Evolution of R01 Success Rates and Funding Trends in New Extramural Cardiovascular Research Supported by the Vascular Biology and Hypertension Branch of the Division of Cardiovascular Sciences at NHLBI

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Purpose

- To examine the evolution of R01 research portfolio supported by VBHB, within the overall context of cardiovascular research supported by DCVS and NHLBI.

Abbreviations

- **Success Rate**: Awarded / Reviewed Applications
- **NHLBI**: National Heart, Lung, and Blood Institute
- **DCVS**: Division of Cardiovascular Sciences
- **VBHB**: Vascular Biology and Hypertension Branch

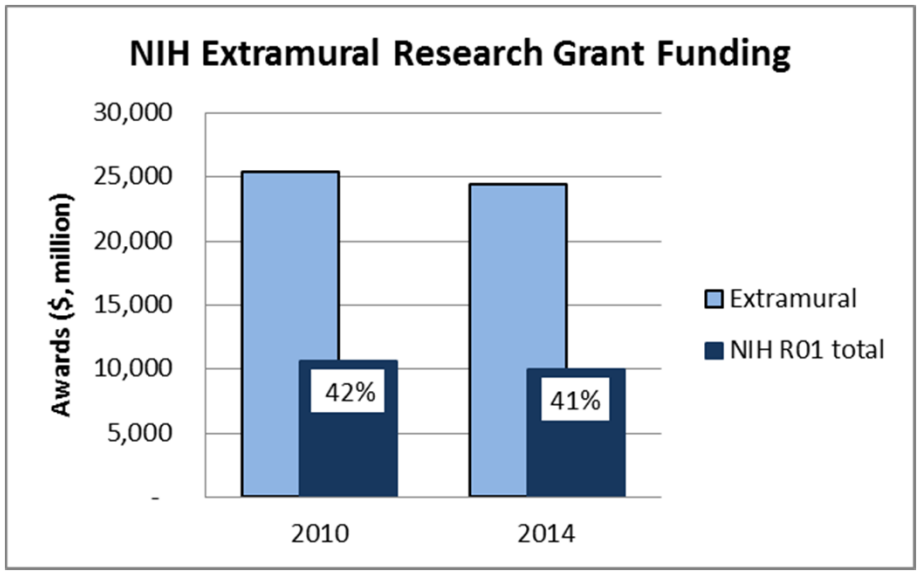
Methods

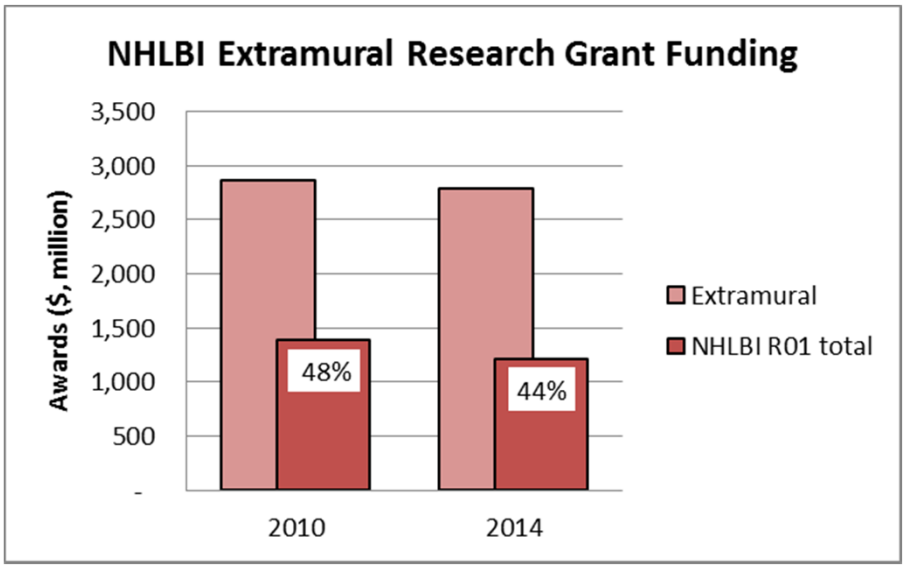
- Data were obtained from the NIH Office of the Director (OD) for grant applications and awards assigned to NHLBI over a 5-year-period (2010 – 2014).
- Additional Data were obtained from NIH RePORT.
- Data were organized by program division and grant mechanism for NHLBI, DCVS, and VBHB.
- OD data were verified by confirming the success rate calculations as presented by NIH Data Book.
- Focused on the R01 grant mechanism.

Why the Focus on R01s?

- Major source of financial support in most US research laboratories.
- Competing R01s are a good indicator for new science.
- Major type of grant mechanism administered by NIH, NHLBI, DCVS and VBHB.

R01 is the Major Type of Grant Mechanism used by VBHB





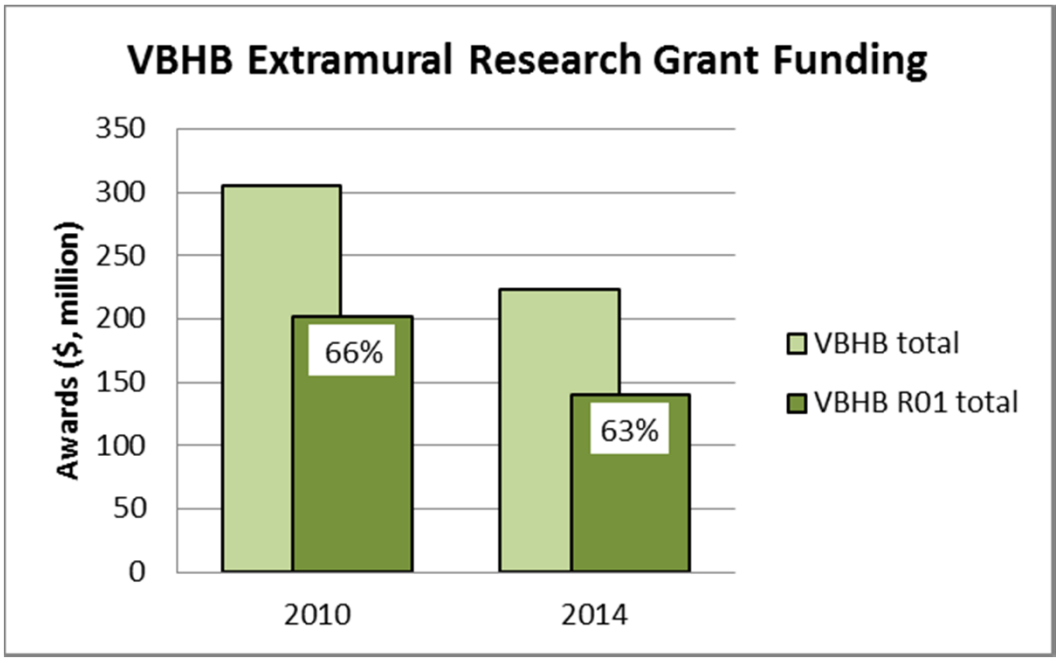
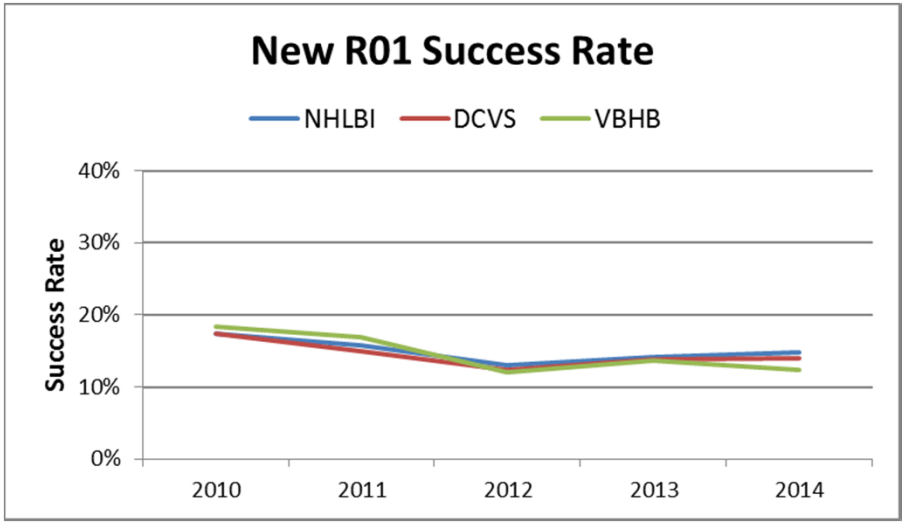
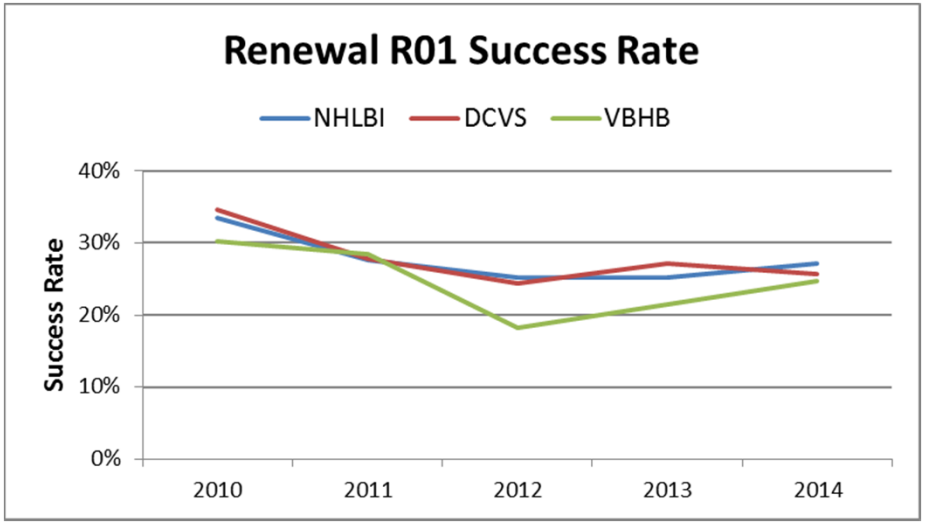


Fig. 1

Decline of Success Rates in NHLBI, DCVS, and VBHB





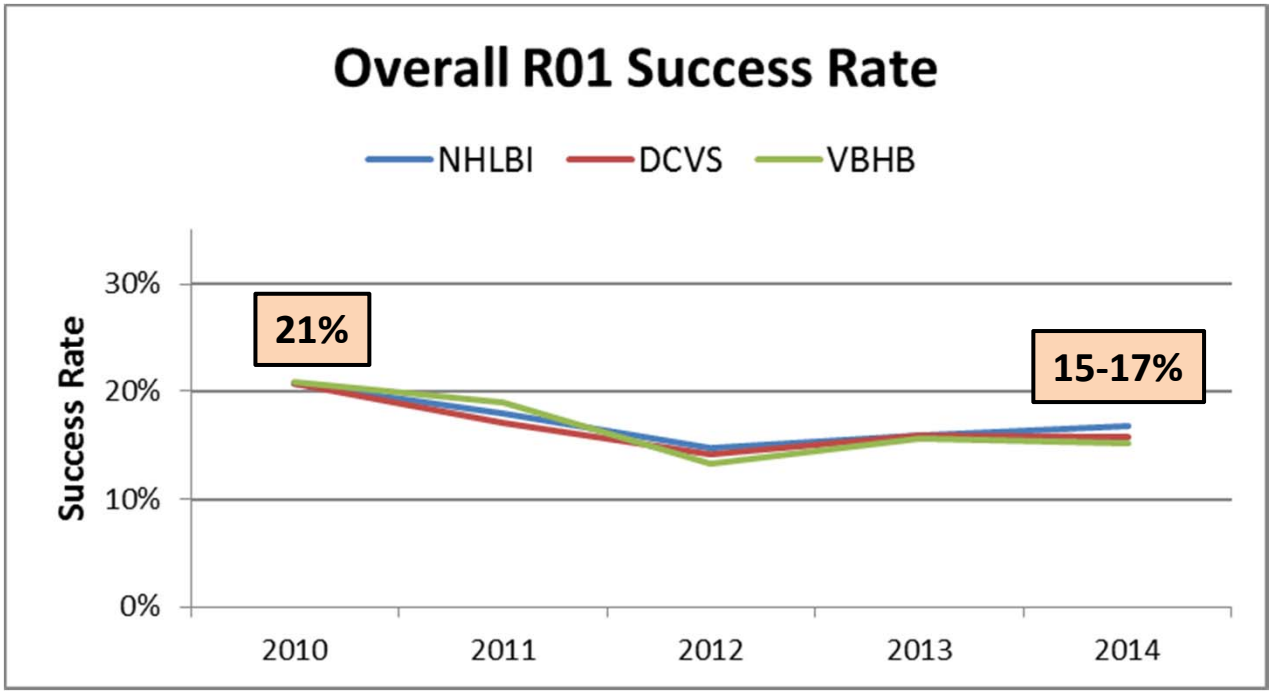
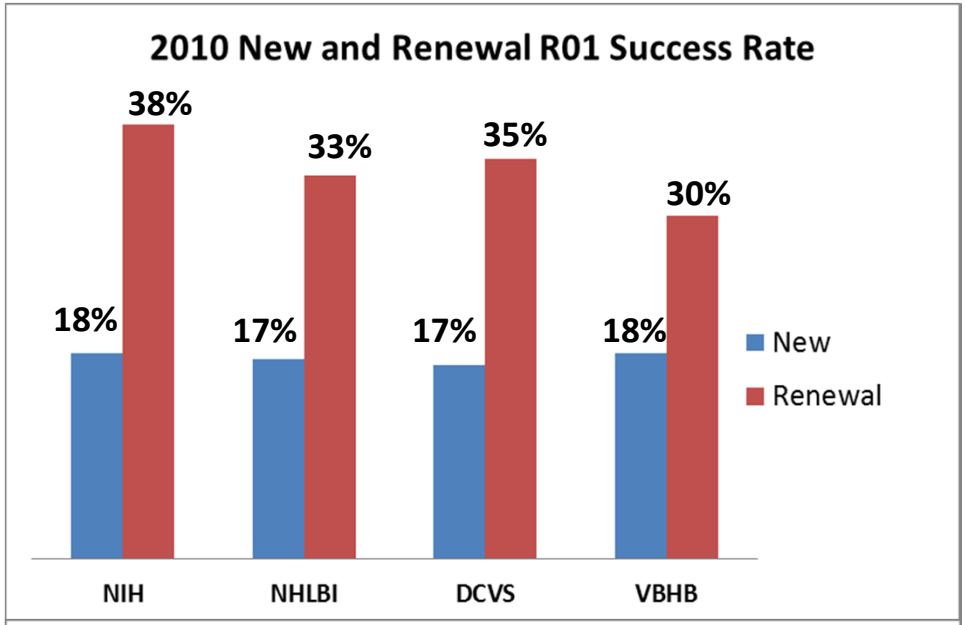


Fig. 2

Success rate for R01 Renewals is almost double vs. New R01

2010



2014

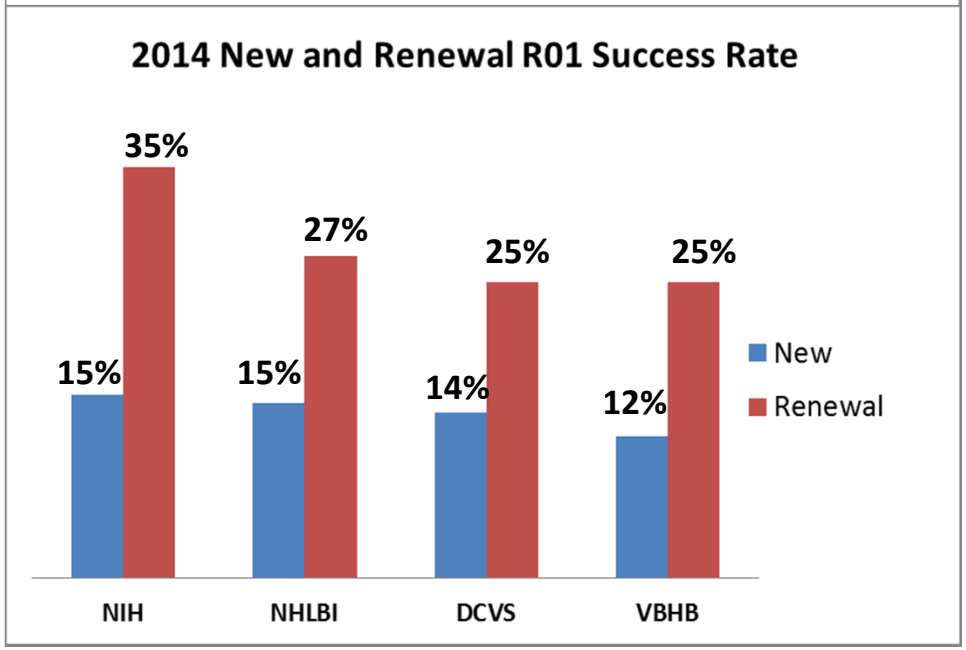
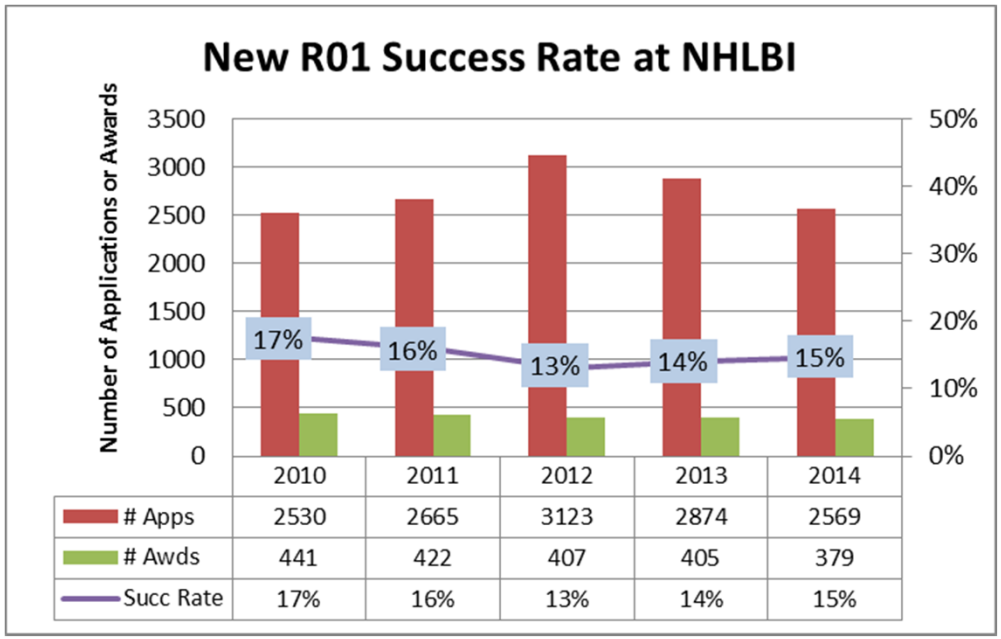
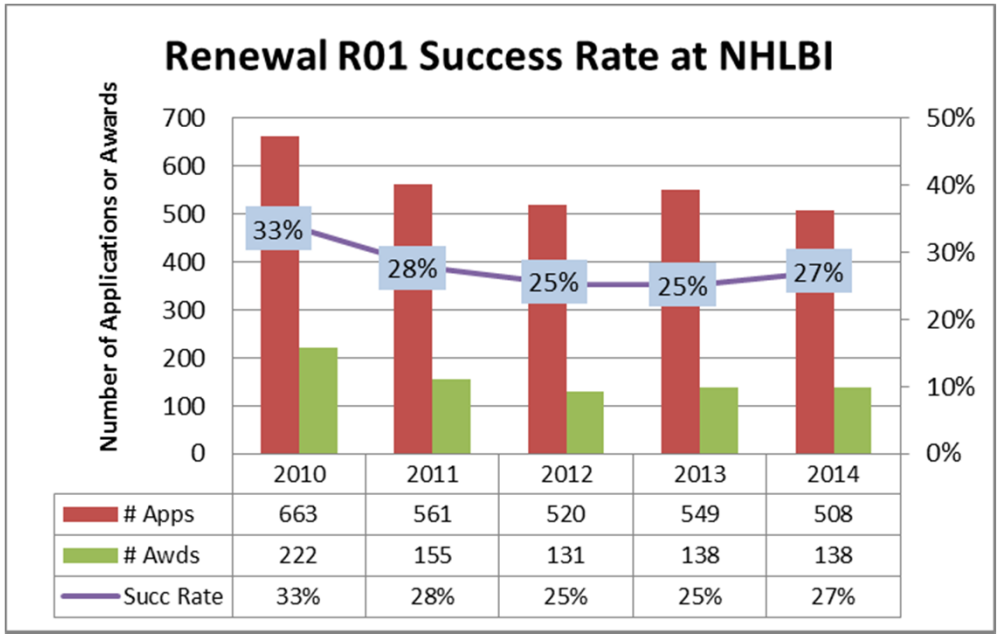


Fig. 3

Trends of New and Renewal R01 Success Rate at NHLBI



	2010	2011	2012	2013	2014
# Apps	2530	2665	3123	2874	2569
# Awds	441	422	407	405	379
Succ Rate	17%	16%	13%	14%	15%



	2010	2011	2012	2013	2014
# Apps	663	561	520	549	508
# Awds	222	155	131	138	138
Succ Rate	33%	28%	25%	25%	27%

Fig. 4

A Decreased Number of New and Renewal R01 Applications were Received at NIH and NHLBI (FY2014/FY2010)

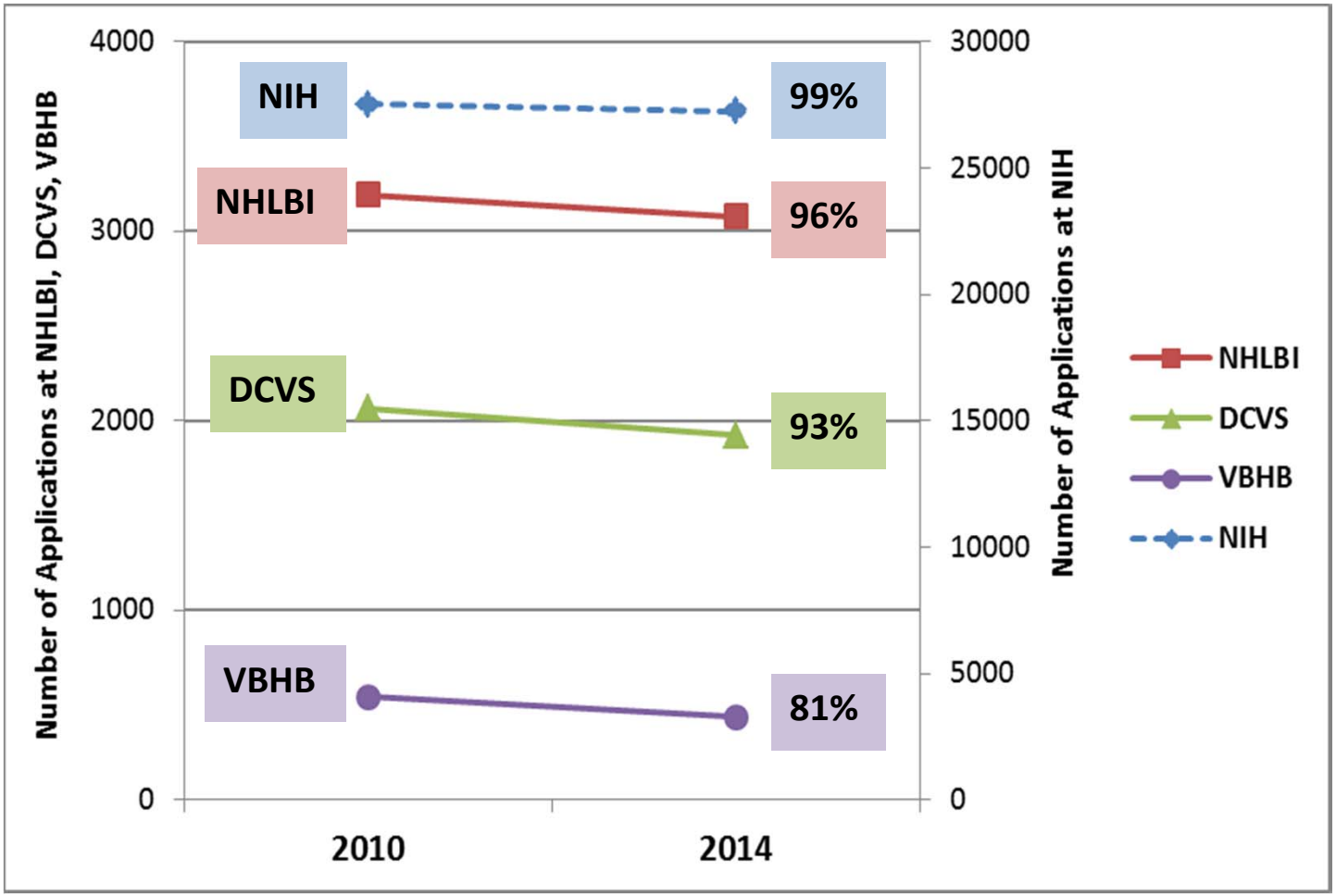


Fig. 5

Total Award Dollars in New and Renewal R01s Decreased at NIH and NHLBI (FY2014 vs. FY2010)

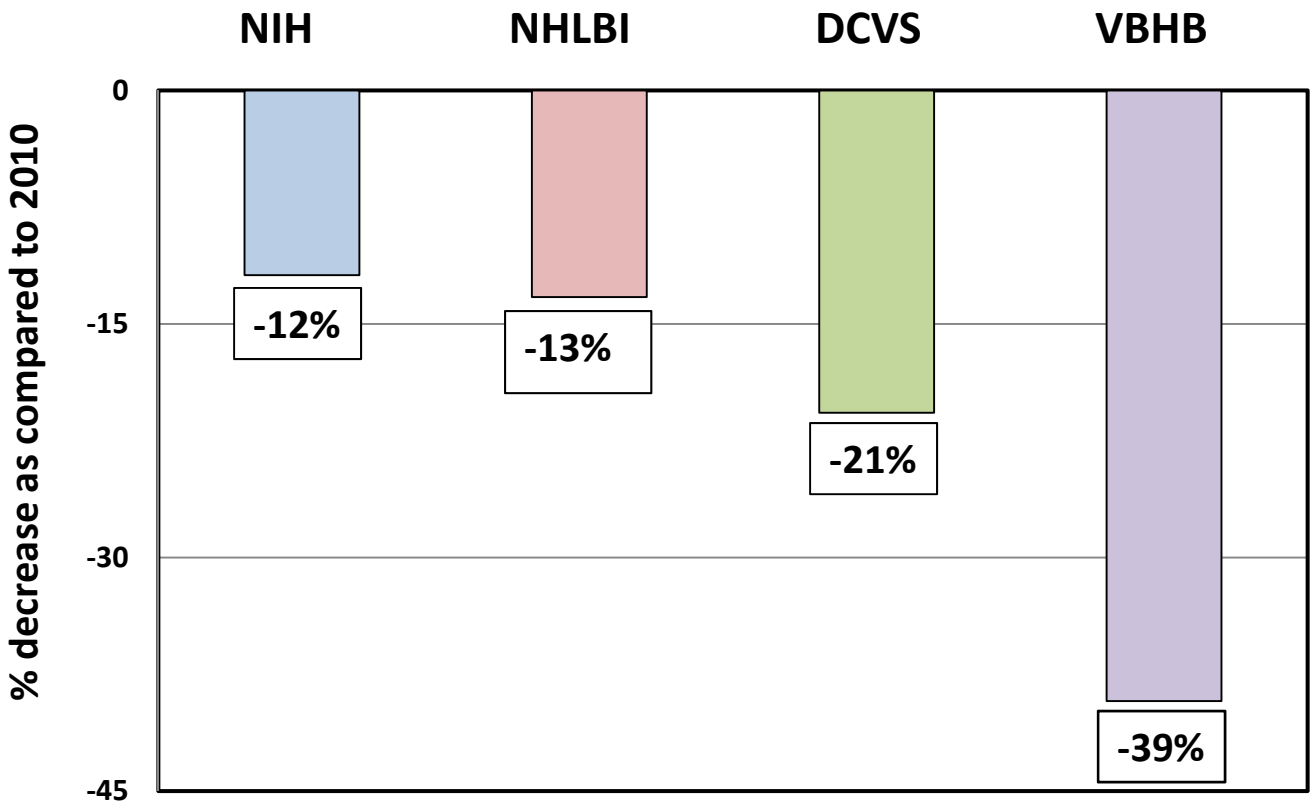


Fig. 6

Top 10 States that received most competing NHLBI R01 awards in 2010. All received reduced number of competing R01s in 2014 except IL (*).

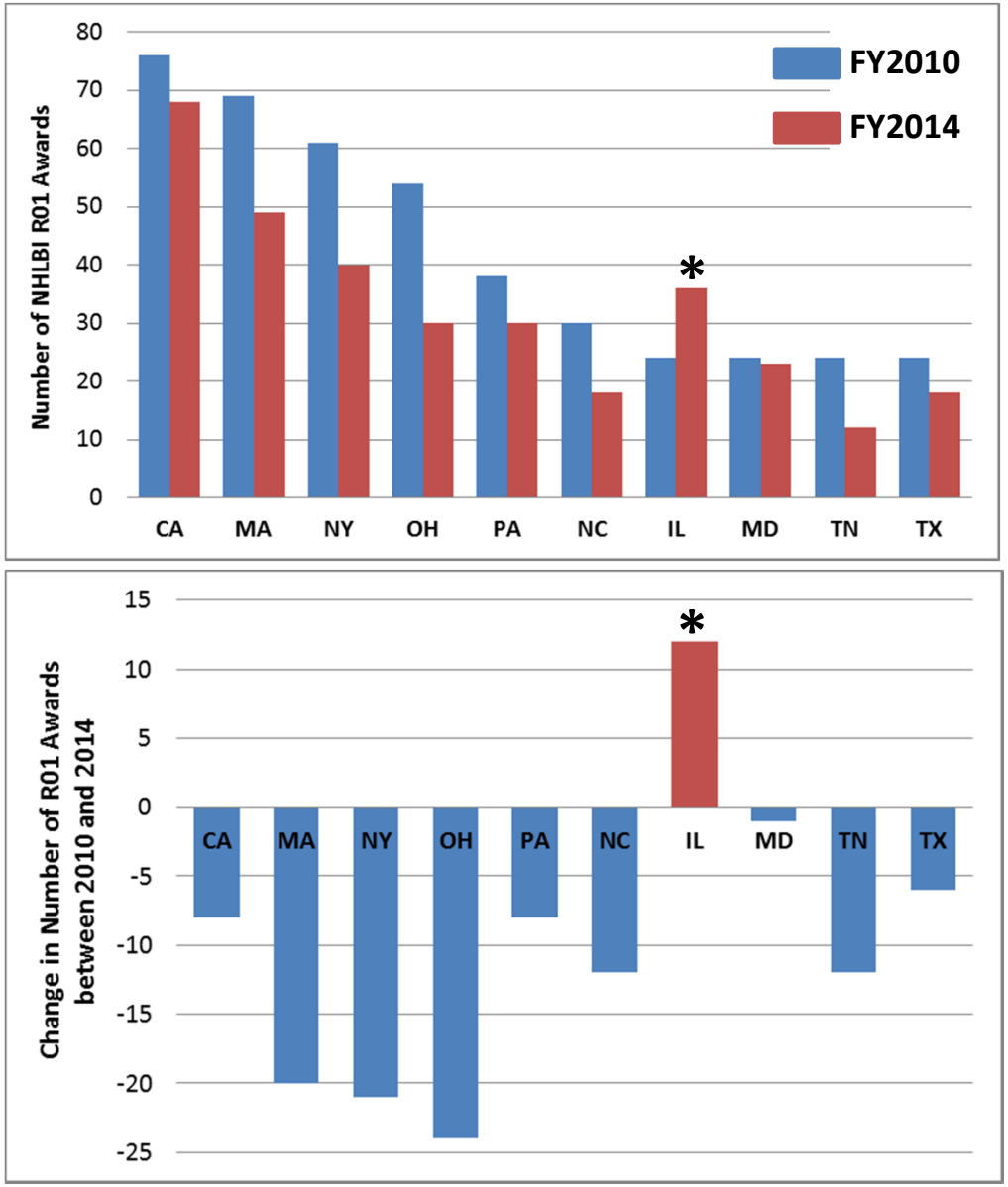


Fig. 7

Summary of Main Findings

- Success rates of new and renewal competing R01s declined at NHLBI, DCVS, and VBHB during 2010-2014 (from 21% to ~16%).
- Renewal R01s are about 2x more successful compared to new R01s at all levels, including NIH, NHLBI, DCVS, and VBHB in both 2010 and 2014.
- Funding on new and renewal R01s decreased across the board between 2010 and 2014 (13% decline at NHLBI; 21% decline at DCVS, and 39% decline at VBHB).
- The decrease in new and renewal R01 funding in 2014 compared to 2010 was apparent in all US states with the exception of one state, i.e., IL.

Conclusion

- The stagnant NIH budget has negatively impacted the R01 research portfolio of NIH, NHLBI, DCVS, and VBHB.
- We note a significant reduction in new science, as represented by new and renewal competing R01 applications and awards assigned to NHLBI, DCVS, and VBHB during 2010-2014.
- The finding of an opposite trend in one state created the opportunity to further investigate the potential reasons behind the positive evolution of R01 funding for applications coming from this state's institutions in the current tight fiscal environment (the "story behind it").

Acknowledgment

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Questions

- Email to Young Oh (YOH@NHLBI.NIH.GOV) or Valerie Robinson (VALERIE.ROBINSON@NIH.GOV)