



Ways of Managing NIH Resources

October 2011



Options for Managing NIH Resources

A. Current Way of Managing

- Bottom out success rates (doing nothing but letting the system correct itself)

B. Other Options

- Reducing or limiting size of awards
- Limiting number of awards held by an PI
- Limiting the amount of funds an PI can hold
- Limiting salaries of PIs



Current Way of Managing



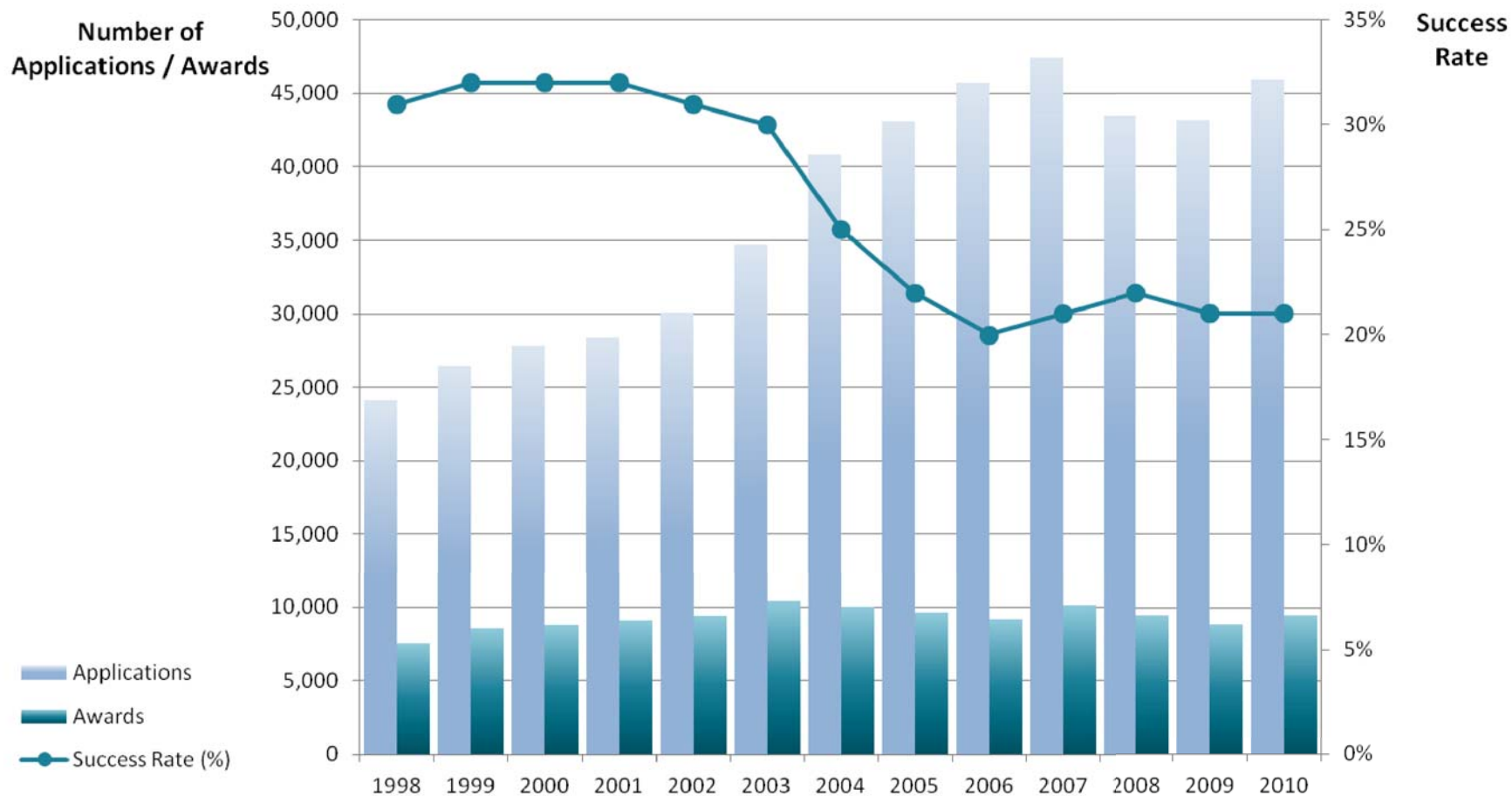


Current Way of Managing

- Generally project based
- Competitive peer review
- Average of \$414K per year for 4.3 years
- Approximately 50 institutions get 70% of the funds
- Approximately 20% of the investigators get 50% of the funds



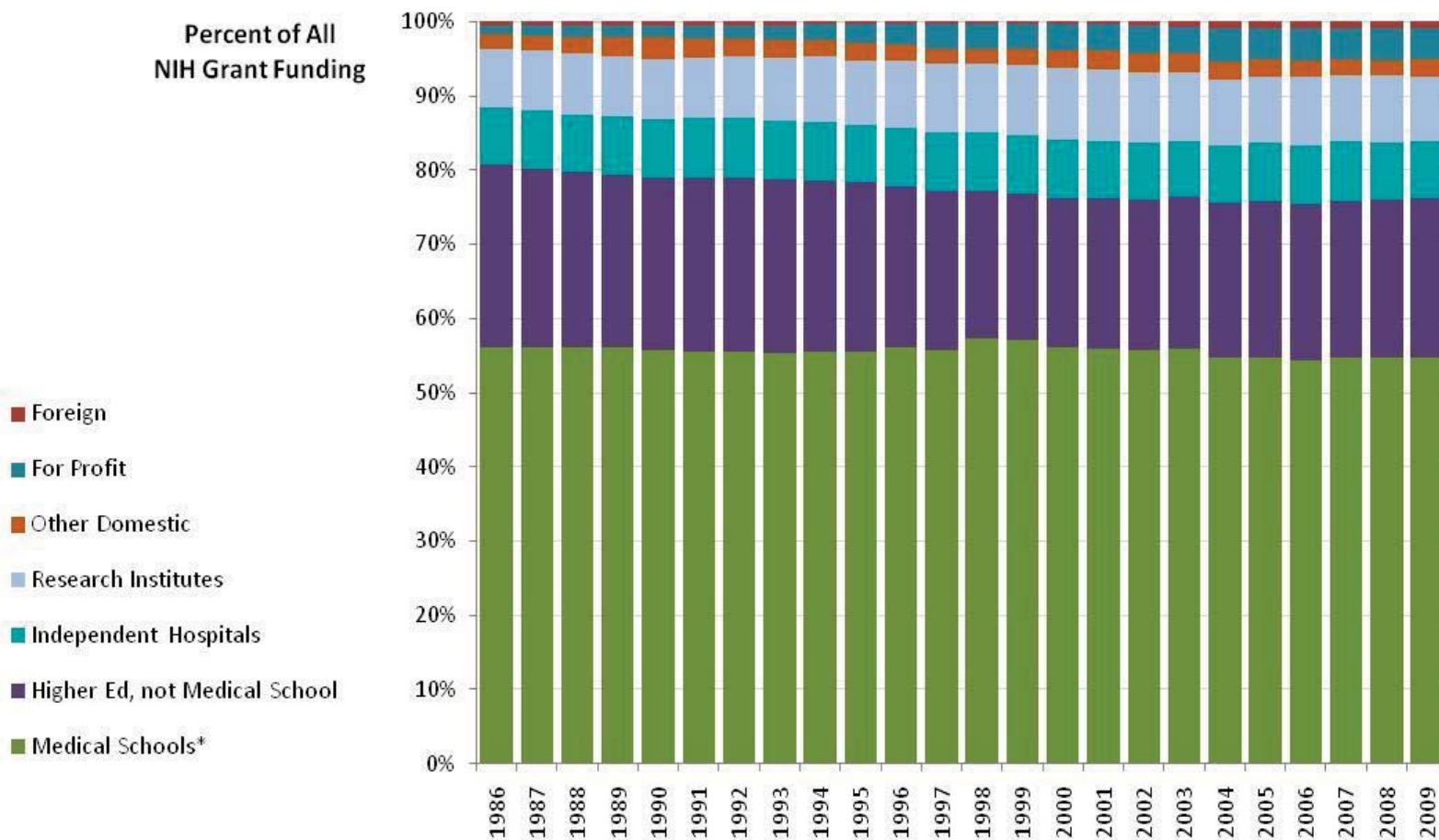
Applications, Awards, and Success Rates Research Project Grants (RPG)



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NIH Grant Support by Type of Organization

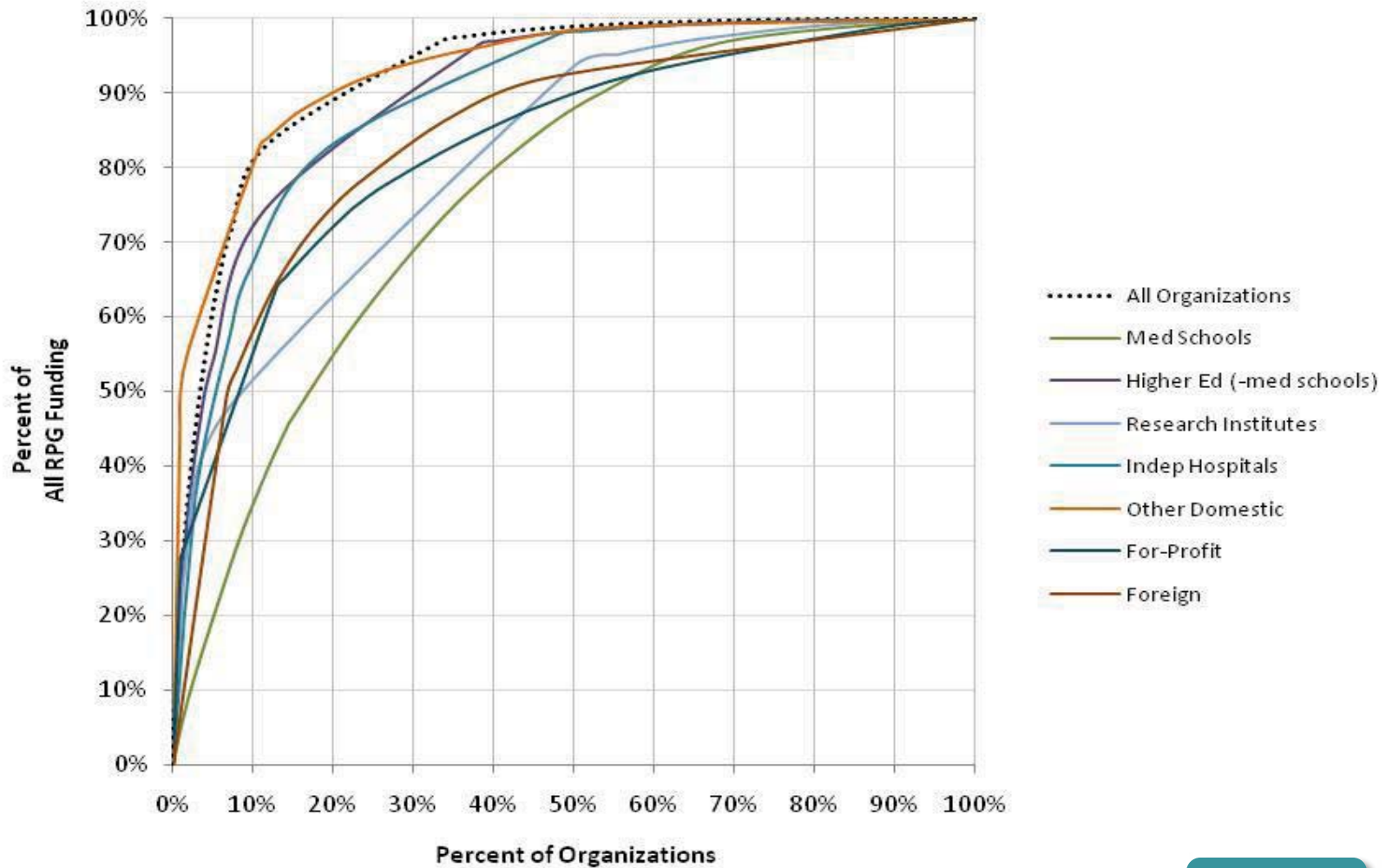


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Distribution of FY2009 RPG Funding by Institution Type

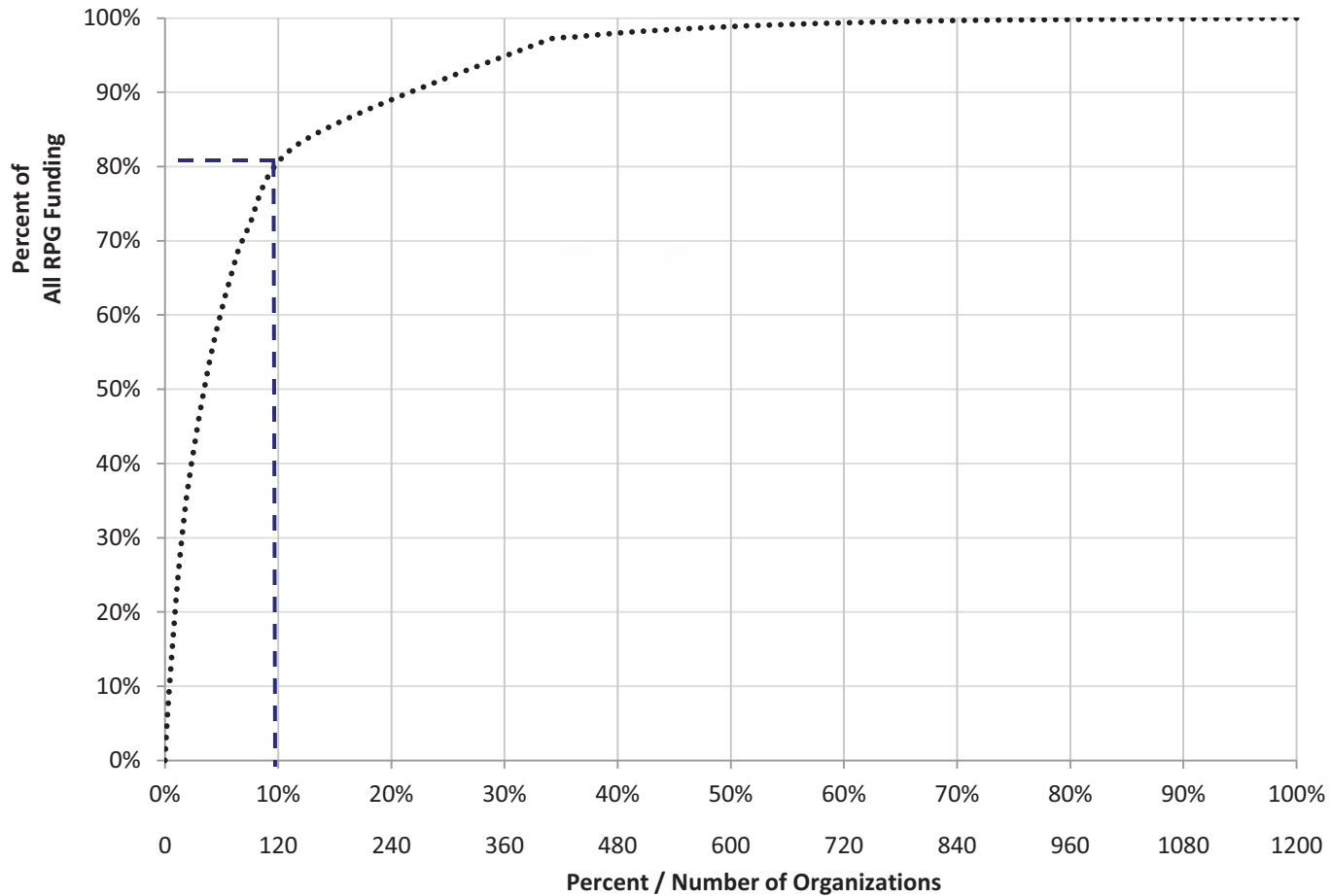


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Distribution of FY2009 RPG Funding Across Institutions

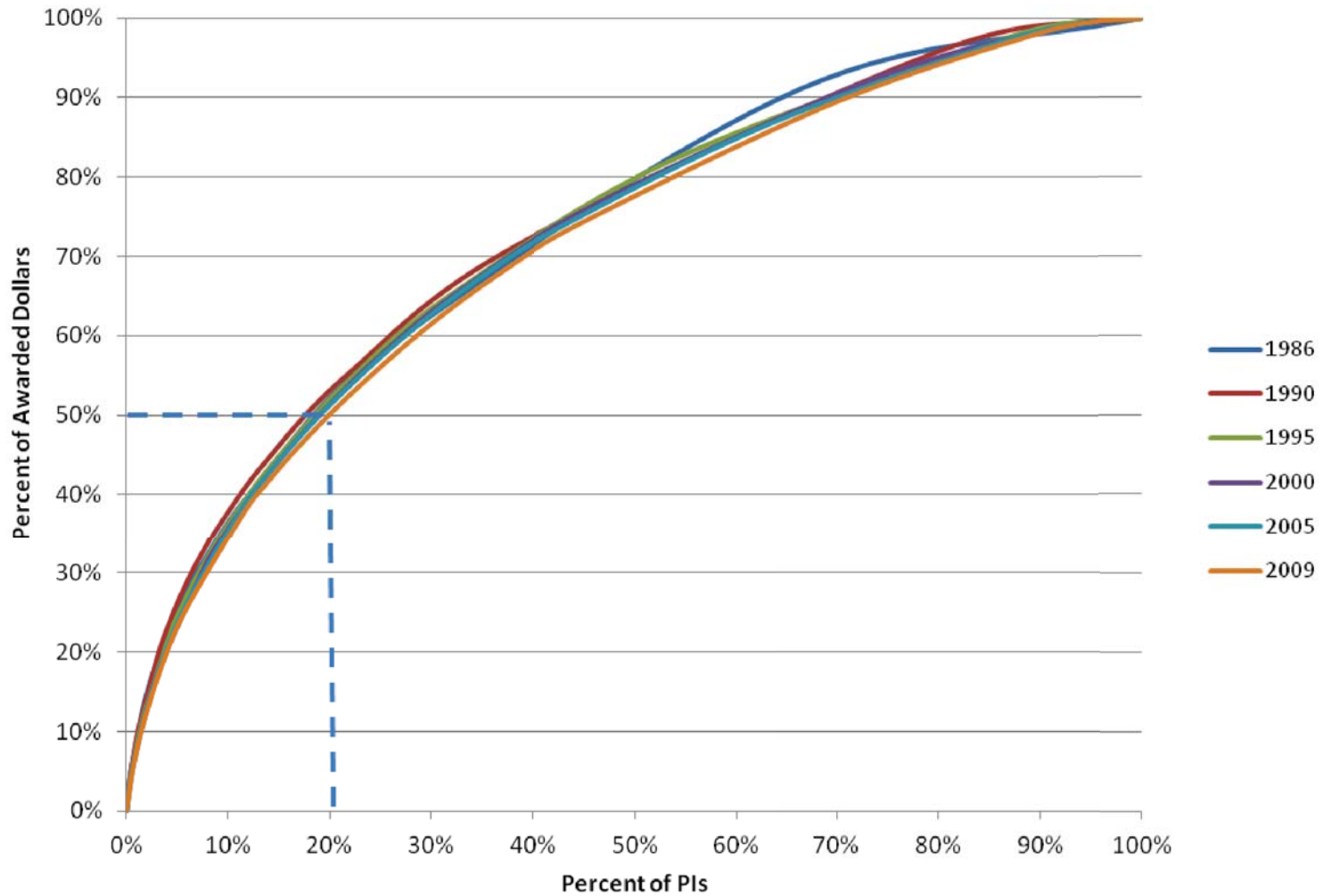


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Distribution of RPG Support to PIs FY 2009



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Using FY 2010 budget and actual numbers of applications, the effect of NIH budget reductions on success rate:

10% reduction in NIH RPG Budget = 12.3% Success Rate*

20% reduction in NIH RPG Budget = 4.1% Success Rate*

FY10 RPGs = 20.6% Success Rate

* Assumes no cuts to non-competing



Option: Reducing or Limiting Size of Award





Option: Reducing Average Size of an Award

FY 2010 Competing RPG Awards:	9,287
Total Cost:	\$3,732,077,099
Average Cost:	\$401,860
Average Cost - \$25k:	\$376,860
Total Savings:	\$232,175,000

Example of effect on number of RPG Awards in FY 2010:

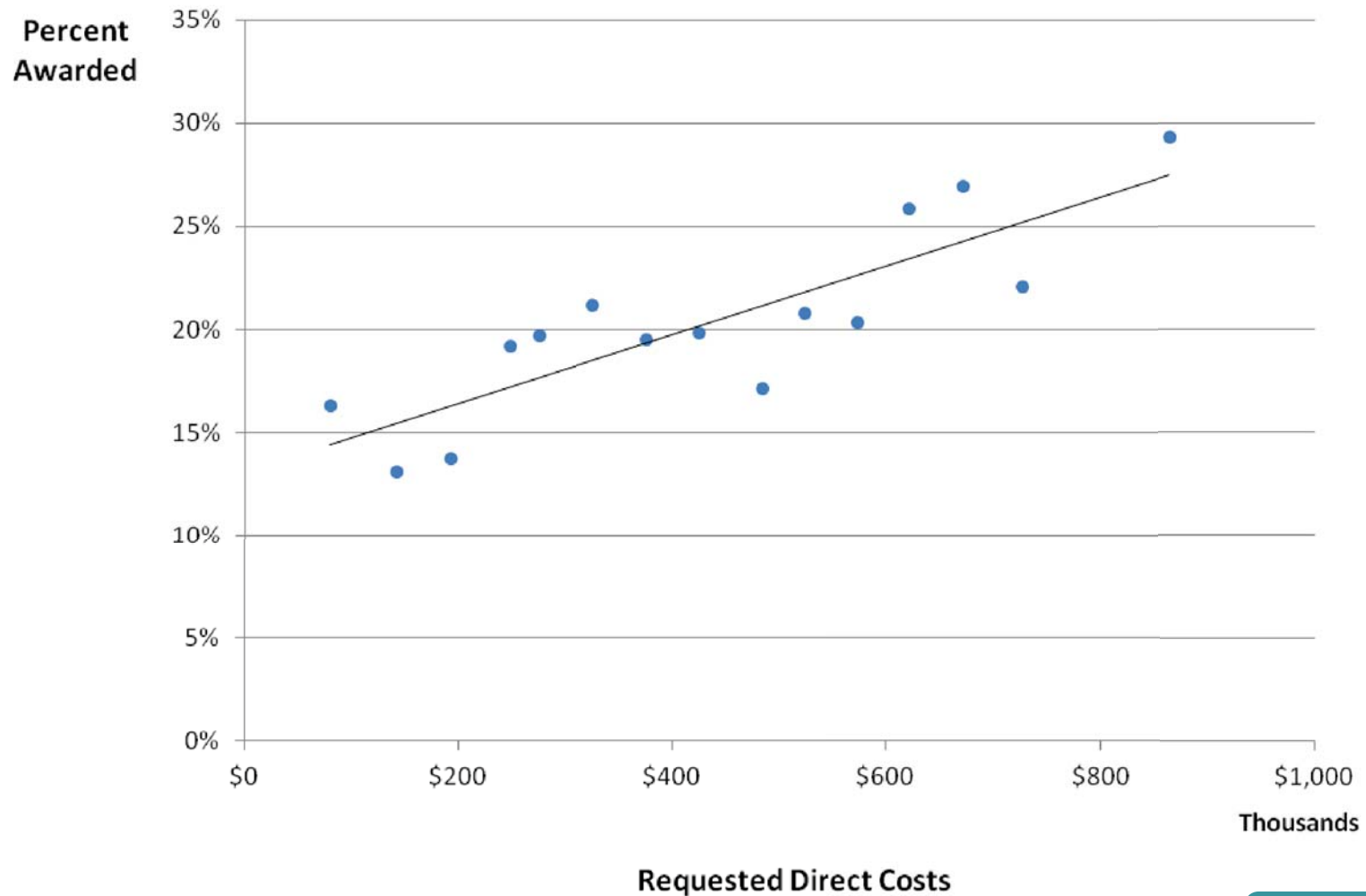
	FY10 Actual	Estimated Effect
Competing RPG awards:	9,287	9,903
RPG success rate*:	20.5%	21.7%

* This RPG success rate is modified to exclude competing supplements, P01 awards and ARRA funding. There are of course many ways to reduce average cost. Flat dollar amount cuts would disproportionately affect smaller grants, while a flat or graduated percentage cut may be fairer.





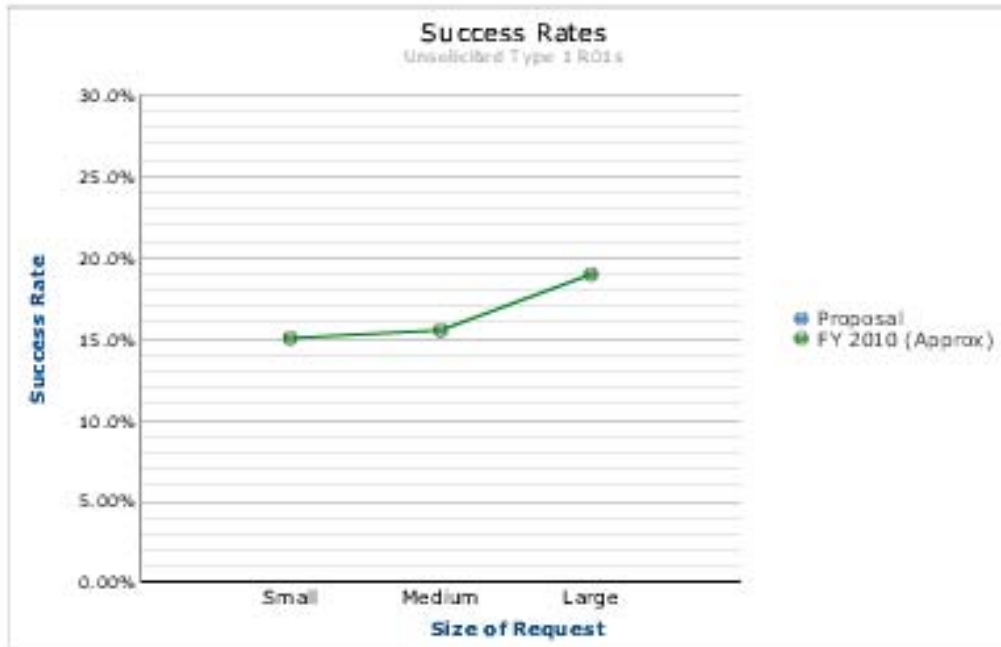
Success Rates Vary by Size FY 2010 Unsolicited New R01 Applications



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Managing Success Rates



Small Requests (\$250K)



1998 Awards

15% Success rate

Large (\$1 M)



305 Awards

19% Success rate

Medium (\$500K)



1187 Awards

16%

Additional Awards:	0
Increased Success Rate:	0.0%
Decrease in Average Size of Award:	\$0

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Reallocating Funding by Size of Award Examples

FY 2010 R01 Funding*			
Request Size	Funding	Awards	Success Rate
Small (\$250K)	\$654,962,808	1,998	15%
Medium (\$500K)	\$542,820,338	1,187	16%
Large (\$1M)	\$230,067,631	305	19%
Total	\$1,427,850,777	3,490	15%

FY 2010
Actual

Example 1			
Request Size	Funding	Awards	Success Rate
Small (\$250K)	\$738,290,811	2,259	17%
Medium (\$500K)	\$531,974,954	1,171	15%
Large (\$1M)	\$157,585,012	209	13%
Total	\$1,427,850,777	3,639	16%

Example 1

149
Additional
Awards

Example 2			
Request Size	Funding	Awards	Success Rate
Small (\$250K)	\$825,148,553	2,525	18%
Medium (\$500K)	\$481,482,983	1,060	14%
Large (\$1M)	\$121,219,240	161	12%
Total	\$1,427,850,777	3,745	17%

Example 2

255
Additional
Awards



* new (type 1) awards



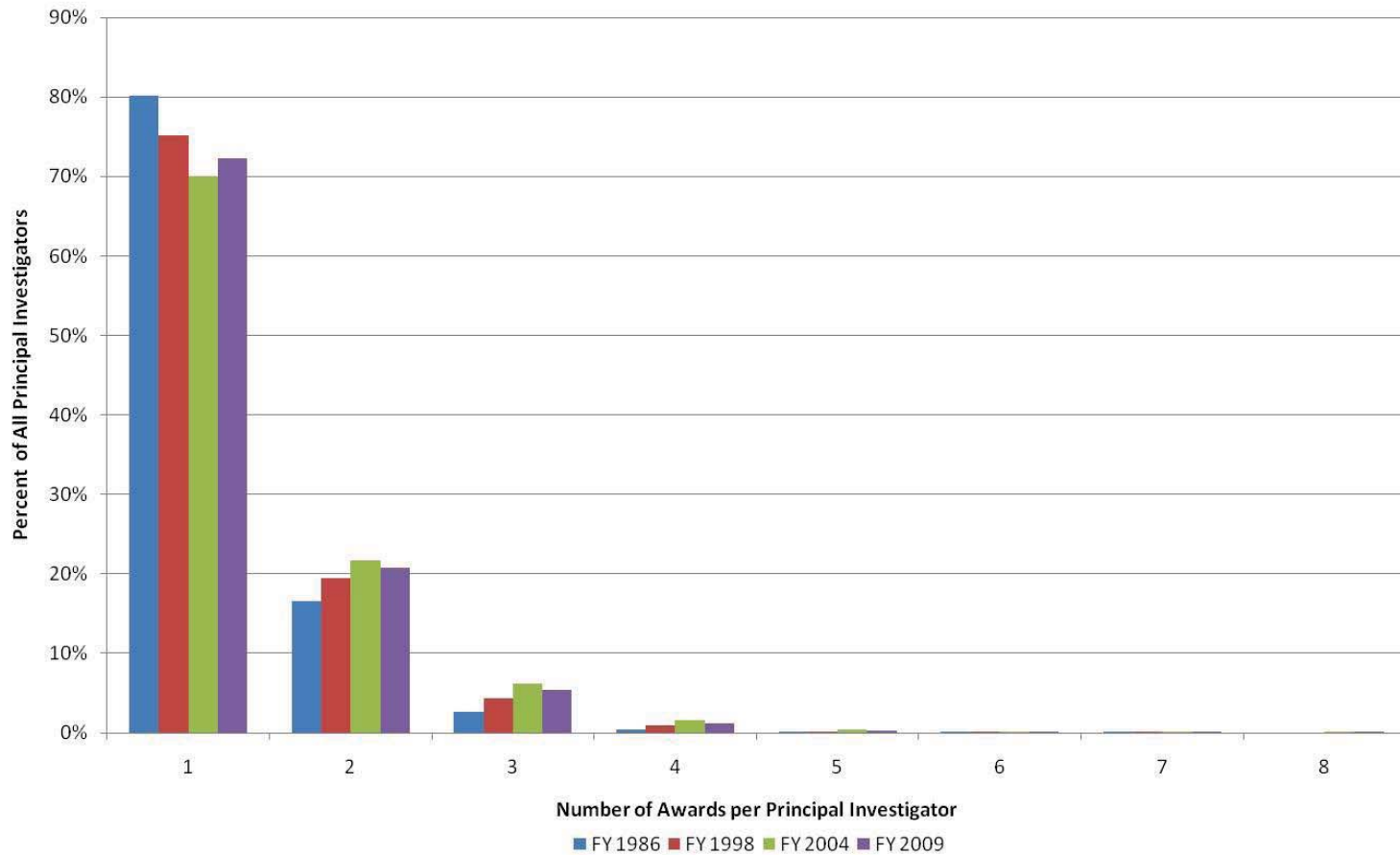
Option: Limiting the Number of Awards Per PI





Distribution of Awards by Number of RPGs Held

All Investigators:
Distribution by Number of RPGs Held



Research Project Grants include the following activity codes: R00, R01, R03, R15, R21, R22, R23, R29, R33, R34, R35, R36, R37, R55, R56, R11, RL2, RL5, RL9, P01, P42, PN1, UC1, UC2, UC3, UC7, U01, U19, U34, DP1, DP2, DP3, RC1, RC2, RC3, and UH2.

Excludes Principal Investigators that only received administrative supplements.

FY2009 excludes applications submitted for funding consideration under the American Recovery and Reinvestment Act of 2009. The numbers include all NIH extramural grants except for the exclusions already noted.

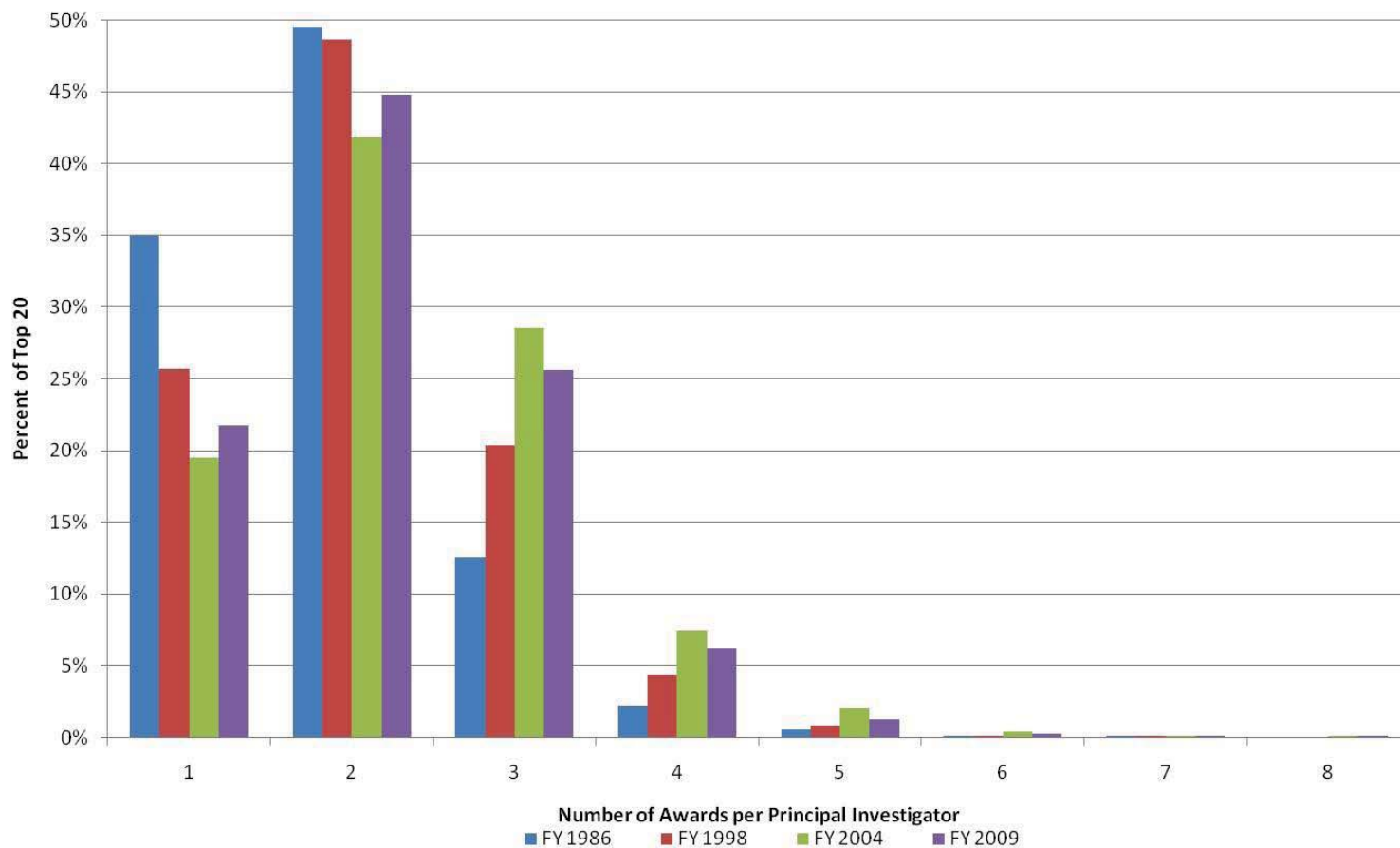


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Distribution of Awards Top 20% Highest Funded Investigators

Top 20% Highest-Funded Investigators:
Distribution by Number of RPG Awards Held



Research Project Grants include the following activity codes: R00, R01, R03, R15, R21, R22, R23, R29, R33, R34, R35, R36, R37, R55, R56, RL1, RL2, RL5, RL9, P01, P42, PN1, UCL, UC2, UC3, UC7, U01, U19, U34, DP1, DP2, DP3, RC1, RC2, RC3, and UH2.

Organization types are mutually exclusive and counts are de-duplicated

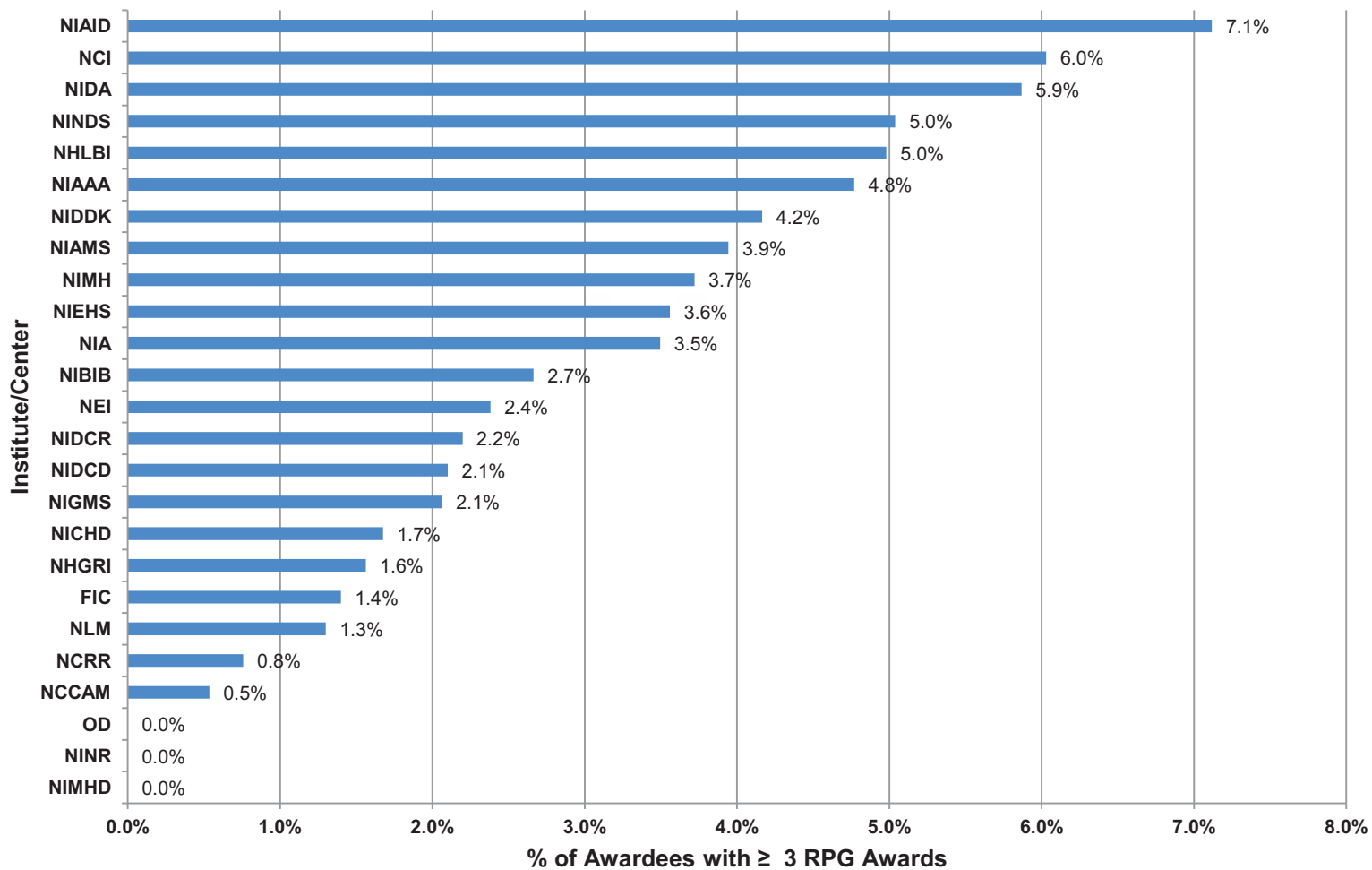
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Percent of Total NIH Institute and Center (IC) RPG Awardees Receiving ≥ 3 RPGs from That IC, FY 2010

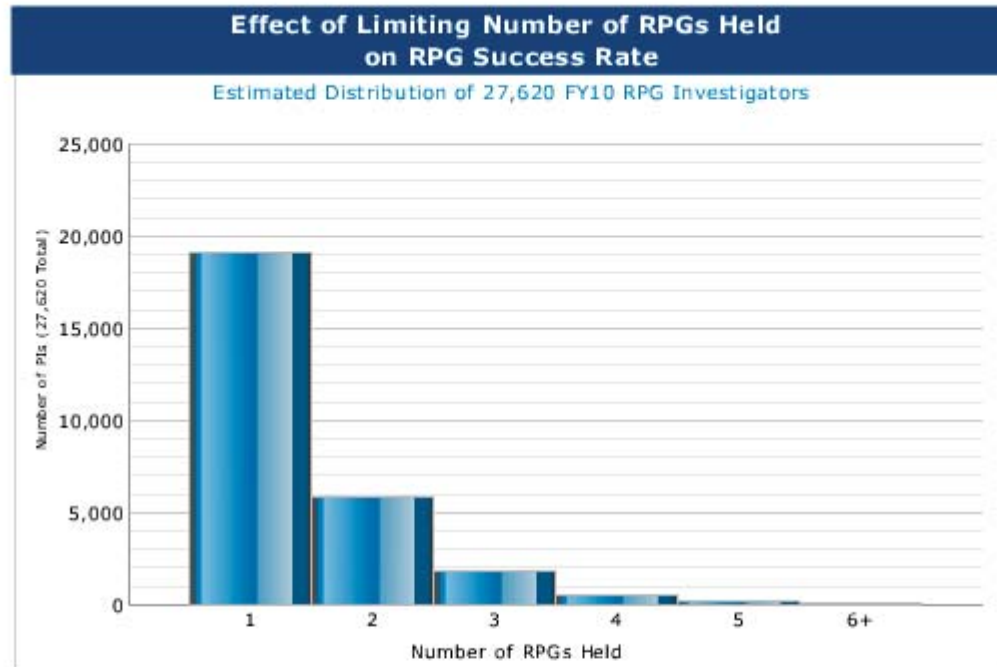


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Number of RPG Awards Held



	FY 2010 Actual	With Limit on Grants Held	Savings Available for Competing*
Total RPG Costs	\$16,548,803,000	\$16,548,803,000	\$0
Avg Competing RPG	\$420,000	Assumed Same	
Competing RPG Awards	9,455	9,455	
Additional Competing RPG Awards		0	
RPG Success Rate Base	45,983	45,983	
RPG Success Rate	20.6%	20.6%	

* Amount of savings available to pay competing awards = Total Savings / Avg Length of Research Grant

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Option: Limit Number of Awards per PI Examples

FY 2010 – No Limits

- Projecting 9,455 competing NIH RPGs with 20.6% success rate

Limit to 5 RPGs per PI

- Estimate 9,470 competing (+15) NIH RPGs with 20.6% success rate

Limit to 3 RPGs per PI

- Estimate 9,719 competing (+264) NIH RPGs with 21.1% success rate

Limit to 2 RPGs per PI

- Estimate 10,411 competing (+956) NIH RPGs with 22.6% success rate





Option: Limiting the Amount of Funds per PI





RPG Awardees: Number and Total Dollars Awarded, FY 2010

All RPG Awardees, FY 2010		
Total RPG \$ Per Awardee	Number of RPG Awardees	Total RPG \$
\$500,000 or less	16,424	\$4,957,902,065
500,000 to \$1 Million	6,529	\$4,528,256,909
\$1 Million to \$5 Million	3,156	\$5,487,835,609
\$5 Million to \$10 Million	67	\$439,525,125
\$10 Million to \$15 Million	11	\$135,326,646
More than \$15 Million	13	\$309,311,116

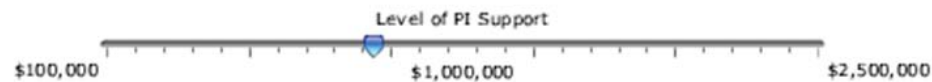
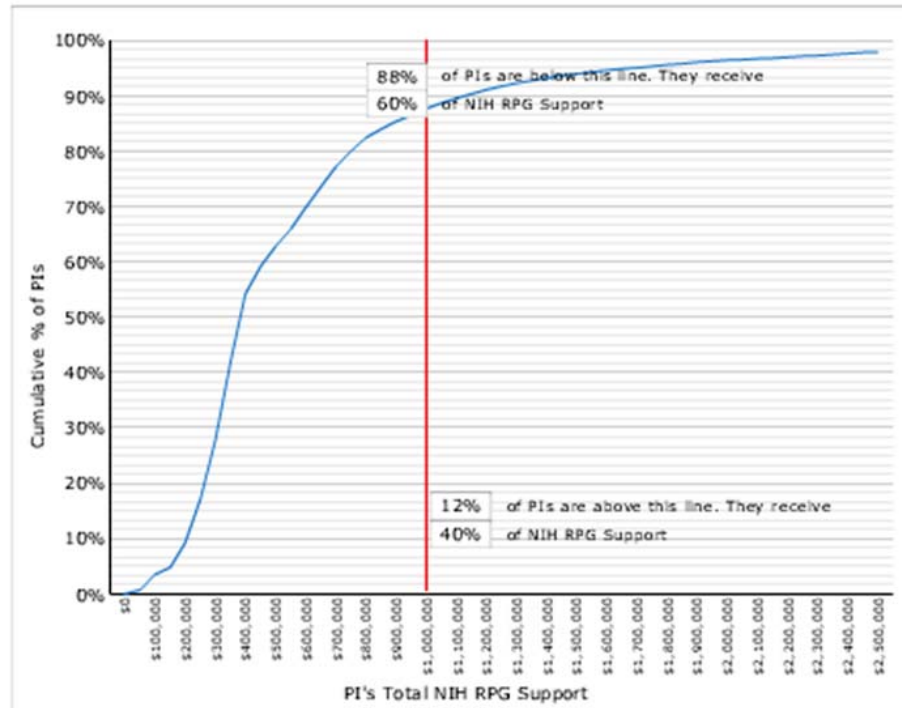
Top 20 Percent RPG Awardees		
Total RPG \$ Per Awardee	Number of RPG Awardees	Total RPG \$
500,000 to \$1 Million	2,011	\$1,714,841,292
\$1 Million to \$5 Million	3,138	\$5,467,348,993
\$5 Million to \$10 Million	67	\$439,525,125
\$10 Million to \$15 Million	11	\$135,326,646
More than \$15 Million	13	\$309,311,116



*Top 20 % RPG awardees are based on total RPG \$s awarded



PIs by Amount of RPG Support



	PIs	Total RPG Support
Below Marker	22,969	\$9,489,905,994
Above Marker	3,245	\$6,368,251,476
Total	26,214	\$15,858,157,470

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Option: Limit Amount of Funds per PI Examples

Limit PI's Total RPG Support to \$1 Million

- Affects 3,245 PIs with total current funding of \$6.4 billion
- Funding for these PIs reduced to \$3.245 billion
- Savings of \$3.1 billion (estimated one-fourth available for competing awards in any given year, or approximately \$800 million)
- Allows for approximately 2,000 additional competing RPG awards at average cost of \$400,000

Limit PI's Total RPG Support to \$800,000

- Affects 4,629 PIs with total current funding of \$7.6 billion
- Funding for these PIs reduced to \$3.7 billion
- Savings of \$3.9 billion (estimated one-fourth available for competing awards in any given year, or approximately \$975 million)
- Allows for approximately 2,400 additional competing RPG awards at average cost of \$400,000

Limit PI's Total RPG Support to \$400,000

- Affects 12,000 PIs with total current funding of \$11.9 billion
- Funding for these PIs reduced to \$4.8 billion
- Savings of \$7.1 billion (estimated one-fourth available for competing awards in any given year, or approximately \$1.8 billion)
- Allows for approximately 4,400 additional competing RPG awards at average cost of \$400,000





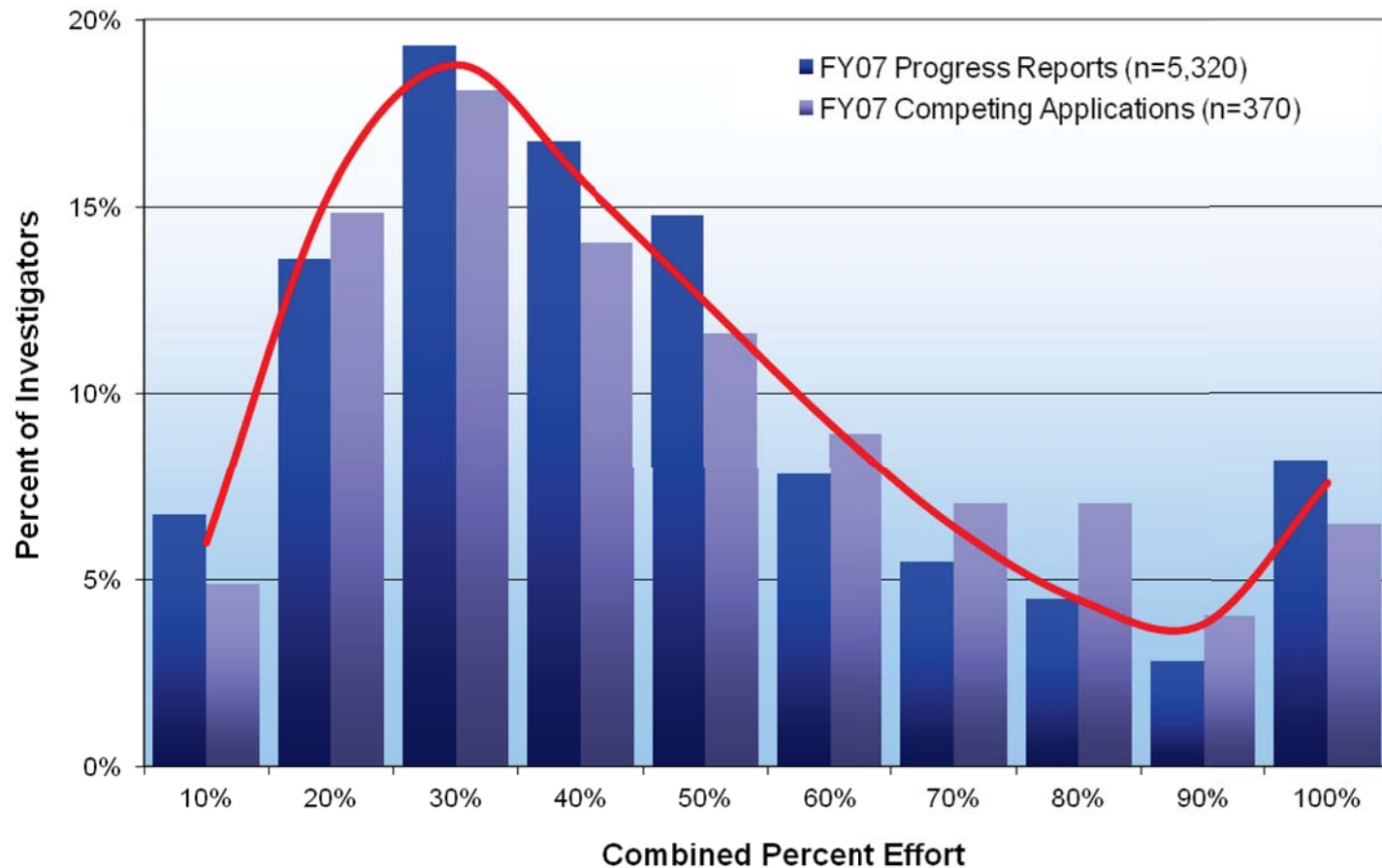
Option: Limiting Salaries of PIs





Distribution of PIs by Level of Effort

**Estimated Distribution of R01 Principal Investigators
by Total Effort on NIH Research Project Grants and Centers**



[Click for data table](#)



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