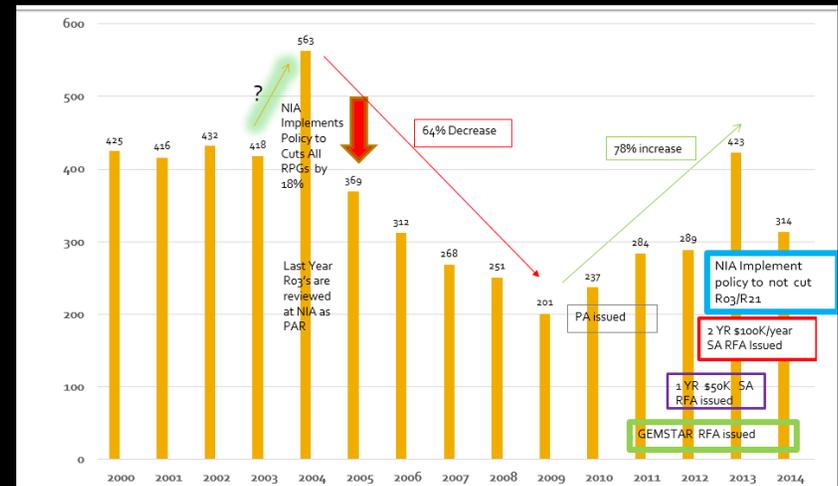


A Little Nudge Goes a Long Way: Response to RFAs

of R03 Applications Submitted to the NIA



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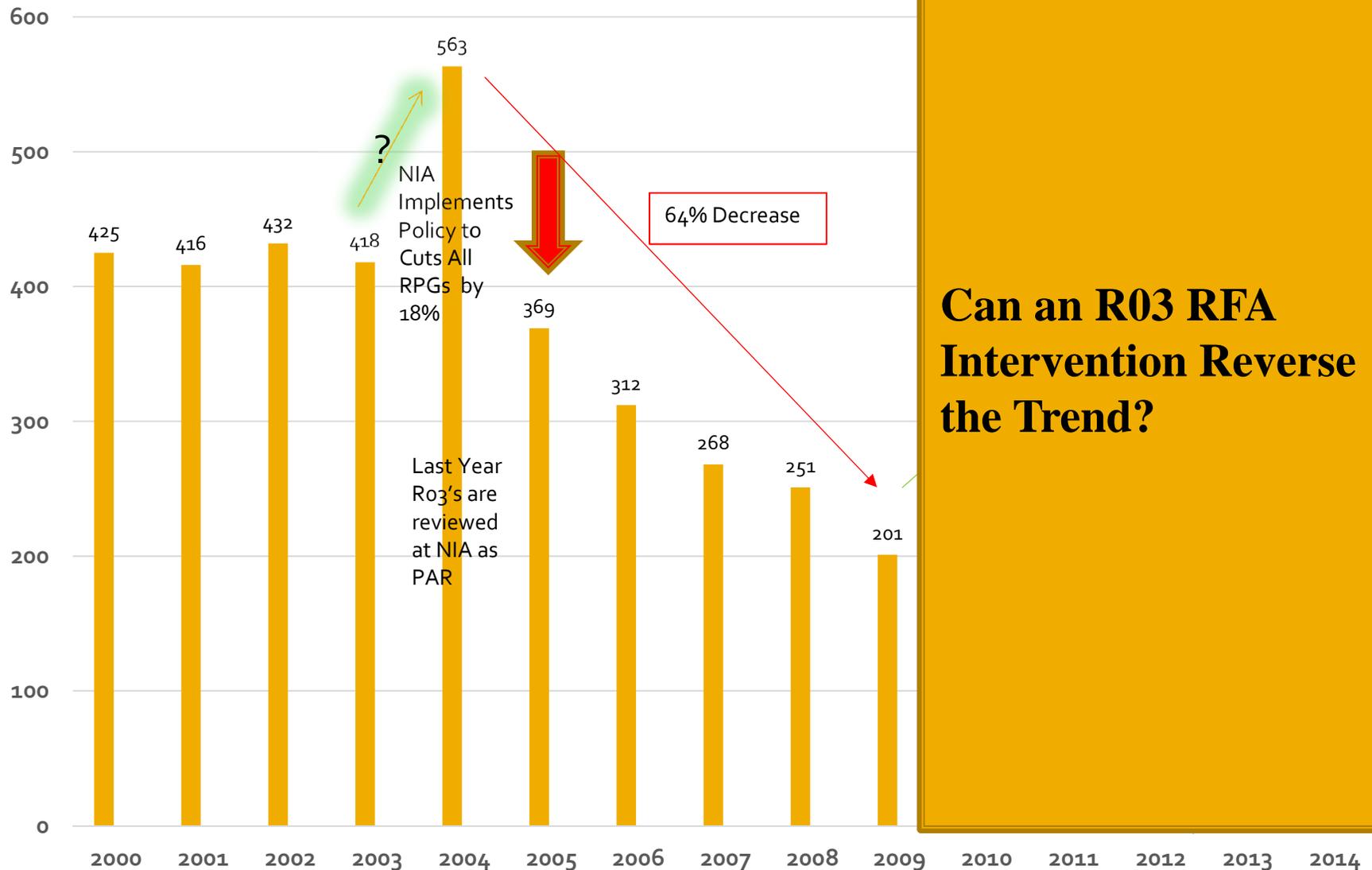
Outline

- R03 Background
- Intervention to nudge applicants
- Intervention to nudge reviewers (observation)
- Outcome
- Lessons learned

Background

- R03 is an important mechanism for our Division as we support large data infrastructure projects (e.g., HRS, NHATS)
- Between 2005 and 2011, the NIA funded 275 R03s
 - Secondary data analysis (~40%)
 - Archiving (~5%)
 - Pilot data collection and analysis (~55%)

of R03 Applications Submitted to NIA were Declining



Can an R03 RFA Intervention Reverse the Trend?

Why have R03 Applications Declined?

- Possible Reasons
 - No Bonus for NI and ESI
 - Most required A1
 - Value of R03s declined over the years (\$50K in 2000 is equivalent to \$32.2K in 2014)
 - Value goes down further with a 18% cut (\$26.4K in 2000 dollars)
 - Long delays for small award (expected pay-off is low)
 - Change in review format from PAR to regular study sections

Can an Intervention Reverse or Halt this Trend?

- Our Baseline R03: Parent R03 (2 year funding \$50K Direct Costs(DC)/year– maximum award \$100K)
→ Time from submission to award ~ 9 to 18 months
- Our Intervention:
 - 2 new RFAs
 - One year small grant program (R03)
 - **Offer 1 year funding at \$50K in DC**
 - Two year small grant program (R03)
 - **2 year funding \$100K DC/ year** (we adjusted for inflation for parent R03)
- For All R03 RFAs, review was expedited (time from submission to award ~6 months)

Characteristics of the RFAs: Observed by PIs

RFA	Duration Allowed (Years)	Funding Cap Amount (DC/year)	Amount Available for Funding	Potential Awards to be Made
RFA 2-2013	1	\$50K	\$1M	11
	A	B	C	D
RFA 3-2013	2	\$100K	\$1M	6

A: Applicants can distinguish easily between a 1 year and 2 year RFA

B: Funding amount available per award per year doubled, but the amount available for an award quadrupled (1-year x \$50K vs. 2-year x \$100K)

C: We did not change the funds available for the two RFA (fixed at \$1M)

D: Odds of receiving a 2-year award decreased by 45% (from 11 to 6)

Outcome of the RFA Observed by Program

RFA	Duration Allowed	Funding Cap Amount	Amount Available for Funding	# of Applicants who never received a R01 (%)	# of Application received
RFA 2-2013	1	\$50K	\$1M	53 (84%)	63
		A			B
RFA 3-2013	2	\$100K	\$1M	84 (72%)	116

A: Program adjusted the 2 year R03 RFA's for inflation

- **Adjusting inflation (incentive) may have been equivalent to “money illusion” from a grantee perspective**
 - “money illusion” refers to a tendency to think in terms of nominal rather than real monetary values. Money illusion has significant implications for economic theory, yet it implies a lack of rationality

B: Program received twice as many applications for the 2 year R03 when adjusted for inflation(63 versus 116)

- **The response was perfectly elastic**
- **Nothing to do with “money illusion”, there is demand for such mechanism and the market (grantees are responding)**
- **More senior investigators applied**
- **Junior investigator may have preference towards 1 year \$50K RFA if the turnaround time is short**

Other Attributes Observed from the RFA

→ Qualitative analysis of funded applications and reviewers comments (e.g. “this is like a R01 application”) suggests that \$100K R03 RFA also broadened the scope of applications (i.e. number aims and work associated with these aims increased)

→ Too early to assess outcome of the RFAs- in terms of publication and impact

Response to the Parent R03 PA after Change in NIA Funding Policy

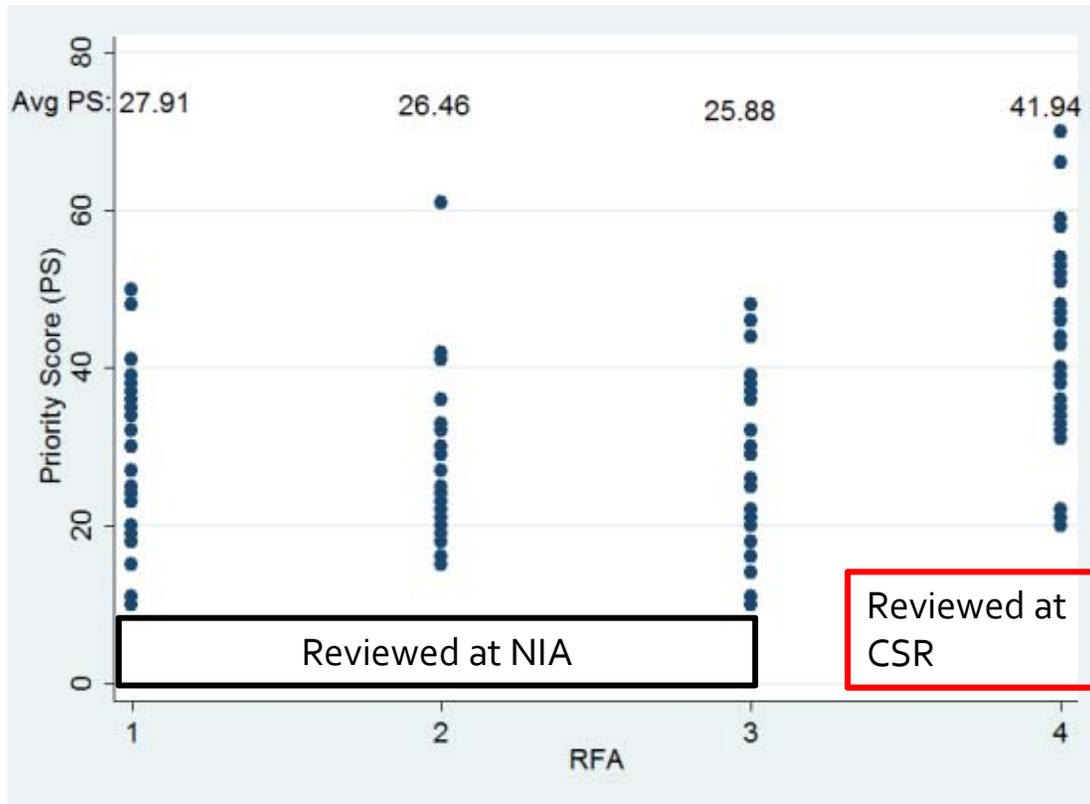
Did Applicants Respond to Change in NIA Funding Policy?

- Starting 2013 NIA stopped reducing R03/R21 application budget by 18% (i.e. they were being paid by the amount requested)
 - Response → 20% increase in number of applications
- We should be careful in interpreting this as an elastic response as there were other factors which could have influenced the number of application (e.g. resubmission of applications from the RFA; response to other IC policy of not accepting R03 applications, etc)

FOA	# of Application received	# of Awards
Parent R03-2012	120	15
Parent R03-2013	145	18
Parent R03-2014	155	16
Parent R03-2015	165	10+

Natural Experiment: Observation from Distribution of Priority Scores in Review

Distribution of Priority Scores by RFA



Background

- First 3 RFA reviews were conducted at NIA
- Due to unforeseen reason –the review for the 4th RFA was switched to CSR

- SRA Instructions to Reviewers Varied between NIA and CSR

- NIA Review:

- Reviewers were instructed to use the scoring scale

- CSR Review:

- Reviewers were instructed to use the scoring scale

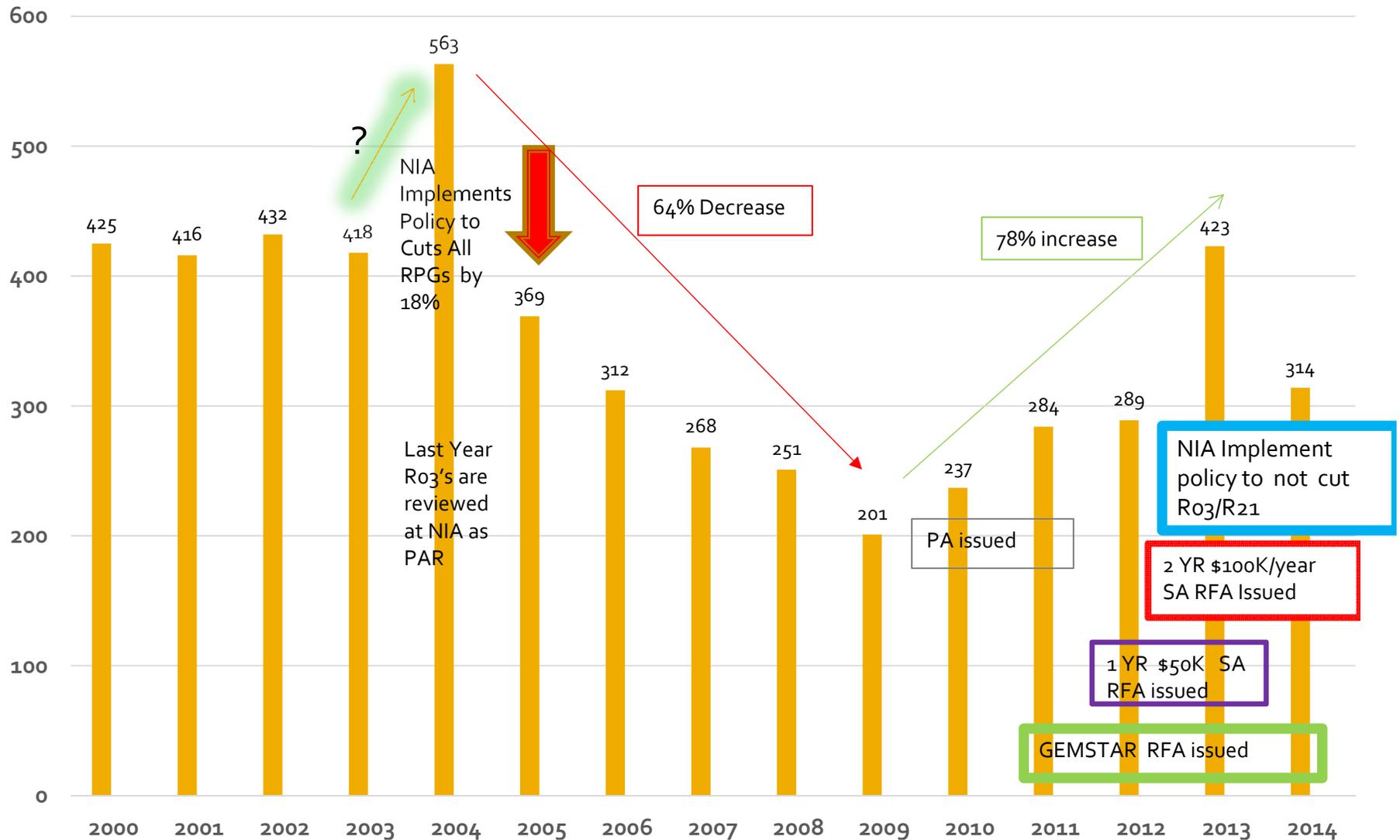
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- Reviewers were requested to start scoring at 5 because CSR was experiencing score compression in Study Sections

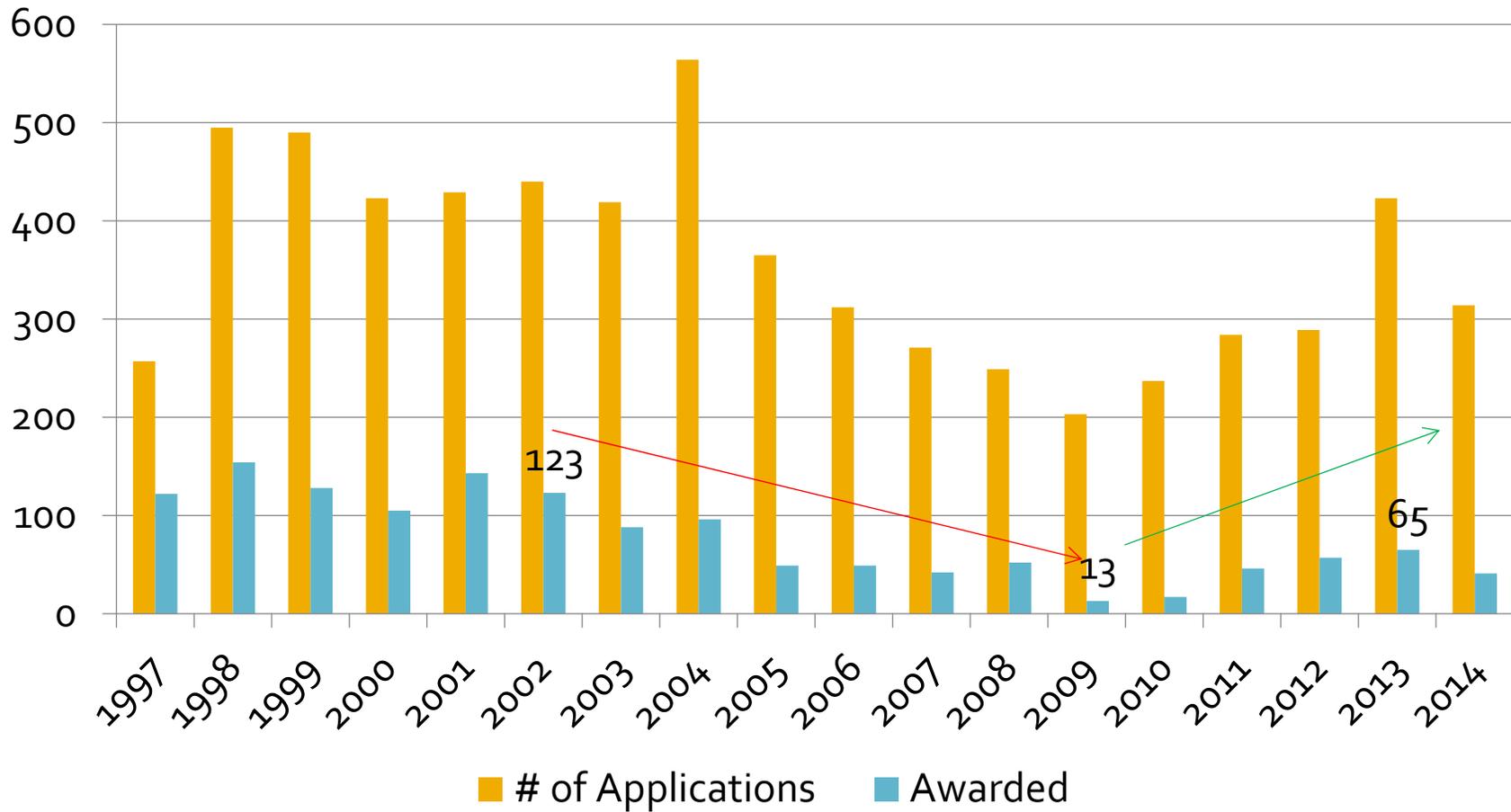
- Outcome

- Reviewers managed to spread the score during CSR review and the difference is significant

of R03 Applications Submitted to the NIA Increased After the Intervention



Along with number of applications, the Number of R03 Awards Increased after the Intervention



Note: ARRA awards not included

Lessons Learned

- Program
 - There may be a demand for smaller mechanisms if we adjust the funding caps for inflation
 - R03s, K applications for Physician Scientists, etc.
 - New mechanisms for \$50K/1-yr DC may be suitable for pilot data collection
 - Shorter turnaround time from receipt of application to payment may be important for junior applicants
 - Junior applicants may prefer smaller amounts (e.g., \$50K/year) at the onset of their research career so that they can write R01s with the preliminary data collected from an R03
- Review
 - Reviewers are capable of spreading scores if they are nudged