ophthalmology	2010	17943
Ophthalmology	2011	18068
Ophthalmology	2012	18192
Ophthalmology	2013	18317
Ophthalmology	2014	18455
Ophthalmology	2015	18593
Ophthalmology	2016	18705
Ophthalmology	2017	18817
Ophthalmology	2018	19065
Ophthalmology	2019	19312
Ophthalmology	2020	19312
Orthopedics	2010	19822
Orthopedics	2011	19673
Orthopedics	2012	19523
Orthopedics	2013	19374
Orthopedics	2014	19260
Orthopedics	2015	19145
Orthopedics	2016	19073
Orthopedics	2017	19001
Orthopedics	2018	19035
Orthopedics	2019	19069
Orthopedics	2020	19069
Otolaryngology	2010	9232
Otolaryngology	2011	9261
Otolaryngology	2012	9291
Otolaryngology	2013	9320
Otolaryngology	2014	9366
Otolaryngology	2015	9411
Otolaryngology	2016	9469
Otolaryngology	2017	9526

Otolaryngology	2018	9652
Otolaryngology	2019	9777

Otolaryngology	2020	9777
Pathology	2010	14975
Pathology	2011	14553
Pathology	2012	14132
Pathology	2013	13710
Pathology	2014	13498
Pathology	2015	13286
Pathology	2016	13063
Pathology	2017	12839
Pathology	2018	12741
Pathology	2019	12643
Pathology	2020	12643
Pediatrics	2010	55509
Pediatrics	2011	55760
Pediatrics	2012	56011
Pediatrics	2013	56262
Pediatrics	2014	56903
Pediatrics	2015	57543
Pediatrics	2016	57989
Pediatrics	2017	58435
Pediatrics	2018	59527
Pediatrics	2019	60618
Pediatrics	2020	60618
Physical Medicine & Rehab	2010	8503
Physical Medicine & Rehab	2011	8637
Physical Medicine & Rehab	2012	8772
Physical Medicine & Rehab	2013	8906
Physical Medicine & Rehab	2014	9035
Physical Medicine & Rehab	2015	9164
Physical Medicine & Rehab	2016	9254
Physical Medicine & Rehab	2017	9343
Physical Medicine & Rehab	2018	9555
Physical Medicine & Rehab	2019	9767

Physical Medicine & Rehab	2020	9767
Plastic Surgery	2010	6822
Plastic Surgery	2011	6862
Plastic Surgery	2012	6902
Plastic Surgery	2013	6942
Plastic Surgery	2014	6981
Plastic Surgery	2015	7020
Plastic Surgery	2016	7081
Plastic Surgery	2017	7142
Plastic Surgery	2018	7230
Plastic Surgery	2019	7317
Plastic Surgery	2020	7317
Psychiatry	2010	38289
Psychiatry	2011	37958
Psychiatry	2012	37627
Psychiatry	2013	37296
Psychiatry	2014	37516
Psychiatry	2015	37736
Psychiatry	2016	37971
Psychiatry	2017	38205
Psychiatry	2018	38499
Psychiatry	2019	38792
Psychiatry	2020	38792
Radiation-Diagnostic/Oncology	2010	32445
Radiation-Diagnostic/Oncology	2011	34213
Radiation-Diagnostic/Oncology	2012	35982
Radiation-Diagnostic/Oncology	2013	37750
Radiation-Diagnostic/Oncology	2014	38191
Radiation-Diagnostic/Oncology	2015	38632
Radiation-Diagnostic/Oncology	2016	39239
Radiation-Diagnostic/Oncology	2017	39846

Radiation-Diagnostic/Oncology	2018	40572
Radiation-Diagnostic/Oncology	2019	41297
Radiation-Diagnostic/Oncology	2020	41297

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Surgery	2010	26314
Surgery	2011	25938
Surgery	2012	25563
Surgery	2013	25187
Surgery	2014	25221
Surgery	2015	25254
Surgery	2016	25148
Surgery	2017	25042
Surgery	2018	25303
Surgery	2019	25564
Surgery	2020	25564
Urology	2010	9826
Urology	2011	9808
Urology	2012	9789
Urology	2013	9771
Urology	2014	9790
Urology	2015	9808
Urology	2016	9865
Urology	2017	9921
Urology	2018	10061
Urology	2019	10201
Urology	2020	10201

Appendix IV: 10 most commonly awarded grant-types from 2011-2020

Grant-type	Title	Description
F32	Postdoctoral Individual National Research Service Award	To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.
T32	Institutional National Research Service Award	To enable institutions to make National Research Service Awards to individuals selected by them for predoctoral and postdoctoral research training in specified shortage areas.
K01	Research Scientist Development Award - Research & Training	For support of a scientist, committed to research, in need of both advanced research training and additional experience.
K08	Clinical Investigator Award (CIA)	To provide the opportunity for promising medical scientists with demonstrated aptitude to develop into independent investigators, or for faculty members to pursue research aspects of categorical areas applicable to the awarding unit, and aid in filling the academic faculty gap in these shortage areas within health profession's institutions of the country.
K23	Mentored Patient-Oriented Research Career Development Award	To provide support for the career development of investigators who have made a commitment to focus their research endeavors on patient-oriented research. This mechanism provides support for a 3 year minimum up to 5 year period of supervised study and research for clinically trained professionals who have the potential to develop into productive, clinical investigators.
R01	Research Project	To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his or her specific interest and competencies
R03	Small Research Grants	To provide research support specifically limited in time and amount for studies in categorical program areas. Small grants provide flexibility for initiating studies which are generally for preliminary short-term projects and are non-renewable.
R21	Exploratory/Developmental Grants	To encourage the development of new research activities in categorical program areas. (Support generally is restricted in level of support and in time.)
P30	Center Core Grants	To support shared resources and facilities for categorical research by a number of investigators from different disciplines who provide a

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		multidisciplinary approach to a joint research effort or from the same discipline who focus on a common research problem. The core grant is integrated with the center's component projects or program projects, though funded independently from them. This support, by providing more accessible resources, is expected to assure a greater productivity than from the separate projects and program projects.
U01	Research Project-- Cooperative Agreements	To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his or her specific interest and competencies.

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Does NIH funding differ between medical specialties? A longitudinal analysis of NIH grant data by specialty and type of grant, 2011-2020

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Does NIH funding differ between medical specialties? A longitudinal analysis of NIH grant data by specialty and type of grant, 2011-2020

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Abstract

Importance: Differences in National Institutes of Health (NIH) funding between specialties may affect research and patient outcomes in less-well-funded specialties.

Objective: The aim of this study is to evaluate how NIH funding has been awarded by medical specialty. This study assesses differences and trends in the amount of funding, by medical specialty, for the years of 2011 through 2020, via a retrospective analysis of data from the NIH RePORTER (Research Portfolio Online Reporting Tools Expenditures and Results).

Data Source: NIH RePORTER data from years 2011-2020, for awarded NIH grants (F32, T32, K01, K08, K23, R01, R03, R21, U01, P30) in the following medical specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology.

Main Outcomes and Measures: The following measures were studied: (1) number of grants by specialty, (2) number of grants per active physician in each specialty, (3) total dollar-amount of grants by specialty, (4) total dollar-amount of grants per active physician in each specialty, and (5) mean dollar-amount awarded by specialty for each grant-type. We investigated whether any of these measures varied between medical specialties.

Results: In general, Internal Medicine/Medicine, Psychiatry, Pediatrics, Pathology, and Neurology received the most grants per year, had the highest number of grants per active physician, had the highest total amounts of funding and the highest amount of funding per active physician, whereas fields like Emergency Medicine, Plastic Surgery, Orthopedics and Obstetrics and Gynecology had the lowest. The mean dollar-amount awarded by grant-type differed significantly between specialties ($P < \text{Bonferroni corrected alpha} = 0.00029$).

Conclusions and Relevance: NIH funding varies significantly between medical specialties. This may affect research progress and the careers of scientists and may affect patient outcomes in less well-funded specialties.

Article Summary

Strengths and Limitations of this Study:

- This study compares NIH funding across all medical specialties in the publicly available NIH database and evaluates an important clinical question - whether there are differences in funding between specialties.

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- We compare several funding measures by specialty including: (1) the number of grants awarded, (2) the number of grants per active physician, (3) the total dollar-amount of grants awarded, (4) the total-dollar amount of grants awarded per active physician and (5) the mean dollar amount of each grant.
 - This study was limited because there was no data on the success rate of grant applications by specialty.
 - The NIH data did not state whether the principal investigator was a physician or not, which limits the ability to evaluate if the funding of physician researchers varied by specialty.

Introduction

The United States (US) National Institutes of Health (NIH) is a part of the US Department of Health and Human Services (HHS) and is the primary agency responsible for public health and biomedical research [1]. The NIH is comprised of over 27 separate institutes and centers covering several biomedical disciplines and specialties in medicine (Appendix I) [1].

Approximately 80% of NIH funding goes towards funding extramural research in the form of research grants [1].

NIH funding is used for the advancement of research across many fields of basic science and clinical medicine [2]. In fiscal year 2020, the total NIH funding was \$40.3 billion [2]. NIH funding is spread across many medical specialties, and the number of physicians in these medical specialties vary. Assuming that the number of active physicians can be viewed as a rough approximation of the demand for a specialty and a proxy for the disease burden (diseases treated by that specialty) in society, we hypothesized that the amount of funding for each specialty would be proportional to the number of active physicians in the specialty.

We investigated whether NIH funding metrics ((1) the number of grants, (2) number of active physicians per grant in that specialty, (3) the total dollar-amount of grants, (4) total dollar-amount of grants per active physician in that specialty, and (5) the mean dollar of each grant-type) vary between specialties and evaluated the trends in these NIH funding metrics from 2011 to 2020.

Methods

Patient and Public Involvement Statement

Neither patients nor members of the public were involved in any way, with this research. It was not appropriate or possible to involve patients or the public in the design, or conduct, or reporting, or dissemination plans of our research

This study was evaluated by the Mayo Clinic Institutional Review Board (IRB). The study involves freely available, public data, and was determined to be exempt.

Study Design and Data Source

We carried out a retrospective analysis of the NIH's Research Portfolio Online Reporting Tools Expenditures and Results (RePORTER) database (<https://reporter.nih.gov/>), which has data on grants that were awarded by the NIH [3]. Unlike the federal Query/View/Report (QVR) database, the RePORTER database shows data only for grants that were awarded and therefore does not allow for analysis of data involving grant-applications that did not result in the awarding of a grant. As a result, we could not evaluate the success-rates of grant applications by specialty.

The RePORTER database was searched for grants awarded between 2011 and 2020, which were classified, based on the department name on the grant application, into one of the following 19 specialties: Anesthesiology, Dermatology, Emergency Medicine, Family Medicine, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Plastic

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3 Surgery, Psychiatry, Radiation-Diagnostic/Oncology, Surgery, and Urology [3, 4]. These
4 specialties were chosen because they were the medical specialties in clinical medicine available
5 in the RePORTER database. The grants that were not classified as one of these specialties were
6 excluded. We included all grants for each specialty from the RePORTER database. The grant-
7 types appearing in the data set are listed in Appendix II.
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14 15 16 17 Number of active physicians

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19 The number of active physicians was obtained from the Physician Specialty Data Report by the
20 American Association of Medical Colleges (AAMC) [5]. The number of active physicians
21 included those from all training-pathways, including Doctor of (Allopathic) Medicine (M.D.),
22 Doctor of Osteopathic Medicine (D.O.), and international medical graduates (IMG) [5]. Because
23 the number of active physicians per specialty was only available for certain years, during the
24 time-period of 2010-2020, linear interpolation was used to estimate the number of active
25 physicians in the unlisted years (2011, 2012, 2014, 2016, 2018, and 2020) [5]. This data is shown
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40 *(1) Number of NIH grants by specialty*

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42 We evaluated all grants awarded over the 10-year period to identify the mostly frequently
43 awarded grant-types. The ten most frequently awarded grant-types were R01, R03, R21, F32,
44 T32, K01, K08, K23, U01, and P30. The titles and descriptions of these grant-types appear in
45 Appendix IV. Plots of the number of grants by specialty, and the percent-change in the number
46 of grants from 2011 by specialty were created. We systematically evaluated NIH grants awarded
47 at critical periods in the academic career pipeline including training grants (pre-doctoral T32, and
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3 post-doctoral F32); career development grants (K01, K08, and K23); and grants typically
4 awarded in the later/advanced career stages, including the R01, R03, R21, P30 and U01 grants.
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10 *(2) Number of active physicians in each specialty per grant*

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12 To evaluate how many active physicians existed per grant type, the total number of active
13 physicians was divided by the total number of each grant type for each year for each specialty.
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15 This metric gauges how rare it is for a physician of each specialty to have any grant type.
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21 *(3) Total dollar-amount of NIH grants awarded in each specialty*

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23 To evaluate whether the differences in numbers of grants resulted in differences in dollar-
24 amounts of funding for each specialty, we calculated the total dollar-amounts of funding by
25 specialty from 2011-2020 after adjusting for inflation [6]. The total dollar-amount of funding
26 was calculated for each specialty for each grant type during the study period. The annual funding
27 each year from 2012 through 2020 was converted to year-2011 dollars, using the Gross Domestic
28 Product (GDP) Price Index for the relevant years [6]. To evaluate changes in funding over the
29 time-period studied, for each year after 2011, we calculated the percent-change in the dollar-
30 amount of funding after adjusting for inflation (compared to 2011) by specialty.
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44 *(4) Dollar-amount of grants per active physician*

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46 Because the total dollar-amount of grants may be affected by the number of researchers in that
47 specialty and therefore the number of active physicians, we calculated the number of dollars of
48 funding per active physician to adjust for the differing sizes of the medical specialties. We
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3 divided the dollar-amount of funding for each specialty by the number of active physicians in
4 that specialty to calculate the dollar-amount of grants per active physician.
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10 *(5) Mean dollar-amount per grant for each specialty by grant-type*

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12 The dollar-amounts vary by grant-type, with smaller grants typically awarded to early-stage
13 investigators and larger grants awarded to more seasoned investigators. We hypothesized that
14 there should be no differences between specialties when evaluated the mean dollar-amount per
15 grant for a given grant-type. To test this hypothesis, we calculated the mean and standard
16 deviation of the inflation-adjusted dollar-amount per grant by specialty for each grant-type for
17 2011-2020.
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28 All analyses were performed in Excel, version 2107 (Microsoft, Redmond, Washington, USA)
29 and R, version 4.1.2 (R Foundation for Statistical Computing, Vienna, Austria). Qualitative
30 variables were compared between specialties using Chi-squared tests, while quantitative
31 variables were compared between specialties using t-tests with unequal variances. All test-
32 statistics were two-sided. To control for false-positive findings due to multiple comparisons
33 between specialties, we used the Bonferroni-adjusted Type I error rate of $\frac{0.05}{\binom{19}{2}} = 0.0002924$, so
34 that P-values less than this Bonferroni-adjusted Type I error rate were considered statistically
35 significant.
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50 **Results**

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53 *(1) Number of grants*
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From 2011 through 2020, there were 184,382 grants awarded by the NIH in the specialties considered. Internal Medicine/Medicine, 72,205 (37.2%); Psychiatry, 19,029 (10.3%); Pediatrics, 17,422 (9.4%); and Pathology, 14,946 (8.1%), were the specialties that received the most NIH grants (Table 1). In comparison, Plastic Surgery, 16 grants (0.009%); Emergency Medicine, 1258 (0.7%); Family Medicine, 2015 (1.1%); and Neurosurgery, 2956 (1.6%), were the specialties that received the fewest NIH grants (Table 1).

Table 1: NIH funding per active physician by specialty, 2011-2020

Specialty	Rank (based on average dollars of funding per active physician per year)	Number of grants	Percent of total grants awarded	Average number of grants per active physician	Dollar amount of funding (K, round ed to MM)	Percent of total	Average number of active physicians, 2011- 2020	Average dollars of funding per active physician per year (K)
Pathology	1	14,946	8.1	0.112	6366.7	7.6	13,311	47.8
Neurology	2	12,448	6.8	0.092	6001.6	7.2	13,539	44.3
Internal Medicine/Med icine	3	72,205	39.2	0.063	36022. 6	43.2	114,639	31.4
Psychiatry	4	19,029	10.3	0.050	8267.6	9.9	38,089	21.7

Neurosurgery	5	2,956	1.6	0.055	1111.6	1.3	5,410	20.5
Pediatrics	6	17,422	9.4	0.030	7896.5	9.5	57,967	13.6
Ophthalmolog y	7	5,957	3.2	0.032	2380.8	2.9	18,684	12.7
Surgery	8	8,171	4.4	0.032	3212.5	3.9	25,378	12.7
Otolaryngolog y	9	3,198	1.7	0.034	110.23	1.3	9,485	11.6
Radiation- Diagnostic/On cology	10	9,562	5.2	0.025	3999.4	4.8	38,702	10.3
Dermatology	11	2,270	1.2	0.019	764.5	0.9	11,803	6.5
Urology	12	1,474	0.8	0.015	572.7	0.7	9,922	5.8
Obstetrics & Gynecology	13	4,343	2.4	0.010	1697.8	2	41,552	4.1
Physical Medicine & Rehab	14	1,124	0.6	0.012	357.9	0.4	9,220	3.9
Orthopedics	15	2,218	1.2	0.012	750.2	0.9	19,222	3.9
Anesthesiolog y	16	3,770	2	0.0091	1434.7	1.7	41,391	3.5
Emergency Medicine	17	1,258	0.7	0.0031	550.2	0.7	40,395	1.4

Family Medicine	18	2,015	1.1	0.0018	848.5	1.0	112,396	0.8
Plastic Surgery	19	16	0.0	0.0002 3	4.6	0.0	7,079	0.1
Total	-	18,438 2	100	-	83342. 9	100	627,782	133

Internal Medicine/Medicine received the greatest number of grants, in aggregate over the period from 2011 through 2020, followed by Psychiatry, Pediatrics, Pathology, and Neurology (Supplementary Figures 1a and 1b). Internal Medicine/Medicine consistently received the greatest number of grants during the study.

The average percentage-change in the number of grants by specialty from 2012-2020 compared to the initial year (2011), was highest for Emergency Medicine (40.8%), Neurosurgery (34.2%), and Orthopedics (32.2%) (Supplementary Figure 2). The average percentage-change was lowest for Plastic Surgery (-51.9%), Otolaryngology (-36.8%) and Radiation-Diagnostic/Oncology (-24.5%) (Supplementary Figure 2).

Table 2 shows the number of the most-commonly awarded grant-types for each specialty and shows R01 and R21 were the most awarded grant-types. The numbers of the most awarded NIH training grants (F32, T32) (Supplementary Table 1), NIH career development grants (K01, K08, K23) (Supplementary Table 2), and NIH advanced career grants (R01, R03, R21, P30 and U01) (Supplementary Table 3) are shown for each year.

Table 2: Total number of NIH grants awarded by specialty and grant-type aggregated from 2011 through 2020

Specialty	Training Grants		Career Development Grants			Advanced Career Grants				
	F32	T32	K01	K08	K23	R01	R03	R21	P30	U01
Anesthesiology	43	178	53	167	126	2,258	63	289	1	111
Dermatology	32	105	73	146	49	1,169	54	182	82	65
Emergency Medicine	4	9	9	58	171	415	27	58	0	89
Family Medicine	2	51	97	27	59	787	56	174	30	131
Internal Medicine/Medicine	1,16	3,69	1,46	2,53	2,79	30,80	1,14	3,82	3,12	4,51
Neurology	235	340	175	352	529	5,769	129	791	181	577
Neurosurgery	96	46	16	101	44	1,669	47	272	18	129
Obstetrics & Gynecology	46	107	48	55	103	1,620	119	286	41	137
Ophthalmology	83	204	7	268	166	3,823	15	327	303	67
Orthopedics	60	76	62	48	26	1,349	83	215	49	7
Otolaryngology	86	157	9	112	100	1,642	118	225	118	38
Pathology	201	718	148	306	21	8,110	197	1282	206	390

Pediatrics	194	865	208	1,007	924	7,467	362	1,146	186	1,161
Physical Medicine & Rehabilitation	17	46	80	6	68	443	58	89	0	51
Plastic Surgery	1	0	0	0	0	7	2	0	0	3
Psychiatry	293	772	743	250	1,060	9,066	236	1,580	133	825
Radiation-Diagnostic/Oncology	65	266	147	66	36	5,424	145	1,062	81	342
Surgery	172	532	92	464	106	3,975	174	540	300	536
Urology	22	55	33	63	22	686	27	83	39	160

(2) Number of active physicians per grant:

More F32 grants were awarded in Neurology, Internal Medicine/Medicine, and Pathology than in Emergency Medicine. A F32 training grant was awarded for every 428-1,304 Neurologists, for every 875-1,113 Internal Medicine/Medicine physicians and for every 523-973 Pathologists (Supplementary Table 4). However, a F32 training grant was only awarded for every 33,984-45,202 Emergency Medicine physicians. T32 grants were also more commonly awarded in Neurology, Internal Medicine/Medicine, and Pathology than in Emergency Medicine. A T32 grant was awarded for every 349-462 Neurologists, every 256-337 Internal Medicine/Medicine physicians, every 144-230 Pathologists and every 21,174 -40,974 Emergency Medicine physicians (Supplementary Table 4).

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5 Career development grants (K01, K08, and K23) were more frequently awarded in Internal
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Career development grants (K01, K08, and K23) were more frequently awarded in Internal Medicine/Medicine, Neurology, and Pathology as these specialties consistently had the lowest numbers of physicians per awarded grant (Supplementary Table 5) while Emergency Medicine, Family Medicine, and Radiation-Oncology/Diagnostic had the highest numbers of physicians per career development grant.

For the advanced career researcher grants (R01, R03, R21, P30, U01), Internal Medicine/Medicine, Neurology, and Pathology consistently had the lowest numbers of physicians per awarded grant (Supplementary Table 6). There was a R01 grant awarded for every 34-41 Internal Medicine/Medicine physicians, for every 20-25 Neurologists, and for every 15-17 Pathologists, while there was a R01 grant awarded for every 2,274-7,317 Plastic Surgeons, and for every 1,194-1,622 Family Medicine physicians. U01 grants were more commonly awarded in Internal Medicine/Medicine, and Neurology, and least commonly awarded in Orthopedics, and Family Medicine. A U01 grant was awarded for every 204-295 Internal Medicine/Medicine physicians, for every 174-391 Neurologists, for every 9,629-19,374 Orthopedists, and for every 7,420-11,820 Family Medicine physicians.

(3) Dollar-amount of grants: The total dollar-amount of funding awarded from 2011 to 2020 was \$83,342 MM USD (\$1 MM USD is 1 million United States Dollars). Of this total, the specialties receiving the largest total amounts of funding were Internal Medicine/Medicine (\$36,023MM (43.2%)), Psychiatry (\$8,268MM (9.9%)), and Pediatrics (\$7,897MM (9.5%)). The specialties receiving the least funding were Plastic Surgery (\$4.6MM (<0.1%)), Physical Medicine & Rehab

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3 (\$358MM (0.4%)), and Emergency Medicine (\$550MM (0.7%)) (Table 1). Internal
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5 Medicine/Medicine was the most-funded specialty after adjusting for inflation (Figure 1a),
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7 however Pathology and Neurology were better funded after adjusting for number of active
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9 physicians (Figure 1b). Emergency Medicine had the largest average percent-increase in the
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11 amount of funding compared to the baseline year of 2011 of the specialties considered
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14 (Supplementary Figure 2).
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20 The dollar-amount of funding for each specialty for the NIH training grants (F32, T32) from
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22 2011-2020 is shown in Supplementary Table 7. Emergency Medicine, Family Medicine, and
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24 Plastic Surgery had the least amount of funding for these NIH training grants. For the NIH career
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26 development grants, we found that Emergency Medicine and Family Medicine were also among
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28 the least funded (Supplementary Table 8). Finally, we found that most of the more advanced
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30 career NIH grants were in Internal Medicine/Medicine (Supplementary Table 9).
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36 (4) Dollar-amount of grants per active physician: Pathology (\$47.8K/year) and Neurology
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38 (\$44.3K/year) had the highest amounts of funding per physician over 2011-2020 (Table 1), and
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40 in each of the ten years studied (Figure 1b). Both Internal Medicine/Medicine and Neurology
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42 were among the highest-funded per active physician for many of the grant-types studied. For
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44 instance, for NIH T32 training grants, Internal Medicine/Medicine, Neurology, Pathology, and
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46 Psychiatry had the highest amounts of funding per physician (Supplementary Table 10).
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48 Likewise, Internal Medicine/Medicine, Neurology, Neurosurgery, and Pathology had the highest
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50 amounts of F32 funding per physician (Supplementary Table 10). Internal Medicine/Medicine,
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52 Neurology, Pathology, and Psychiatry had the highest amounts of K01 and K08 funding per
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3 physician (Supplementary Table 11). Internal Medicine/Medicine, Neurology, Pediatrics, and
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5 Psychiatry had the highest amounts of K23 funding per active physician (Supplementary Table
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7 11). Internal Medicine/Medicine, Neurology, Neurosurgery, and Psychiatry had the highest
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9 amounts of R01 and U01 funding per physician (Supplementary Table 12).
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15 *(5) Mean dollar-amount per grant for each specialty by grant-type*

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17 We compared the mean dollar-amount of each grant for each grant type between specialties to
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19 assess whether the amount of funding varies between specialties. Supplementary Figures 3-12
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21 show P-values from these comparisons. We found that the mean dollar-amount of the NIH
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23 training grants (Supplementary Table 13) varied between specialties (Supplementary Figure 3
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25 and Supplementary Figure 4). Pathology, Psychiatry, and Neurology had significantly different
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27 F32 funding than Physical Medicine and Rehab ($P < 0.0002924$); and Urology, Ophthalmology,
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29 Dermatology, Surgery, Orthopedics and Otolaryngology had significantly different T32 funding
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31 than Pathology ($P < 0.0002924$). The mean dollar-amount of the NIH career development grants
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33 (Supplementary Table 14) varied between specialties. Significant variation in mean K01 funding
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35 (Supplementary Figure 5), mean K08 funding (Supplementary Figure 6) and K23 funding
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37 (Supplementary Figure 7) was noted. For example, the mean K01 funding for Dermatology was
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39 statistically significantly different from that for Physical Medicine and Rehabilitation,
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41 Psychiatry, Neurology, Urology, Anesthesiology, Obstetrics and Gynecology, Radiology, Family
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43 Medicine, Pathology, Pediatrics, Otolaryngology, and Internal Medicine/Medicine. The mean
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45 dollar-amount of the NIH advanced career grants (Supplementary Table 15) varied between
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47 specialties (Supplementary Figures 8-12). Psychiatry had significantly different R01 funding
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3 than all other specialties except Plastic Surgery, Family Medicine, and Emergency Medicine
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5 (P<0.0002924).
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10 **Discussion**

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12 The data show that the number of NIH grants awarded over the investigated period varied
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14 substantially across specialties. Internal Medicine/Medicine consistently received the greatest
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16 number of grants followed by Psychiatry, Pediatrics, Pathology and Neurology. After adjusting
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18 for the number of active physicians in each specialty, we find that Neurology, Internal
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20 Medicine/Medicine, and Pathology were the specialties with the greatest number of grants per
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22 active physician, while Emergency Medicine, Family Medicine and Plastic Surgery were the
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24 fields with the fewest number of grants per active physician, and this pattern was consistent
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26 across training grants, career development grants and advanced career grants. We found that
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28 Internal Medicine/Medicine had the greatest dollar amount of funding of all medical specialties.
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30 After we adjusted the dollar amount of funding by the number of active physicians in each
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32 specialty, we found that Pathology, Neurology, Internal Medicine/Medicine, and Psychiatry were
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34 the specialties with the highest levels of funding per active physician, and Plastic Surgery,
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36 Family Medicine, Emergency Medicine, and Anesthesiology were the specialties with the lowest
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38 levels of funding per active physician. When we analyzed the mean amount of funding for each
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40 grant-type, we found significant funding-amount differences between specialties.
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49 Our results have tremendous clinical and biomedical ramifications. We show that there are
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51 differences in the amount of funding, the amount of funding adjusted for the number of
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53 physicians, the dollar amount of NIH funding adjusted for the number of physicians, and
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3 differences in the funding-amount for each grant-type between specialties. It is unclear why these
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5 differences exist.
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10 One speculation is that some of the better funded specialties (Internal Medicine/Medicine,
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12 Neurology, Pathology) are more closely aligned with the NIH mission than other specialties,
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14 however the NIH's mission is "To seek fundamental knowledge about the nature and behavior of
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16 living systems and the application of that knowledge to enhance health, lengthen life, and reduce
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18 illness and disability." (<https://www.nih.gov/about-nih/what-we-do/nih-almanac/about-nih>),
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20 which is largely applicable to all medical specialties. One consideration is the number of
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22 physicians in each specialty; or alternatively the number or amount of grants awarded to each
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24 specialty does not reflect the patients' needs for the specialty in society. Another speculation is
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26 that the better funded specialties are intrinsically better than the less funded specialties at doing
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28 research, and in having a pipeline of training grants, career development grants and this has
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30 resulted in the discrepancies that we have noted. One may speculate that a better funded specialty
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32 at the training and career-development levels may result in that specialty being better funded
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34 status at the more advanced research career levels.
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42 The differences in research-funding between specialties have likely already had
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44 significant consequences for future progress in research. It has been shown that the proportion of
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46 individuals with M.D./Ph.D.'s who spend at least 50% of their time on research differs markedly
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48 by specialty [7]. We note that the three specialties that were most highly funded, on a per-
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50 physician basis (Pathology, Neurology, and Internal Medicine/Medicine) in our study were noted
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52 to have higher proportions of individuals spending at least 50% of their time on research, while
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3 Family Medicine and Emergency Medicine (which were among the lowest-funded in our study)
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5 had much lower proportions of faculty with more than 50% time dedicated to research [8, 9].
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10 Whether specialty-choice is a driver of subsequent research-focus in physicians' careers is
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12 unknown; however, it is easy to speculate that greater availability of NIH funding in certain
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14 specialties may facilitate research-focused careers in those specialties. The specialties of internal
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16 medicine, pathology, pediatrics, and neurology together accounted for approximately 60% of the
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18 specialties in which Medical Scientist Training Program (MSTP) M.D./Ph.D. graduates attended
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20 residency programs [8, 9]. Three of these specialties were the three specialties with the highest
21
22 amount of NIH funding per active physician. The temporal trend is difficult to assess, and it is
23
24 unclear which is the cause, and which is the effect. MD-PhD program graduates were more
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26 likely to choose specialties like Pathology, and less likely to choose Emergency Medicine, or
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28 Family Medicine [10]. MSTP graduates may be more attracted to these better funded specialties
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30 because of increased NIH funding per active physician, or alternatively MSTP graduates in these
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32 better funded specialties were able to acquire more NIH funding per active physician.
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40 However, the distribution of specialties pursued by MSTP graduates has changed over time, and
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42 many specialties now have substantial representation [7], which means a larger proportion of
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44 these MSTP graduates are in less well funded specialties. The presence of substantial numbers of
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46 M.D./Ph.D.'s in specialties with lower levels of funding (e.g., the 12.9% of M.D./Ph.D.'s in
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48 Pediatrics, the 7.0% in Surgical specialties, and the 4.2% in Radiation-Diagnostic/Oncology)
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50 leaves the possibility of a mismatch between the supply of such well-trained physician-scientists,
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52 and the amount of funding available to them, which could lead to increased competition for
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3 research-grants in these specialties, and increased attrition, ultimately further exacerbating the
4 relatively lower levels of research in these specialties [7]. This problem is not unique to
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6 M.D./Ph.D.'s and physicians, and may occur for nurses, nurse practitioners, public health
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8 scientists, social workers, engineers, Pharmacists, Ph.D.'s, and other biomedical research
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10 professionals who do research in one of the less funded specialties.
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17 The importance of having a diverse biomedical workforce has been stressed. Diversity in
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19 race/ethnicity and gender have been at the forefront of these discussions because of the
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21 tremendous health disparities that exist across races/ethnicities and genders. However, this
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23 research shows that there are disparities in funding based on physician specialty. The current
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25 status quo makes some specialties (better NIH-funded specialties) more attractive to physician-
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27 researchers. However, the inequity in NIH-funding may create significant societal problems. For
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29 example, one of the worst instances of healthcare inequalities in the United States is the
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31 inequality seen in the difference between Black and White maternal mortality [11]. The mortality
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33 rate for non-Hispanic Black women was 3.55 times that of non-Hispanic White women [11].
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35 Here, our data shows that Obstetrics and Gynecology was one of the worst NIH-funded
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37 specialties. Further research is required to understand the etiology of this disparity so that the
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39 NIH research dollars are appropriately distributed among all specialties.
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47 This study has a few limitations. We assumed that the size of the active physician workforce was
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49 a proxy for the relative amount of clinical/public health need for given medical specialty.
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51 However, deviations from proportionality may arise if the diseases treated by certain specialties
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53 result in greater morbidity/mortality or cost to society and if the NIH funding depends on
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3 morbidity/mortality or cost to society. There are several non-physician researchers including
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5 Ph.D.'s, individuals with degrees in public health, nursing, social work, pharmacy, or
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7 engineering who are funded by the NIH. These non-MD researchers may be more likely to be
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9 hired in some specialties, and as a result, change the funding landscape of those specialties. The
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11 categorization of grants into specialties was done by the NIH. The NIH did not provide the
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13 training-backgrounds of the principal investigators (PIs). The NIH did not provide information
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15 on whether the PIs were clinicians, and therefore we could not determine whether the
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17 categorization was based on the specialty in which these PI was clinically practicing, or if
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19 categorization was based on the clinical department that the PI was affiliated with. The analyses
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21 in this study were based only on grants that were awarded and did not include any data for grant-
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23 applications which were rejected to assess differences in funding rates. The grant-application
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25 data is not included in the RePORTER database and can only be accessed through an internal
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27 database at the NIH and was unavailable for this study. Finally, the study was limited to only the
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29 principal investigator, and did not investigate the specialties of the co-investigators since this
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31 data was not available in the RePORTER database.
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40 In conclusion, the number of NIH grants, total dollar amount of funding, dollar amount of
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42 funding per active physician, and the mean funding-amount per grant (by grant-type) vary by
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44 specialty. This may affect research progress and the careers of scientists and may affect patient
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46 outcomes in these less well-funded specialties. Further research is required to understand why
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48 this discrepancy exists.
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Figures and Tables

Table 1: Number of grants, number of grants per active physician, dollars of funding, and dollars of funding per active physician from 2011-2020 by specialty

Table 2: Number of each grant-type from 2011-2020

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3 **Figures**
4

5 Figure 1a – Annual inflation-adjusted dollars of funding by specialty
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7 Figure 1b – Annual inflation-adjusted dollar-amount of grant-funding adjusted by the number of
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9 active physicians
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Supplemental Figures and Tables

Supplementary Table 1: Number of NIH training grants (F32, T32) awarded from 2011-2020 by specialty

Supplementary Table 2: Number of NIH career development grants (K01, K08, K23) awarded from 2011-2020 by specialty

Supplementary Table 3: Number of NIH advanced career grants (R01, R03, R21, P30, U01) awarded from 2011-2020 by specialty

Supplementary Table 4: Number of active physicians per awarded NIH training grant (F32, T32) from 2011-2020 by specialty

Supplementary Table 5: Number of active physicians per awarded NIH career development grant (K01, K08, K23) from 2011-2020 by specialty

Supplementary Table 6: Number of active physicians per awarded NIH advanced career grant (R01, R03, R21, P30, U01) from 2011-2020 by specialty

Supplementary Table 7: Total NIH training grant (F32, T32) funding in thousands of dollars from 2011-2020 by specialty

Supplementary Table 8: Total NIH career development grant (K01, K08, K23) funding in thousands of dollars from 2011-2020 by specialty

Supplementary Table 9: Total NIH advanced career grant (R01, R03, R21, P30, U01) funding in thousands of dollars from 2011-2020 by specialty

Supplementary Table 10: Dollar amount for each NIH training grant (F32, T32) spent per active physician from 2011-2020 by specialty

Supplementary Table 11: Dollar amount for each NIH career development grant (K01, K08, K23) spent per active physician from 2011-2020 by specialty

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3 Supplementary Table 12: Dollar amount for each NIH advanced career grant (R01, R03, R21,
4 P30, U01) spent per active physician from 2011-2020 by specialty

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7 Supplementary Table 13: Mean NIH training grant (F32, T32) funding amount from 2011-2020
8 by specialty

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11 Supplementary Table 14: Mean NIH career development grant (K01, K08, K23) funding amount
12 from 2011-2020 by specialty

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15 Supplementary Table 15: Mean NIH advanced career grant (R01, R03, R21, P30, U01) funding
16 amount from 2011-2020 by specialty

Supplementary Figures

Supplementary Figure 1a: Number of Grants awarded per year by specialty

Supplementary Figure 1b: Number of Grants awarded per year by specialty (without Internal Medicine)

Supplementary Figure 2: Annual percent change in number of awarded grants (compared to 2011) by specialty

Supplementary Figure 3: F32 grant dollar amount comparisons P-values

Supplementary Figure 3 caption:

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

Supplementary Figure 4: T32 grant dollar amount comparisons P-values

Supplementary Figure 4 caption:

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

Supplementary Figure 5: K01 grant dollar amount comparisons P-values

Supplementary Figure 5 caption:

Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data for comparison

Supplementary Figure 6: K08 grant dollar amount comparisons P-values

Supplementary Figure 6 caption:

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3 Red – $P < 0.0002924$; Yellow – $0.0002924 \leq P < 0.05$; Green – $P \geq 0.05$; Gray – Insufficient data
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8 Supplementary Figure 7: K23 grant dollar amount comparisons P-values

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17 Supplementary Figure 8: R01 grant dollar amount comparisons P-values

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19 Supplementary Figure 8 caption:

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26 Supplementary Figure 9: R03 grant dollar amount comparisons P-values

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28 Supplementary Figure 9 caption:

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35 Supplementary Figure 10: R21 grant dollar amount comparisons P-values

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37 Supplementary Figure 10 caption:

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44 Supplementary Figure 11: P30 grant dollar amount comparisons P-values

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46 Supplementary Figure 11 caption:

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53 Supplementary Figure 12: U011 grant dollar amount comparisons P-values

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Supplementary Figure 12 caption:

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3 **Contributorship Statement:** AS and RS analyzed the data and drafted and revised the paper.
4
5 RS conceived of the presented idea. Both authors contributed equally to this work.
6

7
8 **Competing Interests:** The authors have no competing interests to disclose.
9

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11
12 public, commercial or not-for-profit sectors.
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14 **Data-Sharing Statement:** No data are available.
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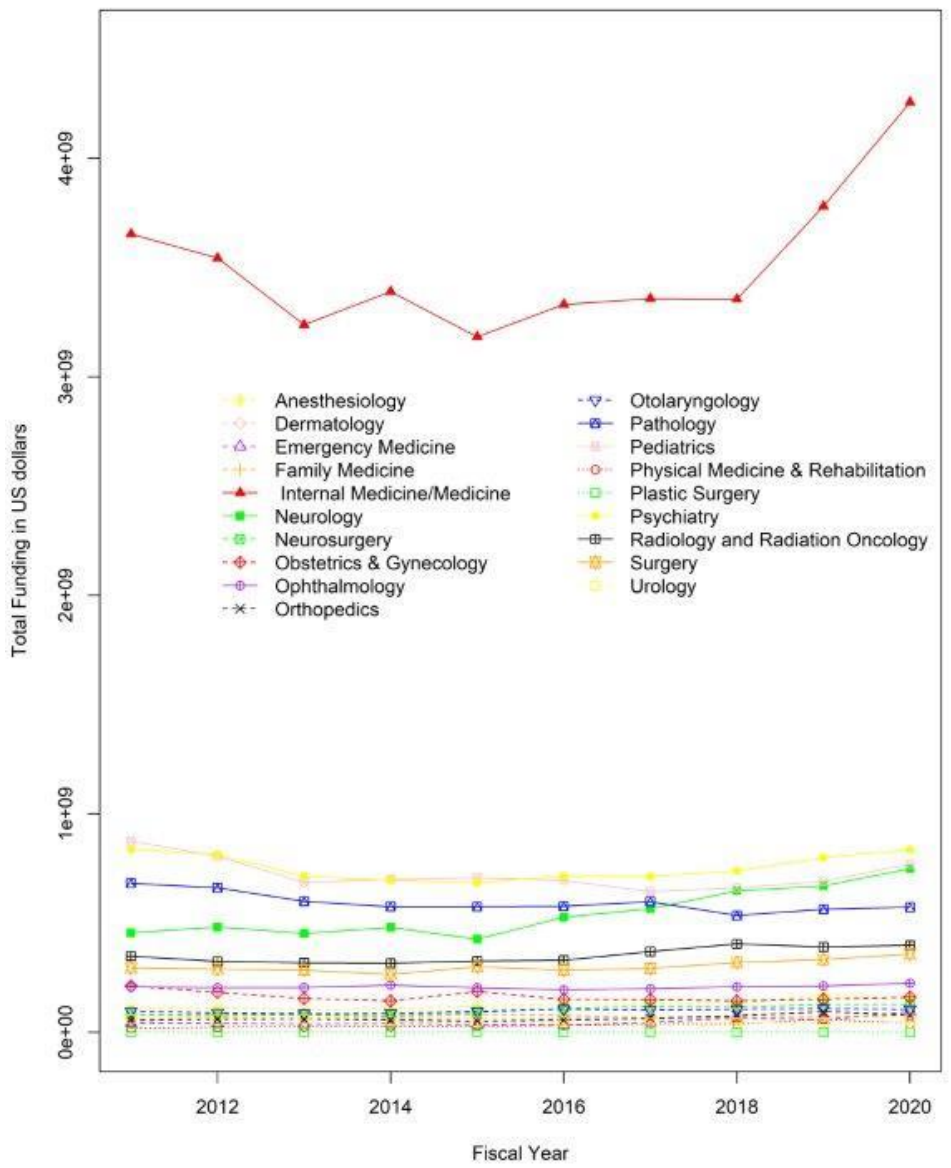
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17 **Ethics Statement:** This study was evaluated by the local Institutional Review Board (IRB). The
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19 study involves freely available, public data, and was determined to be exempt.
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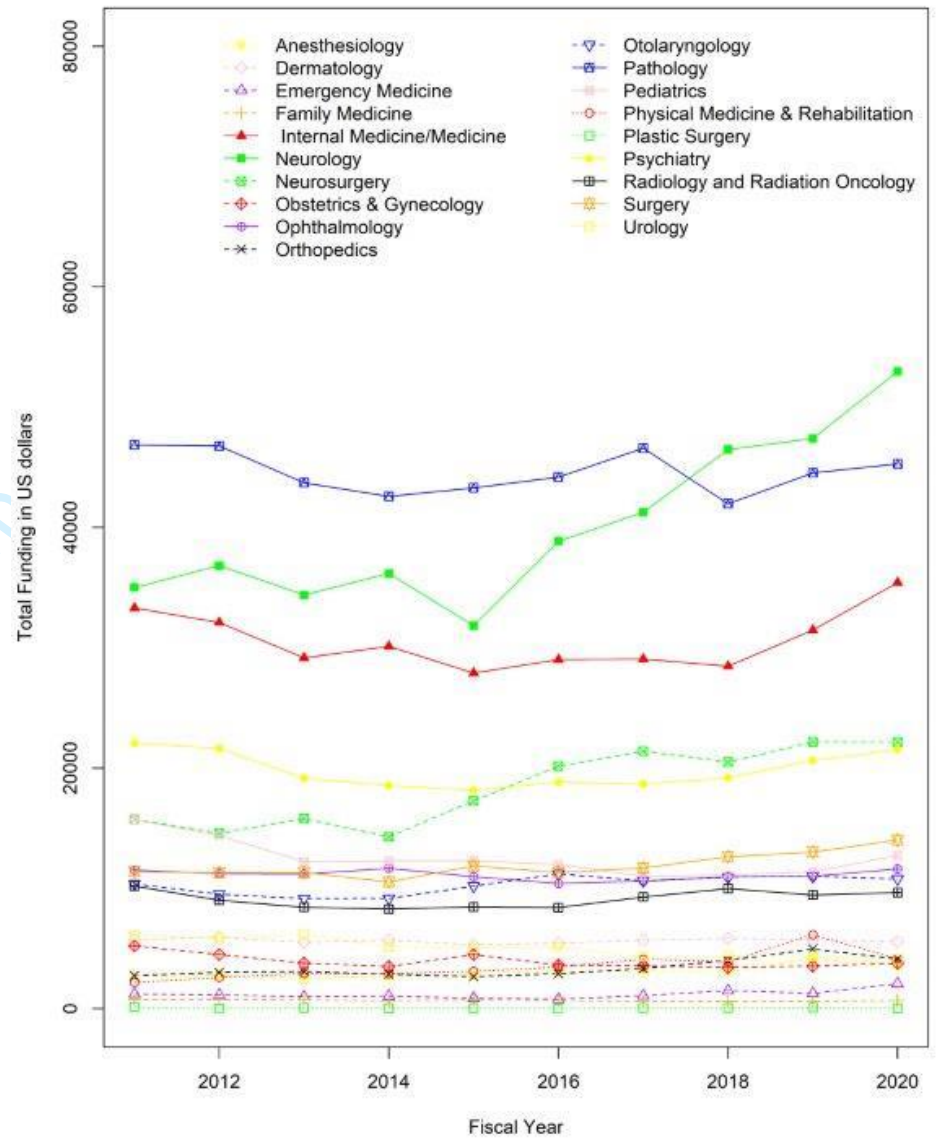
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Annual inflation-adjusted dollars of funding by specialty

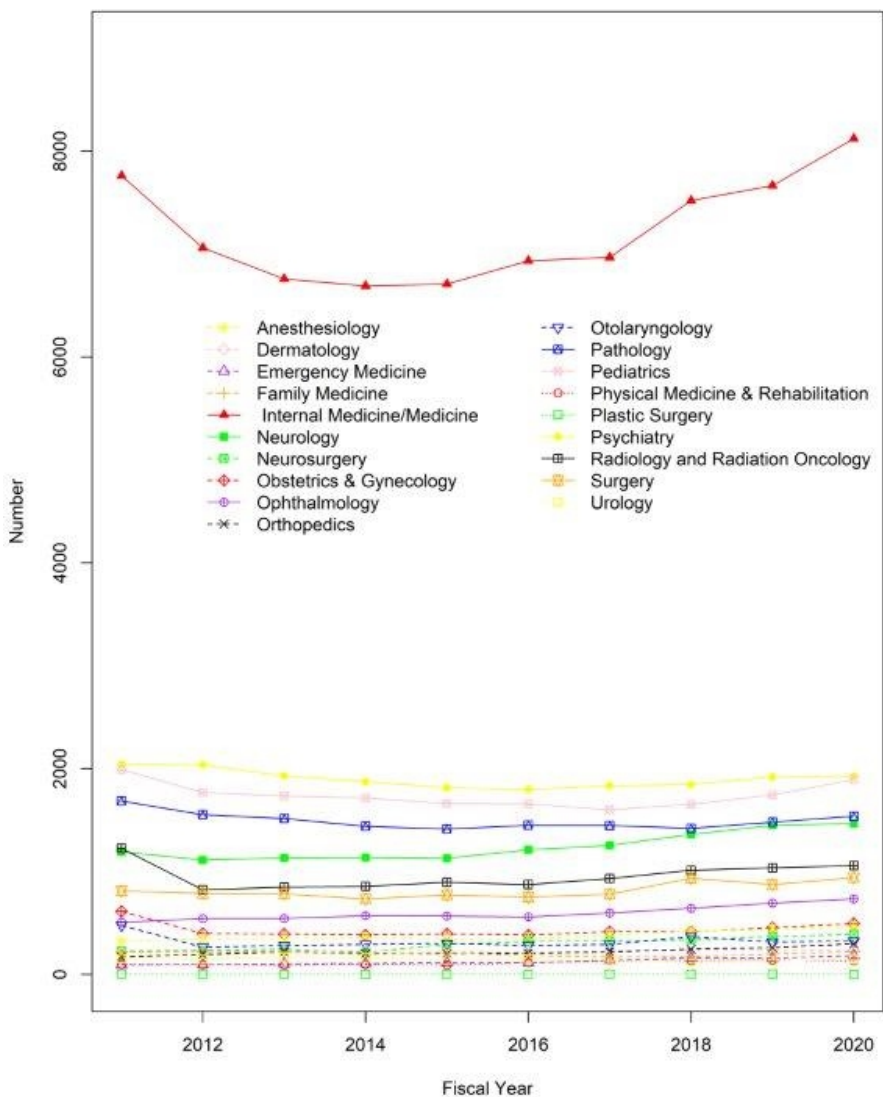


Annual inflation-adjusted dollars of funding per active physician by specialty



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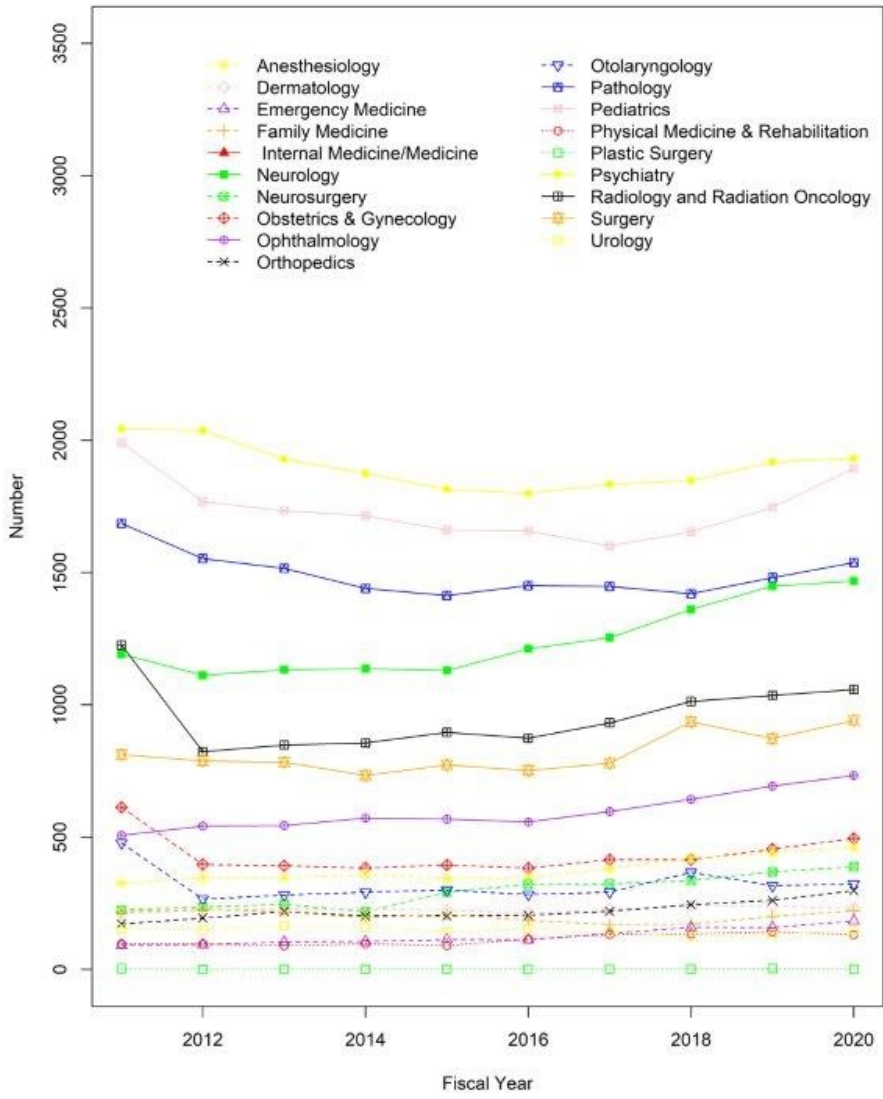
Number of all Grants awarded per year by specialty



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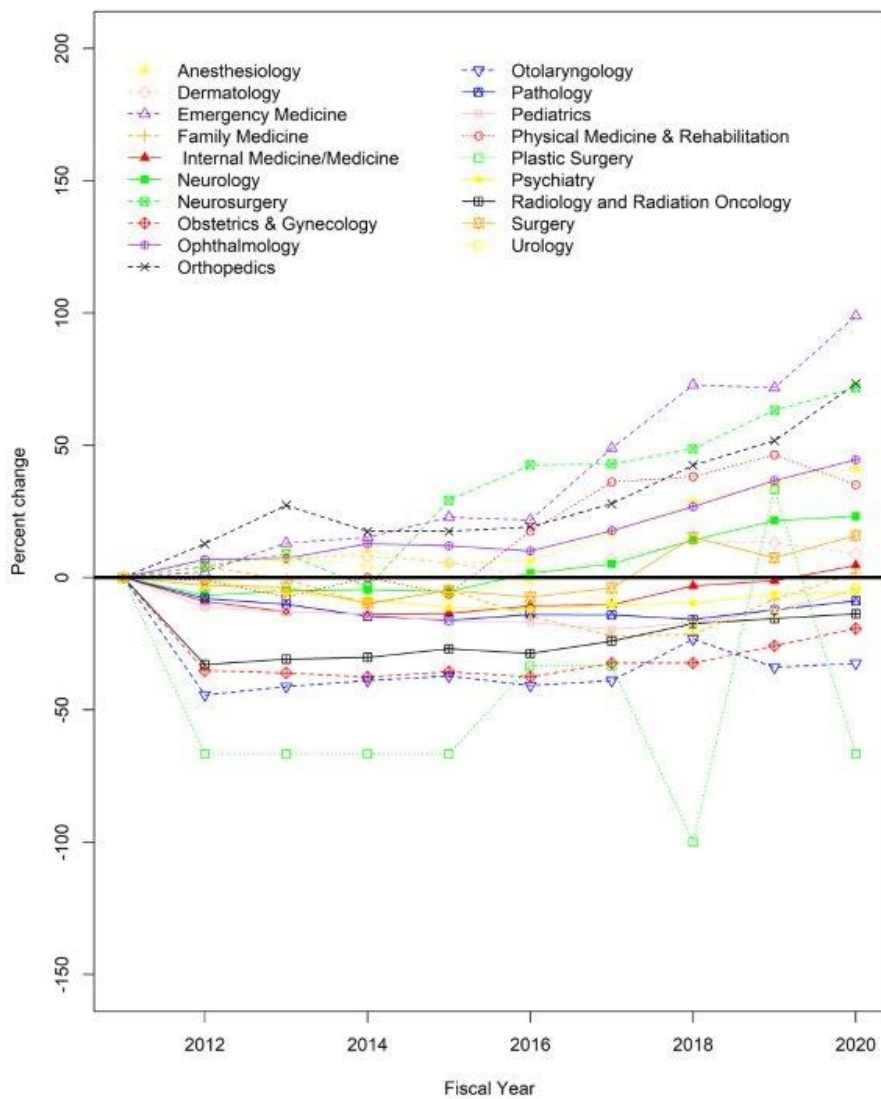
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Number of all Grants awarded per year by specialty (without Internal Medicine)



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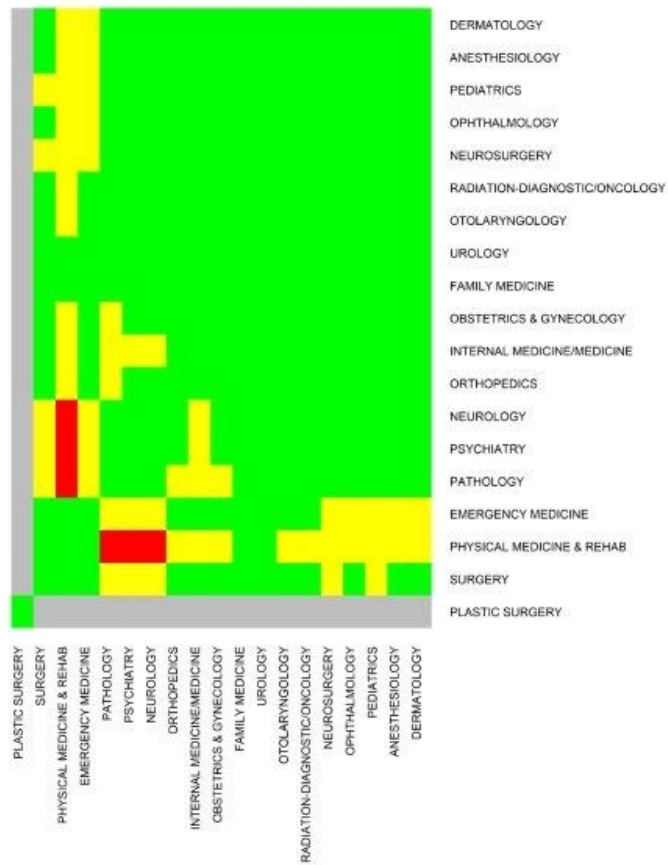
Annual percent change in number of awarded grants (compared to 2011) by specialty



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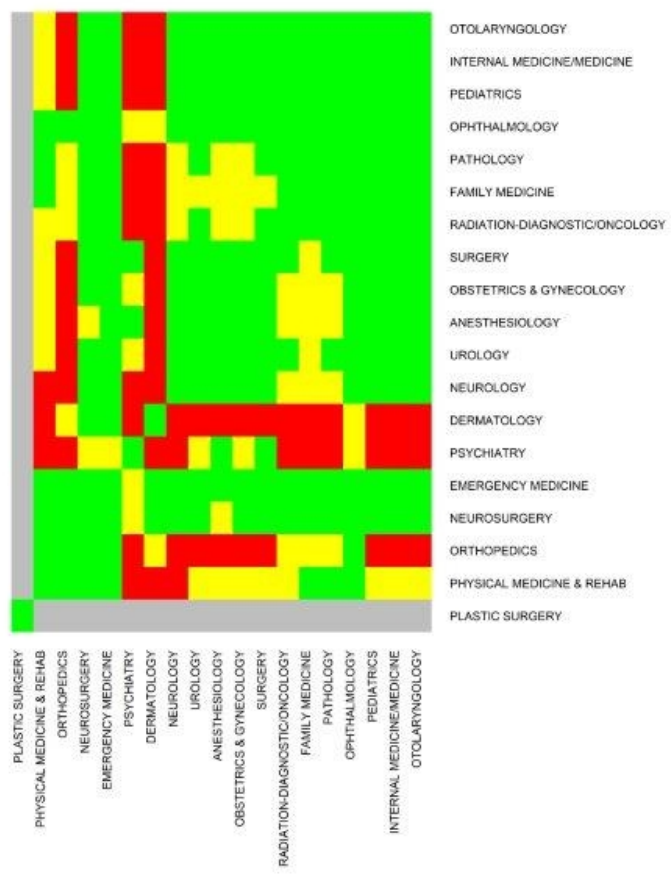
F32 grant dollar amount comparisons P-values



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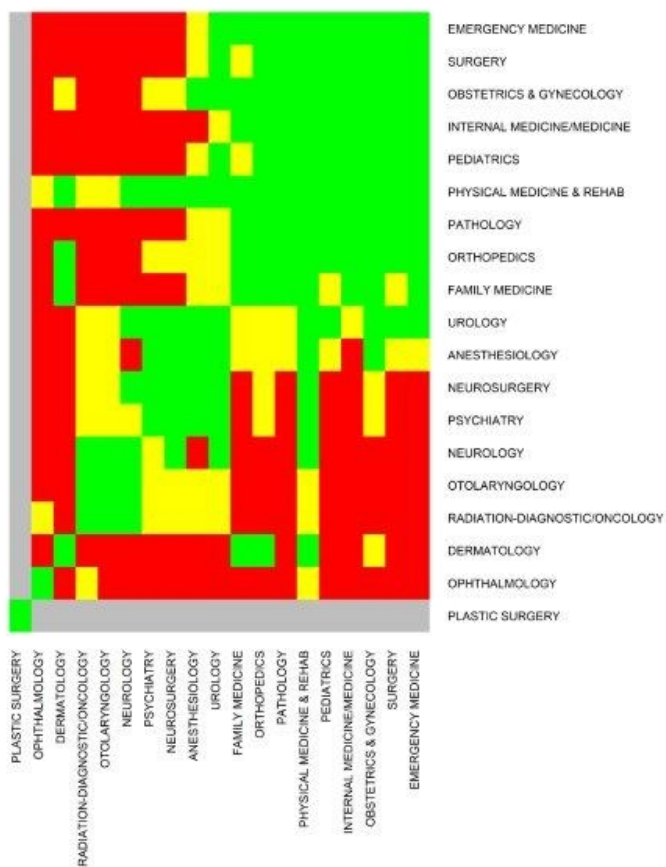
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K01 grant dollar amount comparisons P-values



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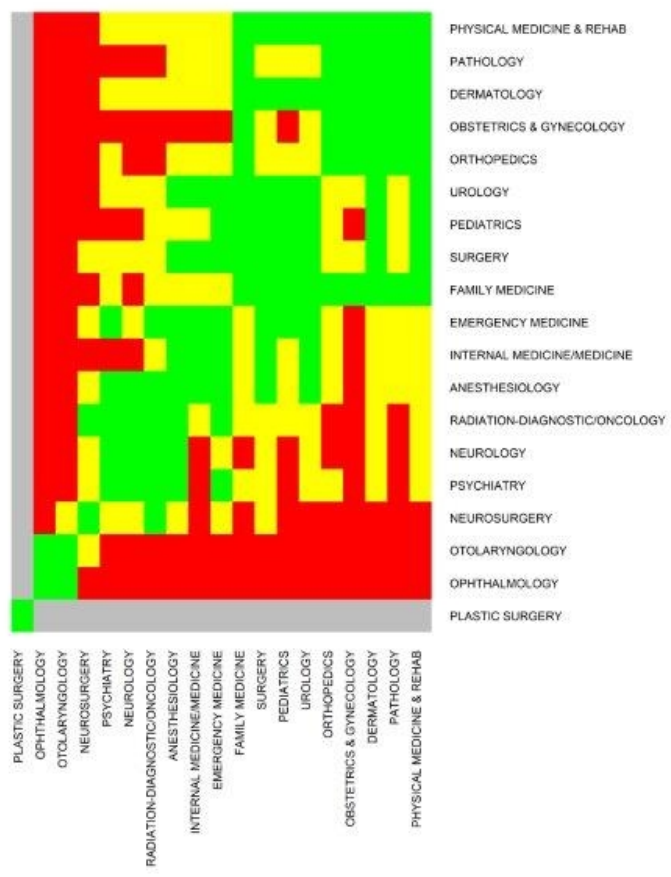
K08 grant dollar amount comparisons P-values



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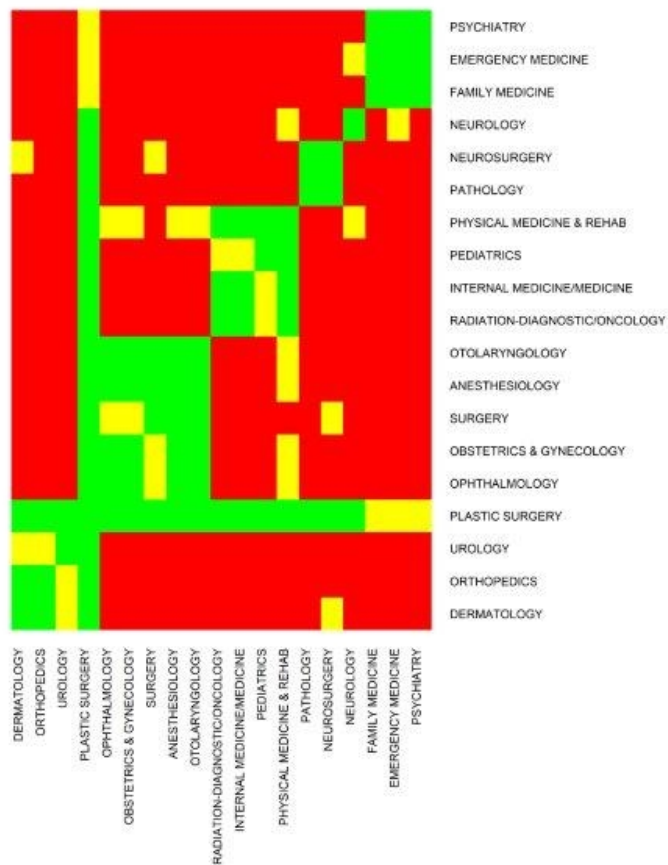
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K23 grant dollar amount comparisons P-values



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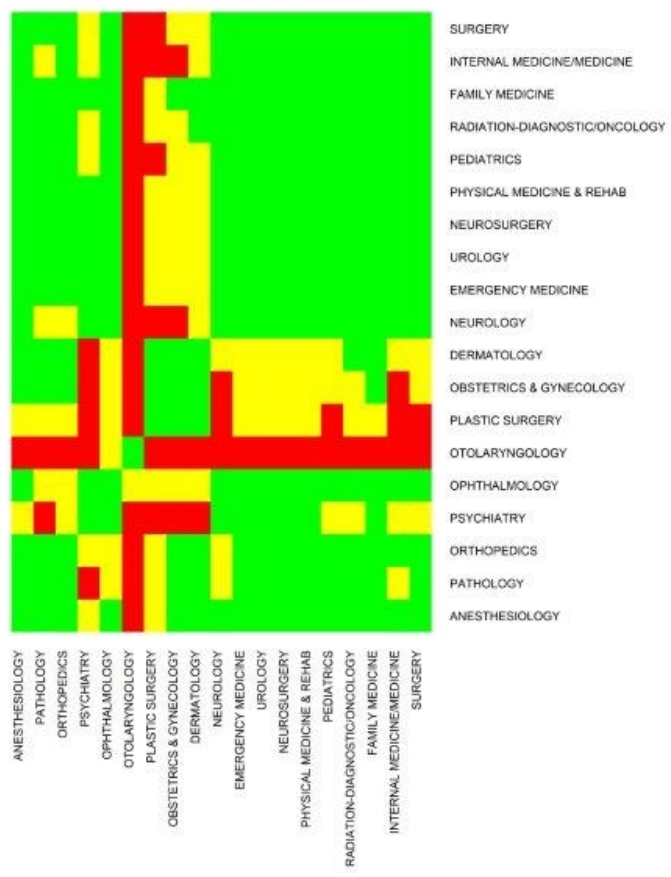
R01 grant dollar amount comparisons P-values



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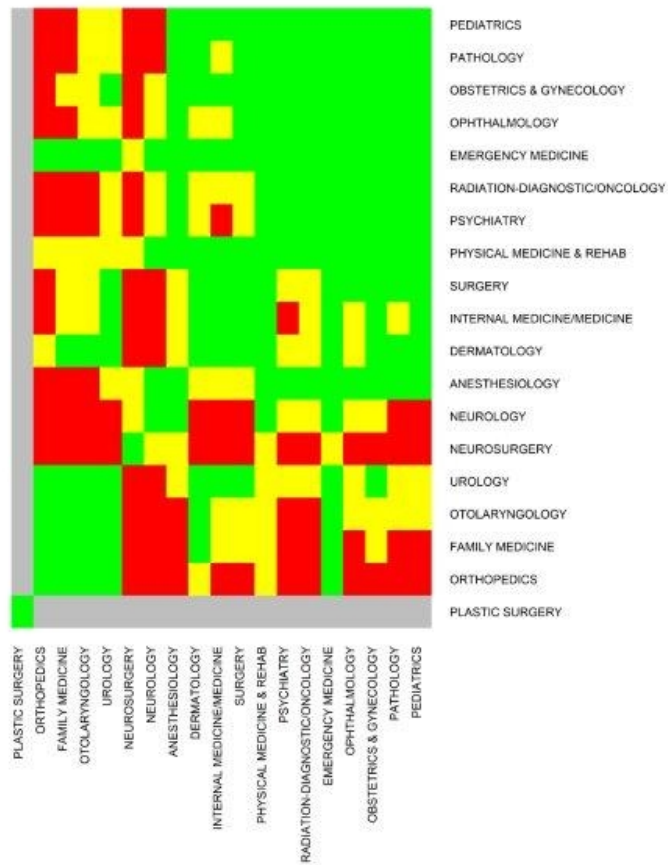
R03 grant dollar amount comparisons P-values



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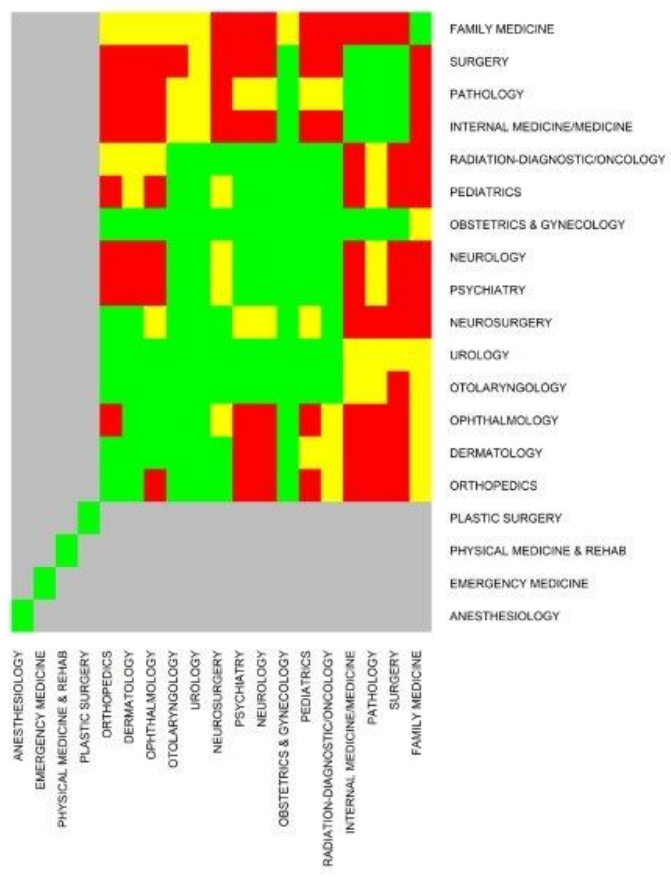
R21 grant dollar amount comparisons P-values



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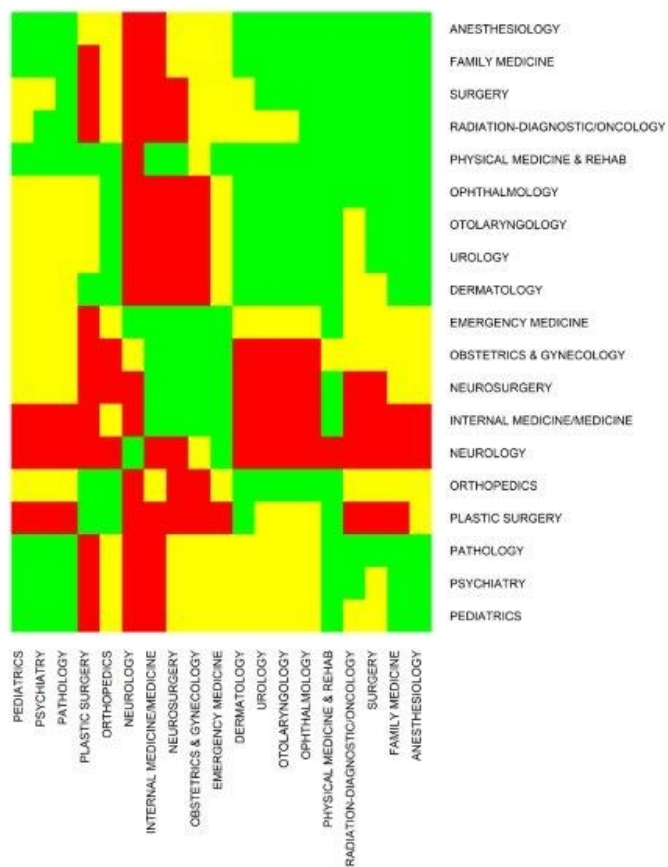
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P30 grant dollar amount comparisons P-values



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U01 grant dollar amount comparisons P-values



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Supplementary Table 1 : Number of NIH training grants (F32, T32) awarded from 2011-2020 by specialty

F32 grants	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4	6	8	7	1	1	3	5	2	6
Dermatology	4	4	3	2	3	3	5	4	1	3
Emergency Medicine	1	1	1	0	0	0	0	0	0	1
Family Medicine	0	0	0	1	1	0	0	0	0	0
Internal Medicine/Medicine	126	112	116	108	109	119	132	115	108	116
Neurology	15	10	20	31	29	23	29	27	29	22
Neurosurgery	8	8	8	8	10	10	9	15	8	12
Obstetrics and Gynecology	4	6	4	4	5	4	3	6	5	5
Ophthalmology	4	7	7	9	12	8	10	7	9	10
Orthopedics	5	6	5	5	6	6	6	7	7	7
Otolaryngology	10	7	7	10	6	8	14	10	8	6
Pathology	22	17	22	22	23	25	24	17	16	13
Pediatrics	25	27	24	24	18	17	15	13	19	12
Physical Medicine & Rehab	1	1	0	1	1	1	3	4	3	2
Plastic Surgery	0	0	0	0	0	0	0	0	1	0
Psychiatry	39	29	28	26	27	29	29	25	29	32
Radiation-Diagnostic/Oncology	14	8	5	1	2	9	8	7	4	7
Surgery	17	15	13	19	21	20	17	20	15	15
Urology	2	2	2	5	2	3	3	1	1	1
T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	13	15	14	17	21	19	25	19	20	15
Dermatology	12	12	12	11	11	11	11	10	7	8
Emergency Medicine	0	0	0	0	0	1	2	2	2	2
Family Medicine	5	4	6	5	4	4	9	5	4	5
Internal Medicine/Medicine	382	389	357	353	339	341	452	366	347	365
Neurology	37	34	32	32	29	30	38	36	35	37
Neurosurgery	3	3	3	3	5	5	6	4	6	8
Obstetrics and Gynecology	12	11	12	11	12	10	13	7	8	11
Ophthalmology	15	16	21	19	17	18	27	22	26	23
Orthopedics	8	9	8	7	7	7	8	7	7	8
Otolaryngology	12	12	11	14	15	15	29	17	16	16
Pathology	86	75	70	79	68	70	89	67	59	55
Pediatrics	108	99	90	87	90	84	88	73	74	72
Physical Medicine & Rehab	9	4	4	3	3	4	5	5	4	5
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	77	79	80	79	71	71	107	69	68	71
Radiation-Diagnostic/Oncology	22	20	22	26	28	27	33	32	30	26
Surgery	54	56	54	48	48	49	57	53	58	55
Urology	7	8	7	8	5	6	4	2	4	4

Supplementary Table 2: Number of NIH career development grants (K01, K08, K23) awarded from 2011-2020 by specialty

K01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4	4	4	5	5	5	6	8	5	7
Dermatology	4	4	6	4	6	7	11	13	10	8
Emergency Medicine	0	1	1	1	2	0	0	1	1	2
Family Medicine	11	13	10	7	7	8	8	9	9	15
Internal Medicine/Medicine	130	125	126	144	159	143	135	154	170	176
Neurology	12	13	16	17	17	19	20	19	23	19
Neurosurgery	3	3	1	0	0	1	0	2	3	3
Obstetrics and Gynecology	2	1	2	4	5	5	7	6	8	8
Ophthalmology	0	0	0	1	0	0	1	2	2	1
Orthopedics	5	4	7	7	10	7	6	5	6	5
Otolaryngology	2	2	2	2	0	0	0	0	0	1
Pathology	13	14	15	14	13	12	13	16	17	21
Pediatrics	20	16	18	19	16	25	23	21	23	27
Physical Medicine & Rehab	3	4	4	6	7	8	13	13	10	12
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	81	84	76	75	72	67	70	65	72	81
Radiation-Diagnostic/Oncology	17	15	13	11	14	14	19	18	15	11
Surgery	8	7	11	7	10	12	13	9	8	7
Urology	1	1	1	1	3	4	6	5	5	6
K08	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	13	14	15	15	13	12	16	21	25	23
Dermatology	18	19	17	16	15	12	14	11	14	10
Emergency Medicine	2	4	7	4	5	7	7	8	7	7
Family Medicine	5	5	5	2	1	1	1	1	3	3
Internal Medicine/Medicine	277	270	243	0	228	241	230	251	281	274
Neurology	39	36	39	33	37	33	31	30	35	39
Neurosurgery	7	7	9	7	11	12	14	11	13	10
Obstetrics and Gynecology	8	8	7	5	2	3	2	5	6	9
Ophthalmology	24	24	29	29	30	28	27	27	25	25
Orthopedics	1	2	4	4	4	5	7	7	7	7
Otolaryngology	12	14	12	10	12	11	9	10	12	10
Pathology	38	33	36	33	32	24	25	28	27	30
Pediatrics	114	96	93	86	82	91	106	117	113	109
Physical Medicine & Rehab	1	1	1	0	0	0	0	1	1	1
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	34	31	21	28	22	23	25	23	19	24
Radiation-Diagnostic/Oncology	5	5	5	6	6	1	3	3	14	18
Surgery	59	57	50	46	38	38	39	44	45	48

	8	8	11	7	4	5	5	5	5	5
Urology										
K23	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	9	10	13	13	12	10	13	12	17	17
Dermatology	3	4	3	1	3	4	4	9	10	8
Emergency Medicine	18	15	15	14	15	19	21	19	20	15
Family Medicine	9	8	6	3	6	4	5	5	6	7
Internal Medicine/Medicine	306	315	306	297	276	262	247	247	249	286
Neurology	61	59	48	50	52	43	48	53	58	57
Neurosurgery	2	4	5	4	5	5	4	4	5	6
Obstetrics and Gynecology	12	14	11	14	10	5	7	8	10	12
Ophthalmology	15	11	13	11	13	20	21	21	21	20
Orthopedics	2	3	3	3	2	2	1	3	3	4
Otolaryngology	8	6	6	9	12	11	12	12	12	12
Pathology	4	3	2	3	2	1	1	1	1	3
Pediatrics	94	93	89	89	79	65	85	93	108	129
Physical Medicine & Rehab	7	6	10	12	9	10	6	2	3	3
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	119	117	104	99	100	93	102	103	110	113
Radiation-Diagnostic/Oncology	6	4	4	4	4	4	4	2	1	3
Surgery	13	12	11	11	10	10	9	8	9	13
Urology	2	1	2	3	2	3	2	1	3	3
Otolaryngology	142	149	159	157	164	157	152	178	196	188
Pathology	928	881	851	773	762	749	710	774	822	860
Pediatrics	769	803	777	764	715	715	679	720	734	791
Physical Medicine & Rel	31	35	33	37	34	42	50	60	61	60
Plastic Surgery	3	0	1	1	0	0	1	0	1	0
Psychiatry	1010	990	904	896	822	846	864	899	903	932
Radiation-Diagnostic/On	529	516	526	495	503	499	526	607	604	619
Surgery	413	390	369	359	360	350	384	412	449	489
Urology	78	77	83	76	63	60	61	60	61	67

Supplementary Table 3: Number of NIH advanced career grants (R01, R03, R21, P30, U01) awarded from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R01										
Anesthesiology	199	214	214	227	212	211	217	250	250	264
Dermatology	115	124	126	116	116	111	106	121	124	110
Emergency Medicine	26	30	30	33	39	38	42	49	54	74
Family Medicine	77	85	76	68	77	71	70	75	89	99
Internal Medicine/Medic	3250	3114	2917	2831	2804	2903	3026	3184	3317	3455
Neurology	520	551	538	522	528	540	563	639	664	704
Neurosurgery	138	141	140	131	161	166	175	190	204	223
Obstetrics and Gynecology	145	133	139	131	132	154	177	171	207	231
Ophthalmology	340	362	351	371	358	349	380	408	436	468
Orthopedics	111	119	134	124	121	131	138	141	152	178
Otolaryngology	142	149	159	157	164	157	152	178	196	188
Pathology	928	881	851	773	762	749	710	774	822	860
Pediatrics	769	803	777	764	715	715	679	720	734	791
Physical Medicine & Rel	31	35	33	37	34	42	50	60	61	60
Plastic Surgery	3	0	1	1	0	0	1	0	1	0
Psychiatry	1010	990	904	896	822	846	864	899	903	932
Radiation-Diagnostic/On	529	516	526	495	503	499	526	607	604	619
Surgery	413	390	369	359	360	350	384	412	449	489
Urology	78	77	83	76	63	60	61	60	61	67
R03										
Anesthesiology	6	9	6	6	4	4	6	9	8	5
Dermatology	5	6	2	4	8	9	7	4	4	5
Emergency Medicine	1	1	1	1	4	4	5	4	2	4
Family Medicine	8	9	9	7	6	5	2	2	5	3
Internal Medicine/Medic	118	139	132	124	110	90	91	102	120	121
Neurology	10	9	11	12	13	16	15	15	15	13
Neurosurgery	3	8	8	5	7	4	2	2	2	6
Obstetrics and Gynecology	8	12	10	12	10	11	15	17	14	10
Ophthalmology	0	0	0	2	3	1	1	2	3	3
Orthopedics	10	10	12	14	10	7	3	3	7	7
Otolaryngology	13	18	19	15	14	12	12	10	2	3
Pathology	25	23	21	20	15	9	12	21	26	25
Pediatrics	38	29	35	34	34	43	35	41	38	35
Physical Medicine & Rel	7	7	5	7	5	5	3	4	7	8
Plastic Surgery	0	0	0	0	0	1	1	0	0	0
Psychiatry	25	28	30	22	20	23	29	23	20	16
Radiation-Diagnostic/On	8	7	10	17	21	9	11	18	22	22
Surgery	15	20	17	17	19	14	25	21	11	15
Urology	1	3	2	4	5	3	1	1	3	4
R21										
Anesthesiology	27	24	27	21	28	27	26	37	39	33
Dermatology	19	18	18	26	21	14	15	16	15	20
Emergency Medicine	6	5	3	5	6	5	7	10	6	5
Family Medicine	14	16	19	20	24	23	14	12	16	16
Internal Medicine/Medic	375	407	393	368	379	394	375	376	377	385
Neurology	64	78	73	73	72	79	82	93	107	70
Neurosurgery	13	18	22	21	35	36	27	26	41	33
Obstetrics and Gynecology	33	28	27	25	24	24	21	28	33	43
Ophthalmology	21	19	30	29	36	34	24	31	51	52
Orthopedics	14	20	19	15	16	16	26	36	26	27
Otolaryngology	14	16	21	28	23	14	15	31	30	33
Pathology	124	104	112	140	160	166	138	117	113	108
Pediatrics	104	95	102	108	121	123	116	118	127	132
Physical Medicine & Rel	4	7	11	9	4	9	13	10	13	9
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	122	166	191	179	156	151	153	149	155	158

Radiation-Diagnostic/On	97	101	102	115	121	118	115	89	103	101
Surgery	58	54	46	48	62	68	50	49	51	54
Urology	8	9	5	4	10	13	9	7	8	10
F30	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	0	0	0	1	0	0	0	0	0	0
Dermatology	11	8	8	11	8	12	11	5	4	4
Emergency Medicine	0	0	0	0	0	0	0	0	0	0
Family Medicine	0	4	4	4	4	4	1	1	4	4
Internal Medicine/Medicine	248	217	206	248	312	353	283	558	333	364
Neurology	15	19	16	14	14	16	16	18	21	32
Neurosurgery	3	3	3	2	2	1	1	1	2	0
Obstetrics and Gynecology	3	3	2	3	5	6	0	3	6	10
Ophthalmology	31	37	30	29	32	29	29	31	29	26
Orthopedics	4	4	4	5	5	5	5	5	6	6
Otolaryngology	15	8	7	8	6	5	1	61	1	6
Pathology	17	18	20	23	26	27	27	20	13	15
Pediatrics	17	21	23	18	18	20	18	12	14	25
Physical Medicine & Rehab	0	0	0	0	0	0	0	0	0	0
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	13	15	17	15	20	13	11	9	11	9
Radiation-Diagnostic/Oncology	5	6	5	7	8	7	10	10	12	11
Surgery	13	11	15	12	24	27	20	127	22	29
Urology	7	6	5	6	6	9	0	0	0	0
U01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	7	7	7	12	9	15	14	15	12	13
Dermatology	3	5	7	6	8	5	5	6	9	11
Emergency Medicine	10	13	17	14	8	5	4	8	3	7
Family Medicine	11	14	12	11	15	15	13	15	15	10
Internal Medicine/Medicine	386	399	432	381	417	414	439	491	564	589
Neurology	33	40	40	54	56	78	62	70	68	76
Neurosurgery	6	4	8	7	13	27	25	21	10	8
Obstetrics and Gynecology	15	17	8	13	23	13	16	12	9	11
Ophthalmology	4	7	5	5	5	5	6	10	12	8
Orthopedics	0	0	1	2	1	1	0	0	1	1
Otolaryngology	4	4	3	4	3	3	4	5	4	4
Pathology	54	54	46	33	29	32	32	35	38	37
Pediatrics	130	128	116	120	124	103	109	110	111	110
Physical Medicine & Rehab	4	3	7	7	8	5	5	6	3	3
Plastic Surgery	0	0	0	0	0	0	0	1	1	1
Psychiatry	53	87	79	85	104	83	75	88	92	79
Radiation-Diagnostic/Oncology	14	18	22	26	34	29	40	54	56	49
Surgery	51	53	57	47	51	47	52	63	57	58
Urology	14	15	17	20	17	16	19	13	15	14

Supplementary Table 4: Number of active physicians per awarded NIH training grant (F32, T32) from 2011-2020 by specialty

F32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1004	6740	5095	5865	41351	41557	1393	8403	21134	7045
Dermatology	2705	2773	3788	5767	3902	3960	2410	3071	12516	4172
Emergency Medicine	33984	35613	37241	-	-	-	-	-	-	45202
Family Medicine	-	-	-	110106	111295	-	-	-	-	-
Internal Medicine/Medicine	865	983	957	1042	1047	965	875	1025	1113	1036
Neurology	861	1304	658	428	462	589	473	516	488	643
Neurosurgery	631	639	646	657	535	544	615	376	719	479
Obstetrics and Gynecology	10094	6767	10207	10288	8296	10392	13885	7031	8544	8544
Ophthalmology	4486	2590	2617	2051	1549	2338	1882	2724	2146	1931
Orthopedics	3964	3266	3875	3852	3191	3179	3167	2719	2724	2724
Otolaryngology	923	1325	1331	937	1569	1184	680	965	1222	1630
Pathology	681	844	623	614	578	523	535	749	790	973
Pediatrics	2220	2070	2344	2371	3197	3411	3896	4579	3190	5052
Physical Medicine & Rehab	8503	8705	-	9035	9164	9254	3114	2389	3256	4884
Plastic Surgery	-	-	-	-	-	-	-	-	7317	-
Psychiatry	982	1303	1332	1443	1398	1309	1317	1540	1338	1212
Radiation-Diagnostic/Oncology	2318	4387	7550	38191	19316	4360	4981	5796	10324	5900
Surgery	1548	1717	1937	1327	1203	1257	1473	1265	1704	1704
Urology	4913	4899	4886	1958	4904	3288	3307	10061	10201	10201
T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	3086	2696	2911	2415	1969	2187	1670	2211	2113	2818
Dermatology	902	924	947	1049	1064	1080	1096	1228	1788	1565
Emergency Medicine	-	-	-	-	-	40964	21174	21888	22601	22601
Family Medicine	21310	26933	18153	22021	27824	28101	12613	23171	29550	23640
Internal Medicine/Medicine	285	283	311	319	337	337	256	322	346	329
Neurology	349	383	411	415	462	452	361	387	404	382
Neurosurgery	1682	1703	1724	1753	1069	1088	922	1410	958	719
Obstetrics and Gynecology	3365	3691	3402	3741	3457	4157	3204	6027	5340	3884
Ophthalmology	1196	1133	872	971	1094	1039	697	867	743	840
Orthopedics	2478	2178	2422	2751	2735	2725	2375	2719	2724	2384
Otolaryngology	769	773	847	669	627	631	328	568	611	611
Pathology	174	191	196	171	195	187	144	190	214	230
Pediatrics	514	565	625	654	639	690	664	815	819	842
Physical Medicine & Rehab	945	2176	2227	3012	3055	2313	1869	1911	2442	1953

Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	497	478	466	475	531	535	357	558	570	546
Radiation-Diagnostic/Oncology	1475	1755	1716	1469	1380	1453	1207	1268	1377	1588
Surgery	487	460	466	525	526	513	439	477	441	465
Urology	1404	1225	1396	1224	1962	1644	2480	5031	2550	2550

Supplementary Table 5: Number of active physicians per awarded NIH career development grant (K01, K08, K23) from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
K01										
Anesthesiology	10031	10110	10190	8211	8270	8311	6960	5252	8453	6038
Dermatology	2705	2773	1894	2884	1951	1697	1096	945	1252	1565
Emergency Medicine	-	35613	37241	38410	19790	-	-	43775	45202	22601
Family Medicine	9686	8287	10892	15729	15899	14051	14189	12873	13133	7880
Internal Medicine/Medicine	839	880	881	782	718	803	856	765	707	683
Neurology	1076	1003	822	781	788	713	686	733	615	745
Neurosurgery	1682	1703	5171	-	-	5439	-	2820	1916	1916
Obstetrics and Gynecology	20189	40602	20413	10288	8296	8314	5951	7031	5340	5340
Ophthalmology	-	-	-	18455	-	-	18817	9532	9656	19312
Orthopedics	3964	4900	2768	2751	1915	2725	3167	3807	3178	3814
Otolaryngology	4616	4638	4660	4683	-	-	-	-	-	9777
Pathology	1152	1024	914	964	1022	1089	988	796	744	602
Pediatrics	2775	3493	3126	2995	3596	2320	2541	2835	2636	2245
Physical Medicine & Rehab	2834	2176	2227	1506	1309	1157	719	735	977	814
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	473	450	491	500	524	567	546	592	539	479
Radiation-Diagnostic/Oncology	1909	2340	2904	3472	2759	2803	2097	2254	2753	3754
Surgery	3289	3679	2290	3603	2525	2096	1926	2811	3196	3652
Urology	9826	9799	9771	9790	3269	2466	1654	2012	2040	1700
K08										
Anesthesiology	3344	2889	2717	2737	3446	2770	2784	1827	1691	2113
Dermatology	637	504	758	769	732	914	927	945	1043	1252
Emergency Medicine	11328	8903	6207	9603	7916	5852	4705	5472	7534	7534
Family Medicine	21310	21547	21783	55053	111295	112405	113514	115856	39399	39399
Internal Medicine/Medicine	405	409	461	467	496	471	490	481	437	452
Neurology	340	352	337	415	352	411	416	464	393	393
Neurosurgery	721	730	646	657	486	418	395	513	479	575
Obstetrics and Gynecology	5768	4511	5832	8231	20741	13856	20828	7031	6103	6103
Ophthalmology	718	755	654	595	563	693	752	706	840	805
Orthopedics	19822	6533	4844	4815	4786	4768	2714	2379	2724	3178
Otolaryngology	769	714	717	851	724	861	1058	877	1086	978
Pathology	428	410	416	375	403	568	514	439	452	506
Pediatrics	509	565	592	677	710	630	513	518	532	606
Physical Medicine & Rehab	-	4352	-	-	-	-	-	9555	9767	9767
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	1160	1219	1963	1501	1509	1726	1661	1674	1940	1616
Radiation-Diagnostic/Oncology	6489	7020	7550	5456	12877	19620	13282	10143	2950	2429
Surgery	454	444	494	587	683	613	626	588	568	568
Urology	1092	1225	888	1632	2452	1973	1984	2515	1700	2040
K23										
Anesthesiology	4458	4044	3135	3158	3446	4156	3212	3501	2486	2486
Dermatology	3607	2773	3788	11535	3902	2970	3013	1365	1252	1565
Emergency Medicine	1888	2374	2483	2744	2639	2156	2017	2304	2260	3013
Family Medicine	11839	13467	18153	36702	18549	28101	22703	23171	19700	16885
Internal Medicine/Medicine	356	349	363	379	413	438	468	477	483	420
Neurology	212	221	274	265	258	315	286	263	244	248
Neurosurgery	2524	1277	1034	1315	1069	1088	1383	1410	1150	958
Obstetrics and Gynecology	3365	2900	3711	2940	4148	8314	5951	5274	4272	3560
Ophthalmology	1196	1648	1409	1678	1430	935	896	908	920	966
Orthopedics	9911	6533	6458	6420	9573	9537	19001	6345	6356	4767
Otolaryngology	1154	1546	1553	1041	784	861	794	804	815	815
Pathology	3744	4781	6855	4499	6643	13063	12839	12741	12643	4214
Pediatrics	591	601	632	639	728	892	687	640	561	470
Physical Medicine & Rehab	1215	1451	891	753	1018	925	1557	4778	3256	3256
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	322	323	359	379	377	408	375	374	353	343
Radiation-Diagnostic/Oncology	5408	8774	9438	9548	9658	9810	9962	20286	41297	13766
Surgery	2024	2146	2290	2293	2525	2515	2782	3163	2840	1966
Urology	4913	9799	4886	3263	4904	3288	4961	10061	3400	3400

Supplementary Table 6: Number of active physicians per awarded NIH advanced career grant (R01, R03, R21, P30, U01) from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R01										
Anesthesiology	202	189	190	181	195	197	192	168	169	160
Dermatology	94	89	90	99	101	107	114	102	101	114
Emergency Medicine	1307	1187	1241	1164	1015	1078	1008	893	837	611
Family Medicine	1384	1267	1433	1619	1445	1583	1622	1545	1328	1194
Internal Medicine/Medicine	34	35	38	40	41	40	38	37	36	35
Neurology	25	24	24	25	25	25	24	22	21	20
Neurosurgery	37	36	37	40	33	33	32	30	28	26
Obstetrics and Gynecology	278	305	294	314	314	270	235	247	206	185
Ophthalmology	53	50	52	50	52	54	50	47	44	41
Orthopedics	179	165	145	155	158	146	138	135	125	107
Otolaryngology	65	62	59	60	57	60	63	54	50	52
Pathology	16	16	16	17	17	17	18	16	15	15

1											
2	Pediatrics	72	70	72	74	80	81	86	83	83	77
3	Physical Medicine & Rehab	274	249	270	244	270	220	187	159	160	163
4	Plastic Surgery	2274	-	6942	6981	-	-	7142	-	7317	-
5	Psychiatry	38	38	41	42	46	45	44	43	43	42
6	Radiation-Diagnostic/Oncology	61	68	72	77	77	79	76	67	68	67
7	Surgery	64	66	68	70	70	72	65	61	57	52
8	Urology	126	127	118	129	156	164	163	168	167	152
9											
10	R03	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
11	Anesthesiology	6687	4493	6793	6842	10338	10389	6960	4668	5283	8453
12	Dermatology	2164	1849	5682	2884	1463	1320	1722	3071	3129	2503
13	Emergency Medicine	33984	35613	37241	38410	9895	10241	8470	10944	22601	11301
14	Family Medicine	13319	11970	12102	15729	18549	22481	56757	57928	23640	39399
15	Internal Medicine/Medicine	924	792	841	908	1037	1276	1270	1156	1001	993
16	Neurology	1292	1448	1196	1106	1030	847	914	929	944	1088
17	Neurosurgery	1682	639	646	1052	764	1360	2766	2820	2874	958
18	Obstetrics and Gynecology	5047	3383	4083	3429	4148	3779	2777	2482	3051	4272
19	Ophthalmology	-	-	-	9228	6198	18705	18817	9532	6437	6437
20	Orthopedics	1982	1960	1615	1376	1915	2725	6334	6345	2724	2724
21	Otolaryngology	710	515	491	624	672	789	794	965	4889	3259
22	Pathology	599	624	653	675	886	1451	1070	607	486	506
23	Pediatrics	1461	1928	1607	1674	1692	1349	1670	1452	1595	1732
24	Physical Medicine & Rehab	1215	1244	1781	1291	1833	1851	3114	2389	1395	1221
25	Plastic Surgery	-	-	-	-	-	7081	7142	-	-	-
26	Psychiatry	1531	1350	1243	1705	1887	1651	1317	1674	1940	2425
27	Radiation-Diagnostic/Oncology	4056	5014	3775	2247	1840	4360	3622	2254	1877	1877
28	Surgery	1754	1288	1482	1484	1329	1796	1002	1205	2324	1704
29	Urology	9826	3266	4886	2447	1962	3288	9921	10061	3400	2550
30											
31	R21	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
32	Anesthesiology	1486	1685	1510	1955	1477	1539	1606	1136	1084	1281
33	Dermatology	569	616	631	444	557	848	803	768	834	626
34	Emergency Medicine	5664	7123	12414	7682	6597	8193	6050	4378	7534	9040
35	Family Medicine	7611	6733	5732	5505	4637	4887	8108	9655	7387	7387
36	Internal Medicine/Medicine	291	270	283	306	301	291	308	313	319	312
37	Neurology	202	167	180	182	186	172	167	150	132	202
38	Neurosurgery	388	284	235	250	153	151	205	217	140	174
39	Obstetrics and Gynecology	1224	1450	1512	1646	1728	1732	1984	1507	1295	993
40	Ophthalmology	854	954	611	636	516	550	784	615	379	371
41	Orthopedics	1416	980	1020	1284	1197	1192	731	529	733	706
42	Otolaryngology	659	580	444	334	409	676	635	311	326	296
43	Pathology	121	138	122	96	83	79	93	109	112	112
44	Pediatrics	534	588	552	527	476	471	504	504	477	459
45	Physical Medicine & Rehab	2126	1244	810	1004	2291	1028	719	956	751	1085
46	Plastic Surgery	-	-	-	-	-	-	-	-	-	-
47	Psychiatry	314	228	195	210	242	251	250	258	250	246
48	Radiation-Diagnostic/Oncology	334	348	370	332	319	333	346	456	401	409
49	Surgery	454	477	548	525	407	370	501	516	501	473
50	Urology	1228	1089	1954	2447	981	759	1102	1437	1275	1020
51											
52	P30	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
53	Anesthesiology	-	-	-	41055	-	-	-	-	-	-
54	Dermatology	984	1386	1420	1049	1463	990	1096	2457	3129	3129
55	Emergency Medicine	-	-	-	-	-	-	-	-	-	-
56	Family Medicine	-	26933	27229	27527	27824	28101	11351	11585	29550	29550
57	Internal Medicine/Medicine	440	507	539	454	366	325	408	211	361	330
58	Neurology	861	686	822	948	957	847	857	774	674	442
59	Neurosurgery	1682	1703	1724	2629	2673	5439	5531	5640	2874	-
60	Obstetrics and Gynecology	1345	13534	2041	13718	8296	6928	-	14063	7120	4272
61	Ophthalmology	579	490	611	636	581	645	649	615	666	743
62	Orthopedics	4956	4900	4844	3852	3829	3815	3800	3807	3178	3178
63	Otolaryngology	615	1160	1331	1171	1569	1894	9526	158	9777	1630
64	Pathology	881	797	686	587	511	484	476	637	973	843
65	Pediatrics	3265	2661	2446	3161	3197	2899	3246	4961	4330	2425
66	Physical Medicine & Rehab	-	-	-	-	-	-	-	-	-	-
67	Plastic Surgery	-	-	-	-	-	-	-	-	-	-
68	Psychiatry	2945	2520	2194	2501	1887	2921	3473	4278	3527	4310
69	Radiation-Diagnostic/Oncology	6489	5850	7550	5456	4829	5606	3985	4057	3441	3754
70	Surgery	2024	2341	1679	2102	1052	931	1252	199	1162	882
71	Urology	1404	1633	1954	1632	1635	1096	-	-	-	-
72											
73											
74	U01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
75	Anesthesiology	5732	5777	5823	3421	4595	2770	2983	2801	3522	3251
76	Dermatology	3607	2218	1623	1922	1463	2376	2410	2047	1391	1138
77	Emergency Medicine	3398	2739	2191	2744	4947	8193	10587	5472	15067	6457
78	Family Medicine	9686	7695	9076	10010	7420	7494	8732	7724	7880	11820
79	Internal Medicine/Medicine	283	276	257	295	274	277	263	240	213	204
80	Neurology	391	326	329	246	239	174	221	199	208	186
81	Neurosurgery	841	1277	646	751	411	201	221	269	575	719
82	Obstetrics and Gynecology	2692	2388	5103	3166	1804	3198	2604	3516	4747	3884
83	Ophthalmology	4486	2590	3663	3691	3719	3741	3136	1906	1609	2414
84	Orthopedics	-	-	19374	9629	19145	19073	-	-	19069	19069
85	Otolaryngology	2308	2319	3107	2341	3137	3156	2382	1930	2444	2444
86	Pathology	277	266	298	409	458	408	401	364	333	342
87	Pediatrics	427	437	485	474	464	563	536	541	546	551

Physical Medicine & Rehab	2126	2902	1272	1291	1146	1851	1869	1593	3256	3256
Plastic Surgery								7230	7317	7317
Psychiatry	722	434	472	441	363	457	509	437	422	491
Radiation-Diagnostic/Oncology	2318	1950	1716	1469	1136	1353	996	751	737	843
Surgery	516	486	442	537	495	535	482	402	448	441
Urology	702	653	575	489	577	617	522	774	680	729

Supplementary Table 7: Total NIH training grant (F32, T32) funding in thousands of dollars from 2011-2020 by specialty

F32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	192	309	397	305	24	58	171	288	122	390
Dermatology	173	223	156	86	149	167	231	233	66	198
Emergency Medicine	59	54	62	0	0	0	0	0	0	65
Family Medicine	0	0	0	56	20	0	0	0	0	0
Internal Medicine/Medicine	6543	5803	5850	5543	5833	6417	6236	6436	6670	7700
Neurology	732	449	964	1539	1457	1296	1234	1520	1584	1393
Neurosurgery	421	365	338	413	503	538	529	802	443	726
Obstetrics and Gynecology	209	290	175	215	276	229	146	356	310	304
Ophthalmology	180	351	385	491	644	398	430	420	532	567
Orthopedics	247	288	252	231	321	288	331	429	446	471
Otolaryngology	527	384	355	508	297	463	595	542	500	434
Pathology	1141	865	955	1023	1207	1368	892	1052	980	726
Pediatrics	1339	1416	1246	1229	867	773	737	762	1158	667
Physical Medicine & Rehab	51	52	0	56	41	69	188	246	197	137
Plastic Surgery	0	0	0	0	0	0	0	0	71	0
Psychiatry	1921	1391	1318	1254	1424	1560	1178	1385	1700	2021
Radiation-Diagnostic/Oncology	708	400	185	55	112	478	383	429	269	456
Surgery	831	760	662	983	1149	1027	942	1285	1008	1091
Urology	116	106	111	223	121	156	118	74	66	80
T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	2305	2641	2729	3258	4813	4967	5373	5038	5083	4496
Dermatology	2246	2446	2263	1840	2359	2357	2268	2180	1957	2035
Emergency Medicine	0	0	0	0	0	169	740	894	916	731
Family Medicine	1235	1172	1528	1487	1507	1328	2196	1739	1472	1750
Internal Medicine/Medicine	115016	115950	111668	111459	115327	119832	120062	132678	134551	139263
Neurology	9544	8462	8315	10030	9009	9960	10802	11276	9092	11524
Neurosurgery	592	531	582	600	1739	1820	1644	2273	3672	4010
Obstetrics and Gynecology	2392	2382	2526	2622	2685	2442	2154	1666	1762	2863
Ophthalmology	2879	3175	4438	4390	4005	3857	3762	4064	4869	4752
Orthopedics	1751	2082	1823	1617	1686	1676	1832	1568	1675	2073
Otolaryngology	2477	3339	2847	3672	3961	3768	4342	4372	4284	4832
Pathology	327477	291955	262466	26906	24478	24051	25070	24675	22805	20179
Pediatrics	24470	24006	22657	21653	24482	24548	21927	24246	25047	25786
Physical Medicine & Rehab	1431	1068	1092	844	939	1004	1063	1287	1263	1605
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	20056	20663	20323	19112	18134	20311	21132	21545	22702	26075
Radiation-Diagnostic/Oncology	5579	4095	4651	4886	5477	7208	6005	7795	7771	6639
Surgery	12609	12273	11253	10806	10501	12327	13198	16012	17863	16442
Urology	1084	1224	1151	1166	648	906	623	355	989	1156

Inflation-Adjusted Total NIH training grant (F32, T32) funding in thousands of dollars from 2011-2020 by specialty

F32	1.000	0.982	0.964	0.946	0.935	0.928	0.911	0.891	0.874	0.862	2020
Anesthesiology	192	303	383	289	22	54	156	257	107	336	336
Dermatology	173	219	150	81	139	155	211	208	58	171	171
Emergency Medicine	59	53	60	0	0	0	0	0	0	56	56
Family Medicine	0	0	0	53	19	0	0	0	0	0	0
Internal Medicine/Medicine	6543	5699	5641	5244	5456	5953	5684	5732	5827	6638	6638
Neurology	732	441	930	1456	1363	1202	1125	1354	1384	1201	1201
Neurosurgery	421	358	326	391	470	499	482	714	387	626	626
Obstetrics and Gynecology	209	285	169	203	258	212	133	317	271	262	262
Ophthalmology	180	345	371	465	602	369	392	374	465	489	489
Orthopedics	247	283	243	219	300	267	302	382	390	406	406
Otolaryngology	527	377	342	481	278	430	542	483	437	374	374
Pathology	1141	849	921	968	1129	1269	813	937	856	626	626
Pediatrics	1339	1391	1202	1163	811	717	672	679	1012	575	575
Physical Medicine & Rehab	51	51	0	53	38	64	171	219	172	118	118
Plastic Surgery	0	0	0	0	0	0	0	0	62	0	0
Psychiatry	1921	1366	1271	1186	1332	1447	1074	1234	1485	1742	1742
Radiation-Diagnostic/Oncology	708	393	178	52	105	443	349	382	235	393	393
Surgery	831	746	638	930	1075	953	859	1145	881	941	941
Urology	116	104	107	211	113	145	108	66	58	69	69
T32	2305	2594	2632	3082	4502	4608	4897	4487	4440	3876	3876
Dermatology	2246	2402	2182	1741	2206	2187	2067	1942	1710	1754	1754
Emergency Medicine	0	0	0	0	0	157	674	796	800	630	630
Family Medicine	1235	1151	1474	1407	1410	1232	2002	1549	1286	1509	1509
Internal Medicine/Medicine	115016	113866	107687	105445	107871	111165	109429	118174	117542	120064	120064
Neurology	9544	8310	8019	9489	8427	9240	9845	10043	7943	9935	9935
Neurosurgery	592	521	561	568	1627	1688	1498	2025	3208	3457	3457
Obstetrics and Gynecology	2392	2339	2436	2481	2511	2265	1963	1484	1539	2468	2468

Neurosurgery	298	237	122	0	0	97	0	283	397	283
Obstetrics and Gynecology	279	168	302	605	729	688	869	687	895	960
Ophthalmology	0	0	0	124	0	0	132	225	227	125
Orthopedics	618	464	779	804	1034	821	684	548	612	507
Otolaryngology	274	269	264	246	0	0	0	0	0	112
Pathology	1538	1606	1637	1419	1410	1866	1919	2101	1810	2383
Pediatrics	2485	2102	2204	2332	2033	2863	2876	2722	3016	3097
Physical Medicine & Rehab	344	358	472	693	808	920	1537	1482	1167	1302
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	12041	11933	10648	10816	10038	9444	9547	9075	9698	10535
Radiation-Diagnostic/Oncology	2091	1926	1463	1490	1599	1789	2465	2171	1687	1304
Surgery	999	846	1196	838	1266	1592	1897	1416	1200	872
Urology	106	104	102	130	412	551	771	623	611	749
K08	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1636	1798	1997	2152	1983	1909	2426	3377	3945	3431
Dermatology	2225	2268	1869	1639	1686	1794	1785	1605	1761	1404
Emergency Medicine	283	558	844	561	698	1012	1035	1144	972	966
Family Medicine	611	605	654	260	138	135	153	150	450	435
Internal Medicine/Medicine	37528	35693	32091	32393	29952	34489	34127	37054	40718	40627
Neurology	6333	5678	6353	5477	5428	5024	5180	5069	5700	6372
Neurosurgery	1160	1175	1394	1091	1551	1732	2025	1789	2070	1556
Obstetrics and Gynecology	1072	1058	918	566	228	347	304	808	970	1444
Ophthalmology	4904	4972	5146	5841	5716	5042	5015	4703	4415	4205
Orthopedics	179	264	500	414	454	808	1095	918	740	854
Otolaryngology	1995	2150	2046	1734	2119	1919	1535	1722	1893	1621
Pathology	4861	4209	4409	4597	4269	3645	3466	4169	4123	4505
Pediatrics	15014	12982	12498	11704	10916	12449	15623	17411	16945	16185
Physical Medicine & Rehab	125	123	121	0	0	0	0	152	149	148
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	5684	4933	3170	4259	3465	3613	3886	3294	2844	3674
Radiation-Diagnostic/Oncology	811	805	791	866	778	160	485	543	2523	3239
Surgery	7904	7900	6433	6217	5070	5684	5781	6531	6686	7174
Urology	1217	1175	1341	1003	619	764	768	739	971	947
K23	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1200	1530	1773	1925	1733	1427	2048	1919	2685	2567
Dermatology	368	482	243	116	240	621	633	1215	1360	1154
Emergency Medicine	2344	2073	2229	2042	2070	2888	3402	2969	3127	2233
Family Medicine	1388	1233	869	416	606	543	736	713	860	948
Internal Medicine/Medicine	44386	45346	44041	41699	37963	40250	39418	39267	39270	43310
Neurology	8996	8800	7501	7930	8074	6522	7988	8324	8999	9082
Neurosurgery	372	699	889	657	786	674	669	655	810	968
Obstetrics and Gynecology	1602	1774	1338	1604	1085	601	1042	1204	1515	1754
Ophthalmology	2853	2305	2550	2117	2519	3776	4158	3615	3942	3650
Orthopedics	337	384	309	301	182	322	158	329	432	472
Otolaryngology	1485	1229	1191	1799	2431	1989	2218	2165	2007	1572
Pathology	517	393	256	383	259	127	133	126	166	455
Pediatrics	12950	12514	11862	11458	10265	9511	13565	14588	16445	19211
Physical Medicine & Rehab	994	926	1457	1550	1221	1142	904	240	397	381
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	19068	17876	16241	15245	14635	14210	16482	15952	16903	16934
Radiation-Diagnostic/Oncology	952	647	609	615	605	644	659	320	171	498
Surgery	1704	1641	1426	1487	1374	1800	1467	1305	1359	1936
Urology	314	151	286	440	282	404	284	128	441	434

Supplementary Table 9: Total NIH advanced career grant (R01, R03, R21, P30, U01) funding in thousands of dollars from 2011-2020 by specialty

R01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	74515	84338	81634	88148	84338	85814	88443	105316	110591	120792
Dermatology	39821	43881	41550	39382	39803	42030	39871	48634	50513	49680
Emergency Medicine	12119	12903	13802	15519	16628	18528	21356	24195	31063	40629
Family Medicine	37541	41499	36942	33725	38982	38711	38849	45070	45999	52595
Internal Medicine/Medicine	1291238	1251856	1150256	1184510	1191770	1289757	1394581	1518667	1645808	1793562
Neurology	213323	221996	213488	217259	219583	245691	282468	336910	347790	416638
Neurosurgery	48188	50932	46894	47635	61235	65217	69463	77096	85492	97974
Obstetrics and Gynecology	50170	47030	47914	48015	52140	63774	75443	79065	97330	115259
Ophthalmology	143557	146741	143466	156156	147880	147840	157163	169590	186335	198853
Orthopedics	37635	40769	44058	44466	42092	47136	51958	55502	60828	70145
Otolaryngology	51992	55813	56307	58138	63423	63655	67549	78620	91749	91134
Pathology	324176	318396	294584	279372	287786	295775	297770	33357	360175	382711
Pediatrics	312475	336173	311585	323344	314062	312097	29934	325846	344660	393939
Physical Medicine & Rehab	11247	13076	13203	15088	13669	17536	23490	27050	28451	30755
Plastic Surgery	967	0	537	302	0	0	333	0	284	0
Psychiatry	470253	459342	406053	420040	400779	431651	454570	494086	510676	54599
Radiation-Diagnostic/Oncology	205633	208397	202747	201325	211587	231175	256833	293765	305237	311946
Surgery	146686	140198	127421	134551	142824	145184	162932	176766	202367	229416
Urology	24013	25102	25021	23243	21703	20603	23240	24148	25147	28303
R03	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	450081	721092	442962	532855	322574	308213	386668	763750	792285	627476
Dermatology	325896	415990	151115	318146	629917	704687	535792	310250	389937	515420
Emergency Medicine	63905	86342	68643	114000	41539	415491	451612	350895	194750	345317
Family Medicine	736834	719578	845671	507967	429418	40752	155583	179250	552565	412944
Internal Medicine/Medicine	9494800	11557791	10699669	10753491	9694220	7907586	7842786	8562404	11413933	1302676

1	Neurology	96465	656875	855875	1051369	1257543	1688365	1381103	1185473	1536028	1461973
2	Neurosurgery	39134	780722	767885	386897	593779	357615	16180	161079	160250	565458
3	Obstetrics and Gynecology	600862	864239	764424	803596	746483	1003704	1331211	139082	1124544	764667
4	Ophthalmology	0	0	0	195625	271238	81000	117750	19400	322473	329957
5	Orthopedics	816678	787365	876856	1189895	818017	500294	231895	359624	739085	632940
6	Otolaryngology	1718440	2272345	2379761	1968522	1885934	1684593	1797130	1311104	320436	474811
7	Pathology	1925448	1586299	1437747	1451656	1241119	736439	1033500	1799423	2429442	2721395
8	Pediatrics	2921374	2413639	2699566	2605049	302260	4009767	3103581	3812411	321513	370533
9	Physical Medicine & Rehab	672323	544268	461397	600245	412624	395279	172249	491150	839096	725944
10	Plastic Surgery	0	0	0	0	0	77000	77625	0	0	0
11	Psychiatry	2652569	2711582	2647613	2383628	2119936	2248675	2639599	211641	1885175	1799338
12	Radiation-Diagnostic/Oncology	783679	518000	742731	1377746	1544365	72650	928242	1578939	2227240	212738
13	Surgery	1364197	1739046	1377657	1564172	1504562	1191847	2115365	1802267	102415	1631792
14	Urology	78000	240620	153455	355604	471148	299855	81000	84750	285251	382561
15	R21	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
16	Anesthesiology	5363	4959	5614	5048	6017	6011	5305	7608	9044	7261
17	Dermatology	3480	3878	3706	4881	3694	2887	3101	3214	3172	4305
18	Emergency Medicine	1418	1238	677	1135	1061	859	1056	1709	1601	1225
19	Family Medicine	2736	3339	3520	3912	4672	4043	2436	2462	2749	3270
20	Internal Medicine/Medicine	77517	82201	76486	74078	74281	79671	76564	76594	77444	84910
21	Neurology	12904	15721	14688	14878	15211	16928	17462	19479	25806	20145
22	Neurosurgery	2414	3721	4435	4831	7289	7888	5719	5571	11745	10119
23	Obstetrics and Gynecology	6800	5278	5734	4890	5247	4730	4449	5749	6279	9901
24	Ophthalmology	3884	3860	5863	5643	8032	6662	4941	6515	11474	11215
25	Orthopedics	2763	3619	3394	2686	2878	2916	5150	7074	4837	5113
26	Otolaryngology	2673	3242	4612	5060	4484	2935	2973	5233	5598	6832
27	Pathology	24267	21316	22457	28845	33013	33180	28281	24359	24053	25734
28	Pediatrics	19943	19426	19820	22098	24760	24980	23663	24697	27382	30329
29	Physical Medicine & Rehab	781	1430	2185	1664	700	1979	2772	2106	2839	2457
30	Plastic Surgery	0	0	0	0	0	0	0	0	0	0
31	Psychiatry	25223	34861	38259	36372	31818	31144	31685	31006	33529	39248
32	Radiation-Diagnostic/Oncology	20438	21778	20271	23694	25496	24020	22735	18066	21872	24859
33	Surgery	11149	10662	8942	10237	12823	13371	9947	9617	10320	12471
34	Urology	1626	1730	838	740	1802	2463	1761	1385	1519	2247
35	P30	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
36	Anesthesiology	0	0	0	1000	0	0	0	0	0	0
37	Dermatology	5597	4335	6056	6889	6479	7431	6547	3292	3102	3109
38	Emergency Medicine	0	0	0	0	0	0	0	0	0	0
39	Family Medicine	0	480	473	475	475	475	1499	1632	2024	2317
40	Internal Medicine/Medicine	296235	320454	339482	395655	359149	370938	382260	390765	453863	491128
41	Neurology	13644	15063	13998	12964	13371	14593	14617	16643	21105	49014
42	Neurosurgery	1890	2651	2501	1789	1749	638	625	612	698	0
43	Obstetrics and Gynecology	5801	5801	5158	5379	5786	5762	0	2477	2907	5170
44	Ophthalmology	18749	21609	17624	17284	16661	15685	15703	17556	17588	17215
45	Orthopedics	2502	2510	2391	3072	3059	3517	3485	3459	4536	4510
46	Otolaryngology	4978	4832	4602	4455	2996	2292	615	5495	5130	7681
47	Pathology	24994	17233	36305	36242	33708	42777	35624	14090	12858	16375
48	Pediatrics	26289	23223	22244	17069	16976	14906	14370	10935	11681	17155
49	Physical Medicine & Rehab	0	0	0	0	0	0	0	0	0	0
50	Plastic Surgery	0	0	0	0	0	0	0	0	0	0
51	Psychiatry	17668	17159	19520	16179	18316	13464	11666	9558	8712	9759
52	Radiation-Diagnostic/Oncology	2851	3786	4292	5930	11823	6816	8877	8628	11308	12897
53	Surgery	25238	21484	24298	15973	25296	25363	37629	34242	29825	42739
54	Urology	4835	4726	3941	5304	5342	6332	0	0	0	0
55	U01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
56	Anesthesiology	3304	3157	3516	6975	5936	12086	9053	8374	11426	10257
57	Dermatology	810	2506	2458	2239	4082	2749	3182	3562	8176	5268
58	Emergency Medicine	18243	16875	8205	7022	4410	3305	6454	25263	1974	14284
59	Family Medicine	5269	8212	8912	9833	11830	9649	6264	8843	9972	8087
60	Internal Medicine/Medicine	394866	38472	42765	416081	369849	355612	392159	420565	616327	698031
61	Neurology	61745	68819	71516	79220	64682	87852	70398	111816	102885	139249
62	Neurosurgery	4610	4594	15655	15038	11441	25764	27265	13884	6841	5592
63	Obstetrics and Gynecology	25401	17051	5216	11010	47414	9749	8790	12287	8037	8465
64	Ophthalmology	2346	2450	1937	1356	2967	3727	3876	6158	6809	7941
65	Orthopedics	0	0	522	657	197	197	0	0	705	648
66	Otolaryngology	1413	830	1142	1049	2611	2399	2901	4027	2151	3110
67	Pathology	45262	29680	27222	19653	19641	24847	27061	32524	29907	32182
68	Pediatrics	98053	99346	91102	101082	94017	85032	84977	87933	82760	73893
69	Physical Medicine & Rehab	569	622	3799	3484	3891	3623	3575	1940	5081	7806
70	Plastic Surgery	0	0	0	0	0	0	0	430	430	430
71	Psychiatry	41548	58726	53470	60941	67383	59380	51370	58615	92704	78939
72	Radiation-Diagnostic/Oncology	6629	8597	13873	17159	19558	17338	35114	37462	39601	38376
73	Surgery	29433	39199	38813	34289	40167	35721	31847	39184	40171	32722
74	Urology	13453	11343	11810	7735	6550	7265	7641	6918	10617	5158

Inflation-Adjusted Total NIH advanced career grant (R01, R03, R21, P30, U01) funding in thousands of dollars from 2011-2020 by specialty

75	R01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
76	Anesthesiology	74515	82822	78723	83392	78886	79607	80610	93803	96611	104140
77	Dermatology	39821	43092	40069	37257	37230	38990	36340	43317	44127	42831
78	Emergency Medicine	12119	12671	13310	14682	15553	17188	19465	21550	27136	35028
79	Family Medicine	37541	40753	35625	31905	36462	35911	35408	40143	40184	45344

Neurology	61745	67582	68966	74945	60500	81498	64163	99592	89879	120052
Neurosurgery	4610	4511	15097	14227	10701	23901	24850	12366	5976	4821
Obstetrics and Gynecology	25401	16745	5030	10416	44349	9044	8012	10944	7021	7298
Ophthalmology	2346	2406	1868	1283	2775	3457	3533	5485	5948	6846
Orthopedics	0	0	503	622	184	183	0	0	616	559
Otolaryngology	1413	815	1101	992	2442	2225	2644	3587	1879	2681
Pathology	45262	29147	26251	18593	18371	23050	24664	28968	26126	27745
Pediatrics	98053	97561	87854	95628	87939	78882	77451	78320	72298	63706
Physical Medicine & Rehab	569	611	3664	3296	3639	3361	3258	1728	4439	6730
Plastic Surgery	0	0	0	0	0	0	0	383	376	371
Psychiatry	41548	57671	51564	57653	63027	55085	46821	52207	80985	68057
Radiation-Diagnostic/Oncology	6629	8442	13378	16233	18294	16084	32004	33367	34595	33086
Surgery	29433	38495	37429	32439	37570	33137	29027	34900	35093	28211
Urology	13453	11139	11389	7318	6127	6740	6964	6162	9275	4447

Supplementary Table 10: Dollar amount for each NIH training grant (F32, T32) spent per active physician from 2011-2020 by specialty

F32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4.78	7.64	9.74	7.42	0.57	1.4	4.1	6.85	2.88	9.23
Dermatology	16.02	20.11	13.69	7.43	12.72	14.03	19.18	18.95	5.28	15.79
Emergency Medicine	1.74	1.52	1.67	0	0	0	0	0	0	1.44
Family Medicine	0	0	0	0.51	0.18	0	0	0	0	0
Internal Medicine/Medicine	60.00	52.73	52.68	49.24	51.13	55.89	53.96	54.6	55.5	64.07
Neurology	56.70	34.41	73.72	115.95	108.80	95.65	89.98	10.08	111.97	98.51
Neurosurgery	83.50	71.52	65.43	78.52	94.00	99.01	95.66	142.17	76.98	126.36
Obstetrics and Gynecology	5.19	7.15	4.29	5.23	6.65	5.51	3.51	8.43	7.26	7.12
Ophthalmology	10.05	19.35	21.02	26.6	34.64	21.27	22.87	22.01	27.56	29.37
Orthopedics	12.45	14.72	13.01	12.01	16.79	15.13	17.44	22.53	23.41	24.71
Otolaryngology	57.13	41.39	38.07	54.29	31.56	48.85	62.45	56.16	51.1	44.43
Pathology	76.21	60.31	69.66	75.78	90.87	104.76	69.50	82.55	77.49	57.4
Pediatrics	24.12	25.33	22.15	21.59	15.07	13.34	12.61	12.81	19.1	11.01
Physical Medicine & Rehab	6.04	5.95	0	6.2	4.45	7.45	20.15	25.75	20.18	14.01
Plastic Surgery	0	0	0	0	0	0	0	0	9.64	0
Psychiatry	50.17	36.82	35.34	33.44	37.73	41.09	30.83	35.99	43.81	52.11
Radiation-Diagnostic/Oncology	21.82	11.38	4.91	1.44	2.89	12.18	9.61	10.57	6.52	11.04
Surgery	31.58	29.51	26.28	38.96	45.51	40.85	37.60	50.79	39.44	42.67
Urology	11.85	10.83	11.39	22.73	12.31	15.78	11.92	7.36	6.43	7.88
T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	57.45	65.31	66.96	79.36	116.40	119.52	128.66	119.92	120.27	106.38
Dermatology	207.61	220.53	199.12	159.48	201.52	198.46	188.16	177.45	156.36	162.62
Emergency Medicine	0	0	0	0	0	4.12	17.46	20.42	20.27	16.17
Family Medicine	11.59	10.88	14.03	13.50	13.54	11.82	19.34	15.01	12.46	14.80
Internal Medicine/Medicine	1054.73	1053.63	100.59	990.15	1010.85	1043.62	1038.99	1125.69	1119.66	1158.87
Neurology	738.92	649.11	632.01	755.62	672.69	734.84	787.50	809.40	642.70	814.60
Neurosurgery	117.21	104.03	112.52	114.08	325.3	334.6	297.2	403.1	638.7	697.7
Obstetrics and Gynecology	59.25	58.68	61.87	63.72	64.74	58.75	51.7	39.48	41.24	67.03
Ophthalmology	160.46	175.12	242.27	237.86	215.42	206.22	199.95	213.17	252.12	246.06
Orthopedics	88.32	106.23	94.12	83.97	88.05	87.9	96.42	82.36	87.83	108.73
Otolaryngology	268.30	359.98	305.44	392.08	420.92	397.90	455.84	453.01	438.15	494.20
Pathology	2186.81	2035.57	1914.38	1993.36	1842.40	1841.23	1952.68	1936.68	1803.78	1596.10
Pediatrics	440.82	429.56	402.71	380.54	425.45	423.31	375.23	407.32	413.19	425.38
Physical Medicine & Rehab	168.31	122.68	122.6	93.41	102.48	108.48	113.81	134.73	129.29	164.28
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	523.79	546.74	544.91	509.45	480.55	534.91	553.12	559.63	585.23	672.18
Radiation-Diagnostic/Oncology	171.95	116.67	123.22	127.95	141.77	183.69	150.70	192.13	188.18	160.75
Surgery	479.19	476.61	446.78	428.48	415.80	490.17	527.02	632.8	698.7	643.1
Urology	110.36	124.87	117.82	119.16	66.07	91.89	62.83	33.26	96.93	113.31

Inflation-Adjusted Dollar amount for each NIH training grant (F32, T32) spent per active physician from 2011-2020 by specialty

F32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	4.78	7.50	9.39	7.02	0.53	1.30	3.74	6.10	2.52	7.96
Dermatology	16.02	19.75	13.20	7.03	11.90	13.02	17.48	16.88	4.61	13.61
Emergency Medicine	1.74	1.49	1.61	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Family Medicine	0.00	0.00	0.00	0.48	0.17	0.00	0.00	0.00	0.00	0.00
Internal Medicine/Medicine	60.00	51.78	50.80	46.58	47.82	51.85	49.18	48.63	48.48	55.24
Neurology	56.70	33.79	71.09	109.69	101.77	88.73	82.01	8.98	97.82	84.93
Neurosurgery	83.50	70.23	63.10	74.28	87.92	91.85	87.19	126.63	67.25	108.94
Obstetrics and Gynecology	5.19	7.02	4.14	4.95	6.22	5.11	3.20	7.51	6.34	6.14
Ophthalmology	10.05	19.00	20.27	25.16	32.40	19.73	20.84	19.60	24.08	25.32
Orthopedics	12.45	14.46	12.55	11.36	15.70	14.04	15.90	20.07	20.45	21.30
Otolaryngology	57.13	40.65	36.71	51.36	29.52	45.32	56.92	50.02	44.64	38.30
Pathology	76.21	59.23	67.18	71.69	85.00	97.18	63.34	73.53	67.69	49.49
Pediatrics	24.12	24.87	21.36	20.43	14.10	12.38	11.49	11.41	16.69	9.49
Physical Medicine & Rehab	6.04	5.84	0.00	5.87	4.16	6.91	18.37	22.93	17.63	12.08
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.42	0.00
Psychiatry	50.17	36.16	34.08	31.64	35.29	38.12	28.10	32.06	38.27	44.93
Radiation-Diagnostic/Oncology	21.82	11.18	4.73	1.36	2.70	11.30	8.76	9.41	5.70	9.52
Surgery	31.58	28.98	25.34	36.86	42.57	37.90	34.27	45.24	34.45	36.79
Urology	11.85	10.64	10.98	21.50	11.51	14.64	10.86	6.56	5.62	6.79
T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	57.45	64.14	64.57	75.08	108.87	110.88	117.27	106.81	105.07	91.71
Dermatology	207.61	216.57	192.02	150.87	188.49	184.11	171.50	158.05	136.59	140.20
Emergency Medicine	0.00	0.00	0.00	0.00	0.00	3.82	15.91	18.19	17.71	13.94

Family Medicine	11.59	10.68	13.53	12.77	12.66	10.97	17.63	13.37	10.88	12.76
Internal Medicine/Medicine	1054.73	1034.69	97.00	936.72	945.50	968.14	946.97	1002.63	978.12	999.11
Neurology	738.92	637.44	609.48	714.85	629.20	681.69	717.76	720.92	561.45	702.30
Neurosurgery	117.21	102.16	108.51	107.92	304.27	310.40	270.88	359.03	557.96	601.52
Obstetrics and Gynecology	59.25	57.63	59.66	60.28	60.55	54.50	47.12	35.16	36.03	57.79
Ophthalmology	160.46	171.97	233.63	225.03	201.49	191.30	182.24	189.87	220.25	212.14
Orthopedics	88.32	104.32	90.76	79.44	82.36	81.54	87.88	73.36	76.73	93.74
Otolaryngology	268.30	353.51	294.55	370.92	393.71	369.12	415.47	403.49	382.76	426.07
Pathology	2186.81	1998.99	1846.12	1885.80	1723.29	1708.06	1779.74	1724.96	1575.75	1376.06
Pediatrics	440.82	421.84	388.35	360.01	397.94	392.69	342.00	362.79	360.96	366.74
Physical Medicine & Rehab	168.31	120.48	118.23	88.37	95.85	100.63	103.73	120.00	112.95	141.63
Plastic Surgery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	523.79	536.91	525.48	481.96	449.48	496.22	504.13	498.45	511.25	579.51
Radiation-Diagnostic/Oncology	171.95	114.57	118.83	121.05	132.60	170.40	137.35	171.13	164.39	138.59
Surgery	479.19	468.04	430.85	405.36	388.92	454.72	480.35	563.62	610.37	554.44
Urology	110.36	122.63	113.62	112.73	61.80	85.24	57.27	29.62	84.68	97.69

Supplementary Table 11: Dollar amount for each NIH career development grant (K01, K08, K23) spent per active physician from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
K01										
Anesthesiology	11.97	11.98	11.36	14.94	21.38	21.37	24.69	28.77	15.50	23.43
Dermatology	34.67	42.10	52.45	38.57	55.29	65.58	106.25	109.18	82.28	75.10
Emergency Medicine	0	3.83	3.60	3.44	6.97	0	0	0.93	2.73	5.47
Family Medicine	11.65	14.49	10.85	8.14	8.35	9.53	9.57	11.03	9.88	17.62
Internal Medicine/Medicine	152.01	139.88	140.59	166.31	180.19	165.29	168.51	186.80	202.76	206.13
Neurology	125.34	139.07	175.80	192.43	186.72	207.22	199.33	189.16	210.88	165.72
Neurosurgery	59.06	47.18	24.49	0	0	19.26	0	56.31	78.98	57.08
Obstetrics and Gynecology	6.92	4.21	7.66	15.55	18.77	17.85	22.88	18.27	23.96	26.07
Ophthalmology	0	0	0	7.10	0	0	7.72	13.28	13.46	7.52
Orthopedics	31.17	24.07	41.73	44.16	57.72	46.4	39.47	32.31	36.72	30.81
Otolaryngology	29.72	29.58	29.44	27.75	0	0	0	0	0	13.27
Pathology	102.72	114.00	123.82	111.14	113.43	153.99	164.00	185.13	163.88	218.65
Pediatrics	44.76	38.30	40.61	43.32	37.79	53.22	54.02	51.33	56.95	59.26
Physical Medicine & Rehab	40.44	41.98	54.95	81.08	94.27	107.23	180.41	174.18	136.74	154.63
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	314.48	321.51	296.05	304.76	284.39	268.10	274.19	264.67	286.16	314.98
Radiation-Diagnostic/Oncology	64.43	55.86	40.20	41.23	44.27	49.16	67.88	60.06	46.75	36.61
Surgery	37.96	33.43	49.24	35.12	53.59	68.22	83.1	62.83	53.73	39.57
Urology	10.77	10.80	10.83	14.04	44.88	60.18	85.28	69.62	68.52	85.16
K08										
Anesthesiology	40.78	45.27	50.82	55.42	51.27	49.53	63.75	90.26	106.84	94.17
Dermatology	205.68	208.13	170.54	150.23	153.90	162.85	162.50	146.67	161.06	130.13
Emergency Medicine	8.33	15.95	23.50	15.43	18.84	26.64	26.82	29.34	24.63	24.8
Family Medicine	5.73	5.72	6.22	2.50	1.33	1.30	1.48	1.45	4.35	4.26
Internal Medicine/Medicine	344.14	330.28	299.67	304.18	280.67	323.79	324.02	352.97	387.86	392.13
Neurology	490.32	443.51	500.72	436.15	433.34	399.55	414.33	408.50	461.26	522.45
Neurosurgery	229.79	234.21	279.63	219.26	310.07	343.34	401.77	356.15	412.35	314.03
Obstetrics and Gynecology	26.56	26.52	23.33	14.54	5.88	8.99	8.01	21.51	25.98	39.2
Ophthalmology	273.33	279.28	291.34	334.57	328.66	290.54	292.39	276.97	261.70	252.56
Orthopedics	9.04	13.71	26.79	22.73	25.33	45.65	63.2	54.19	44.41	51.9
Otolaryngology	216.07	235.99	227.68	195.77	240.71	218.56	176.78	200.32	221.60	192.27
Pathology	324.60	298.86	333.48	359.99	343.54	300.77	296.19	367.42	373.30	413.28
Pediatrics	270.48	236.56	230.35	217.43	202.81	231.42	293.33	328.39	319.98	309.69
Physical Medicine & Rehab	14.69	14.35	14.03	0	0	0	0	17.91	17.51	17.58
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	148.44	132.90	88.13	119.99	98.17	102.58	111.62	96.05	83.94	109.84
Radiation-Diagnostic/Oncology	25.01	23.36	21.72	23.96	21.53	4.38	13.36	15.04	69.92	90.98
Surgery	300.38	312.41	264.84	260.59	214.63	243.63	253.30	289.80	299.40	325.49
Urology	123.84	122.20	142.34	108.32	67.48	83.58	85.01	82.5	108.92	107.64
K23										
Anesthesiology	29.91	38.53	45.12	49.58	44.81	37.01	53.81	51.26	72.70	70.44
Dermatology	33.98	44.24	22.18	10.66	21.97	56.29	57.57	111.06	124.41	107.01
Emergency Medicine	68.98	59.28	62.06	56.18	55.92	75.99	88.16	76.13	79.18	57.31
Family Medicine	13.02	11.66	8.27	3.99	5.82	5.20	7.11	6.91	8.33	9.31
Internal Medicine/Medicine	407.03	419.60	411.26	391.56	355.75	377.87	374.26	374.05	374.07	418.03
Neurology	696.50	687.37	591.24	631.47	644.54	518.67	638.91	670.83	728.21	744.63
Neurosurgery	73.70	139.35	178.37	132.14	157.06	133.72	132.76	130.34	161.29	195.31
Obstetrics and Gynecology	39.68	44.49	33.98	41.18	27.96	15.59	27.45	32.06	40.59	47.61
Ophthalmology	159.02	129.45	144.34	121.28	144.82	217.56	242.46	212.90	233.70	219.24
Orthopedics	17.02	19.94	16.53	16.51	10.16	18.17	9.12	19.40	25.89	28.72
Otolaryngology	160.86	134.92	132.49	203.04	276.16	226.42	255.43	251.86	234.92	186.50
Pathology	34.49	27.91	19.31	30.02	20.86	10.49	11.37	11.18	15.03	41.74
Pediatrics	233.29	228.02	218.64	212.86	190.71	176.80	254.69	275.13	310.56	367.60
Physical Medicine & Rehab	116.92	108.31	169.68	181.33	142.39	133.04	106.19	28.27	46.51	45.29
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	498.00	481.66	451.55	429.56	414.64	403.43	473.34	465.21	498.79	506.35
Radiation-Diagnostic/Oncology	29.33	18.78	16.73	17.03	16.74	17.70	18.13	8.86	4.74	13.99
Surgery	64.76	64.88	58.74	62.32	58.19	77.12	64.29	57.90	60.88	87.85
Urology	31.99	15.71	30.39	47.54	30.71	44.21	31.45	14.34	49.54	49.35

Inflation-Adjusted Dollar amount for each NIH career development grant (K01, K08, K23) spent per active physician from 2011-2020 by specialty

K01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	11.97	11.76	10.95	14.13	20.00	19.82	22.50	25.62	13.54	20.20
Dermatology	34.67	41.34	50.58	36.49	51.72	60.84	96.84	97.24	71.88	64.75
Emergency Medicine	0	3.76	3.47	3.25	6.52	0.00	0.00	0.83	2.38	4.72
Family Medicine	11.65	14.23	10.46	7.70	7.81	8.84	8.72	9.82	8.63	15.19
Internal Medicine/Medicine	152.01	137.37	135.58	157.34	168.54	153.34	153.59	166.38	177.13	177.71
Neurology	125.34	136.57	169.53	182.05	174.65	192.23	181.68	168.48	184.22	142.87
Neurosurgery	59.06	46.33	23.62	0.00	0.00	17.87	0.00	50.15	69.00	49.21
Obstetrics and Gynecology	6.92	4.13	7.39	14.71	17.56	16.56	20.85	16.27	20.93	22.48
Ophthalmology	0	0.00	0.00	6.72	0.00	0.00	7.04	11.83	11.76	6.48
Orthopedics	31.17	23.64	40.24	41.78	53.99	43.04	35.97	28.78	32.08	26.56
Otolaryngology	29.72	29.05	28.39	26.25	0.00	0.00	0.00	0.00	0.00	11.44
Pathology	102.72	111.95	119.41	105.14	106.10	142.85	149.48	164.89	143.16	188.51
Pediatrics	44.76	37.61	39.16	40.98	35.35	49.37	49.24	45.72	49.75	51.09
Physical Medicine & Rehab	40.44	41.23	52.99	76.71	88.18	99.47	164.43	155.14	119.45	133.31
Plastic Surgery	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	314.48	315.73	285.49	288.32	266.00	248.71	249.91	235.74	249.99	271.56
Radiation-Diagnostic/Oncology	64.43	54.86	38.77	39.01	41.41	45.60	61.87	53.49	40.84	31.56
Surgery	37.96	32.83	47.48	33.22	50.13	63.29	75.74	55.96	46.94	34.11
Urology	10.77	10.61	10.44	13.28	41.98	55.83	77.73	62.01	59.86	73.42

K08	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	40.78	44.46	49.01	52.43	47.96	45.95	58.10	80.39	93.33	81.19
Dermatology	205.68	204.39	164.46	142.12	143.95	151.07	148.11	130.64	140.70	112.19
Emergency Medicine	8.33	15.66	22.66	14.60	17.62	24.71	24.44	26.13	21.52	21.38
Family Medicine	5.73	5.62	6.00	2.37	1.24	1.21	1.35	1.29	3.80	3.67
Internal Medicine/Medicine	344.14	324.34	288.99	287.77	262.52	300.37	295.32	314.38	338.83	338.07
Neurology	490.32	435.54	482.87	412.62	405.32	370.65	377.64	363.84	402.95	450.43
Neurosurgery	229.79	230.00	269.66	207.43	290.02	318.51	366.19	317.22	360.22	270.74
Obstetrics and Gynecology	26.56	26.04	22.50	13.76	5.50	8.34	7.30	19.16	22.70	33.80
Ophthalmology	273.33	274.26	280.95	316.52	307.41	269.53	266.50	246.69	228.62	217.74
Orthopedics	9.04	13.46	25.83	21.50	23.69	42.35	57.60	48.27	38.80	44.75
Otolaryngology	216.07	231.75	219.56	185.21	225.15	202.75	161.12	178.42	193.59	165.76
Pathology	324.6	293.49	321.59	340.57	321.33	279.02	269.96	327.25	326.11	356.31
Pediatrics	270.48	232.31	222.14	205.70	189.70	214.68	267.35	292.49	279.53	267.00
Physical Medicine & Rehab	14.69	14.09	13.53	0.00	0.00	0.00	0.00	15.95	15.30	15.16
Plastic Surgery	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	148.44	130.51	84.99	113.52	91.82	95.16	101.73	85.55	73.33	94.70
Radiation-Diagnostic/Oncology	25.01	22.94	20.95	22.67	20.14	4.06	12.18	13.40	61.08	78.44
Surgery	300.38	306.80	255.40	246.53	200.75	226.01	230.87	258.12	261.55	280.62
Urology	123.84	120.00	137.26	102.48	63.12	77.54	77.48	73.48	95.15	92.80

K23	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	29.91	37.84	43.51	46.90	41.91	34.33	49.04	45.66	63.51	60.73
Dermatology	33.98	43.44	21.39	10.08	20.55	52.22	52.47	98.92	108.68	92.26
Emergency Medicine	68.98	58.21	59.85	53.15	52.30	70.49	80.35	67.81	69.17	49.41
Family Medicine	13.02	11.45	7.98	3.77	5.44	4.82	6.48	6.15	7.28	8.03
Internal Medicine/Medicine	407.03	412.06	396.60	370.43	332.75	350.54	341.11	333.16	326.78	360.40
Neurology	696.5	675.02	570.16	597.40	602.87	481.16	582.33	597.49	636.15	641.98
Neurosurgery	73.7	136.85	172.01	125.01	146.91	124.05	121.00	116.09	140.90	168.38
Obstetrics and Gynecology	39.68	43.69	32.77	38.96	26.15	14.46	25.02	28.56	35.46	41.05
Ophthalmology	159.02	127.12	139.19	114.74	135.46	201.82	220.99	189.63	204.16	189.02
Orthopedics	17.02	19.58	15.94	15.62	9.50	16.86	8.31	17.28	22.62	24.76
Otolaryngology	160.86	132.50	127.77	192.08	258.31	210.04	232.81	224.33	205.22	160.79
Pathology	34.49	27.41	18.62	28.40	19.51	9.73	10.36	9.96	13.13	35.99
Pediatrics	233.29	223.92	210.84	201.37	178.38	164.01	232.13	245.05	271.30	316.92
Physical Medicine & Rehab	116.92	106.36	163.63	171.55	133.18	123.42	96.79	25.18	40.63	39.05
Plastic Surgery	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	498	473.00	435.45	406.38	387.83	374.25	431.42	414.35	435.74	436.55
Radiation-Diagnostic/Oncology	29.33	18.44	16.13	16.11	15.66	16.42	16.52	7.89	4.14	12.06
Surgery	64.76	63.71	56.65	58.96	54.43	71.54	58.60	51.57	53.18	75.74
Urology	31.99	15.43	29.31	44.97	28.72	41.01	28.66	12.77	43.28	42.55

Supplementary Table 12: Dollar amount for each NIH advanced career grant (R01, R03, R21, P30, U01) spent per active physician from 2011-2020 by specialty

R01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	1857.17	2085.47	2002.89	2147.10	2039.57	2065.00	2117.78	2506.67	2616.49	2857.83
Dermatology	3680.31	3956.23	3656.59	3414.25	3400.26	3538.3	3308.52	3959.33	4035.89	3969.33
Emergency Medicine	356.59	362.32	370.61	404.05	420.12	452.30	504.30	552.70	687.19	898.84
Family Medicine	352.34	385.20	339.17	306.29	350.25	344.39	342.24	389.01	389.17	444.97
Internal Medicine/Medicine	11841.01	11375.60	10358.28	10522.61	10445.97	11232.57	12068.33	12884.91	13695.55	14925.08
Neurology	16516.17	17029.48	16227.40	16367.29	16396.56	18126.12	20592.56	24183.35	24585.73	29452.72
Neurosurgery	9547.89	9969.06	9068.75	9058.58	11454.43	11991.81	12558.93	13670.75	14873.42	17044.80
Obstetrics and Gynecology	1242.54	1158.34	1173.61	1166.74	1256.97	1534.18	1811.10	1874.12	2278.34	2698.02
Ophthalmology	8000.73	8093.83	7832.38	8461.44	7953.54	7903.77	8352.17	8895.57	9648.68	10296.89
Orthopedics	1898.66	2080.26	2274.09	2308.81	2198.59	2471.33	2734.49	2915.80	3189.91	3678.49
Otolaryngology	5631.72	6016.96	6041.57	6207.68	6739.23	6722.77	7091.05	8145.93	9384.18	9321.23
Pathology	21647.85	22199.46	21486.80	20697.31	21660.82	22643.09	23192.63	26175.89	28488.09	30626.48
Pediatrics	5629.26	6015.39	5538.10	5682.43	5457.86	5382.00	5122.00	5473.96	5685.77	6498.71
Physical Medicine & Rehab	1322.77	1502.20	1482.51	1669.98	1491.60	1895.05	2514.18	2830.94	2912.92	3148.88
Plastic Surgery	141.77	0	77.41	43.23	0	0	46.66	0	38.79	0
Psychiatry	12281.68	12154.31	10887.32	11196.29	10620.6	11368.05	11898.19	12833.89	13164.48	14072.72
Radiation-Diagnostic/Oncology	6337.90	5937.65	5370.79	5271.53	5476.99	5891.45	6445.64	7240.69	7391.27	7553.73
Surgery	5574.43	5444.49	5059.00	5335.00	5655.51	5773.19	6506.34	6985.99	7916.08	8974.18
Urology	2443.77	2561.83	2560.75	2374.32	2212.76	2088.62	2342.54	2400.19	2465.14	2774.51

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R03										
Anesthesiology	11.22	17.83	10.87	12.98	7.8	7.42	9.26	18.18	18.74	14.85
Dermatology	30.12	37.51	13.3	27.58	53.81	59.32	44.46	25.26	31.16	41.18
Emergency Medicine	1.88	2.42	1.84	2.97	10.49	10.14	10.66	8.02	4.31	7.64
Family Medicine	6.92	6.68	7.76	4.61	3.86	3.63	1.37	1.55	4.67	3.49
Internal Medicine/Medicine	87.07	105.03	96.35	95.53	84.97	68.87	67.87	72.65	94.98	108.40
Neurology	74.68	50.39	65.06	79.21	93.9	124.56	100.69	85.09	108.58	103.35
Neurosurgery	77.53	152.81	148.5	73.58	111.07	65.76	29.25	28.56	27.88	98.37
Obstetrics and Gynecology	14.88	21.29	18.72	19.53	18	24.15	31.96	32.95	26.32	17.9
Ophthalmology	0	0	0	10.6	14.59	4.33	6.26	10.18	16.7	17.09
Orthopedics	41.2	40.18	45.26	61.78	42.73	26.23	12.2	18.89	38.76	33.19
Otolaryngology	186.14	244.97	255.34	210.19	200.4	177.92	188.66	135.84	32.77	48.56
Pathology	128.58	110.6	104.87	107.55	93.42	56.38	80.5	141.23	192.16	215.25
Pediatrics	52.63	43.19	47.98	45.78	52.52	69.15	53.11	64.05	53.04	61.13
Physical Medicine & Rehab	79.07	62.53	51.81	66.44	45.03	42.72	18.44	51.4	85.91	74.33
Plastic Surgery	0	0	0	0	0	10.87	10.87	0	0	0
Psychiatry	69.28	71.75	70.99	63.54	56.18	59.22	69.09	54.96	48.6	46.38
Radiation-Diagnostic/Oncology	24.15	14.76	19.67	36.08	39.98	18.51	23.3	38.92	53.93	51.51
Surgery	51.84	67.53	54.7	62.02	59.58	47.39	84.47	71.23	40.06	63.83
Urology	7.94	24.56	15.71	36.33	48.04	30.4	8.16	8.42	27.96	37.5
R21										
Anesthesiology	133.66	122.64	137.74	122.96	145.51	144.65	127.03	181.07	213.97	171.79
Dermatology	321.61	349.67	326.15	423.16	315.57	243	257.3	261.64	253.41	343.96
Emergency Medicine	41.72	34.77	18.18	29.54	26.80	20.98	24.94	39.04	35.41	27.11
Family Medicine	25.67	30.99	32.31	35.53	41.98	35.97	21.46	21.25	23.26	27.66
Internal Medicine/Medicine	710.85	746.96	688.77	658.07	651.08	693.86	662.56	649.85	644.45	706.58
Neurology	999.05	1205.96	1116.44	1120.83	1135.85	1248.89	1273.00	1398.18	1824.26	1424.04
Neurosurgery	478.39	728.36	857.71	918.7	1363.36	1450.45	1033.97	987.89	2043.24	1760.36
Obstetrics and Gynecology	168.40	129.99	140.44	118.83	126.50	113.79	106.80	136.27	146.98	231.77
Ophthalmology	216.49	212.90	320.06	305.76	431.98	356.16	262.60	341.72	594.16	580.71
Orthopedics	139.37	184.67	175.17	139.49	150.32	152.86	271.04	371.61	253.68	268.12
Otolaryngology	289.56	349.50	494.81	540.28	476.43	309.99	312.12	542.15	572.56	698.81
Pathology	1620.52	1486.19	1638.03	2136.97	2484.83	2540.07	2202.75	1911.83	1902.49	2035.47
Pediatrics	359.27	347.60	352.27	388.35	430.29	430.77	404.95	414.89	451.71	500.34
Physical Medicine & Rehab	91.84	164.28	245.29	184.19	76.42	213.84	296.67	220.45	290.64	251.52
Plastic Surgery	0	0	0	0	0	0	0	0	0	0
Psychiatry	658.75	922.43	1025.81	969.51	843.17	820.23	829.34	805.39	864.34	1011.76
Radiation-Diagnostic/Oncology	629.93	620.50	536.98	620.40	659.97	612.15	570.57	445.28	529.63	601.95
Surgery	423.69	414.06	355.02	405.89	507.77	531.70	397.22	380.08	403.68	487.83
Urology	165.44	176.52	85.77	75.55	183.77	249.72	177.50	137.68	148.87	220.27
P30										
Anesthesiology	0	0	0	24.35	0	0	0	0	0	0
Dermatology	517.27	390.85	532.97	597.24	553.45	625.58	543.26	268.00	247.82	248.38
Emergency Medicine	0	0	0	0	0	0	0	0	0	0
Family Medicine	0	4.46	4.35	4.32	4.27	4.23	13.21	14.08	17.13	19.61
Internal Medicine/Medicine	2716.56	2911.97	3057.10	3514.81	3147.97	3230.52	3307.98	3315.39	3776.81	4086.91
Neurology	1056.37	1155.52	1063.93	976.67	998.45	1076.64	1065.6	1194.65	1491.94	3464.85
Neurosurgery	374.49	518.96	483.66	340.21	327.09	117.33	113.03	108.60	121.46	0
Obstetrics and Gynecology	143.68	142.88	126.34	130.71	139.49	138.61	0	58.71	68.05	121.03
Ophthalmology	1044.94	1191.91	962.15	936.54	896.10	838.56	834.51	920.85	910.75	891.43
Orthopedics	126.20	128.06	123.40	159.49	159.80	184.41	183.39	181.70	237.86	236.51
Otolaryngology	539.17	520.92	493.72	475.65	318.33	242.09	64.56	569.30	524.67	785.66
Pathology	1669.05	1201.52	2648.08	2685.00	2537.14	3274.77	2774.65	1105.85	1017.10	1295.16
Pediatrics	473.59	415.55	395.36	299.96	295.02	257.04	245.91	183.70	192.70	283.01
Physical Medicine & Rehab	0	0	0	0	0	0	0	0	0	0
Psychiatry	461.43	454.04	523.37	431.27	485.37	354.58	305.35	248.26	224.58	251.57
Radiation-Diagnostic/Oncology	87.87	107.87	113.69	155.26	306.04	173.72	222.79	212.66	273.83	312.30
Surgery	959.11	834.32	964.72	633.35	1001.65	1008.56	1502.64	1353.30	1166.66	1671.84
Urology	492.04	482.37	403.34	541.80	544.71	641.88	0	0	0	0
U01										
Anesthesiology	82.34	78.08	86.27	169.91	143.55	290.84	216.78	199.31	270.34	242.66
Dermatology	74.83	225.95	216.31	194.10	348.67	231.45	264.07	290.01	653.25	420.90
Emergency Medicine	536.81	473.85	220.31	182.80	111.41	80.69	152.40	577.11	43.66	316.01
Family Medicine	49.45	76.23	81.82	89.31	106.29	85.84	55.19	76.33	84.37	68.42
Internal Medicine/Medicine	3621.03	3495.78	3850.67	3696.26	3241.76	3097.05	3393.64	3568.23	5128.75	5808.65
Neurology	4780.51	5279.12	5436.02	5968.05	4829.93	6481.36	5132.2	8026.10	7273.08	9843.68
Neurosurgery	913.42	899.29	3027.48	2859.72	2140.20	4737.37	4929.55	2461.91	1190.18	972.87
Obstetrics and Gynecology	629.11	419.96	127.76	267.54	1143.03	234.52	211.01	291.24	188.14	198.16
Ophthalmology	130.77	135.16	105.76	73.45	159.59	199.27	205.96	323.00	352.57	411.20
Orthopedics	0	0	26.92	34.13	10.27	10.31	0	0	36.97	34
Otolaryngology	153.02	89.48	122.50	112.01	277.47	253.36	304.57	417.28	220.01	318.12
Pathology	3022.5	2069.4	1985.57	1456.02	1478.29	1902.17	2107.76	2552.67	2365.47	2545.45
Pediatrics	1766.44	1777.68	1619.25	1776.41	1633.86	1466.35	1454.22	1477.21	1365.27	1218.99
Physical Medicine & Rehab	66.88	71.50	426.53	385.64	424.59	391.49	382.60	203.00	520.23	799.24
Plastic Surgery	0	0	0	0	0	0	0	59.53	58.82	58.82
Psychiatry	1085.13	1553.90	1433.67	1624.39	1785.65	1563.86	1344.58	1522.54	2389.77	2034.94
Radiation-Diagnostic/Oncology	204.33	244.96	367.51	449.29	506.26	441.85	881.23	923.37	958.93	929.28
Surgery	1118.53	1522.26	1540.99	1359.58	1590.53	1420.41	1271.76	1548.58	157.381	1279.99
Urology	1369.09	1157.66	1208.71	790.08	667.87	736.47	770.23	687.61	1040.73	505.66

Inflation-Adjusted Dollar amount for each NIH advanced career grant (R01, R03, R21, P30, U01) spent per active physician from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R01										
Anesthesiology	1857.17	2047.99	1931.48	2031.25	1907.71	1915.65	1930.22	2232.64	2285.73	2463.85
Dermatology	3680.31	3885.13	3526.22	3230.02	3180.43	3282.39	3015.51	3526.49	3525.69	3422.12
Emergency Medicine	356.59	355.81	357.40	382.25	392.96	419.59	459.64	492.28	600.32	774.93
Family Medicine	352.34	378.28	327.08	289.76	327.61	319.48	311.93	346.48	339.97	383.63
Internal Medicine/Medicine	11841.01	11171.16	9988.96	9954.83	9770.64	10420.17	10999.52	11476.32	11964.22	12867.53
Neurology	16516.17	16723.43	15648.83	15484.14	15336.52	16815.14	18768.82	21539.61	21477.72	25392.40
Neurosurgery	9547.89	9789.90	8745.41	8569.79	10713.90	11124.49	11446.67	12176.25	12993.19	14695.02
Obstetrics and Gynecology	1242.54	1137.52	1131.77	1103.78	1175.71	1423.22	1650.70	1669.24	1990.32	2326.07
Ophthalmology	8000.73	7948.37	7553.12	8004.87	7439.34	7332.12	7612.48	7923.10	8428.94	8877.37
Orthopedics	1898.66	2042.87	2193.01	2184.23	2056.45	2292.59	2492.32	2597.04	2786.66	3171.38
Otolaryngology	5631.72	5908.82	5826.16	5872.72	6303.54	6236.54	6463.05	7255.41	8197.88	8036.22
Pathology	21647.85	21800.50	20720.71	19580.52	20260.44	21005.41	21138.62	23314.32	24886.76	26404.35
Pediatrics	5629.26	5907.28	5340.64	5375.82	5105.01	4992.74	4668.38	4875.54	4967.00	5602.81
Physical Medicine & Rehab	1322.77	1475.20	1429.65	1579.87	1395.17	1757.99	2291.52	2521.46	2544.68	2714.78
Plastic Surgery	141.77	0.00	74.65	40.90	0.00	0.00	42.53	0.00	33.89	0.00
Psychiatry	12281.68	11935.88	10499.14	10592.16	9933.98	10545.85	10844.45	11430.88	11500.29	12132.67
Radiation-Diagnostic/Oncology	6337.9	5830.94	5179.30	4987.09	5122.90	5465.35	5874.80	6449.13	6456.90	6512.38
Surgery	5574.43	5346.64	4878.63	5047.13	5289.88	5355.64	5930.12	6222.28	6915.37	7737.01
Urology	2443.77	2515.79	2469.45	2246.21	2069.70	1937.56	2135.08	2137.80	2153.51	2392.02
R03										
Anesthesiology	11.22	17.51	10.48	12.28	7.30	6.88	8.44	16.19	16.37	12.80
Dermatology	30.12	36.84	12.83	26.09	50.33	55.03	40.52	22.50	27.22	35.50
Emergency Medicine	1.88	2.38	1.77	2.81	9.81	9.41	9.72	7.14	3.77	6.59
Family Medicine	6.92	6.56	7.48	4.36	3.61	3.37	1.25	1.38	4.08	3.01
Internal Medicine/Medicine	87.07	103.14	92.91	90.38	79.48	63.89	61.86	64.71	82.97	93.46
Neurology	74.68	49.48	62.74	74.94	87.83	115.55	91.77	75.79	94.85	89.10
Neurosurgery	77.53	150.06	143.21	69.61	103.89	61.00	26.66	25.44	24.36	84.81
Obstetrics and Gynecology	14.88	20.91	18.05	18.48	16.84	22.40	29.13	29.05	22.99	15.43
Ophthalmology	0	0.00	0.00	10.03	13.65	4.02	5.71	9.07	14.59	14.73
Orthopedics	41.2	39.46	43.65	58.45	39.97	24.33	11.12	16.82	33.86	28.61
Otolaryngology	186.14	240.57	246.24	198.85	187.44	165.05	171.95	120.99	28.63	41.87
Pathology	128.58	108.61	101.13	101.75	87.38	52.30	73.37	125.79	167.87	185.58
Pediatrics	52.63	42.41	46.27	43.31	49.12	64.15	48.41	57.05	46.33	52.70
Physical Medicine & Rehab	79.07	61.41	49.96	62.86	42.12	39.63	16.81	45.78	75.05	64.08
Plastic Surgery	0	0.00	0.00	0.00	0.00	10.08	9.91	0.00	0.00	0.00
Psychiatry	69.28	70.46	68.46	60.11	52.55	54.94	62.97	48.95	42.46	39.99
Radiation-Diagnostic/Oncology	24.15	14.49	18.97	34.13	37.40	17.17	21.24	34.67	47.11	44.41
Surgery	51.84	66.32	52.75	58.67	55.73	43.96	76.99	63.44	35.00	55.03
Urology	7.94	24.12	15.15	34.37	44.93	28.20	7.44	7.50	24.43	32.33
R21										
Anesthesiology	133.66	120.44	132.83	116.33	136.10	134.19	115.78	161.28	186.92	148.11
Dermatology	321.61	343.39	314.52	400.33	295.17	225.42	234.51	233.04	221.38	296.54
Emergency Medicine	41.72	34.15	17.53	27.95	25.07	19.46	22.73	34.77	30.93	23.37
Family Medicine	25.67	30.43	31.16	33.61	39.27	33.37	19.56	18.93	20.32	23.85
Internal Medicine/Medicine	710.85	733.54	664.21	622.56	608.99	643.68	603.88	578.81	562.98	609.17
Neurology	999.05	1184.29	1076.63	1060.35	1062.42	1158.56	1160.26	1245.33	1593.65	1227.72
Neurosurgery	478.39	715.27	827.13	869.13	1275.22	1345.55	942.40	879.89	1784.94	1517.68
Obstetrics and Gynecology	168.4	127.65	135.43	112.42	118.32	105.56	97.34	121.37	128.40	199.82
Ophthalmology	216.49	209.07	308.65	289.26	404.05	330.40	239.34	304.36	519.05	500.65
Orthopedics	139.37	181.35	168.92	131.96	140.60	141.80	247.04	330.99	221.61	231.16
Otolaryngology	289.56	343.22	477.17	511.13	445.63	287.57	284.48	482.88	500.18	602.47
Pathology	1620.52	1459.48	1579.63	2021.66	2324.19	2356.36	2007.67	1702.83	1661.99	1754.86
Pediatrics	359.27	341.35	339.71	367.40	402.47	399.61	369.09	369.53	394.61	431.36
Physical Medicine & Rehab	91.84	161.33	236.54	174.25	71.48	198.37	270.40	196.35	253.90	216.85
Plastic Surgery	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	658.75	905.85	989.24	917.20	788.66	760.91	755.89	717.34	755.07	872.28
Radiation-Diagnostic/Oncology	629.93	609.35	517.83	586.92	617.30	567.88	520.04	396.60	462.68	518.97
Surgery	423.69	406.62	342.36	383.99	474.94	493.24	362.04	338.53	352.65	420.58
Urology	165.44	173.35	82.71	71.47	171.89	231.66	161.78	122.63	130.05	189.90
P30										
Anesthesiology	0	0.00	0.00	23.04	0.00	0.00	0.00	0.00	0.00	0.00
Dermatology	517.27	383.83	513.97	565.01	517.67	580.33	495.15	238.70	216.49	214.14
Emergency Medicine	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family Medicine	0	4.38	4.19	4.09	3.99	3.92	12.04	12.54	14.96	16.91
Internal Medicine/Medicine	2716.56	2859.64	2948.10	3325.16	2944.45	2996.87	3015.02	2952.95	3299.36	3523.49
Neurology	1056.37	1134.75	1026.00	923.97	933.90	998.77	971.23	1064.05	1303.34	2987.19
Neurosurgery	374.49	509.63	466.42	321.85	305.94	108.84	103.02	96.73	106.11	0.00
Obstetrics and Gynecology	143.68	140.31	121.84	123.66	130.47	128.58	0.00	52.29	59.45	104.34
Ophthalmology	1044.94	1170.49	927.85	886.01	838.17	777.91	760.60	820.18	795.62	768.54
Orthopedics	126.2	125.76	119.00	150.88	149.47	171.07	167.15	161.84	207.79	203.91
Otolaryngology	539.17	511.56	476.12	449.98	297.75	224.58	58.84	507.06	458.34	677.35
Pathology	1669.05	1179.93	2553.67	2540.12	2373.11	3037.92	2528.92	984.96	888.52	1116.61
Pediatrics	473.59	408.08	381.26	283.77	275.95	238.45	224.13	163.62	168.34	243.99
Physical Medicine & Rehab	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Psychiatry	461.43	445.88	504.71	408.00	453.99	328.93	278.31	221.12	196.19	216.89
Radiation-Diagnostic/Oncology	87.87	105.93	109.64	146.88	286.25	161.16	203.06	189.41	239.21	269.25
Surgery	959.11	819.33	930.32	599.18	936.89	935.62	1369.56	1205.36	1019.18	1441.36
Urology	492.04	473.70	388.96	512.57	509.49	595.46	0.00	0.00	0.00	0.00
U01										
Anesthesiology	82.34	76.68	83.19	160.74	134.27	269.80	197.58	177.52	236.16	209.21
Dermatology	74.83	221.89	208.60	183.63	326.13	214.71	240.68	258.31	570.67	362.88

Emergency Medicine	536.81	465.33	212.46	172.94	104.21	74.85	138.90	514.01	38.14	272.45
Family Medicine	49.45	74.86	78.90	84.49	99.42	79.63	50.30	67.99	73.70	58.99
Internal Medicine/Medicine	3621.03	3432.95	3713.38	3496.82	3032.18	2873.05	3093.09	3178.15	4480.40	5007.88
Neurology	4780.51	5184.24	5242.20	5646.02	4517.67	6012.59	4677.68	7148.68	6353.65	8486.64
Neurosurgery	913.42	883.13	2919.54	2705.41	2001.84	4394.74	4492.97	2192.77	1039.72	838.75
Obstetrics and Gynecology	629.11	412.41	123.20	253.10	1069.13	217.56	192.32	259.40	164.36	170.84
Ophthalmology	130.77	132.73	101.99	69.49	149.27	184.86	187.72	287.69	308.00	354.51
Orthopedics	0	0.00	25.96	32.29	9.61	9.56	0.00	0.00	32.30	29.31
Otolaryngology	153.02	87.87	118.13	105.97	259.53	235.04	277.60	371.66	192.20	274.26
Pathology	3022.5	2032.21	1914.78	1377.46	1382.72	1764.59	1921.09	2273.61	2066.44	2194.54
Pediatrics	1766.44	1745.73	1561.52	1680.56	1528.23	1360.30	1325.43	1315.72	1192.68	1050.94
Physical Medicine & Rehab	66.88	70.22	411.32	364.83	397.14	363.18	348.72	180.81	454.46	689.06
Plastic Surgery	0	0.00	0.00	0.00	0.00	0.00	0.00	53.02	51.38	50.71
Psychiatry	1085.13	1525.97	1382.55	1536.74	1670.21	1450.75	1225.50	1356.09	2087.67	1754.41
Radiation-Diagnostic/Oncology	204.33	240.56	354.41	425.05	473.53	409.89	803.19	822.43	837.71	801.17
Surgery	1118.53	1494.90	1486.05	1286.22	1487.70	1317.68	1159.13	1379.29	137.49	1103.53
Urology	1369.09	1136.85	1165.61	747.45	624.69	683.20	702.02	612.44	909.17	435.95

Supplementary Table 13: Mean NIH training grant (F32, T32) funding amount from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
F32										
Anesthesiology	47,914.25	51,490.00	49,633.25	43,534.29	23,741.00	58,002.00	57,066.00	57,560.40	60,918.00	64,990.00
Dermatology	43,343.50	55,754.00	51,857.67	42,836.00	49,628.00	55,554.00	46,238.00	58,179.75	66,110.00	65,894.00
Emergency Medicine	59,234.00	54,033.00	62,234.00	-	-	-	-	-	-	65,310.00
Family Medicine	-	-	-	56,030.00	20,307.00	-	-	-	-	-
Internal Medicine/Medicine	51,926.46	51,811.16	50,429.82	51,319.95	53,518.16	53,923.50	47,240.95	55,961.90	61,755.06	66,378.50
Neurology	48,824.33	44,860.50	48,197.95	49,647.19	50,244.97	56,367.65	42,558.86	56,279.00	54,616.14	63,340.64
Neurosurgery	52,676.12	45,676.25	42,293.62	51,613.00	50,253.00	53,844.20	58,787.33	53,451.73	55,313.00	60,524.92
Obstetrics and Gynecology	52,343.00	48,368.00	43,787.75	53,768.00	55,170.80	57,281.00	48,730.00	59,250.00	62,027.60	60,798.40
Ophthalmology	45,094.75	50,123.71	55,008.00	54,536.44	53,676.33	49,738.75	43,040.30	59,953.43	59,131.89	56,727.30
Orthopedics	49,338.00	48,075.67	50,392.60	46,269.20	53,574.33	48,082.83	55,240.00	61,271.14	63,762.00	67,321.00
Otolaryngology	52,747.00	54,843.71	50,681.71	50,843.50	49,508.33	57,822.62	42,489.86	54,204.30	62,456.62	72,395.00
Pathology	51,873.14	50,886.24	43,413.09	46,494.82	52,489.91	54,737.84	37,180.08	61,869.82	61,228.88	55,828.23
Pediatrics	53,559.40	52,427.22	51,929.29	51,190.00	48,164.61	45,491.18	49,132.40	58,639.23	60,939.11	55,600.83
Physical Medicine & Rehab	51,326.00	51,821.00	-	55,982.00	40,795.00	68,949.00	62,763.00	61,516.50	65,694.00	68,436.00
Plastic Surgery	-	-	-	-	-	-	-	-	70,552.00	-
Psychiatry	49,255.31	47,980.59	47,068.46	48,248.08	52,733.33	53,797.79	40,610.76	55,418.88	58,605.48	63,169.34
Radiation-Diagnostic/Oncology	50,566.64	49,940.50	37,040.60	55,094.00	55,880.00	53,115.56	47,848.12	61,253.57	67,271.25	65,120.57
Surgery	48,888.53	50,666.33	50,921.23	51,721.74	54,732.95	51,360.80	55,393.12	64,262.30	67,220.20	72,716.73
Urology	58,202.00	53,066.00	55,670.00	44,500.00	60,380.00	51,878.67	39,434.67	74,086.00	65,606.00	80,358.00
T32										
Anesthesiology	177,313.40	176,064.90	194,942.40	191,664.00	229,197.30	261,418.50	214,919.70	265,184.00	254,169.90	299,745.20
Dermatology	187,196.80	203,836.20	188,549.20	167,228.80	214,451.50	214,313.90	206,142.70	217,967.20	279,571.00	254,416.00
Emergency Medicine	-	-	-	-	-	168,966.00	369,797.00	446,984.50	458,056.00	365,562.00
Family Medicine	246,991.00	292,899.00	254,736.30	297,305.80	376,785.20	332,118.50	243,977.20	347,868.00	368,096.20	349,901.40
Internal Medicine/Medicine	301,089.20	298,071.10	312,795.30	315,749.30	340,196.50	351,412.10	265,624.40	362,508.90	387,754.70	381,541.10
Neurology	257,944.60	248,875.60	259,835.60	313,442.20	310,645.00	332,014.40	284,266.30	313,233.30	259,761.20	311,463.30
Neurosurgery	197,192.30	177,160.70	193,940.30	199,963.30	347,813.40	363,970.00	273,969.30	568,351.80	611,950.20	501,294.40
Obstetrics and Gynecology	199,358.80	216,580.20	210,501.20	238,399.90	223,788.80	244,205.40	165,655.80	237,966.30	220,205.90	260,306.00
Ophthalmology	191,942.20	198,428.80	211,319.40	231,037.90	235,602.10	214,293.00	139,347.60	184,728.10	187,265.60	206,601.10
Orthopedics	218,841.90	231,324.10	227,927.00	231,027.90	240,819.90	239,498.30	229,004.50	223,953.60	239,265.70	259,178.40
Otolaryngology	206,410.50	278,268.20	258,790.70	262,284.30	264,087.20	251,168.30	149,735.40	257,186.90	267,736.80	301,986.80
Pathology	380,784.30	398,268.50	374,945.80	340,587.00	359,971.80	343,585.70	281,690.50	368,287.30	386,528.50	366,898.70
Pediatrics	226,569.60	242,487.10	251,749.30	248,890.50	272,019.20	292,232.50	249,166.00	332,139.50	338,472.10	358,133.20
Physical Medicine & Rehab	159,013.20	266,958.20	272,975.00	281,319.30	313,034.30	250,943.80	212,667.80	257,476.20	315,693.50	320,902.00
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	260,461.80	261,552.40	254,036.70	241,928.30	255,408.40	286,070.20	197,495.20	312,247.00	333,855.00	367,256.80
Radiation-Diagnostic/Oncology	253,584.50	204,744.00	211,428.10	187,940.40	195,605.00	266,952.50	181,965.90	243,591.80	259,048.50	255,330.70
Surgery	233,508.00	219,160.50	208,387.80	225,132.50	218,762.10	251,569.50	231,538.90	302,109.40	307,981.10	298,942.30
Urology	154,911.30	152,947.90	164,463.90	145,810.40	129,597.00	151,069.50	155,845.80	167,294.00	247,190.80	288,956.20

Inflation-Adjusted Mean NIH training grant (F32, T32) funding amount from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
F32										
Anesthesiology	47,914.25	50,564.63	47,863.62	41,185.25	22,206.14	53,806.97	52,012.07	51,267.85	53,217.04	56,030.55
Dermatology	43,343.50	54,752.00	50,008.73	40,524.64	46,419.54	51,536.02	42,143.03	51,819.50	57,752.69	56,809.93
Emergency Medicine	59,234.00	53,061.93	60,015.10	-	-	-	-	-	-	56,306.44
Family Medicine	-	-	-	-	-	-	-	-	-	-
Internal Medicine/Medicine	51,926.46	50,880.02	48,631.79	48,550.81	50,058.20	50,023.45	43,057.15	49,844.10	53,948.28	57,227.64
Neurology	48,824.33	44,054.28	46,479.50	46,968.31	46,996.62	52,290.82	38,789.72	50,126.54	47,711.83	54,608.57
Neurosurgery	52,676.12	44,855.37	40,785.68	48,828.05	47,004.14	49,949.88	53,580.95	47,608.35	48,320.59	52,181.02
Obstetrics and Gynecology	52,343.00	47,498.74	42,226.54	50,866.76	51,604.00	53,138.11	44,414.33	52,772.74	54,186.37	52,416.80
Ophthalmology	45,094.75	49,222.90	53,046.74	51,593.74	50,206.15	46,141.36	39,228.53	53,399.28	51,656.72	48,906.94
Orthopedics	49,338.00	47,211.67	48,595.90	43,772.59	50,110.74	44,605.21	50,347.79	54,572.93	55,701.51	58,040.20
Otolaryngology	52,747.00	53,858.07	48,874.70	48,100.07	46,307.61	53,640.56	38,726.83	48,278.64	54,561.15	62,414.71
Pathology	51,873.14	49,971.73	41,865.24	43,986.03	49,096.43	50,778.89	33,887.30	55,106.16	53,488.62	48,131.81
Pediatrics	53,559.40	51,485.01	50,077.80	48,427.87	45,050.76	42,201.00	44,781.09	52,228.74	53,235.48	47,935.76
Physical Medicine & Rehab	51,326.00	50,889.69	-	52,961.30	38,157.60	63,962.22	57,204.53	54,791.47	57,389.28	59,001.49
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	49,255.31	47,118.30	45,390.28	45,644.69	49,324.11	49,906.83	37,014.15	49,360.45	51,196.85	54,460.89
Radiation-Diagnostic/Oncology	50,566.64	49,042.98	35,719.95	52,121.22	52,267.35	49,273.94	43,610.55	54,557.28	58,767.14	56,143.12
Surgery	48,888.53	49,755.77	49,105.68	48,930.92	51,194.46	47,646.10	50,487.34	57,237.10	58,722.54	62,692.09
Urology	58,202.00	52,112.31	53,685.14	42,098.85	56,476.42	48,126.51	35,942.22	65,986.86	57,312.40	69,279.94

T32	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	177,313.40	172,900.71	187,991.91	181,322.12	214,379.66	242,511.23	195,885.79	236,193.88	222,038.95	258,422.67
Dermatology	187,196.80	200,172.91	181,826.65	158,205.40	200,587.18	198,813.50	187,886.10	194,138.86	244,228.96	219,342.50
Emergency Medicine										
Family Medicine	246,991.00	287,635.09	245,653.91	281,263.65	352,425.98	308,097.80	222,369.87	309,838.80	321,563.23	301,664.40
Internal Medicine/ Medicine	301,089.20	292,714.24	301,642.87	298,711.97	318,202.74	325,995.98	242,099.93	322,879.15	338,736.59	328,942.29
Neurology	257,944.60	244,402.87	250,571.40	296,529.36	290,561.75	308,001.23	259,090.85	278,990.40	226,923.42	268,525.33
Neurosurgery	197,192.30	173,976.81	187,025.53	189,173.60	325,327.21	337,645.62	249,705.78	506,219.15	534,590.36	432,186.53
Obstetrics and Gynecology	199,358.80	212,687.88	202,995.97	225,536.22	209,320.82	226,543.08	150,984.84	211,951.64	192,368.52	224,420.52
Ophthalmology	191,942.20	194,862.69	203,785.00	218,571.46	220,370.39	198,794.11	127,006.57	164,533.48	163,592.37	178,119.31
Orthopedics	218,841.90	227,166.80	219,800.47	218,562.00	225,250.86	222,176.42	208,723.20	199,470.82	209,018.87	223,448.37
Otolaryngology	206,410.50	273,267.23	249,563.75	248,131.86	247,013.92	233,002.38	136,474.40	229,071.03	233,890.79	260,355.25
Pathology	380,784.30	382,272.67	361,577.45	322,209.47	336,699.57	318,735.63	256,743.17	328,025.85	337,665.40	316,318.47
Pediatrics	226,569.60	238,129.18	242,773.41	235,460.77	254,433.12	271,096.59	227,099.14	295,829.76	295,684.06	308,761.37
Physical Medicine & Rehab	159,013.20	262,160.50	263,242.32	266,139.76	292,796.58	232,794.12	193,833.32	229,328.70	275,785.03	276,662.82
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	260,461.80	256,851.85	244,979.25	228,874.24	238,896.21	265,379.98	180,004.45	278,111.92	291,650.64	316,627.20
Radiation-Diagnostic/ Oncology	253,584.50	201,064.39	203,889.82	177,799.44	182,959.11	247,644.98	165,850.47	216,962.16	226,300.82	220,131.11
Surgery	233,508.00	215,221.80	200,957.92	212,984.71	204,619.10	233,374.57	211,033.14	269,082.57	269,047.59	257,730.46
Urology	154,911.30	150,199.16	158,600.09	137,942.70	121,218.53	140,143.30	142,043.64	149,005.29	215,942.11	249,121.03

Supplementary Table 14: Mean NIH career development grant (K01, K08, K23) funding amount from 2011-2020 by specialty

K01	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	120,086.20	121,151.50	115,788.80	122,631.20	176,829.40	177,605.20	171,822.00	151,097.00	131,069.00	141,491.00
Dermatology	93,785.25	116,732.20	99,330.00	111,210.00	107,873.70	111,286.00	116,404.90	103,161.40	102,986.40	117,490.50
Emergency Medicine	-	136,304.00	134,016.00	132,182.00	137,936.00	-	-	40,536.00	123,254.00	123,660.00
Family Medicine	112,845.90	120,051.80	118,157.40	128,002.10	132,817.90	133,941.40	135,747.60	141,963.10	129,695.10	138,819.10
Internal Medicine/ Medicine	127,509.60	123,147.00	123,903.40	130,004.80	129,290.10	132,724.20	144,242.50	142,969.40	143,327.00	140,742.80
Neurology	134,905.80	139,454.80	144,548.50	150,252.70	147,094.90	147,826.80	136,708.40	138,698.20	129,702.90	123,381.30
Neurosurgery	99,353.33	80,347.00	126,644.00	-	-	104,760.00	-	158,780.50	151,324.70	109,357.30
Obstetrics and Gynecology	139,635.50	171,026.00	156,377.50	159,980.20	155,728.00	148,407.80	136,159.00	128,488.00	127,963.10	139,234.20
Ophthalmology	-	-	-	131,122.00	-	-	145,208.00	126,603.50	129,963.00	145,208.00
Orthopedics	123,579.60	117,938.50	115,494.70	121,495.10	110,510.50	126,430.90	124,989.00	123,020.40	116,702.50	117,502.00
Otolaryngology	137,182.00	137,182.00	137,188.00	129,952.00	-	-	-	-	-	129,771.00
Pathology	118,330.60	116,786.60	113,168.80	107,158.60	115,922.80	167,622.70	161,973.60	147,423.50	121,876.90	131,635.80
Pediatrics	124,242.00	133,766.00	126,937.50	129,747.30	135,899.90	123,447.50	137,237.00	145,505.60	150,086.00	133,047.70
Physical Medicine & Rehab	114,634.30	91,353.75	122,354.20	122,099.50	123,407.00	124,027.90	129,660.80	128,024.50	133,554.80	125,854.80
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	148,655.30	144,651.20	145,283.70	152,443.40	149,052.30	151,938.30	149,647.70	156,758.20	154,175.90	150,847.70
Radiation-Diagnostic/ Oncology	122,974.40	130,706.80	116,722.90	143,148.50	122,157.10	137,792.70	142,346.30	135,374.40	128,713.10	137,445.50
Surgery	124,855.50	122,972.90	112,757.30	126,519.10	135,341.40	142,970.80	160,080.20	176,646.70	171,699.50	144,524.30
Urology	105,823.00	105,823.00	105,823.00	137,484.00	146,730.30	148,409.80	141,016.20	140,084.40	139,784.40	144,782.30
K08	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	125,868.50	130,766.60	138,082.60	151,676.50	163,094.40	171,524.70	166,395.30	180,576.00	180,629.80	173,059.70
Dermatology	123,634.20	121,501.10	113,992.10	108,300.60	120,100.30	161,198.20	139,880.80	163,778.70	143,989.70	162,867.30
Emergency Medicine	141,586.00	142,015.50	125,040.90	148,179.80	149,105.00	155,894.10	162,261.10	160,546.60	159,030.30	160,115.70
Family Medicine	122,205.80	123,184.80	135,554.20	137,668.00	148,187.00	145,819.00	168,048.00	168,048.00	171,562.00	167,957.70
Internal Medicine/ Medicine	135,478.30	134,615.70	136,943.70	142,669.50	140,445.70	154,266.60	162,795.70	165,745.00	165,870.80	171,982.30
Neurology	162,383.80	160,599.20	168,910.60	175,436.80	156,846.60	164,111.20	183,334.50	189,698.70	186,428.20	189,501.70
Neurosurgery	165,681.90	170,939.90	160,663.30	164,708.70	150,693.80	155,605.60	158,727.40	182,594.00	182,323.80	180,507.00
Obstetrics and Gynecology	134,050.10	134,579.40	136,049.00	119,664.60	121,878.00	124,569.00	166,888.00	181,463.60	184,982.20	186,092.80
Ophthalmology	204,350.20	210,972.40	184,014.60	212,911.40	203,695.00	194,094.20	203,772.30	195,569.10	202,154.30	195,095.20
Orthopedics	179,280.00	134,364.00	129,774.80	109,454.50	121,247.50	174,153.00	171,547.70	147,346.10	120,988.70	141,396.10
Otolaryngology	166,228.00	156,362.90	176,830.70	183,344.60	188,773.70	188,130.90	187,116.00	193,339.30	180,546.90	187,986.70
Pathology	127,919.40	129,889.90	127,000.10	147,248.60	142,633.30	163,702.00	152,111.60	167,191.40	174,799.40	174,170.30
Pediatrics	131,701.80	137,711.50	139,356.10	143,865.50	142,323.10	147,470.40	161,704.00	167,077.30	171,653.00	172,228.00
Physical Medicine & Rehab	124,929.00	124,929.00	124,929.00	-	-	-	-	171,084.00	171,045.00	171,720.00
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	167,165.70	162,011.70	156,512.70	160,774.70	168,384.70	169,355.80	170,572.30	160,770.60	171,369.90	177,536.00
Radiation-Diagnostic/ Oncology	162,287.60	163,995.20	163,995.20	152,487.80	138,629.30	171,720.00	177,445.30	203,390.30	206,262.70	208,723.60
Surgery	133,971.00	141,133.80	133,410.60	142,876.00	142,639.40	161,231.70	162,646.80	166,654.40	170,087.20	173,347.90
Urology	152,109.50	149,671.80	126,433.20	151,479.60	165,470.20	164,894.80	168,676.40	166,015.60	222,228.60	219,611.00
K23	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Anesthesiology	133,340.70	155,830.60	141,449.70	156,572.20	154,426.80	153,813.90	172,864.50	179,465.90	180,755.90	175,125.70
Dermatology	122,563.30	122,675.50	83,995.33	123,012.00	85,710.67	167,154.20	173,453.20	151,582.90	155,709.10	167,417.10
Emergency Medicine	130,236.80	140,747.70	154,086.90	154,124.70	147,563.30	163,834.90	177,780.20	175,407.00	178,953.30	172,696.90
Family Medicine	154,195.60	156,956.10	150,109.50	146,538.00	107,960.80	146,244.80	161,528.00	160,174.80	164,166.00	157,210.60
Internal Medicine/ Medicine	145,051.40	146,590.90	149,245.80	148,408.90	147,055.30	165,604.00	175,093.50	178,488.30	180,532.60	175,648.40
Neurology	147,474.40	151,874.90	162,050.10	167,642.70	165,994.60	163,494.20	182,582.00	176,333.10	177,600.00	184,799.30
Neurosurgery	185,974.00	177,987.20	184,467.40	173,711.80	167,926.40	145,447.80	183,568.00	183,766.00	185,417.40	187,105.50
Obstetrics and Gynecology	133,524.90	129,024.90	126,127.10	121,042.70	115,983.90	129,604.80	163,354.60	169,060.50	173,401.20	169,482.20
Ophthalmology	190,213.70	213,359.00	203,372.30	203,470.50	207,128.10	203,477.50	217,257.90	193,281.00	214,918.40	211,700.00
Orthopedics	168,729.00	130,244.00	106,738.00	106,001.00	97,252.50	173,299.00	173,232.00	123,099.70	164,554.30	136,915.80
Otolaryngology	185,635.10	208,591.80	205,798.00	211,281.60	216,575.50	194,894.20	202,767.70	202,568.80	191,398.80	151,949.50
Pathology	129,132.00	133,431.30	132,375.00	133,050.00	138,577.00	136,984.00	146,011.00	142,388.00	190,080.00	175,913.00
Pediatrics	137,762.10	137,020.20	138,214.20	136,091.10	138,911.50	157,733.50				

Inflation-Adjusted Mean NIH career development grant (K01, K08, K223) funding amount from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
K01										
Anesthesiology	120,086.20	118,974.20	111,660.46	116,014.22	165,397.35	164,759.78	156,604.95	134,578.96	114,499.88	121,985.21
Dermatology	93,785.25	114,634.32	95,788.48	105,209.29	100,899.65	103,237.16	106,095.74	91,883.72	89,967.35	101,293.40
Emergency Medicine	-	133,854.38	129,237.78	125,049.67	129,018.42	-	-	36,122.39	107,672.81	106,612.38
Family Medicine	112,845.90	117,894.26	113,944.60	121,095.31	124,231.20	124,254.00	123,725.40	126,443.59	113,299.66	119,681.66
Internal Medicine/ Medicine	127,509.60	120,933.83	119,485.74	122,989.95	120,931.47	123,124.83	131,467.97	127,339.88	125,208.28	121,340.16
Neurology	134,905.80	136,948.55	139,394.75	142,145.30	137,585.19	137,135.13	124,601.11	123,535.61	113,306.48	106,372.10
Neurosurgery	99,353.33	78,903.02	122,128.62	-	-	97,183.16	-	141,422.49	132,194.95	94,281.43
Obstetrics and Gynecology	139,635.50	167,952.36	150,802.00	151,347.92	145,660.16	137,674.11	124,100.36	114,441.59	111,786.61	120,039.53
Ophthalmology	-	-	-	124,046.87	-	-	-	132,347.96	112,763.11	113,533.69
Orthopedics	123,579.60	115,818.94	111,376.84	114,939.42	103,365.98	117,286.70	113,919.61	109,571.72	101,949.52	101,303.31
Otolaryngology	137,182.00	134,716.60	132,296.69	122,940.00	-	-	-	-	-	111,880.92
Pathology	118,330.60	114,687.74	109,133.87	101,376.49	108,428.37	155,499.27	147,628.75	131,307.05	106,469.80	-
Pediatrics	124,242.00	131,361.99	122,411.66	122,746.34	127,113.95	114,519.08	125,082.89	129,598.82	131,112.84	114,705.90
Physical Medicine & Rehab	114,634.30	89,711.96	117,991.77	115,511.21	115,428.72	115,057.50	118,177.66	114,028.76	116,671.44	108,504.60
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	148,655.30	142,051.57	140,103.74	144,217.80	139,416.05	140,949.26	136,394.47	139,621.27	134,685.71	130,052.01
Radiation-Diagnostic/ Oncology	122,974.40	128,357.77	112,561.25	135,424.44	114,259.62	127,826.75	129,739.70	120,575.17	112,441.80	118,497.42
Surgery	124,855.50	120,762.86	108,737.04	119,692.33	126,591.56	132,630.34	145,903.03	157,335.55	149,994.06	124,600.35
Urology	105,823.00	103,921.18	102,049.98	130,065.58	137,244.16	137,675.96	128,527.40	124,770.27	122,113.52	124,822.78
K08										
Anesthesiology	125,868.50	128,416.50	133,159.39	143,492.28	152,550.32	159,119.06	151,658.85	160,835.29	157,795.44	149,201.89
Dermatology	123,634.20	119,317.51	109,927.81	102,456.87	112,335.80	149,539.43	127,492.55	145,874.29	125,787.21	140,414.60
Emergency Medicine	141,586.00	139,463.23	120,582.68	140,184.25	139,465.34	144,618.95	147,890.79	142,995.52	138,926.44	138,042.33
Family Medicine	122,205.80	120,970.95	130,721.14	130,239.65	138,606.69	135,272.54	153,165.18	149,676.86	149,873.95	144,803.25
Internal Medicine/ Medicine	135,478.30	132,196.42	132,061.10	134,971.28	131,365.86	143,109.16	148,378.04	147,625.63	144,902.20	148,273.02
Neurology	162,383.80	157,712.95	162,888.25	165,970.51	146,706.44	152,241.75	167,097.87	168,960.69	162,860.83	163,377.21
Neurosurgery	165,681.90	167,867.81	154,935.00	155,821.28	140,951.42	144,351.32	144,670.04	162,632.68	159,275.29	155,622.51
Obstetrics and Gynecology	134,050.10	132,160.77	131,198.30	113,207.69	113,998.57	115,559.46	152,107.91	161,625.86	161,597.63	160,438.26
Ophthalmology	204,350.20	207,180.86	177,453.73	201,423.04	190,526.09	180,056.21	185,725.63	174,189.34	176,598.91	168,199.60
Orthopedics	179,280.00	131,949.24	125,147.80	103,548.51	113,408.83	161,557.27	156,354.94	131,238.11	105,693.88	121,903.40
Otolaryngology	166,228.00	153,552.79	170,525.96	173,451.62	176,569.45	174,524.21	170,544.46	172,203.30	157,723.02	162,071.07
Pathology	127,919.40	127,555.55	122,472.03	139,303.30	133,412.03	151,862.14	138,640.16	148,913.91	152,702.09	150,159.38
Pediatrics	131,701.80	135,236.58	134,387.48	136,102.75	133,121.89	136,804.50	147,383.02	148,812.28	149,953.44	148,484.85
Physical Medicine & Rehab	124,929.00	122,683.81	120,474.77	-	-	-	-	152,380.97	149,422.30	148,046.88
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	167,165.70	159,100.07	150,932.38	152,099.55	157,498.60	157,107.03	155,465.92	143,195.04	149,706.13	153,061.09
Radiation-Diagnostic/ Oncology	162,287.60	161,047.92	158,148.10	144,259.80	129,666.89	159,300.23	161,730.23	181,155.52	180,187.95	179,949.21
Surgery	133,971.00	138,597.38	128,653.97	135,166.64	133,417.74	-	148,242.33	148,435.61	148,585.58	149,450.36
Urology	152,109.50	146,981.94	121,925.34	143,306.00	154,772.53	152,968.67	153,737.93	147,866.65	194,135.52	189,335.68
K23										
Anesthesiology	133,340.70	153,030.05	136,406.44	148,123.81	144,443.08	142,689.21	157,555.12	159,846.55	157,905.60	150,983.07
Dermatology	122,563.30	120,470.81	81,000.55	116,374.47	80,169.46	155,064.66	158,091.68	135,011.74	136,025.10	144,337.17
Emergency Medicine	130,236.80	138,218.22	148,593.07	145,808.38	138,023.31	151,985.43	162,035.47	156,231.37	156,330.87	148,889.11
Family Medicine	154,195.60	154,135.32	144,757.48	138,631.04	100,981.12	135,667.55	147,222.61	142,664.37	143,412.91	135,537.73
Internal Medicine/ Medicine	145,051.40	143,956.41	143,924.58	140,400.99	137,548.15	153,626.58	159,586.71	158,975.82	157,710.53	151,433.71
Neurology	147,474.40	149,145.44	156,272.35	158,596.97	155,263.02	151,669.37	166,412.01	157,056.23	155,155.64	159,323.08
Neurosurgery	185,974.00	174,788.46	177,890.38	164,338.59	157,069.93	134,928.19	167,310.69	163,676.56	161,977.81	161,311.35
Obstetrics and Gynecology	133,524.90	126,706.10	121,630.15	114,511.43	108,485.52	120,231.04	148,887.44	150,578.68	151,480.64	146,117.58
Ophthalmology	190,213.70	209,524.57	196,121.24	192,491.56	193,737.24	188,760.85	198,016.91	172,151.37	187,749.44	182,515.28
Orthopedics	168,729.00	127,903.29	102,932.35	100,281.36	90,965.11	160,765.03	157,890.07	109,642.35	143,752.13	118,040.75
Otolaryngology	185,635.10	204,843.04	198,460.46	199,881.18	202,573.86	180,798.34	184,810.00	180,423.82	167,203.07	131,001.92
Pathology	129,132.00	131,033.31	127,655.29	127,762.92	129,617.97	127,076.54	133,079.84	126,822.03	166,050.99	151,661.84
Pediatrics	137,762.10	134,557.71	133,286.30	128,747.84	129,930.85	146,325.32	159,585.62	156,852.71	152,273.25	148,925.32
Physical Medicine & Rehab	142,022.90	154,311.50	145,726.94	129,158.14	135,613.19	114,208.49	150,712.78	120,312.95	132,265.10	127,114.35
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	160,234.10	152,786.21	156,158.56	153,997.22	146,351.94	152,801.23	161,590.69	154,874.24	153,663.73	149,861.34
Radiation-Diagnostic/ Oncology	158,602.70	161,810.96	152,274.85	153,833.18	151,190.88	161,046.12	164,639.72	160,041.70	170,957.04	166,047.27
Surgery	131,087.50	136,724.65	129,694.30	135,176.38	137,446.58	179,925.96	163,030.76	163,112.85	151,072.16	148,931.26
Urology	157,160.00	151,176.38	143,171.13	146,765.39	140,859.48	134,846.46	142,194.67	128,536.59	147,163.21	144,664.44

Supplementary Table 15: Mean NIH advanced career grant (R01, R03, R21,P30, U01) funding amount from 2011-2020 by specialty

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R01										
Anesthesiology	374,447.70	394,100.80	381,465.50	388,318.40	397,822.70	406,701.40	407,569.50	421,265.70	442,363.80	457,545.10
Dermatology	346,269.00	353,875.30	329,760.60	339,497.10	343,133.50	378,646.10	376,141.70	401,937.20	407,364.50	451,637.40
Emergency Medicine	466,096.40	430,106.60	460,062.20	470,284.20	426,357.60	487,572.10	508,476.20	493,767.40	575,232.50	549,043.00
Family Medicine	487,546.90	488,225.60	486,072.70	495,950.50	506,253.30	545,224.90	554,983.50	600,927.30	516,841.30	531,260.10
Internal Medicine/ Medici	397,304.00	402,009.00	394,328.30	418,406.80	425,020.90	444,284.30	460,866.00	476,968.20	496,173.70	519,120.80
Neurology	410,236.30	402,897.10	396,817.20	416,205.80	415,876.30	454,982.50	501,719.70	527,246.30	523,779.60	591,815.60
Neurosurgery	349,190.00	361,219.40	334,960.60	363,622.60	380,344.00	392,876.40	396,933.90	405,769.40	419,080.50	439,343.10
Obstetrics and Gynecology	346,000.80	353,612.00	344,703.60	366,529.30	395,003.60	414,115.00	426,231.40	462,369.60	470,195.60	498,958.80
Ophthalmology	422,226.60	405,362.00	408,734.00	420,905.30	413,073.10	423,610.60	413,586.50	415,660.80	427,374.40	424,900.50
Orthopedics	339,055.70	342,596.00	328,792.10	358,600.80	347,868.40	359,813.70	376,507.60	393,633.10	400,186.80	394,073.30
Otolaryngology	366,140.90	374,585.90	354,134.70	370,305.90	386,724.90	405,442.80	444,403.50	441,687.90	468,107.80	484,753.40
Pathology	349,328.10	361,402.70	346,162.30	361,413.00	377,671.50	394,893.70</				

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
R21										
Anesthesiology	75,013.50	80,121.33	73,827.00	88,809.17	80,643.50	77,053.25	64,444.67	84,861.11	99,035.62	125,495.20
Dermatology	65,179.20	69,331.67	75,557.50	79,536.50	78,739.62	78,298.56	76,541.71	77,562.50	97,484.25	103,084.00
Emergency Medicine	63,905.00	86,342.00	68,643.00	114,000.00	103,827.20	103,872.80	90,322.40	87,723.75	97,375.00	86,329.25
Family Medicine	92,104.25	79,953.11	93,963.44	72,566.71	71,569.67	81,500.40	77,791.50	89,625.00	110,513.00	137,648.00
Internal Medicine/ Med	80,464.41	83,149.58	81,058.10	86,721.70	88,129.27	87,862.07	86,184.46	83,945.14	95,116.11	107,653.50
Neurology	96,460.50	72,986.11	77,806.82	87,614.08	96,734.08	105,522.80	92,073.53	79,031.53	102,401.90	112,459.50
Neurosurgery	130,434.70	97,590.25	95,985.62	77,379.40	84,825.57	89,403.75	80,900.00	80,539.50	80,125.00	94,243.00
Obstetrics and Gynecol	75,107.75	72,019.92	76,442.40	66,966.33	74,648.30	91,245.82	88,747.40	81,769.53	80,324.57	76,466.00
Ophthalmology	-	-	-	97,812.50	90,412.67	81,000.00	117,750.00	97,000.00	107,491.00	109,985.70
Orthopedics	81,667.80	78,736.50	73,071.33	84,992.50	81,801.70	71,470.57	77,298.33	119,874.70	105,583.60	90,420.00
Otolaryngology	132,187.70	126,241.40	125,250.60	131,234.80	134,709.60	140,382.80	149,760.80	131,110.40	160,218.00	158,270.30
Pathology	77,017.92	68,969.52	68,464.14	72,582.80	82,741.27	81,826.56	86,125.00	85,686.81	93,440.08	108,855.80
Pediatrics	76,878.26	83,228.93	77,130.46	76,619.09	88,884.12	93,250.40	88,673.74	92,985.63	84,607.97	105,865.80
Physical Medicine & Rel	96,047.43	77,752.57	92,279.40	85,749.29	82,524.80	79,055.80	57,416.33	122,787.50	119,870.90	90,743.00
Plastic Surgery	-	-	-	-	-	-	77,000.00	-	-	-
Psychiatry	106,102.80	96,842.21	88,253.77	108,346.70	105,996.80	97,768.48	91,020.66	92,001.78	94,258.75	112,458.60
Radiation-Diagnostic/ O	97,959.88	74,000.00	74,273.10	81,043.88	73,541.19	80,722.22	84,385.64	87,718.83	101,238.20	96,695.82
Surgery	90,946.47	86,952.30	81,038.65	92,010.12	79,187.47	85,131.93	84,614.60	85,822.24	93,100.45	108,786.10
Urology	78,000.00	80,206.67	76,727.50	88,901.00	94,229.60	99,951.67	81,000.00	84,750.00	95,083.67	95,640.25
P30										
Anesthesiology	198,626.80	206,645.70	207,925.40	240,374.70	214,890.20	222,642.60	204,033.30	205,608.50	231,893.00	220,026.40
Dermatology	183,150.90	215,467.50	205,891.90	187,726.20	175,905.80	206,179.00	206,712.70	200,869.70	211,443.40	215,252.90
Emergency Medicine	236,297.20	247,628.80	225,641.70	226,948.40	176,774.30	171,878.60	150,868.10	170,914.20	266,771.70	245,092.00
Family Medicine	195,393.30	208,657.20	185,239.90	195,614.40	194,681.40	175,792.70	173,967.60	205,190.60	171,800.00	204,367.60
Internal Medicine/ Med	206,711.70	201,968.50	194,621.30	201,298.10	195,991.70	202,211.70	204,170.20	203,708.00	205,422.00	220,545.90
Neurology	201,619.80	201,549.90	201,204.50	203,806.60	211,268.70	214,279.00	212,947.40	209,448.60	241,177.10	287,778.60
Neurosurgery	185,724.80	206,732.60	201,600.70	230,048.00	208,243.30	219,118.90	211,809.70	214,277.20	286,452.30	306,622.90
Obstetrics and Gynecol	206,047.70	188,485.70	212,358.60	195,606.80	218,635.10	197,080.80	211,848.40	205,317.70	190,272.70	230,260.90
Ophthalmology	184,974.60	203,152.80	195,418.10	194,578.50	223,106.90	195,940.80	205,887.20	210,155.00	224,989.80	215,666.20
Orthopedics	197,322.00	180,957.80	178,617.30	179,097.70	179,869.90	182,221.90	198,079.80	196,486.30	186,053.10	189,359.10
Otolaryngology	190,945.80	202,619.80	219,600.80	180,714.10	194,943.90	209,649.70	198,219.80	168,791.10	186,598.10	207,036.90
Pathology	195,703.40	204,958.00	200,512.00	206,034.70	206,334.40	199,877.40	204,935.70	208,193.80	212,859.80	238,281.30
Pediatrics	191,759.30	204,481.70	194,309.80	204,612.00	204,628.20	203,089.60	203,995.10	209,293.80	215,602.60	229,768.60
Physical Medicine & Rel	195,226.20	204,276.70	198,593.80	184,909.80	175,084.50	219,859.90	213,217.90	210,636.60	218,363.20	272,956.00
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	206,745.70	210,005.50	200,307.60	203,195.30	203,961.00	206,254.10	207,092.30	208,095.90	216,318.70	248,406.50
Radiation-Diagnostic/ O	210,700.90	215,624.70	198,734.30	206,031.30	210,710.10	203,560.50	197,694.80	202,985.80	212,349.50	246,125.20
Surgery	192,224.20	197,450.10	194,389.40	213,268.20	206,825.20	196,633.60	198,945.20	196,267.10	202,344.50	230,940.30
Urology	203,200.80	192,179.90	167,621.00	184,901.50	180,240.60	189,491.20	195,661.90	197,886.00	189,822.10	224,701.10
P30										
Anesthesiology	-	-	-	999,665.00	-	-	-	-	-	-
Dermatology	508,803.50	541,894.10	757,022.80	626,258.90	809,839.80	619,243.90	595,169.40	658,403.00	775,427.80	777,173.80
Emergency Medicine	-	-	-	-	-	-	-	-	-	-
Family Medicine	-	119,990.50	118,347.00	118,786.20	118,793.20	118,769.50	1,499,404.00	1,631,702.00	506,108.00	579,330.50
Internal Medicine/ Med	1,322,479.00	1,476,749.00	1,647,969.00	1,595,381.00	1,386,675.00	1,343,980.00	1,410,555.00	1,289,653.00	1,454,688.00	1,360,467.00
Neurology	909,600.70	792,808.50	874,868.00	926,021.70	955,091.90	972,888.10	913,550.00	924,625.30	1,004,999.00	1,531,679.00
Neurosurgery	945,027.00	883,790.30	833,661.70	894,494.50	874,301.50	638,089.00	625,169.00	612,461.00	349,065.00	-
Obstetrics and Gynecol	1,933,778.00	1,933,777.00	2,578,935.00	1,793,093.00	1,157,198.00	960,318.00	-	825,564.00	484,487.50	517,036.80
Ophthalmology	604,815.60	584,035.50	587,455.10	595,992.60	595,040.00	627,412.80	628,117.10	566,308.50	676,475.90	662,129.10
Orthopedics	625,387.50	627,439.20	597,681.80	614,321.00	611,879.20	703,440.00	696,916.40	691,739.60	755,961.70	751,669.50
Otolaryngology	622,200.80	604,010.00	657,359.40	556,833.40	499,296.20	458,450.40	614,973.00	1,831,543.00	5,129,654.00	1,280,229.00
Pathology	1,470,235.00	957,377.10	1,815,262.00	1,575,747.00	1,348,339.00	1,711,069.00	1,424,948.00	704,481.40	989,077.50	1,091,643.00
Pediatrics	1,546,389.00	1,105,870.00	967,114.30	948,261.30	943,137.20	828,083.70	898,125.40	911,258.60	834,352.40	686,218.80
Physical Medicine & Rel	-	-	-	-	-	-	-	-	-	-
Plastic Surgery	-	-	-	-	-	-	-	-	-	-
Psychiatry	1,359,067.00	1,143,958.00	1,148,220.00	1,078,633.00	964,003.10	1,121,970.00	1,060,552.00	1,061,952.00	791,983.70	1,084,308.00
Radiation-Diagnostic/On	570,185.40	631,016.30	858,373.40	847,082.90	1,477,880.00	973,777.90	887,744.60	862,805.50	942,347.40	1,172,460.00
Surgery	1,941,337.00	1,953,115.00	1,619,891.00	1,331,107.00	1,580,976.00	1,334,913.00	1,881,459.00	1,268,240.00	1,355,662.00	1,473,755.00
Urology	690,688.70	787,747.80	788,214.80	883,989.70	890,415.50	703,540.90	-	-	-	-
U01										
Anesthesiology	471,964.90	451,071.30	502,329.90	581,282.50	659,561.00	805,747.30	646,645.70	558,255.40	952,199.00	788,965.70
Dermatology	269,879.00	501,225.00	351,136.30	373,138.20	510,195.50	549,849.80	636,470.60	593,721.30	908,451.60	478,907.70
Emergency Medicine	1,824,301.00	1,298,730.00	482,628.40	501,535.70	551,203.10	661,067.80	1,613,430.00	3,157,825.00	657,901.70	2,040,631.00
Family Medicine	478,966.10	586,568.90	742,643.20	893,927.70	883,654.90	643,250.80	481,880.50	589,515.60	664,795.80	808,722.80
Internal Medicine/ Med	1,022,969.00	964,165.60	989,827.10	1,092,75.00	886,928.90	858,966.50	893,301.00	856,548.70	1,092,779.00	1,185,112.00
Neurology	1,871,063.00	1,720,465.00	1,787,908.00	1,467,034.00	1,155,044.00	1,126,302.00	1,135,458.00	1,597,367.00	1,513,014.00	1,832,220.00
Neurosurgery	768,340.80	1,148,616.00	1,956,889.00	2,148,264.00	880,115.20	954,229.30	1,090,613.00	661,140.50	684,117.00	699,007.20
Obstetrics and Gynecol	1,693,429.00	1,003,004.00	651,969.90	846,932.70	2,061,479.00	749,891.80	549,367.70	1,023,898.00	893,043.90	769,562.20
Ophthalmology	586,612.20	350,067.90	387,425.60	271,115.80	593,446.80	745,473.40	645,930.80	615,781.70	567,401.30	992,640.80
Orthopedics	-	-	521,639.00	328,701.50	196,680.00	196,680.00	-	-	705,076.00	648,512.00
Otolaryngology	353,177.20	207,493.50	380,567.70	262,256.00	870,422.00	799,632.30	725,323.20	805,466.80	537,763.50	777,554.20
Pathology	838,184.80	549,637.20	591,787.10	595,558.00	677,260.50	776,469.70	845,671.50	929,243.10	787,017.40	869,787.10
Pediatrics	754,255.50	776,144.10	785,361.80	842,353.10	758,205.50	825,554.30	779,608.50	799,393.60	745,582.70	671,752.30
Physical Medicine & Rel	142,161.00	207,461.00	542,662.10	497,752.60	486,371.40	724,539.40	714,931.60	323,280.20	1,693,692.00	2,602,043.00
Plastic Surgery	-	-	-	-	-	-	-	430		

Appendices

Appendix I: NIH institutes and centers

NIH centers and institutes are: National Cancer Institute (NCI), National Eye Institute (NEI), National Heart, Lung, and Blood Institute (NHLBI), National Human Genome Research Institute (NHGRI), National Institute on Aging (NIA), National Institute on Alcohol Abuse and Alcoholism (NIAAA), National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institute of Child Health and Human Development (NICHD), National Institute on Deafness and Other Communication Disorders (NIDCD), National Institute of Dental and Craniofacial Research (NIDCR), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institute on Drug Abuse (NIDA), National Institute of Environmental Health Sciences (NIEHS), National Institute of General Medical Sciences (NIGMS), National Institute of Mental Health (NIMH), National Institute on Minority Health and Health Disparities (NIMHHD), National Institute of Neurological Disorders and Stroke (NINDS), National Institute of Nursing Research (NINR), National Library of Medicine (NLM), Center for Information Technology (CIT), Center for Scientific Review (CSR), Fogarty International Center (FIC), National Center for Advancing Translational Sciences (NCATS), National Center for Complementary and Integrative Health (NCCIH) and the NIH Clinical Center (NIH CC).

Appendix II: NIH Grants included in the analysis

Grants included in the analysis are: C06, D43, D71, DP1, DP2, DP3, DP5, DP7, F05, F30, F31, F32, F33, F99, G08, G11, G12, G13, G20, H25, H79, K00, K01, K02, K05, K06, K07, K08, K12, K18, K22, K23, K24, K25, K26, K30, K38, K76, K99, KL1, KL2, M01, N01, OT2, OT3, P01, P20, P2C, P30, P40, P41, P42, P50, P51, P60, PL1, PN2, R00, R01, R03, R13, R15, R18, R21, R24, R25, R33, R34, R35, R36, R37, R38, R49, R50, R55, R56, R61, R90, RC2, RC4, RF1, RL1, RL5, RL9, RM1, S10, S21, SC1, SC2, SC3, T01, T03, T15, T32, T34, T35, T36, T37, T42, T90, TL1, U01, U10, U13, U18, U19, U24, U2C, U2G, U2R, U34, U38, U41, U42, U45, U47, U48, U49, U50, U51, U52, U54, U56, U58, U59, U60, U62, U65, U79, U90, UC2, UC4, UC7, UD1, UE5, UF1, UG1, UG3, UH2, UH3, UH4, UL1, UM1, UM2, UR3, and UR6.

Appendix III: Number of active physicians from 2010-2020 by specialty

Specialty	Year	Number of physicians
Anesthesiology	2010	40123
Anesthesiology	2011	40335
Anesthesiology	2012	40546
Anesthesiology	2013	40758
Anesthesiology	2014	41055
Anesthesiology	2015	41351
Anesthesiology	2016	41557
Anesthesiology	2017	41762
Anesthesiology	2018	42015
Anesthesiology	2019	42267
Anesthesiology	2020	42267
Dermatology	2010	10820
Dermatology	2011	11001
Dermatology	2012	11182
Dermatology	2013	11363
Dermatology	2014	11535
Dermatology	2015	11706
Dermatology	2016	11879
Dermatology	2017	12051
Dermatology	2018	12284
Dermatology	2019	12516
Dermatology	2020	12516

Emergency Medicine	2010	33984
Emergency Medicine	2011	35070
Emergency Medicine	2012	36155
Emergency Medicine	2013	37241
Emergency Medicine	2014	38410
Emergency Medicine	2015	39579
Emergency Medicine	2016	40964
Emergency Medicine	2017	42348
Emergency Medicine	2018	43775
Emergency Medicine	2019	45202
Emergency Medicine	2020	45202
Family Medicine	2010	106549
Family Medicine	2011	107338
Family Medicine	2012	108128
Family Medicine	2013	108917
Family Medicine	2014	110106
Family Medicine	2015	111295
Family Medicine	2016	112405
Family Medicine	2017	113514
Family Medicine	2018	115856
Family Medicine	2019	118198
Family Medicine	2020	118198
Internal Medicine/Medicine	2010	109048
Internal Medicine/Medicine	2011	109714
Internal Medicine/Medicine	2012	110381
Internal Medicine/Medicine	2013	111047
Internal Medicine/Medicine	2014	112568
Internal Medicine/Medicine	2015	114089
Internal Medicine/Medicine	2016	114823
Internal Medicine/Medicine	2017	115557

Internal Medicine/Medicine	2018	117864
Internal Medicine/Medicine	2019	120171
Internal Medicine/Medicine	2020	120171
Neurology	2010	12916
Neurology	2011	12996
Neurology	2012	13076
Neurology	2013	13156
Neurology	2014	13274
Neurology	2015	13392
Neurology	2016	13555
Neurology	2017	13717
Neurology	2018	13932
Neurology	2019	14146
Neurology	2020	14146
Neurosurgery	2010	5047
Neurosurgery	2011	5088
Neurosurgery	2012	5130
Neurosurgery	2013	5171
Neurosurgery	2014	5259
Neurosurgery	2015	5346
Neurosurgery	2016	5439
Neurosurgery	2017	5531
Neurosurgery	2018	5640
Neurosurgery	2019	5748
Neurosurgery	2020	5748
Obstetrics & Gynecology	2010	40377
Obstetrics & Gynecology	2011	40527
Obstetrics & Gynecology	2012	40676
Obstetrics & Gynecology	2013	40826
Obstetrics & Gynecology	2014	41154
Obstetrics & Gynecology	2015	41481

Obstetrics & Gynecology	2016	41569
Obstetrics & Gynecology	2017	41656
Obstetrics & Gynecology	2018	42188
Obstetrics & Gynecology	2019	42720
Obstetrics & Gynecology	2020	42720
Ophthalmology	2010	17943
Ophthalmology	2011	18068
Ophthalmology	2012	18192
Ophthalmology	2013	18317
Ophthalmology	2014	18455
Ophthalmology	2015	18593
Ophthalmology	2016	18705
Ophthalmology	2017	18817
Ophthalmology	2018	19065
Ophthalmology	2019	19312
Ophthalmology	2020	19312
Orthopedics	2010	19822
Orthopedics	2011	19673
Orthopedics	2012	19523
Orthopedics	2013	19374
Orthopedics	2014	19260
Orthopedics	2015	19145
Orthopedics	2016	19073
Orthopedics	2017	19001
Orthopedics	2018	19035
Orthopedics	2019	19069
Orthopedics	2020	19069
Otolaryngology	2010	9232
Otolaryngology	2011	9261
Otolaryngology	2012	9291
Otolaryngology	2013	9320
Otolaryngology	2014	9366
Otolaryngology	2015	9411
Otolaryngology	2016	9469
Otolaryngology	2017	9526

Otolaryngology	2018	9652
Otolaryngology	2019	9777
Otolaryngology	2020	9777
Pathology	2010	14975
Pathology	2011	14553
Pathology	2012	14132
Pathology	2013	13710
Pathology	2014	13498
Pathology	2015	13286
Pathology	2016	13063
Pathology	2017	12839
Pathology	2018	12741
Pathology	2019	12643
Pathology	2020	12643
Pediatrics	2010	55509
Pediatrics	2011	55760
Pediatrics	2012	56011
Pediatrics	2013	56262
Pediatrics	2014	56903
Pediatrics	2015	57543
Pediatrics	2016	57989
Pediatrics	2017	58435
Pediatrics	2018	59527
Pediatrics	2019	60618
Pediatrics	2020	60618
Physical Medicine & Rehab	2010	8503
Physical Medicine & Rehab	2011	8637
Physical Medicine & Rehab	2012	8772
Physical Medicine & Rehab	2013	8906
Physical Medicine & Rehab	2014	9035
Physical Medicine & Rehab	2015	9164
Physical Medicine & Rehab	2016	9254
Physical Medicine & Rehab	2017	9343
Physical Medicine & Rehab	2018	9555
Physical Medicine & Rehab	2019	9767

Physical Medicine & Rehab	2020	9767
Plastic Surgery	2010	6822
Plastic Surgery	2011	6862
Plastic Surgery	2012	6902
Plastic Surgery	2013	6942
Plastic Surgery	2014	6981
Plastic Surgery	2015	7020
Plastic Surgery	2016	7081
Plastic Surgery	2017	7142
Plastic Surgery	2018	7230
Plastic Surgery	2019	7317
Plastic Surgery	2020	7317
Psychiatry	2010	38289
Psychiatry	2011	37958
Psychiatry	2012	37627
Psychiatry	2013	37296
Psychiatry	2014	37516
Psychiatry	2015	37736
Psychiatry	2016	37971
Psychiatry	2017	38205
Psychiatry	2018	38499
Psychiatry	2019	38792
Psychiatry	2020	38792
Radiation-Diagnostic/Oncology	2010	32445
Radiation-Diagnostic/Oncology	2011	34213
Radiation-Diagnostic/Oncology	2012	35982
Radiation-Diagnostic/Oncology	2013	37750
Radiation-Diagnostic/Oncology	2014	38191
Radiation-Diagnostic/Oncology	2015	38632
Radiation-Diagnostic/Oncology	2016	39239
Radiation-Diagnostic/Oncology	2017	39846

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Radiation-Diagnostic/Oncology	2018	40572
Radiation-Diagnostic/Oncology	2019	41297
Radiation-Diagnostic/Oncology	2020	41297

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Surgery	2010	26314
Surgery	2011	25938
Surgery	2012	25563
Surgery	2013	25187
Surgery	2014	25221
Surgery	2015	25254
Surgery	2016	25148
Surgery	2017	25042
Surgery	2018	25303
Surgery	2019	25564
Surgery	2020	25564
Urology	2010	9826
Urology	2011	9808
Urology	2012	9789
Urology	2013	9771
Urology	2014	9790
Urology	2015	9808
Urology	2016	9865
Urology	2017	9921
Urology	2018	10061
Urology	2019	10201
Urology	2020	10201

Appendix IV: 10 most commonly awarded grant-types from 2011-2020

Grant-type	Title	Description
F32	Postdoctoral Individual National Research Service Award	To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.
T32	Institutional National Research Service Award	To enable institutions to make National Research Service Awards to individuals selected by them for predoctoral and postdoctoral research training in specified shortage areas.
K01	Research Scientist Development Award - Research & Training	For support of a scientist, committed to research, in need of both advanced research training and additional experience.
K08	Clinical Investigator Award (CIA)	To provide the opportunity for promising medical scientists with demonstrated aptitude to develop into independent investigators, or for faculty members to pursue research aspects of categorical areas applicable to the awarding unit, and aid in filling the academic faculty gap in these shortage areas within health profession's institutions of the country.
K23	Mentored Patient-Oriented Research Career Development Award	To provide support for the career development of investigators who have made a commitment to focus their research endeavors on patient-oriented research. This mechanism provides support for a 3 year minimum up to 5 year period of supervised study and research for clinically trained professionals who have the potential to develop into productive, clinical investigators.
R01	Research Project	To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his or her specific interest and competencies
R03	Small Research Grants	To provide research support specifically limited in time and amount for studies in categorical program areas. Small grants provide flexibility for initiating studies which are generally for preliminary short-term projects and are non-renewable.
R21	Exploratory/Developmental Grants	To encourage the development of new research activities in categorical program areas. (Support generally is restricted in level of support and in time.)
P30	Center Core Grants	To support shared resources and facilities for categorical research by a number of investigators from different disciplines who provide a

		multidisciplinary approach to a joint research effort or from the same discipline who focus on a common research problem. The core grant is integrated with the center's component projects or program projects, though funded independently from them. This support, by providing more accessible resources, is expected to assure a greater productivity than from the separate projects and program projects.
U01	Research Project-- Cooperative Agreements	To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his or her specific interest and competencies.