



**American Alliance
of Academic
Chief Residents
in Radiology • A³CR²**

2015 A³CR² Annual Chief Resident Survey

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St. Louis



Survey Purpose

- Share facts and information about the structure of training programs
- Use information about resident benefits to address discrepancies at individual programs as well as overall trends
- Share opinions about important issues facing residents in training
- Share ideas for how to deal with these important issues

Survey Format

- Confidential online survey (surveymonkey.com)
- Multiple choice questions (single and multiple answer), free text for additional comments

2015 A3CR2 Chief Resident Survey

1. SURVEY DETAILS

Thank you for taking time to complete the annual survey of diagnostic radiology chief residents sponsored by the American College of Radiology. This survey applies to diagnostic radiology chief residents only.**

Please complete the survey by Monday, March 16, 2014. The responses to this survey will be compiled and analyzed to provide information to the American College of Radiology and the American Society of Diagnostic Radiology.

The survey will take about 20 minutes to complete. You cannot save your progress during the survey, so please complete it in one sitting.

*** For programs with multiple chief residents, we ask that ALL CHIEF RESIDENTS FILL OUT THE SURVEY. This includes providing responses, such as resident numbers, etc., to make the statistical analysis as accurate as possible, after which we will contact you for clarification.

We encourage all diagnostic radiology chief residents to not only complete the survey but also to attend the A3CR2 meeting in March 2014. This is a great networking opportunity as well. Many radiology departments will allow time and provide funds for chief residents to attend the meeting.

Learn more and register at www.aur.org - deadlines for registration are approaching, so talk to your program director.

A3CR2 info can be found at <http://www.aur.org/A3CR2/>

Powered by **SurveyMonkey**
Check out our [sample surveys](#), and create your own today!

Survey Topics

- Recurring
 - Basic Program Information
 - Resident Benefits
 - Chief Resident Responsibilities and Benefits
 - Call
 - Readout, Attending Coverage, Ultrasound, MRI
 - Core Exam and Fourth Year
 - Board Review, resources
 - Mini-Fellowships
 - Fellowships
 - Healthcare Economics and the Job Market
 - Practice Quality Improvement, Milestones
- New in 2015
 - More Moonlighting
 - More Milestones
 - Board Review Resources
 - IR Fellowships – in preparation for IR Residency

Limitations

- Opinions and estimations
- Sampling bias (only chief residents who responded were included)
- Duplicate responses from programs with multiple chief residents
 - Most complete response taken for institution-based questions

PROGRAM DETAILS

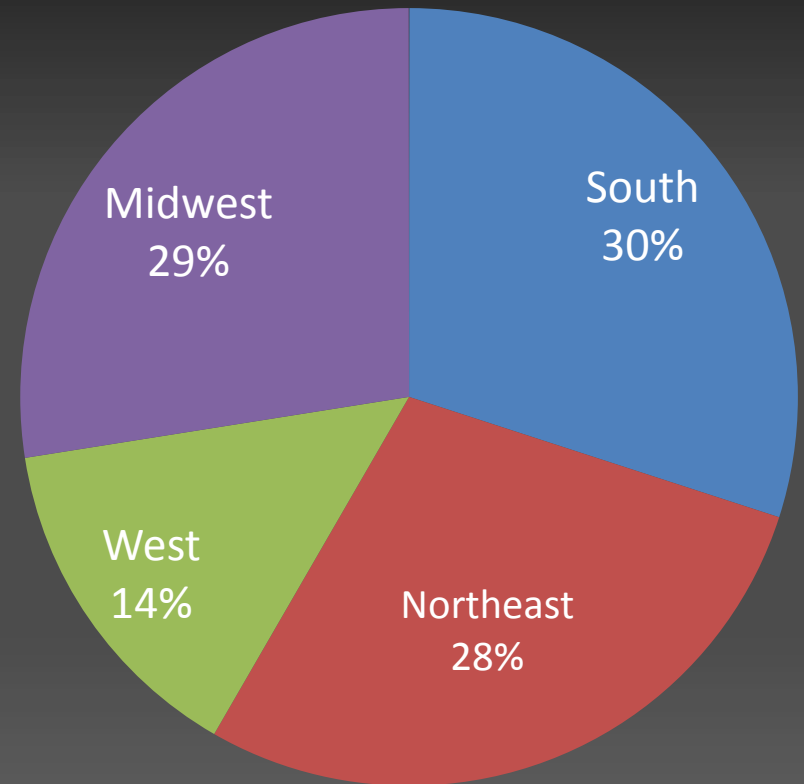
Participation

Number of Responses 2009-2015

Year	Individual Responses	Unique Programs
2015	193	120
2014	212	136
2013	134	99
2012	185	135
2011	259	148
2010	228	140
2009	143	112

Approximately 180 programs total.

Region



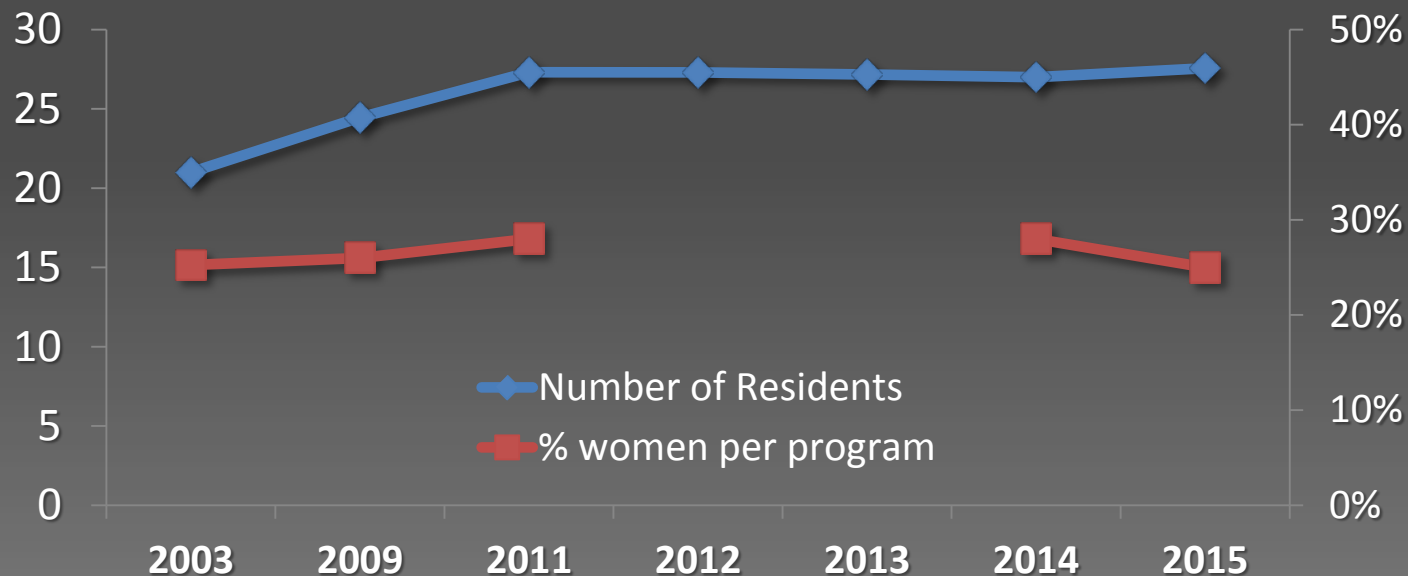
- Results available to A³CR² members and on the AUR website

THANK YOU FOR PARTICIPATING!

Program Size

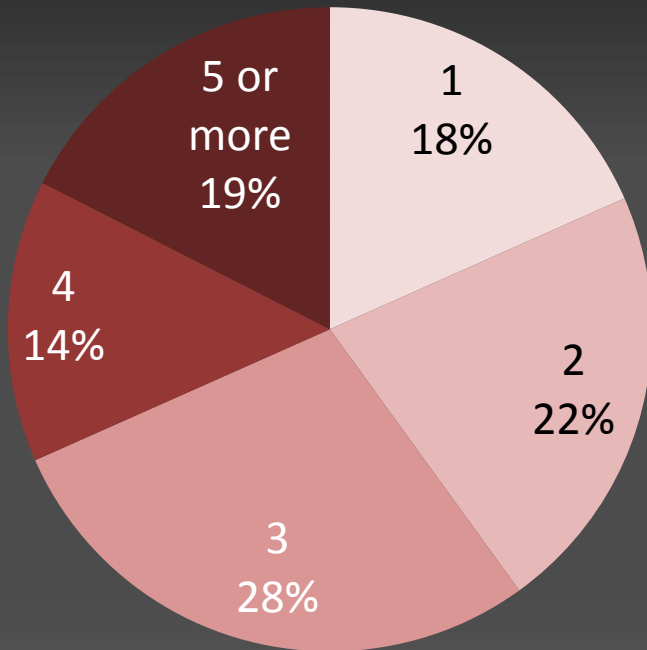
- Program size increased in the early 2000s but has remained relatively stable (mean 28, median 25 per program)
- The percentage of women has remained low at 25% this year (average %/program)
 - Percentage of women in medicine = 46% of all residents per GWIMS

Program Size and Gender Distribution

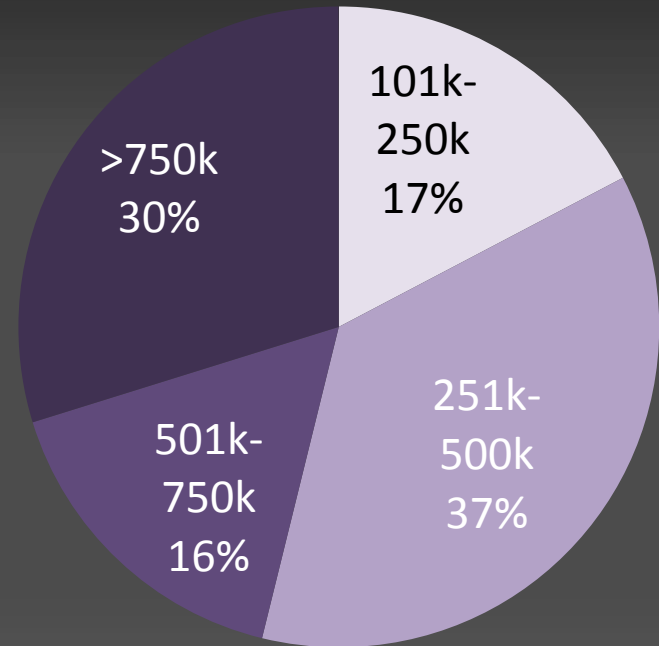


Hospital Coverage and Volume

Hospitals / program



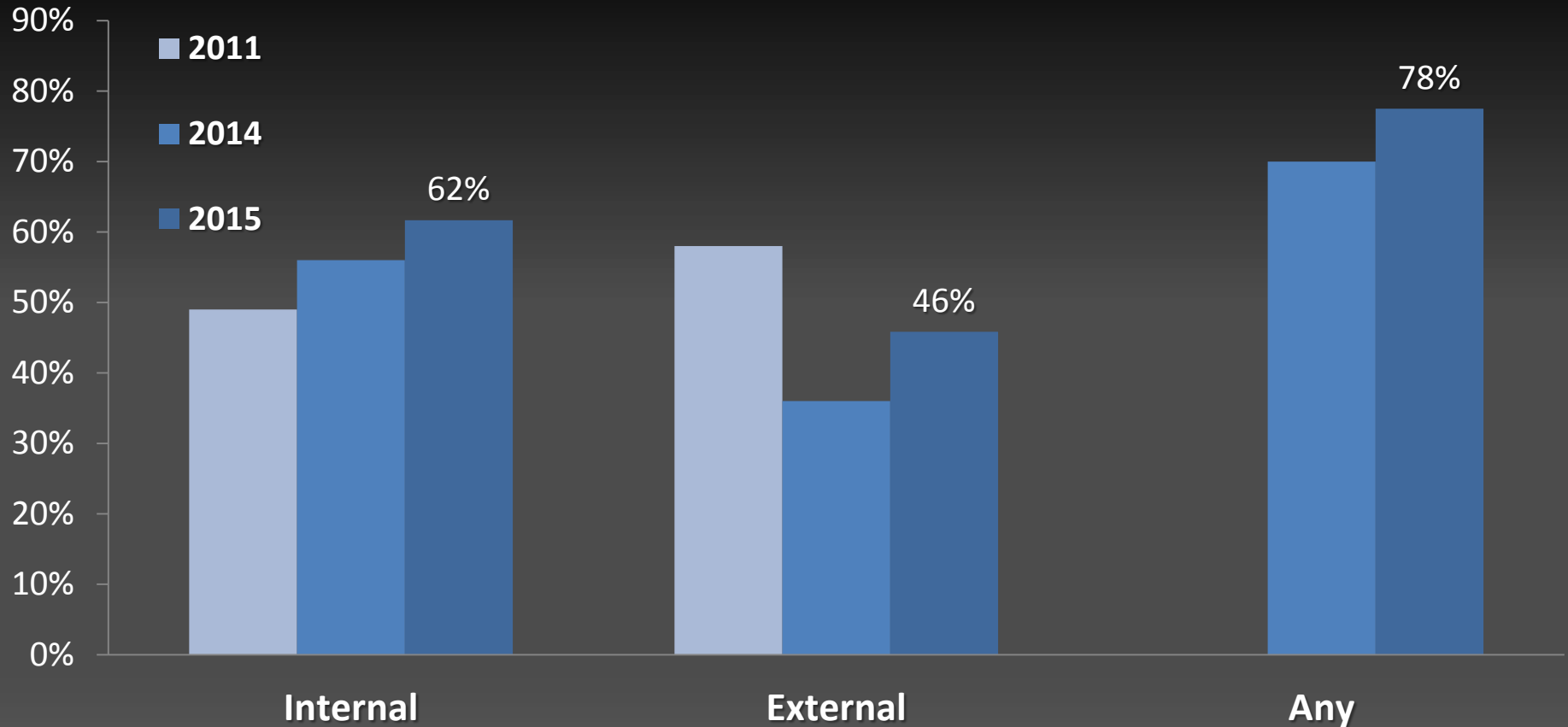
Studies / year



- The median number of hospitals per program has increased from 2 in 2005 to 3 in 2015.
- The median number of studies per year has similarly increased from 101k-250k in 2005 to 251k-500k in 2015.

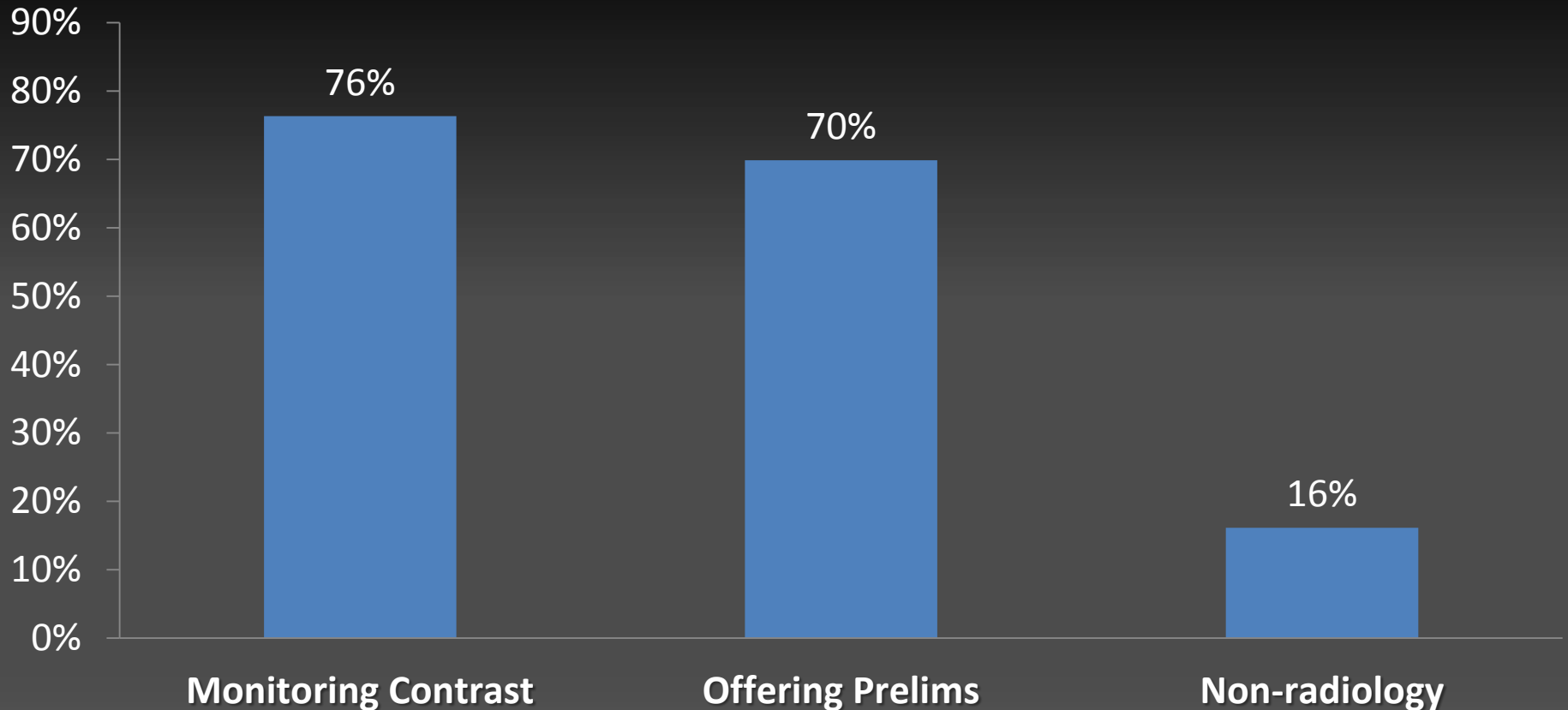
RESIDENT BENEFITS

Moonlighting Opportunities



- Moonlighting remains very prevalent among radiology programs, with internal moonlighting being more common.
 - Appears to be increasing over the last few years
- 40% of US medical student applicants considered moonlighting opportunities as a factor in ranking programs (rated 3.6/5 in importance)
 - per NRMP Applicant Survey 2013

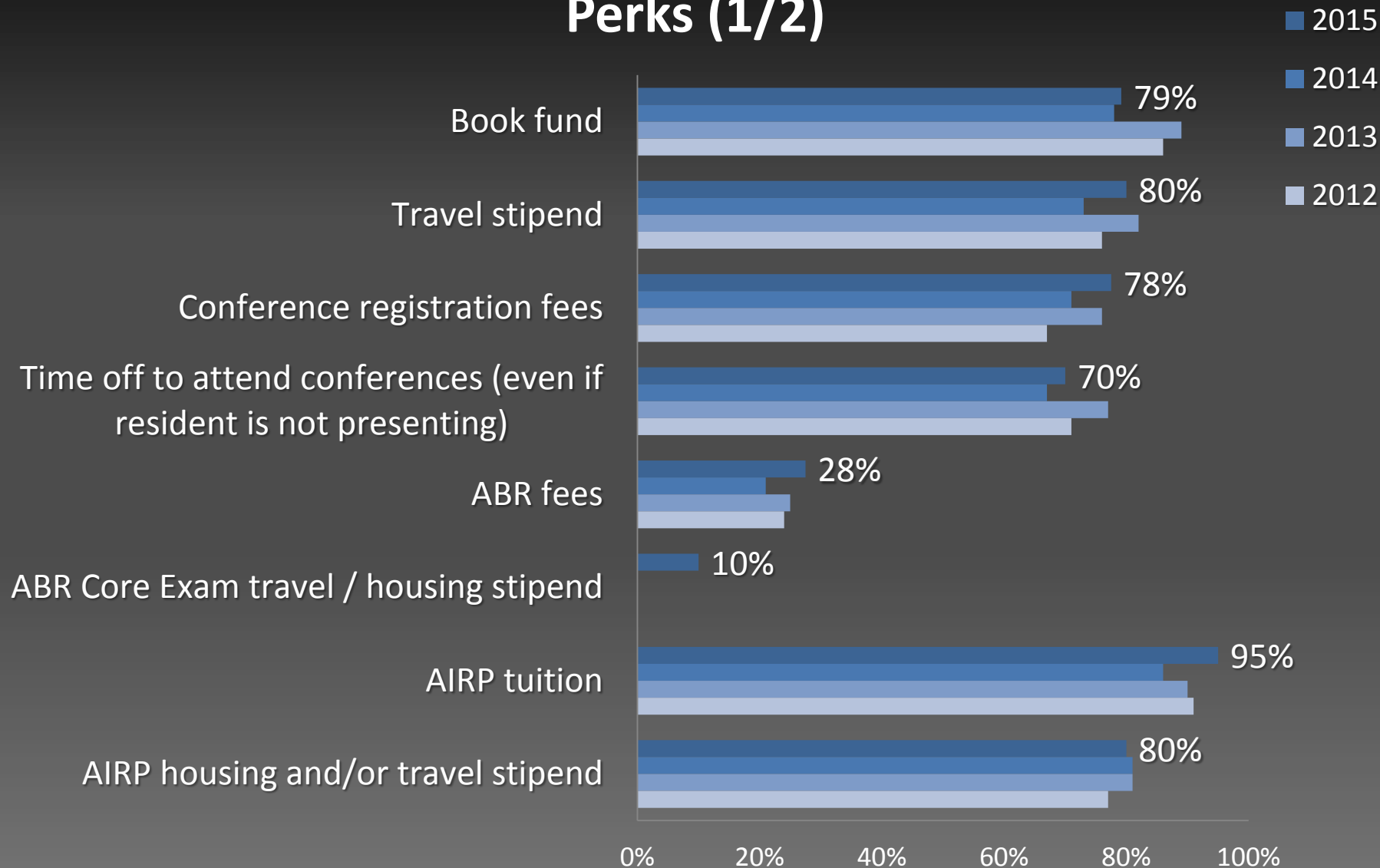
Moonlighting Opportunities



- Both contrast injection monitoring and offering preliminary (after-hours) reads are quite common among moonlighting activities.
- Non-radiology moonlighting is utilized by only a small fraction of radiology residents.

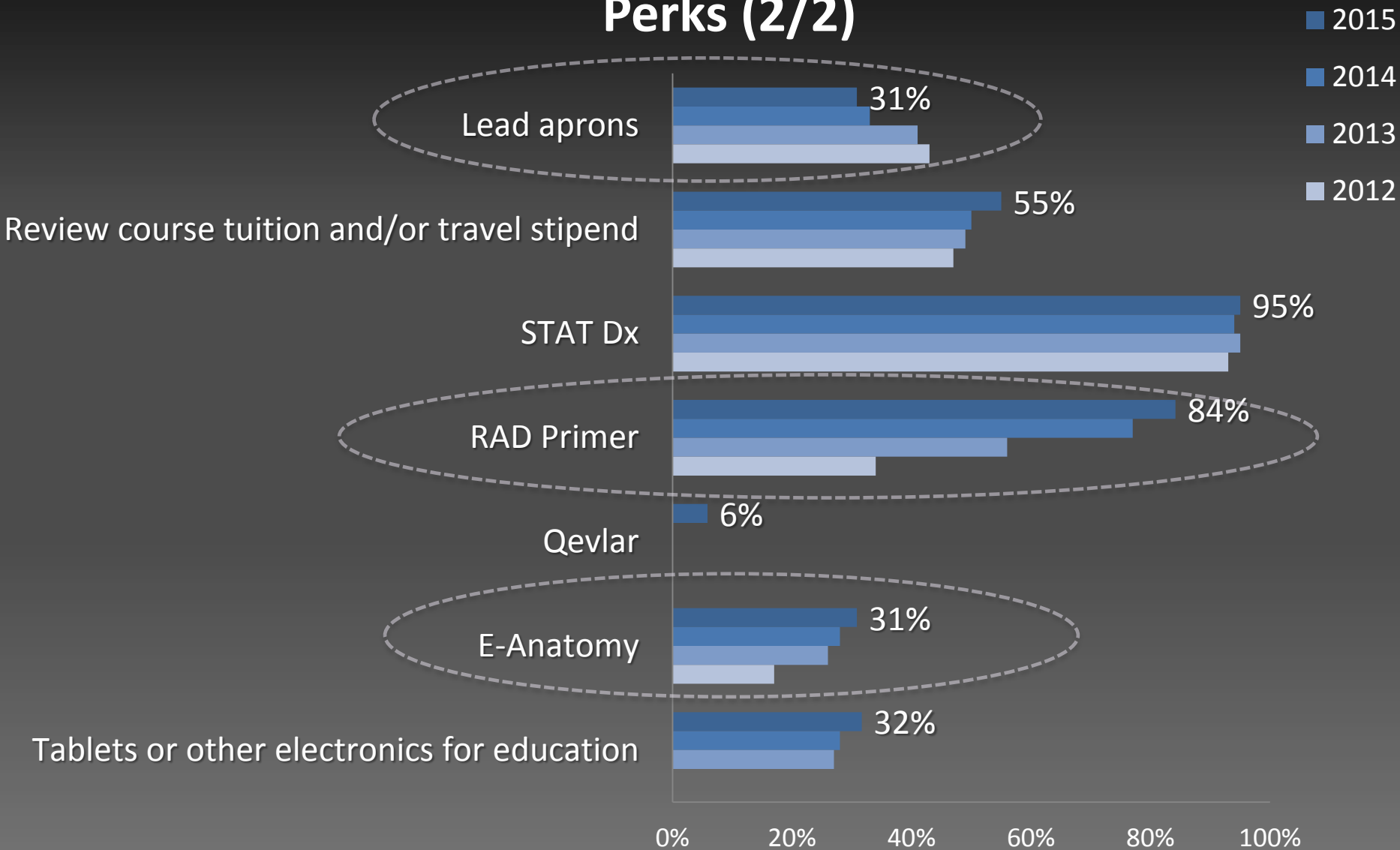
Resident Benefits

Perks (1/2)



Resident Benefits

Perks (2/2)

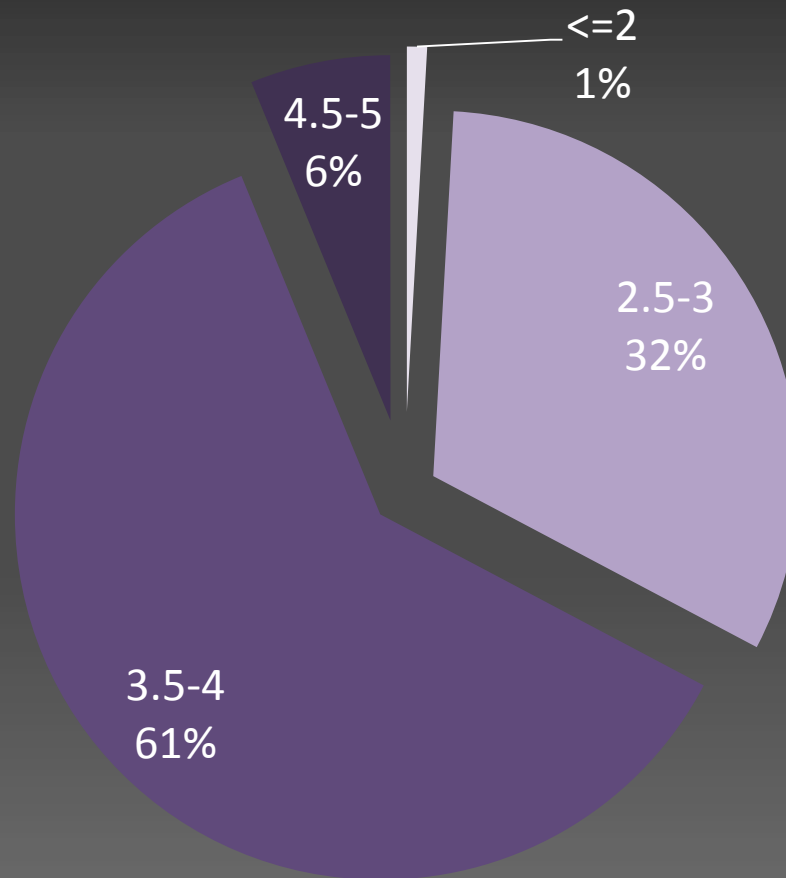


Resident Benefits cont'd

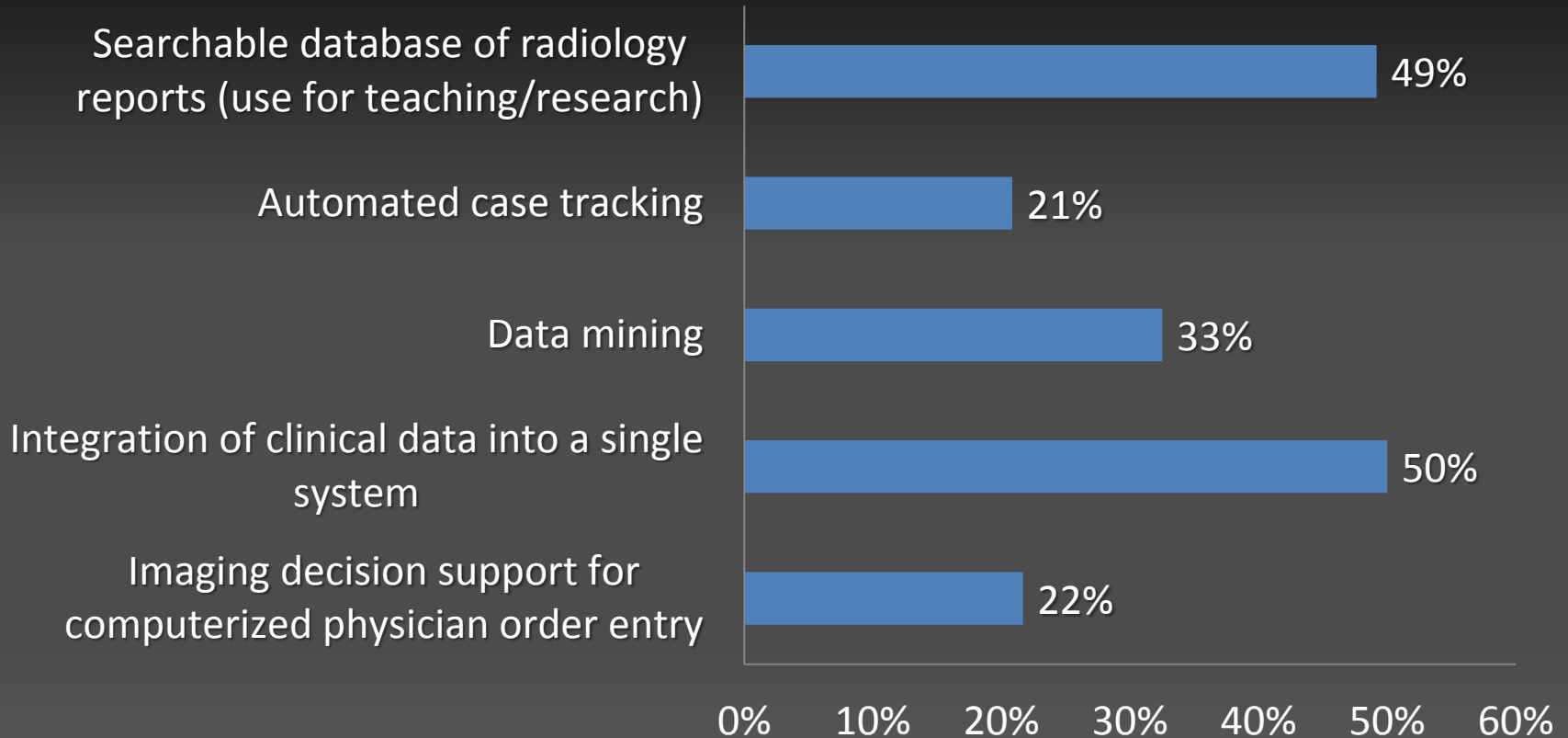
- AIRP Stipend
 - Mean \$1983
 - 99% of residents attend AIRP
- ABR Stipends
 - Uncommon
 - Many report that the book/study fund is expected to encompass these costs
- Other benefits mentioned
 - Housing stipends
 - Parking
 - Meal stipends

Vacation

Weeks vacation

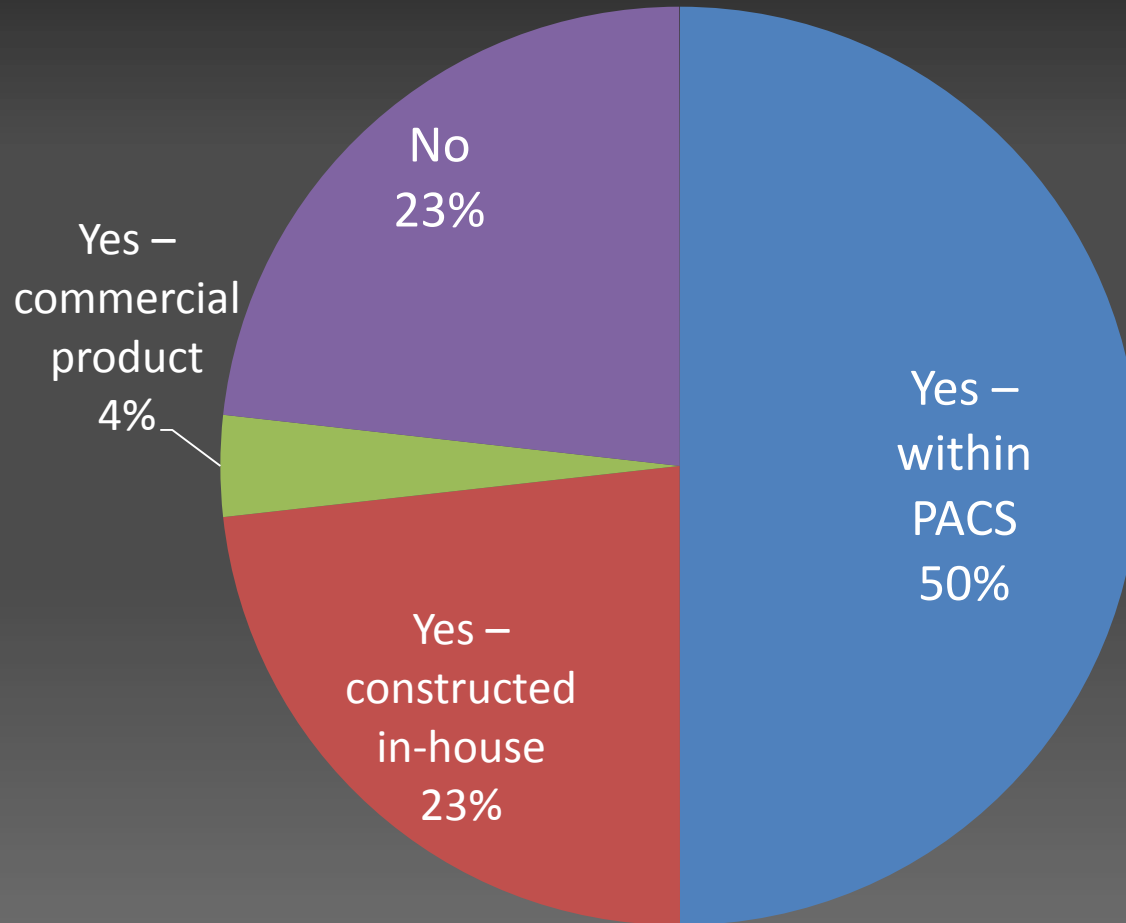


Informatics Tools



- The proportion of programs reporting an integrated EMR has jumped from 30% in 2014 to 50% in 2015

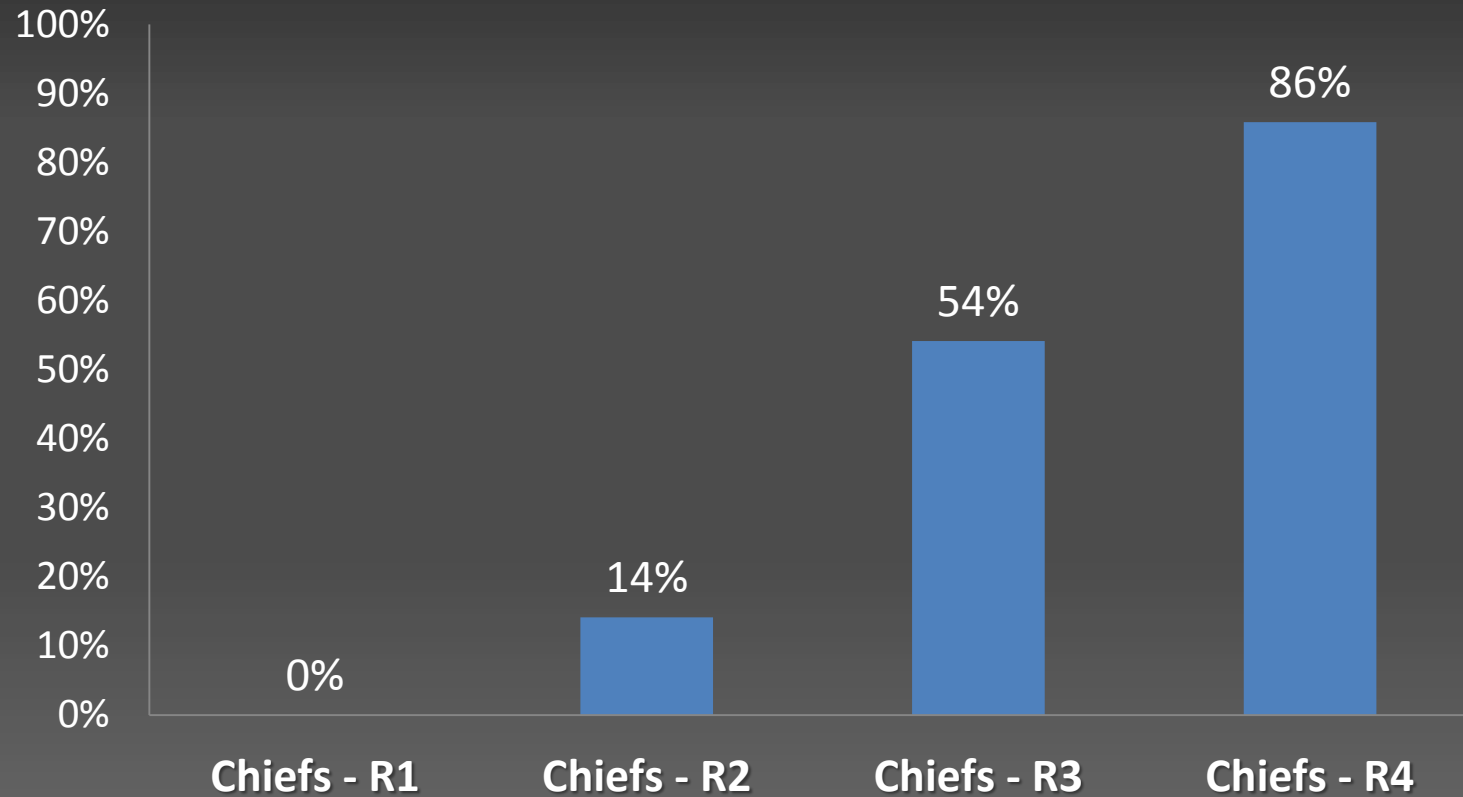
Teaching File



CHIEF RESIDENTS

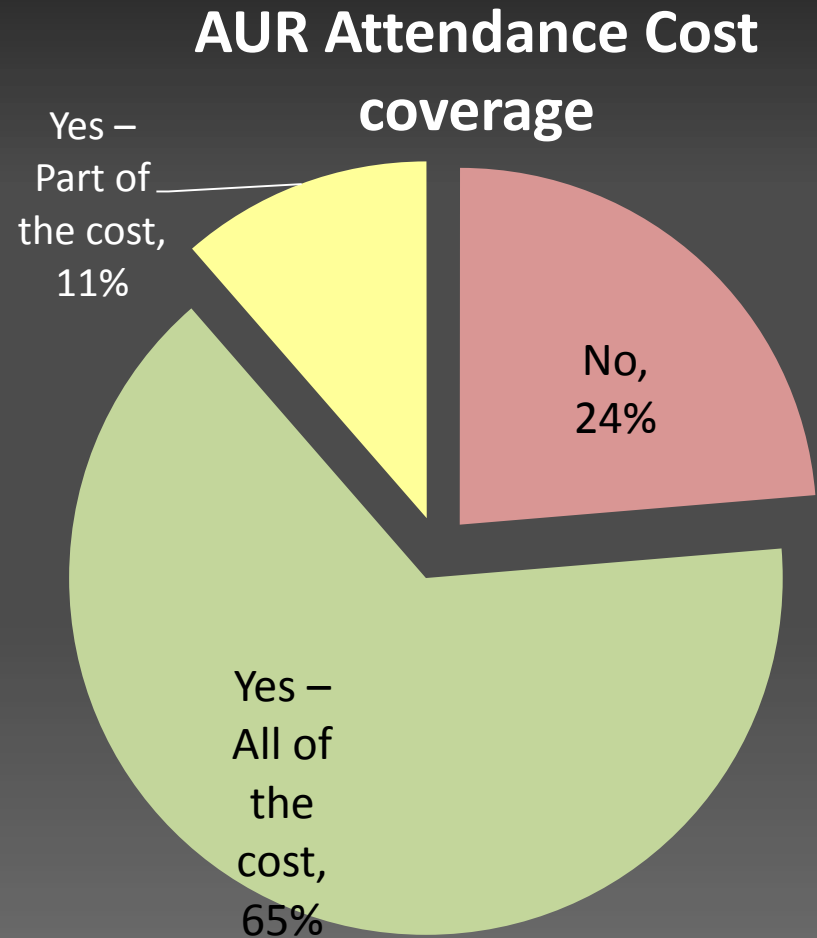
Chief Resident Tenure

Chief Tenure



Chief Resident Benefits

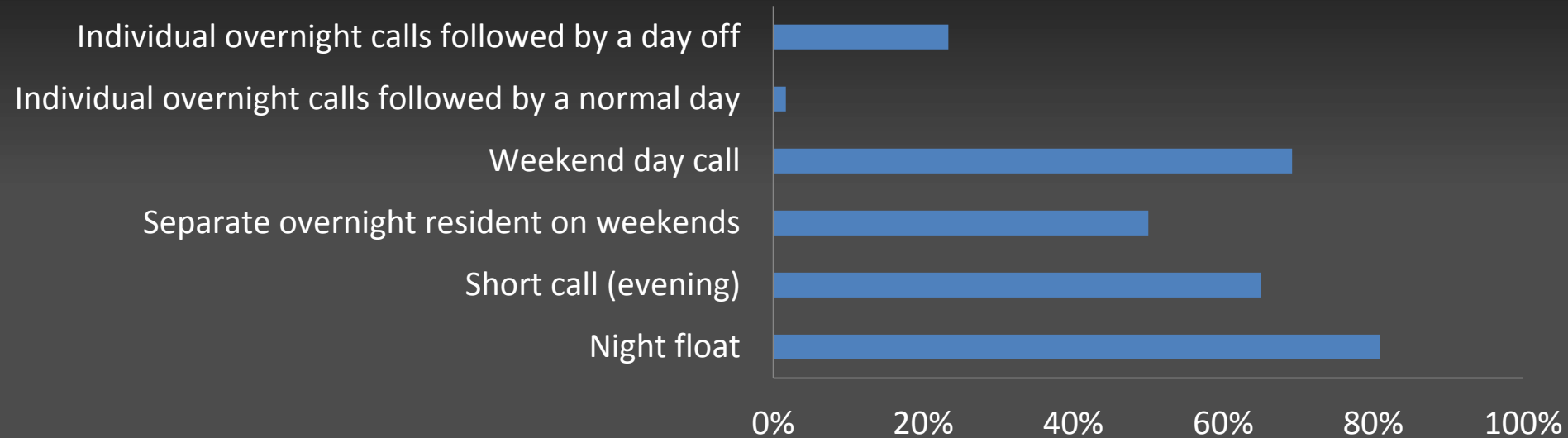
- 63% of programs provide salary bonus
 - Mean \$2153
- Intangible benefits
 - “the opportunity to interact with co-residents in their finer moments...”



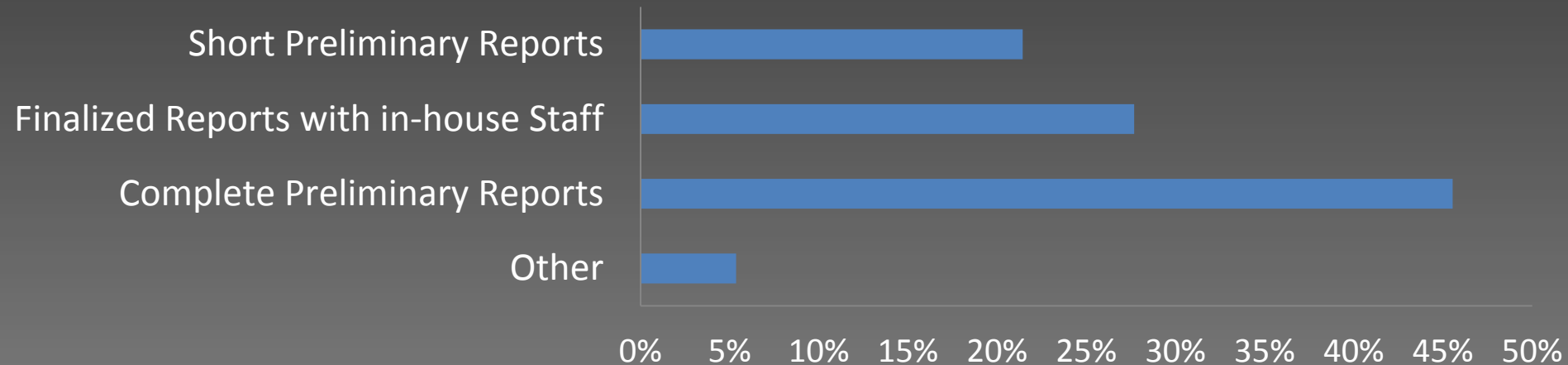
CALL, WEEKENDS, AND ATTENDING COVERAGE

Call and Weekend Coverage

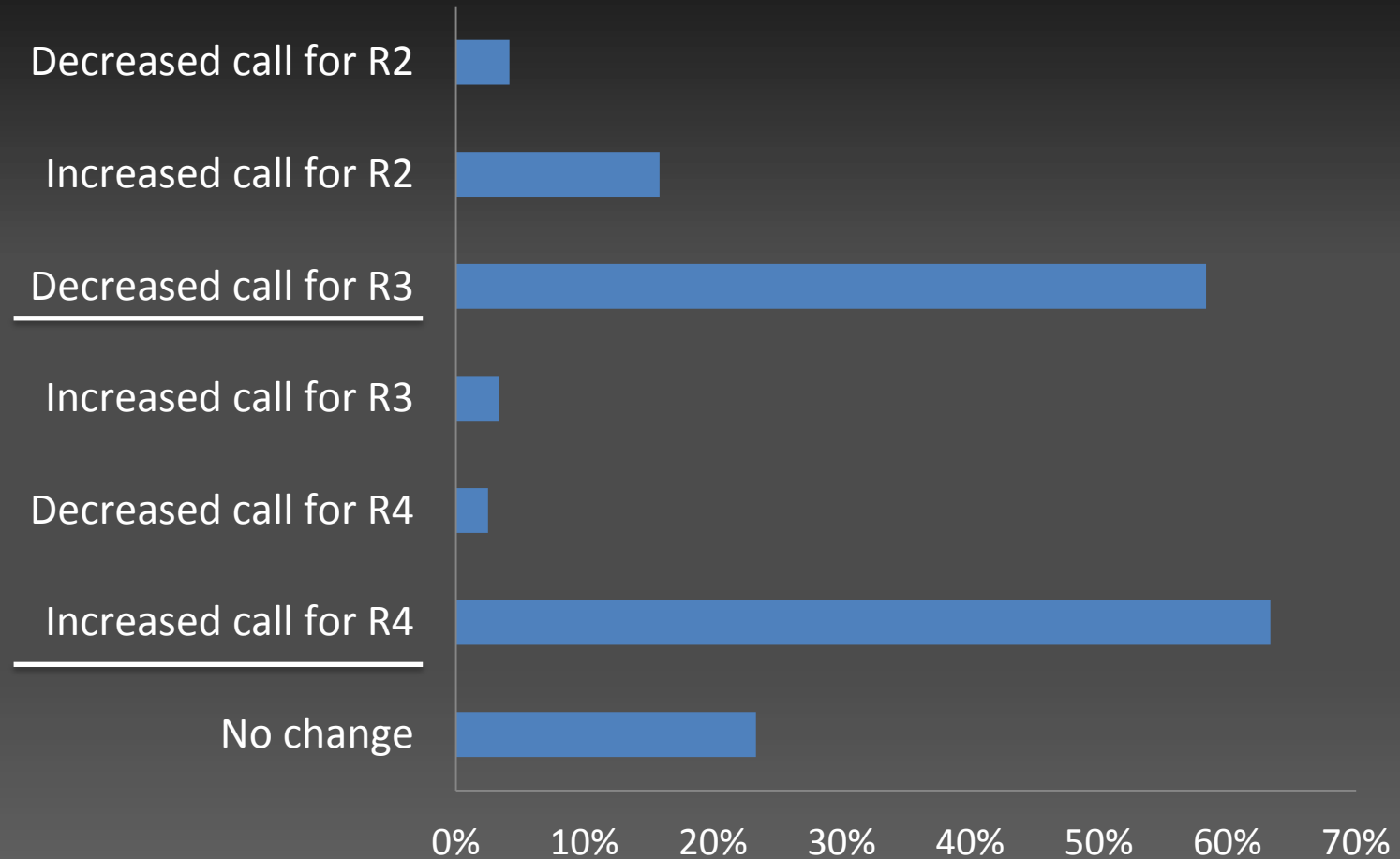
Call System



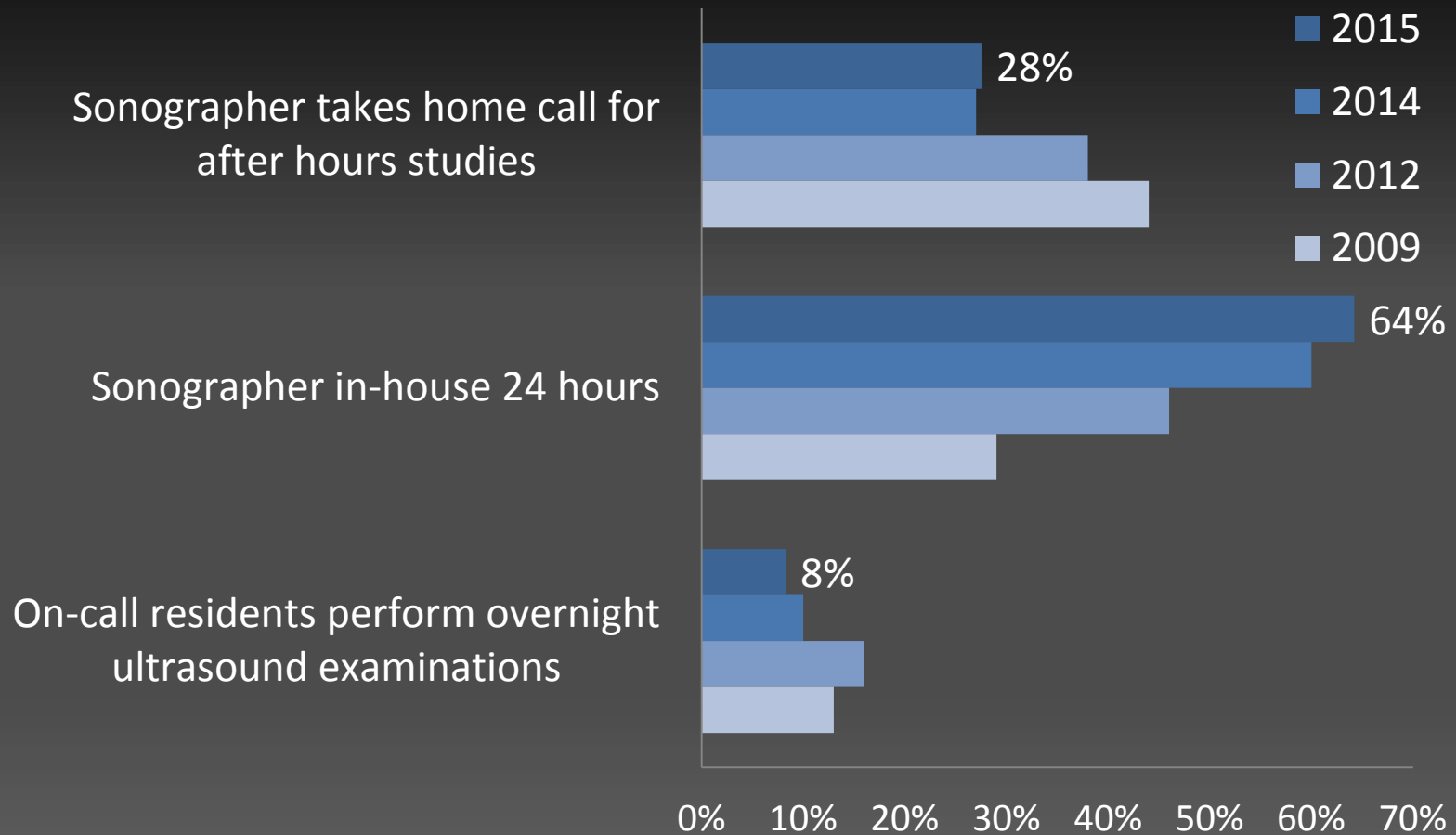
Call Dictations



Call – Changes with Boards



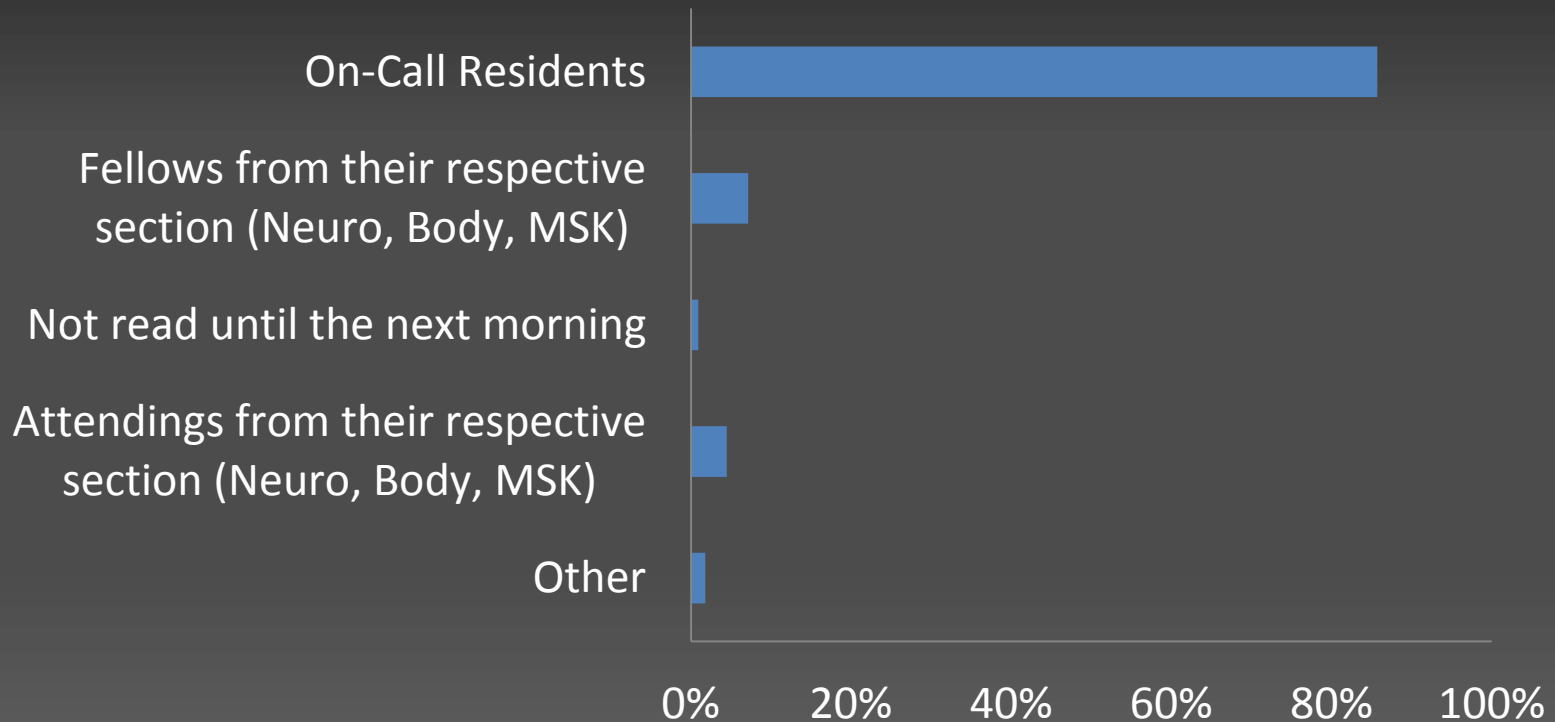
Ultrasound Coverage



- Trend towards increasing 24-hour in-house ultrasound technologist

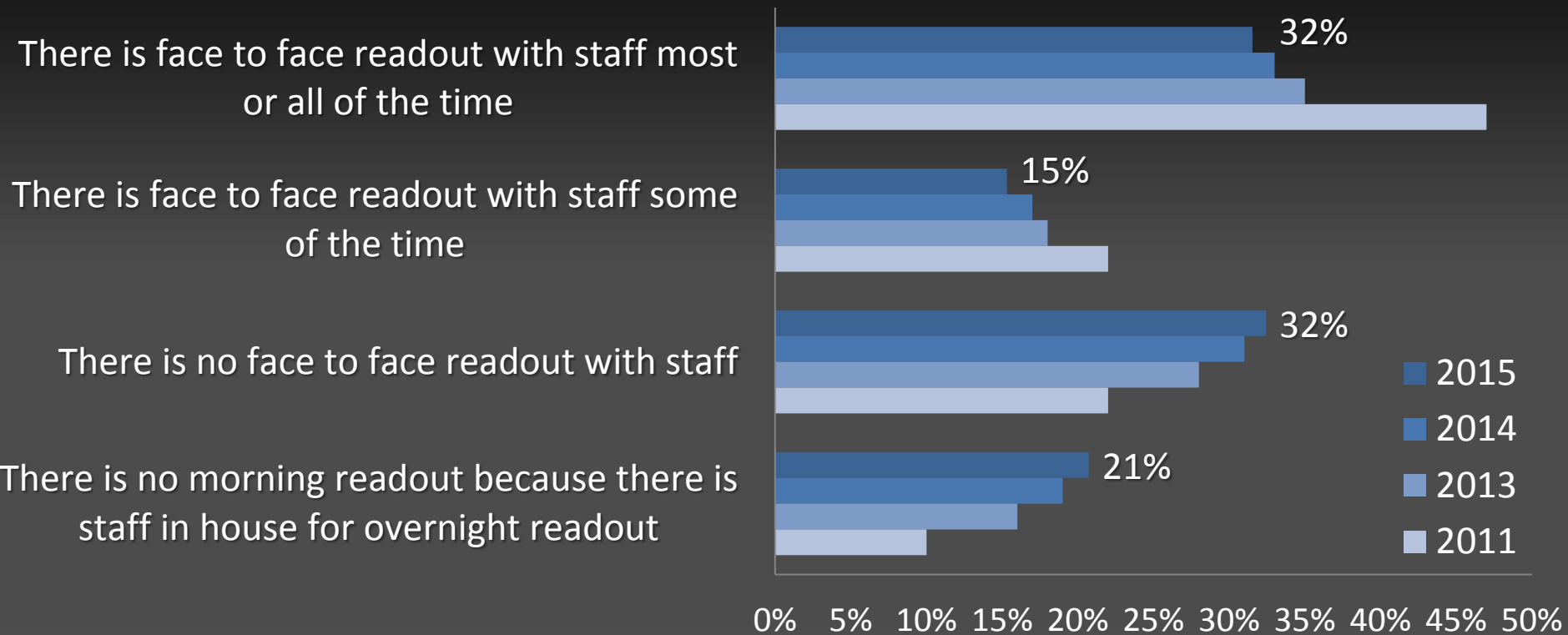
MRI Coverage

After-hours MR - Who reads?



- The percentage of programs where residents interpret the MRIs is similar compared to last year (86% vs. 90%)

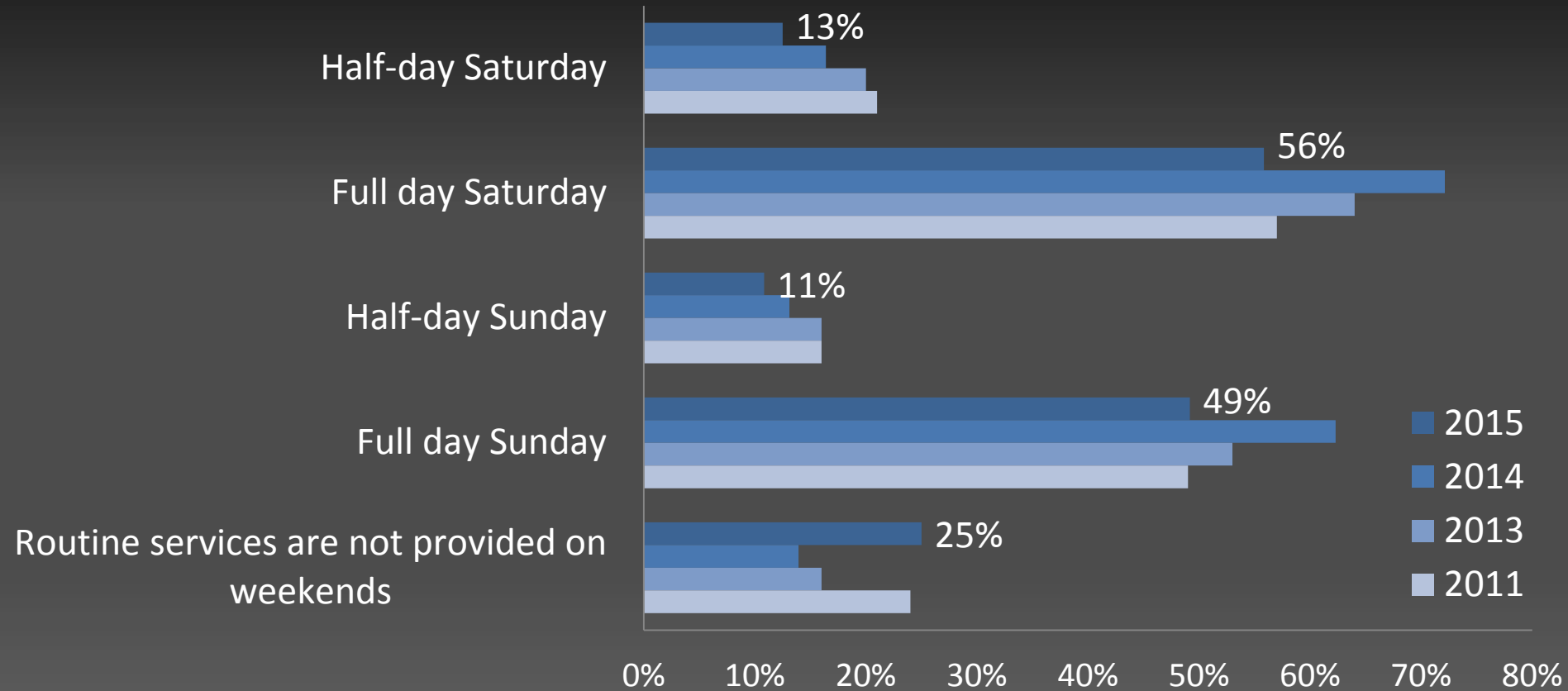
Readout Format



- Clear trend towards decreasing face-to-face readout, even at programs without overnight staff

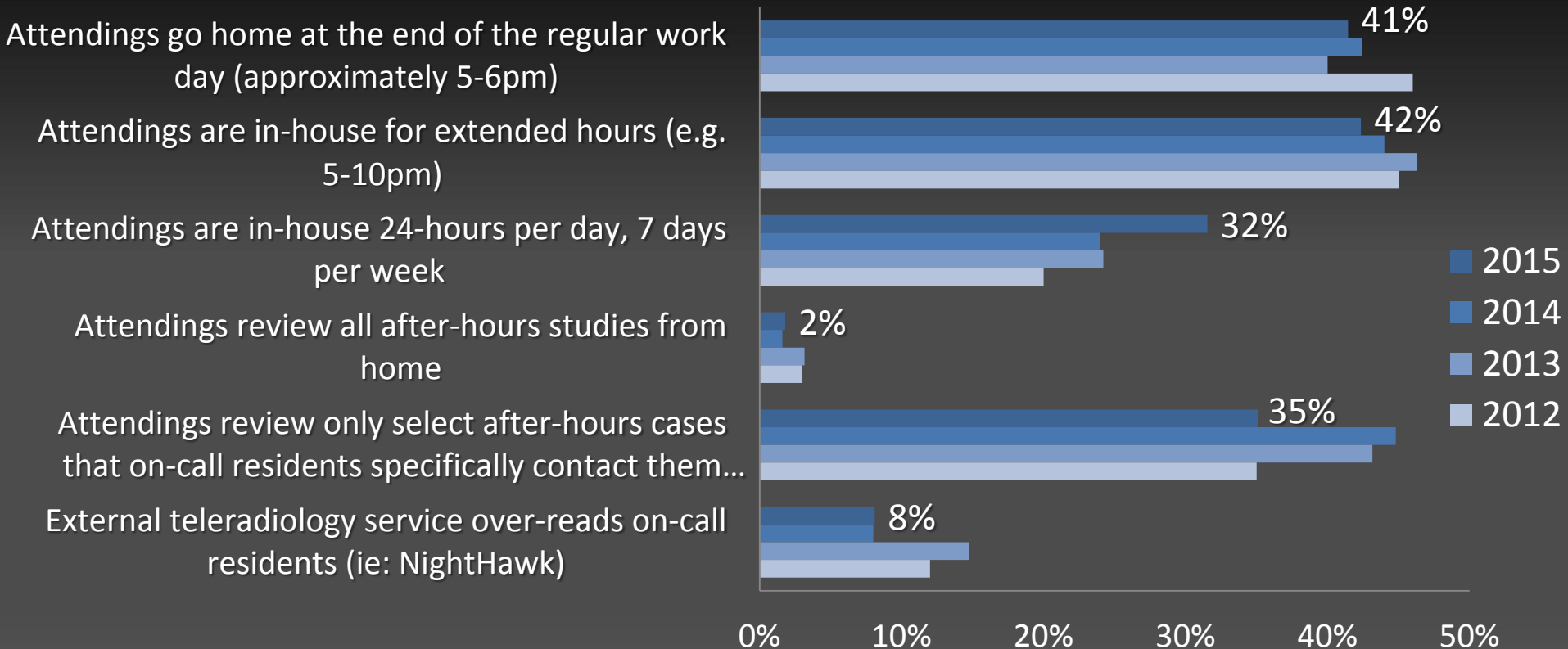
Weekend Coverage

Routine Weekend Service Coverage



- Surprising reversal of trend towards increased routine weekend service coverage

After Hour Attending Coverage

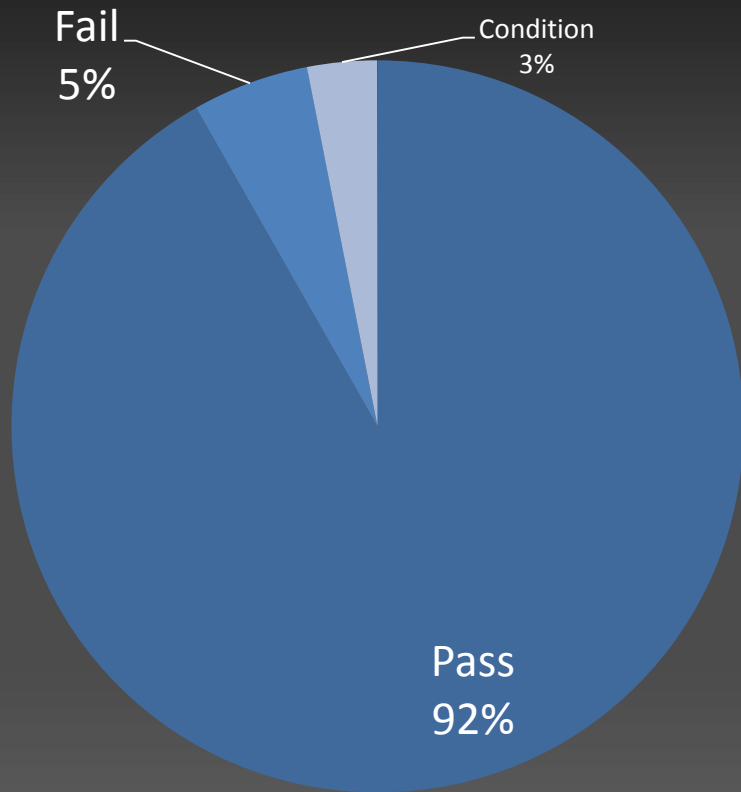


- Continued increase in 24-hour attending coverage
- 6% of programs reported plans to add extended after-hours or overnight attending coverage

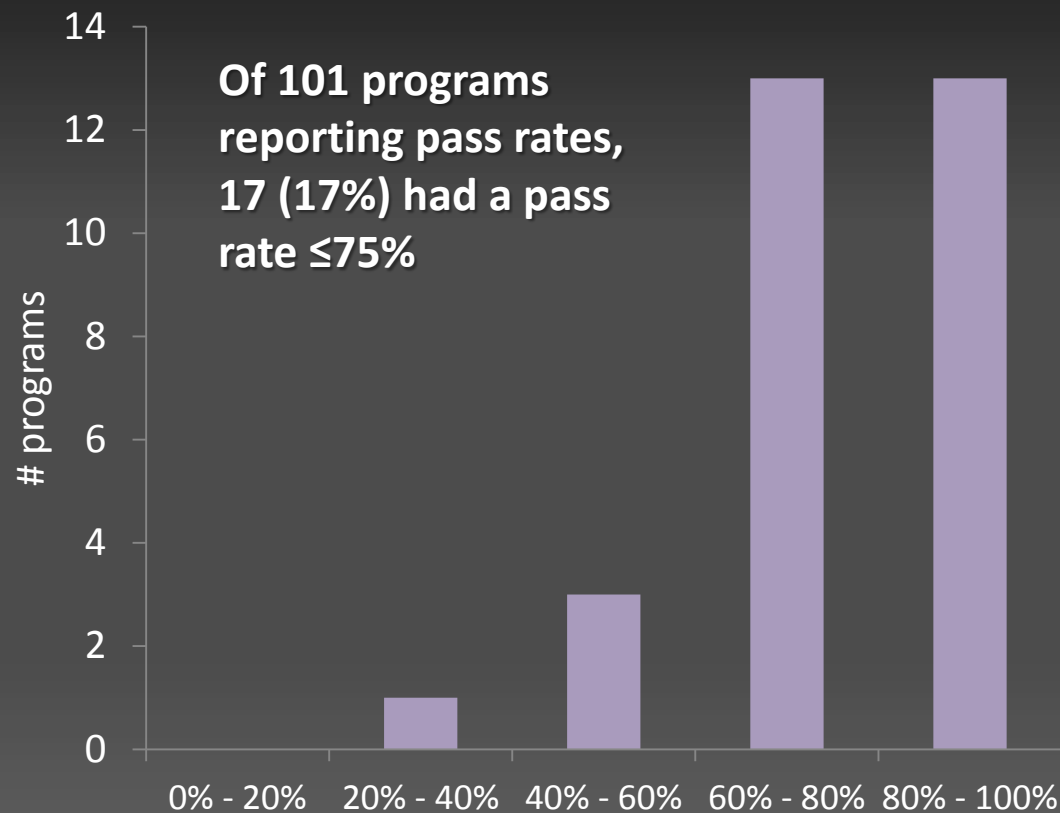
ABR CORE EXAM

ABR Core Exam – Pass Rates

Overall Pass Rate



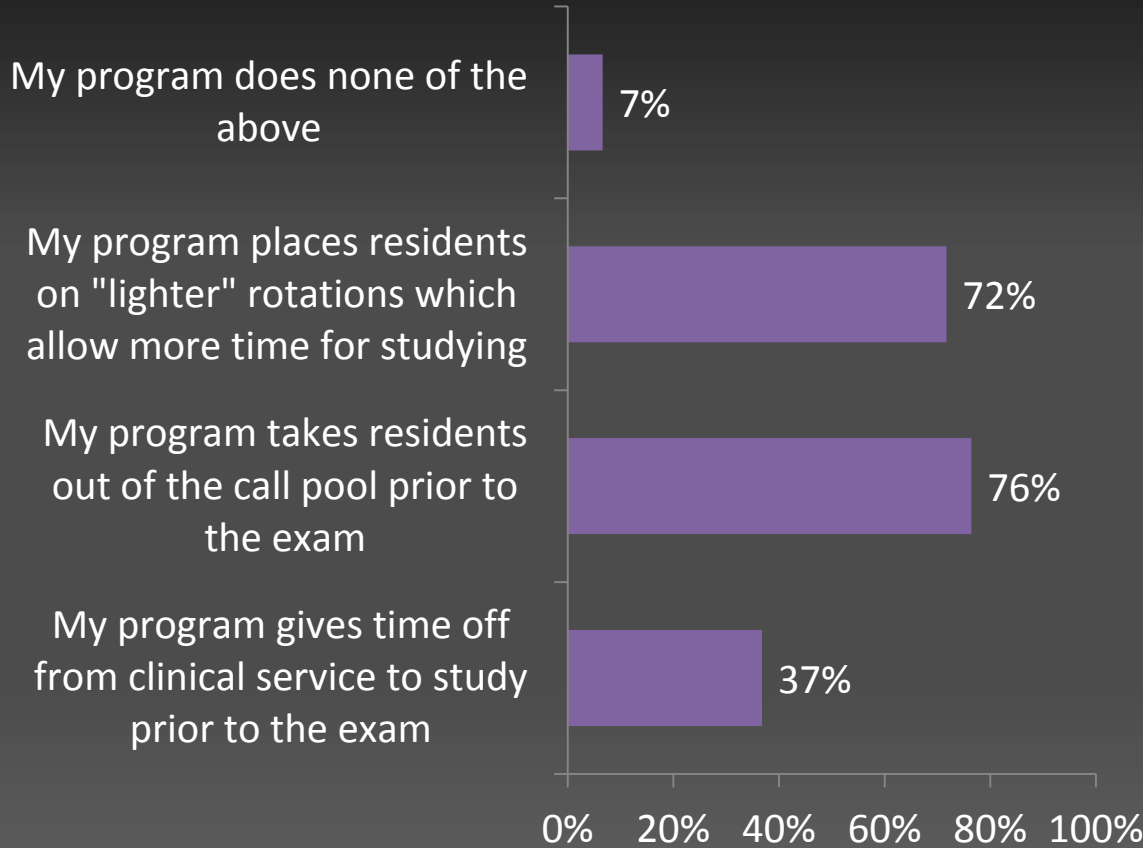
Program pass rates



- The official ABR statistics on passage rate are:
 - Passed 91%; Conditioned 1%; Failed 8%

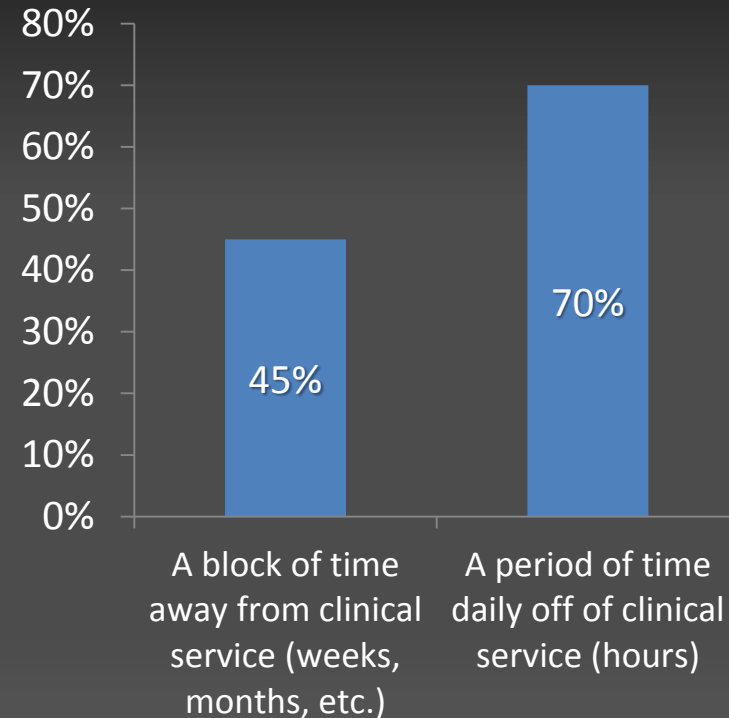
ABR Core Exam Study Time

Study Time



Type of Dedicated Study Time

(Of programs reporting dedicated time)



Average Weeks Out of Call Pool / Off Service (If Given)

Call Pool
11.4 weeks

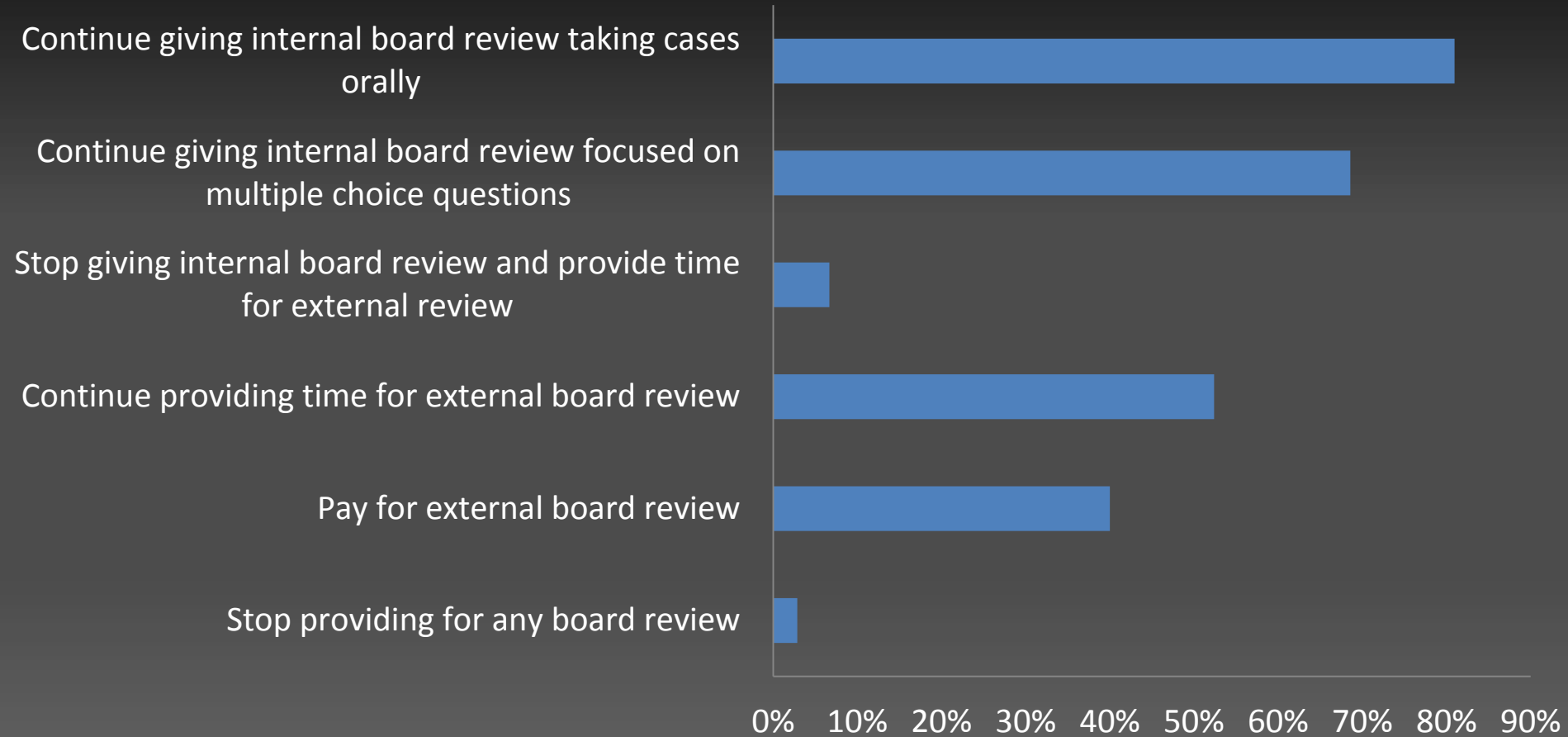
Off Service
5.4 weeks

ABR Core – Pass Rates and Resources

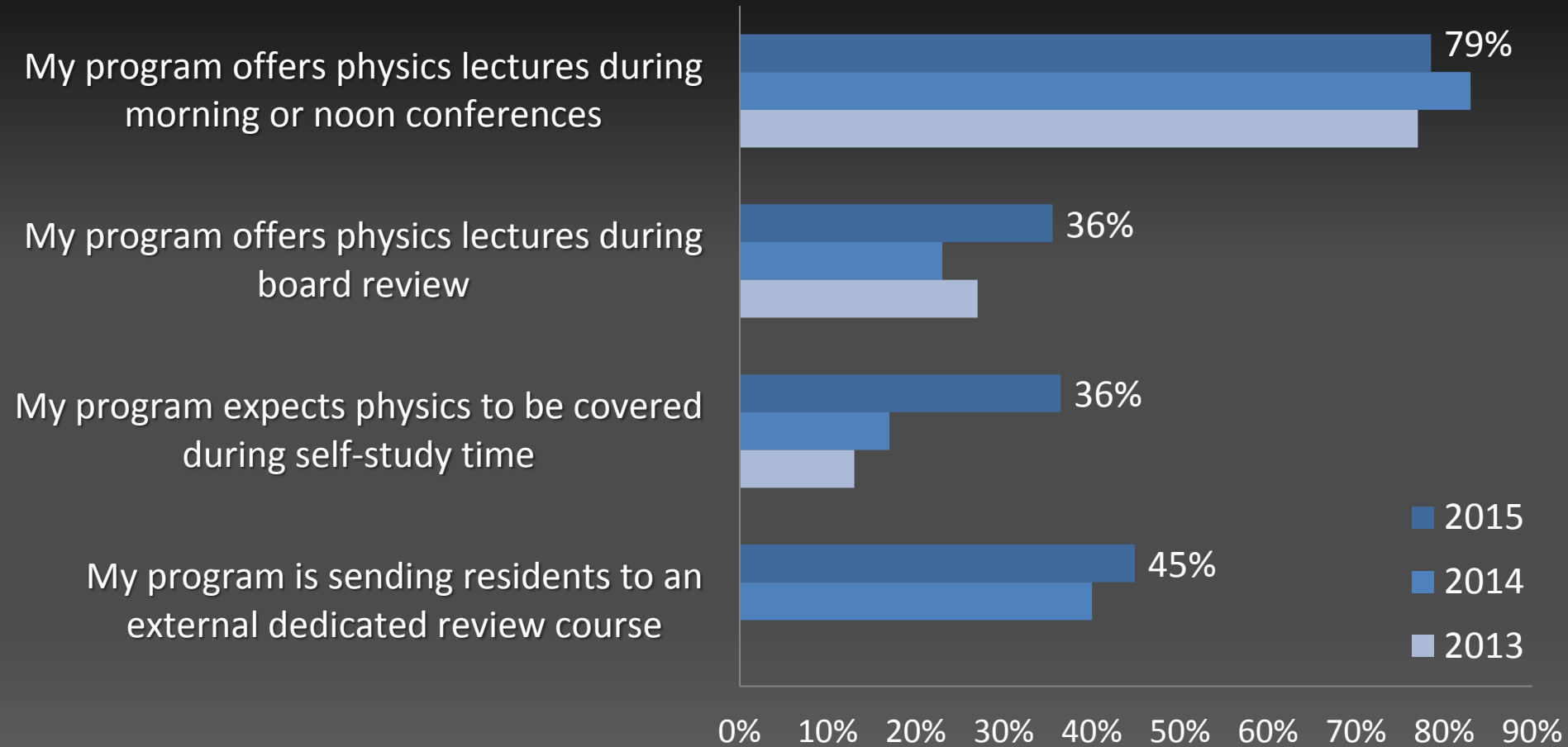
- Exploratory multivariate logistic regression analysis looking at programs with pass rate $\leq 75\%$ vs. $>75\%$
 - 17/101 programs with pass rate up to 75%
 - Variables included: total # of residents, 24-hour attending coverage, paying for external board review, block of time away from clinical service to study, period of time per day off to study
 - The only 2 significant variables are program size and block of time away from service

Variable	OR for passing	P-value
Program size (continuous)	1.09	0.015
Block of time	0.15	0.009

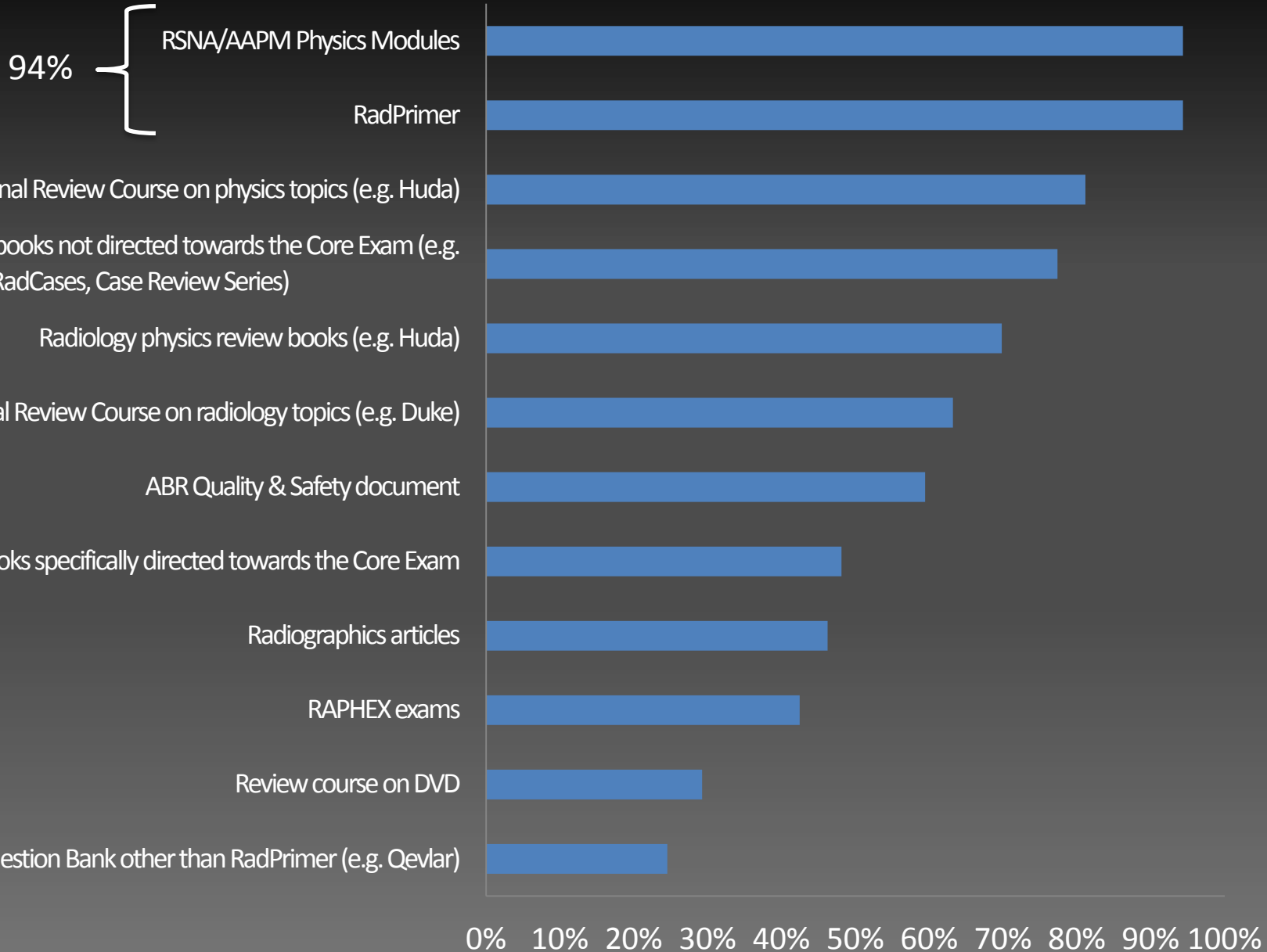
Board Review Format



Physics Board Review

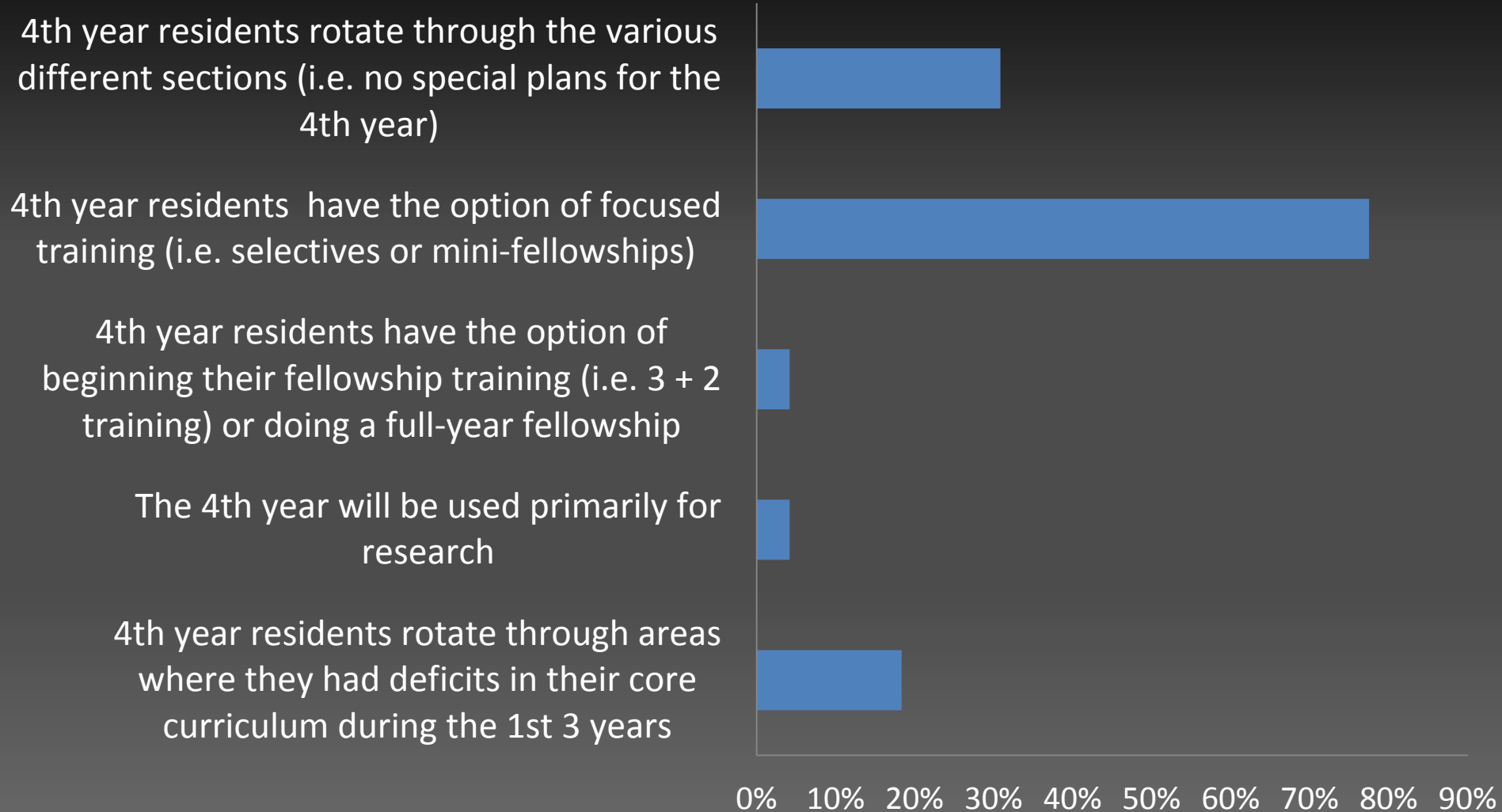


Board Review Resources



THE FOURTH YEAR

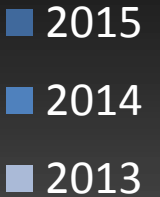
The Fourth Year



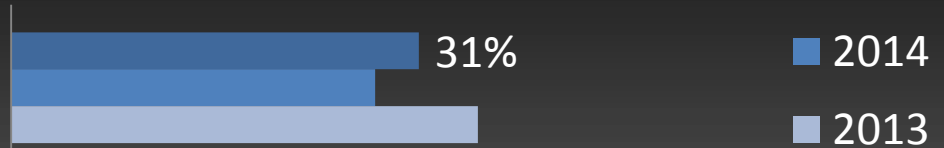
- No substantial change from last year

Selectives

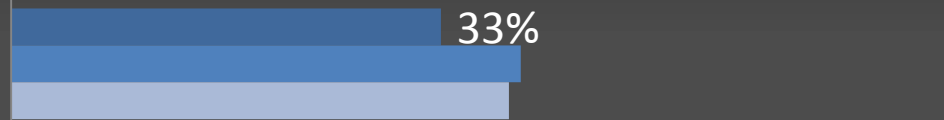
While A Selector



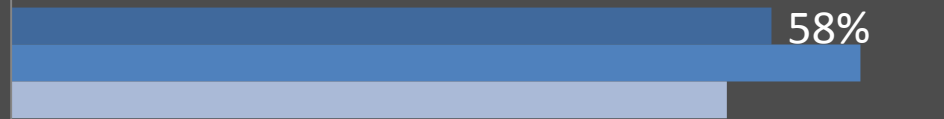
He/she functions with the same clinical responsibilities as a fellow (minus signing privileges)



He/she functions with some of the same responsibilities as a fellow



He/she functions with the responsibilities of a senior resident



He/she is given academic days for study, research, etc.



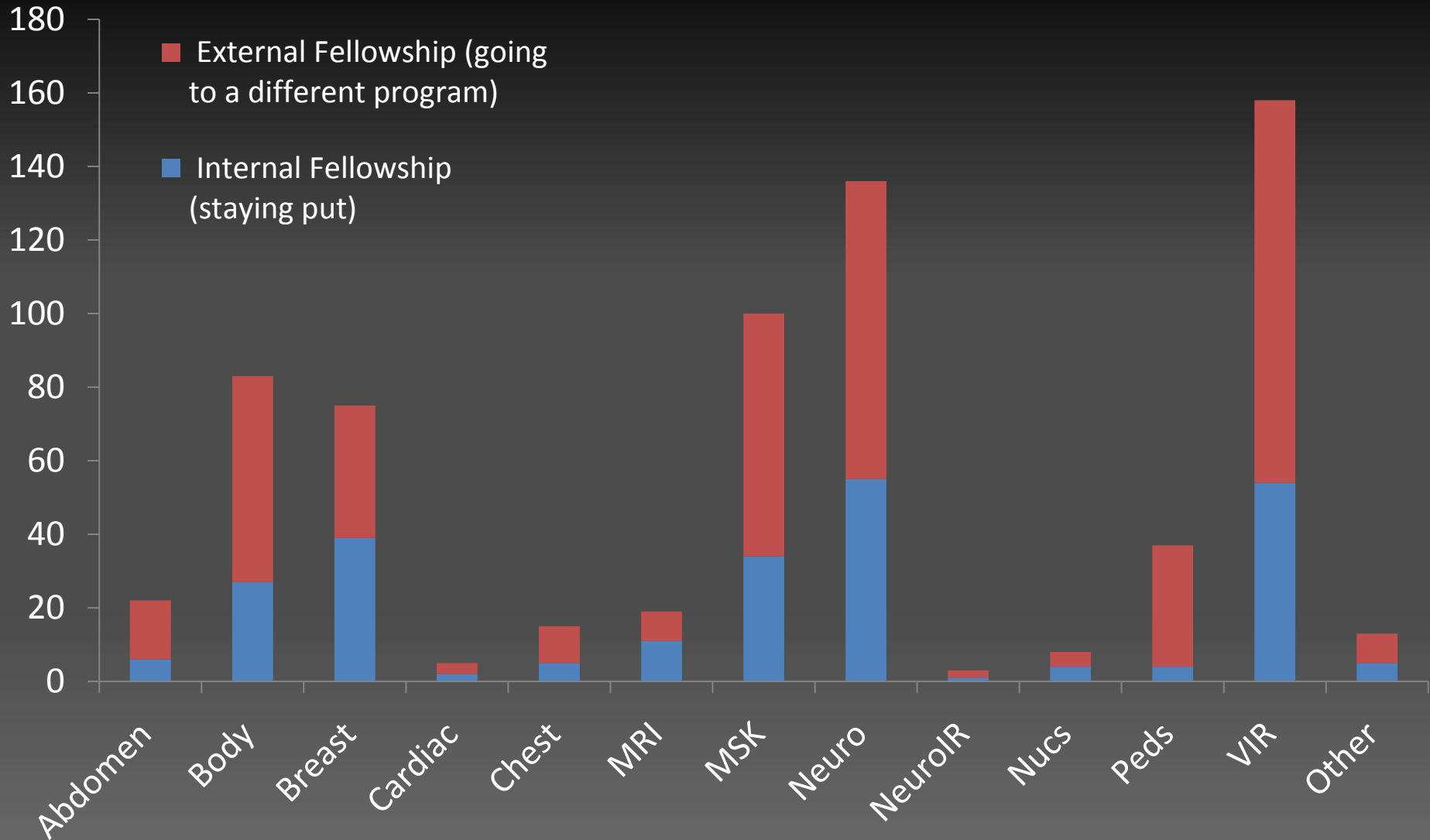
He/she is taken out of the call pool



0% 10% 20% 30% 40% 50% 60% 70%

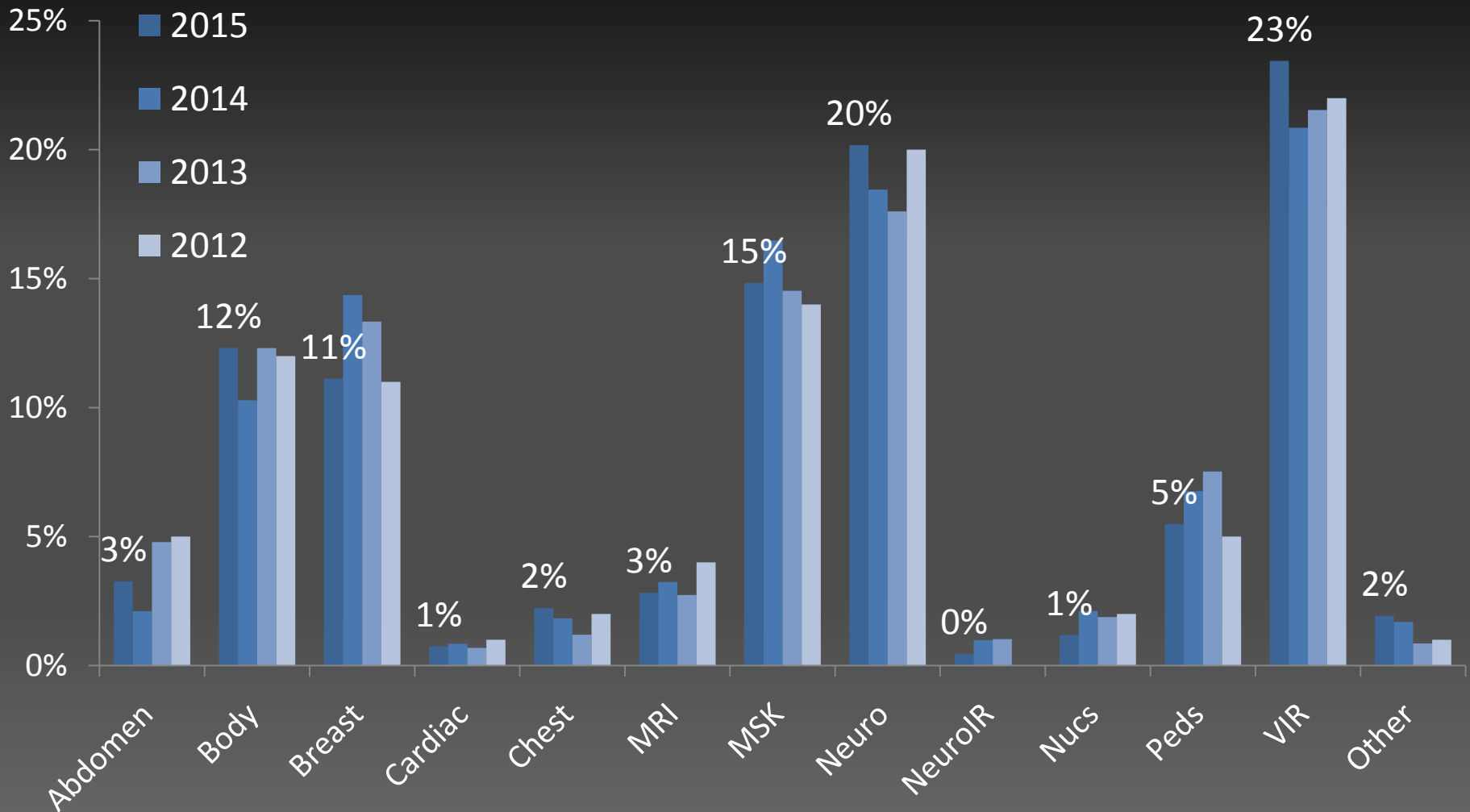
FELLOWSHIPS

Fellowships



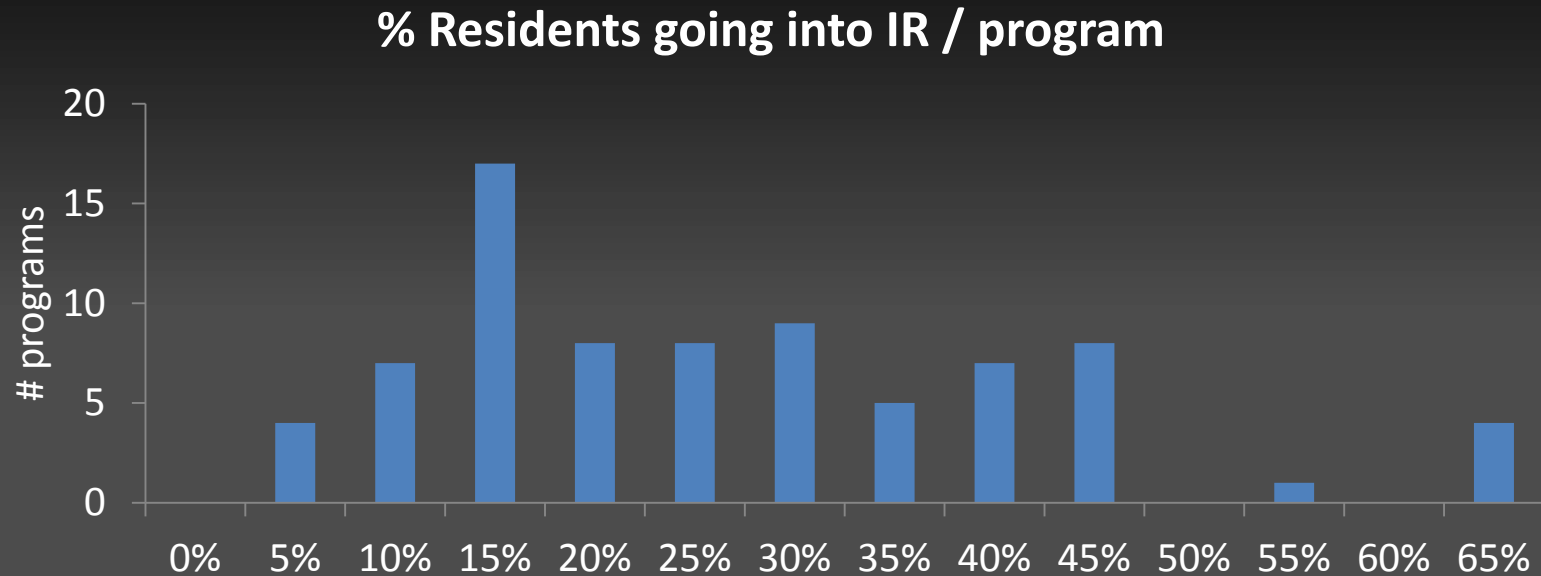
- Approximately 3% of residents are reported to plan doing two fellowships

Fellowship Choices over the Years



- MSK, Neuro, and VIR remain the top 3
- Small drop in breast with bumps in VIR, Body, and Neuro

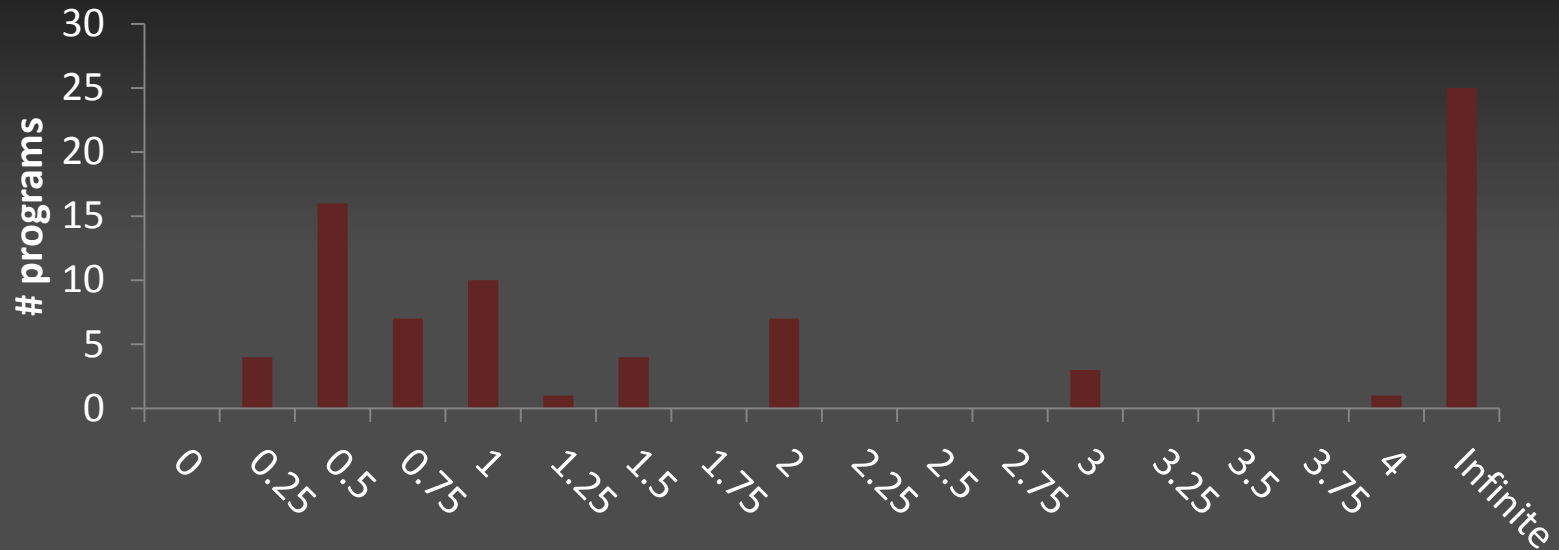
Interest in VIR and Number of Fellowships



- In our sample of programs
 - Total number of IR spots reported: 190
 - Total number of residents going into IR: 158
- From NRMP data for the 2015 IR match,
 - Total number of IR spots: 234 (82 programs)
 - Total of 270 applicants (1.2 applicants/position), 230 matched (85%)

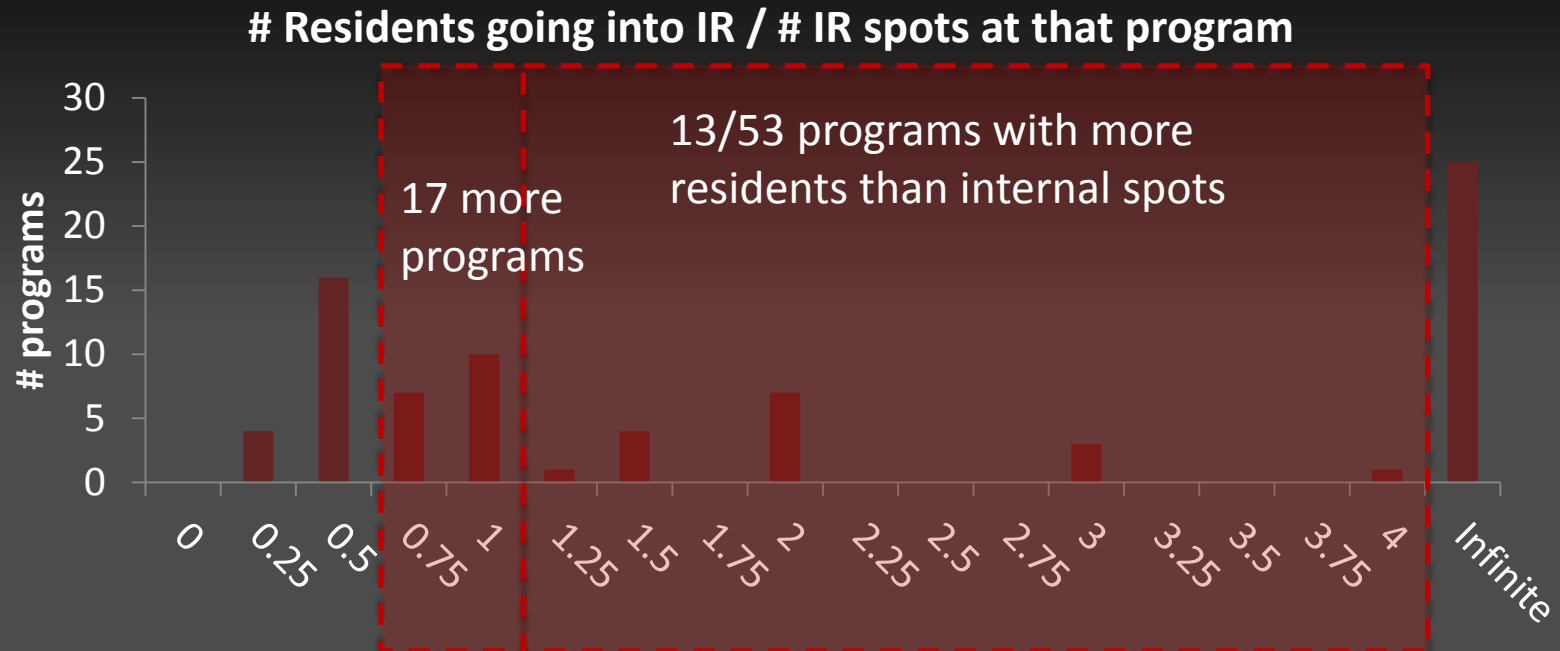
Interest in VIR and Number of Fellowships

Residents going into IR / # IR spots at that program



- In our sample of programs
 - 78 programs with residents interested in VIR
 - 25 of these are at institutions without internal fellowships
 - 53 are at institutions with internal fellowships
 - 34% of residents going into VIR take an internal fellowship
 - 42% of programs have an early acceptance program for internal candidates
 - 69% interview outside candidates before offering internal spots

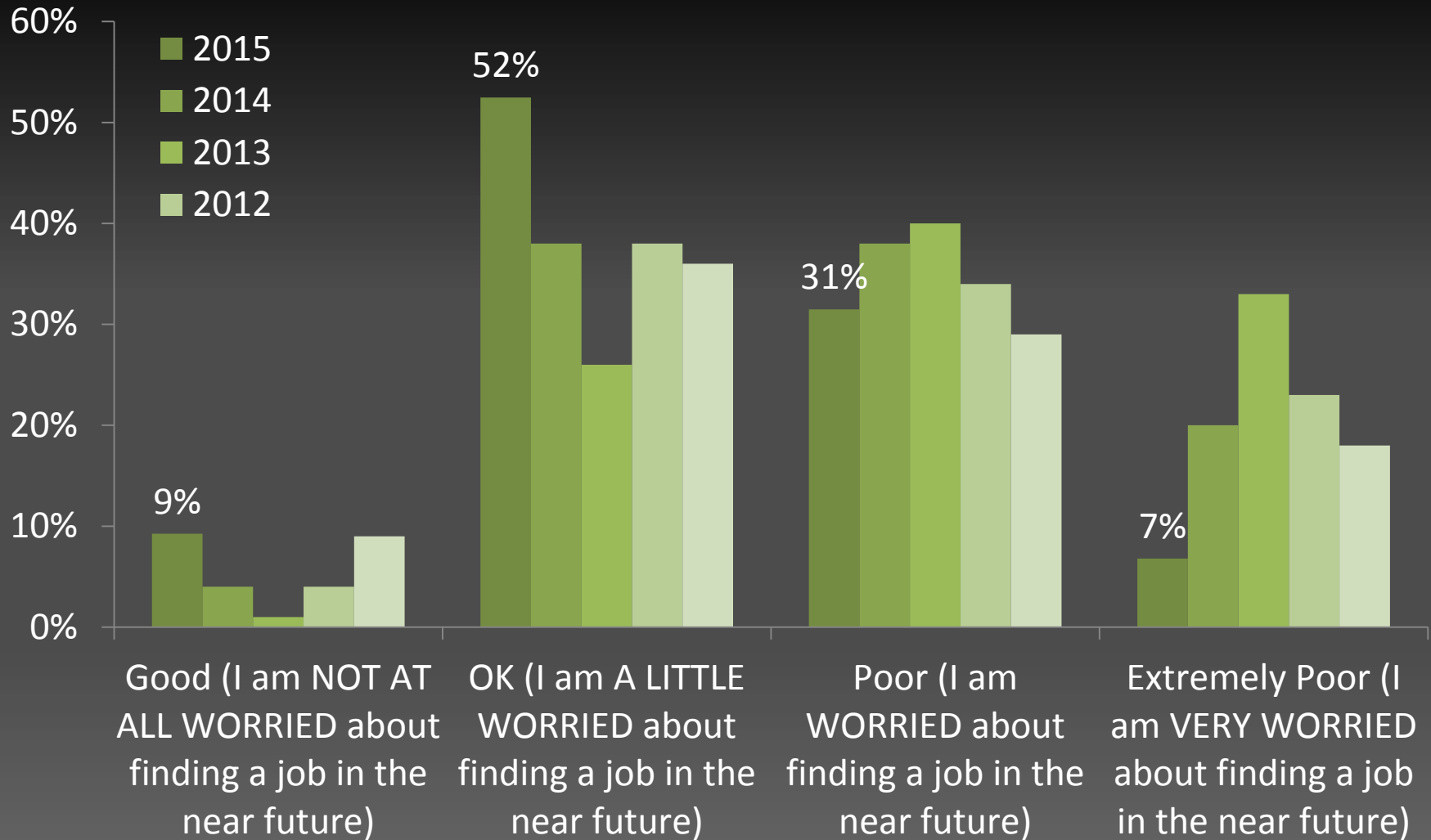
Interest in VIR and Number of Fellowships



- 78 programs with residents interested in VIR
 - 25 of these are at institutions without internal fellowships
 - 53 are at institutions with internal fellowships
 - Of these, 13 programs report more residents interested in VIR than there are internal spots currently
 - 17 additional programs may be affected with the change to the IR Residency (half as many fellowship spots if the fellowship is 2 years)

HEALTHCARE ECONOMIC\$ AND THE JOB MARKET

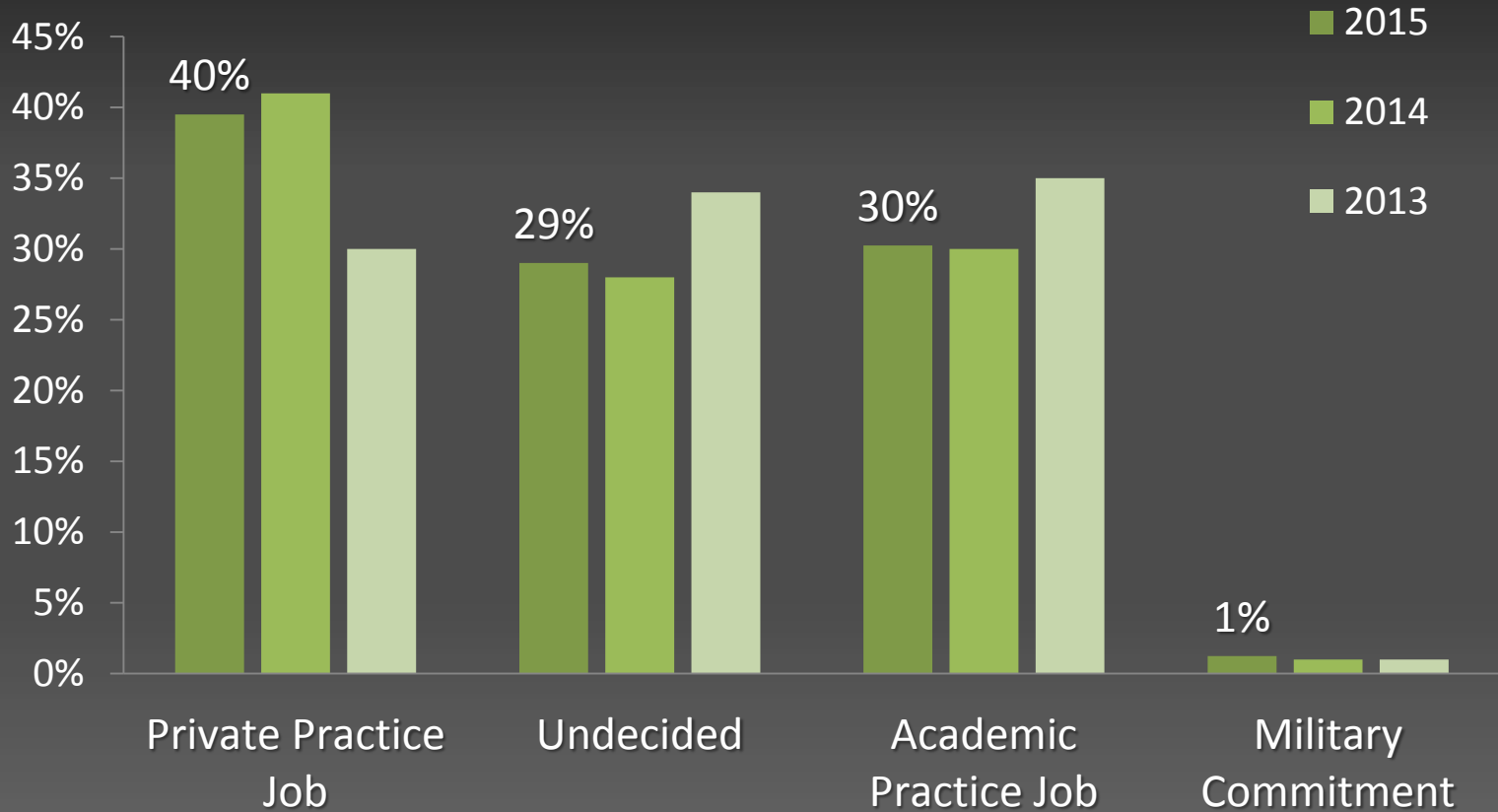
Job Market Outlook



- We appear to be past the nadir of pessimism

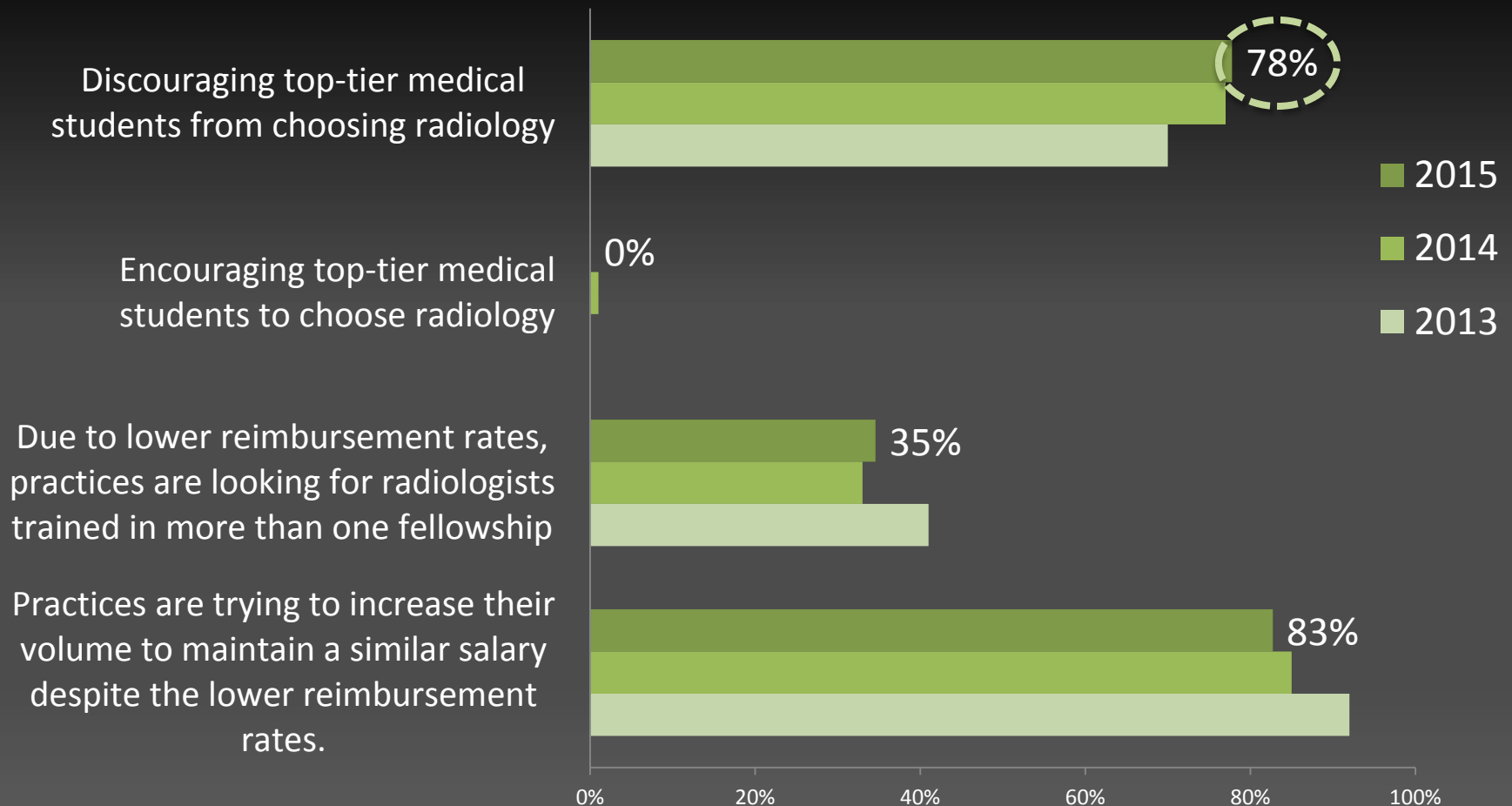
Job Market Outlook

Long-Term Career Plans



96% respondents entering fellowship after residency

Job Market – Perceived Effects on Radiology

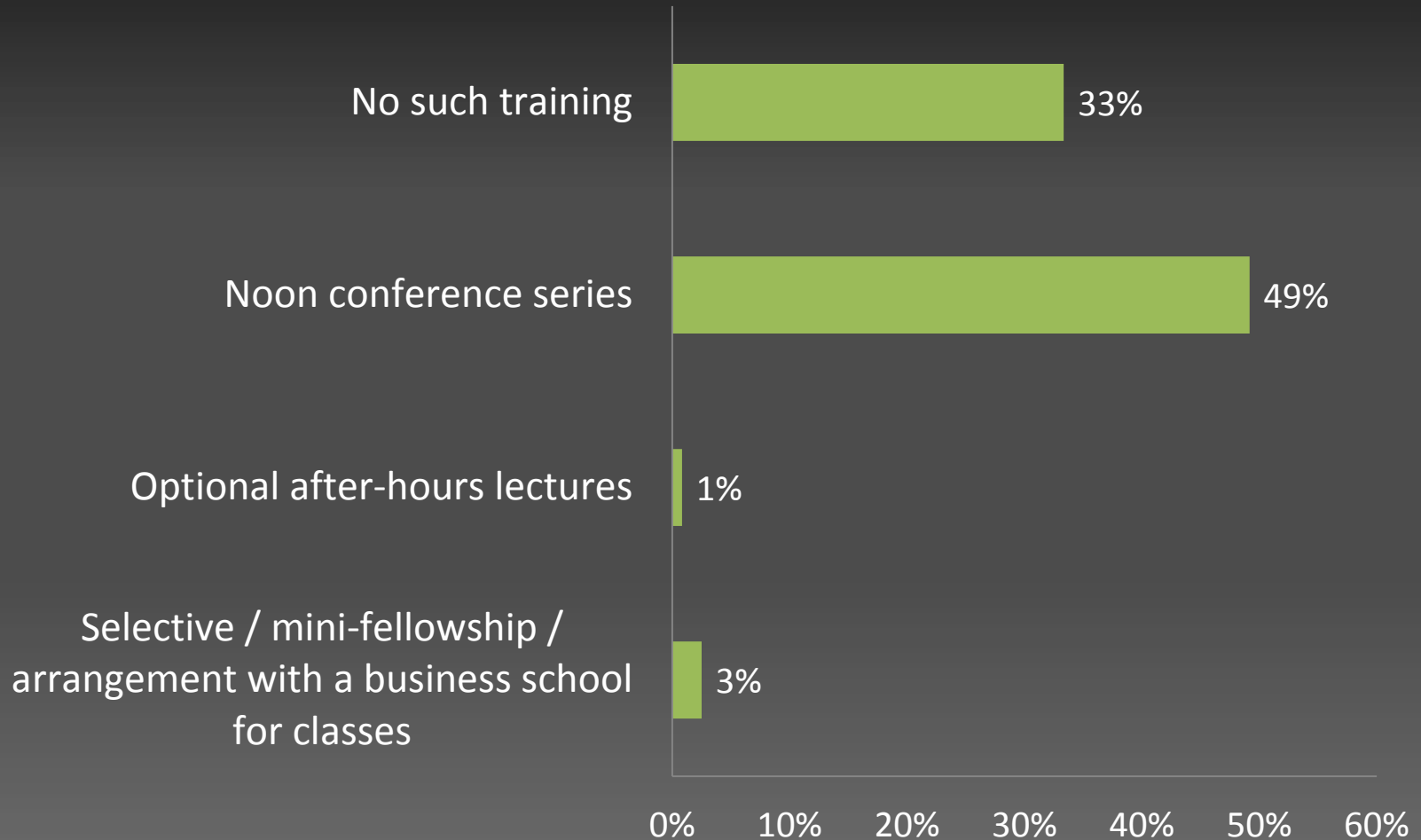


- Residents still perceive bad job market as likely to discourage top-tier medical students from choosing radiology
- A substantial minority also feels that practices are looking for >1 fellowship

Creative Ideas for Medical Student Recruiting

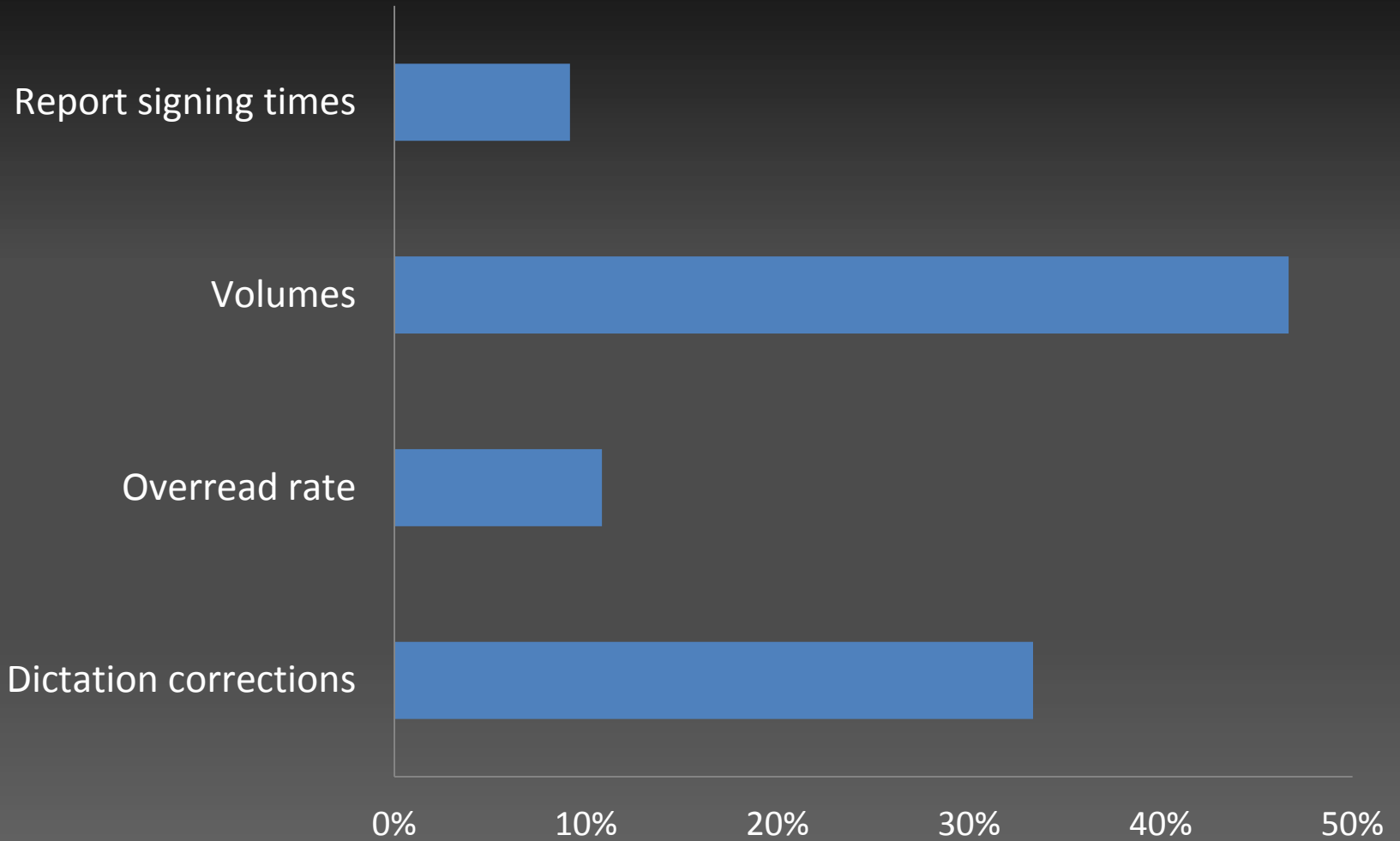
- Working with first/second year med students
 - Anatomy lab; Cadaver CTs
 - Rads attendings involved in small group modules
 - Ultrasound teaching sessions
- Medical student rotation
 - 4th-year externship/rotation with call
 - Improved curriculum
 - Increasing attending involvement in med student teaching
 - Radiology resident teaching sessions
 - Med student PACS
 - Required rotation
- Increased involvement with Med Student Radiology Interest Group
- Brown-bag lectures for medical students
- Career Night
- IR Symposium
- Medical student research opportunities
- Medical student rounds – interactive sessions with medical students
- Rad-Path correlation program (multidisciplinary)
- Invite med students to department activities

Training in Healthcare Economics



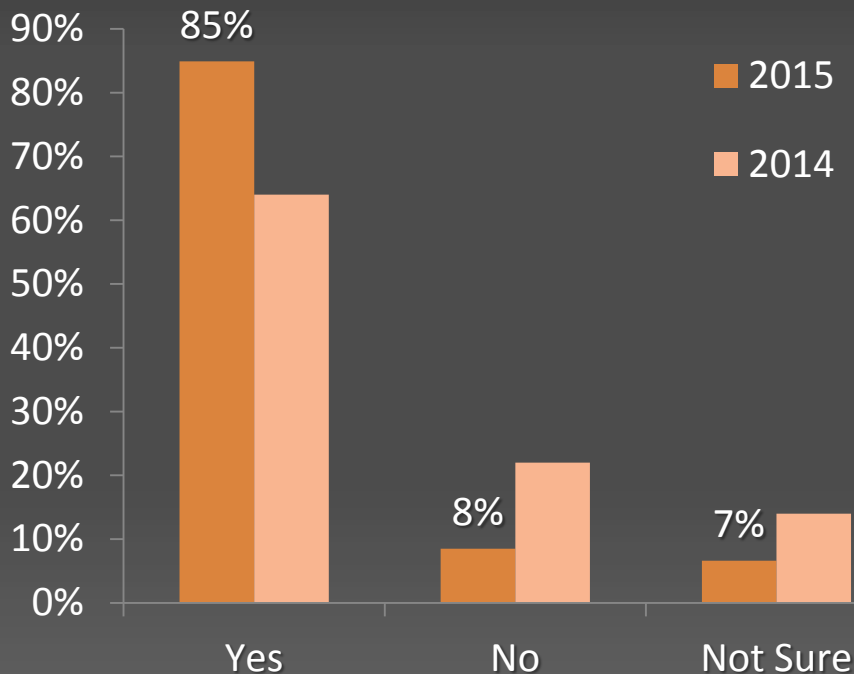
MISCELLANEOUS

Resident Feedback

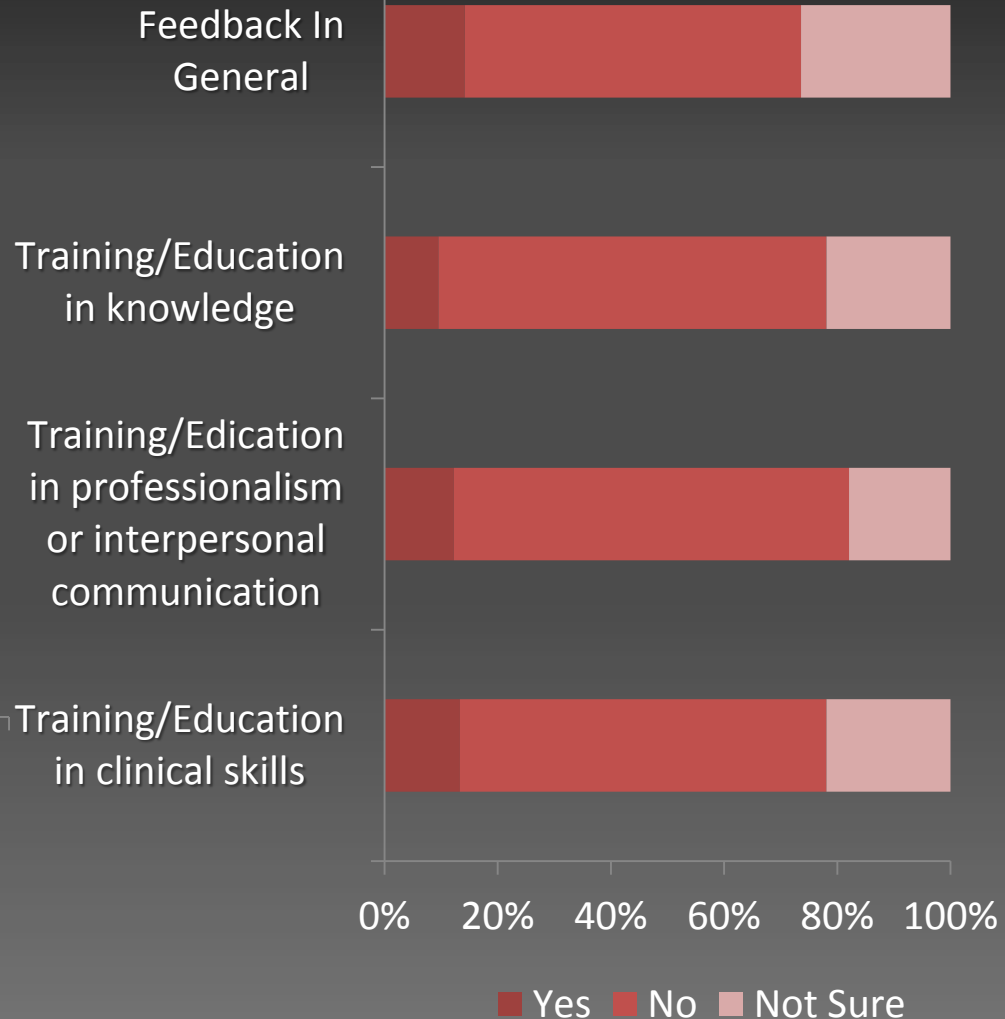


Milestones

Have You Received Your Milestones Report



Has Implementation of the Milestones Improved Your:



SUMMARY AND EDITORIAL COMMENTS

Summary

- Thanks again to the 190 or so of you who filled out the survey!
- There was much more data in the survey than we could present. If you are interested in a particular question, we would be happy to provide more data.

Summary

- There are still too few women in radiology
 - In studies, women prefer more patient contact, less technological work / physics knowledge, and less visual work (Roubidoux, et al. 2009; Zener, et al. 2013)
 - Perhaps we should try to focus our recruiting on female medical students, emphasizing these areas of perceived dissatisfaction
- Emerging trend in resident benefits: more expenditure on review resources, less on lead aprons
 - Are there other benefits that are losing out?
 - Is an emphasis on review a good thing?
- Moonlighting is very common
 - Residents provide both contrast injection coverage as well as preliminary interpretations
- Informatics tools continue to grow
 - Respondents report a big jump in integrated EMRs
 - Decision support for CPOE remains scant but expected to grow with ACA requirements

Summary

- The majority of chief residents are reimbursed to attend AUR
 - However, a substantial minority is not reimbursed or only partially so
- Regarding call, the majority of programs have night float systems
 - It is clear that gaps are then filled with individual shifts very commonly (mostly evening and weekend)
 - ACGME limits NF to 6 consecutive days
- Call has shifted away from 3rd year and towards 4th year with ABR exam changes

Summary

- Increasing trend towards 24-hour sonographers
 - Only a few programs still have residents scan overnight
- The vast majority of on-call MRI is still interpreted by residents
- Face-to-face readout continues to die out
 - Not just at programs with 24-hour attendings, though this is increasing as well
- Routine weekend services showed a surprise drop
 - Is this sample bias? Or does it reflect a trend to 24-hour ER coverage and less routine inpatient coverage?

Summary

- Very high Core exam pass rate
 - BUT a large number of programs have worryingly low pass rates
 - Larger programs tend to do better – Are they simply referral centers and see more variety of cases? Are their attendings better teachers? Are the attendings more ‘in the know’?
 - Some programs still provide dedicated time off to study
 - Against APDR recommendation and ACGME guidelines
 - These programs have lower pass rates – does this reflect a (correct) feeling at those programs that their boards preparation is lacking? If so, the dedicated time doesn’t seem to be working.
 - Or, does this reflect what the ABR thinks – that actual experience in the reading room is key to passing?
 - Many programs provide funding for external board review
 - Certainly not in keeping with the ‘experience in the reading room’ model
- RSNA/AAPM physics modules and RadPrimer are the most popular boards review resources

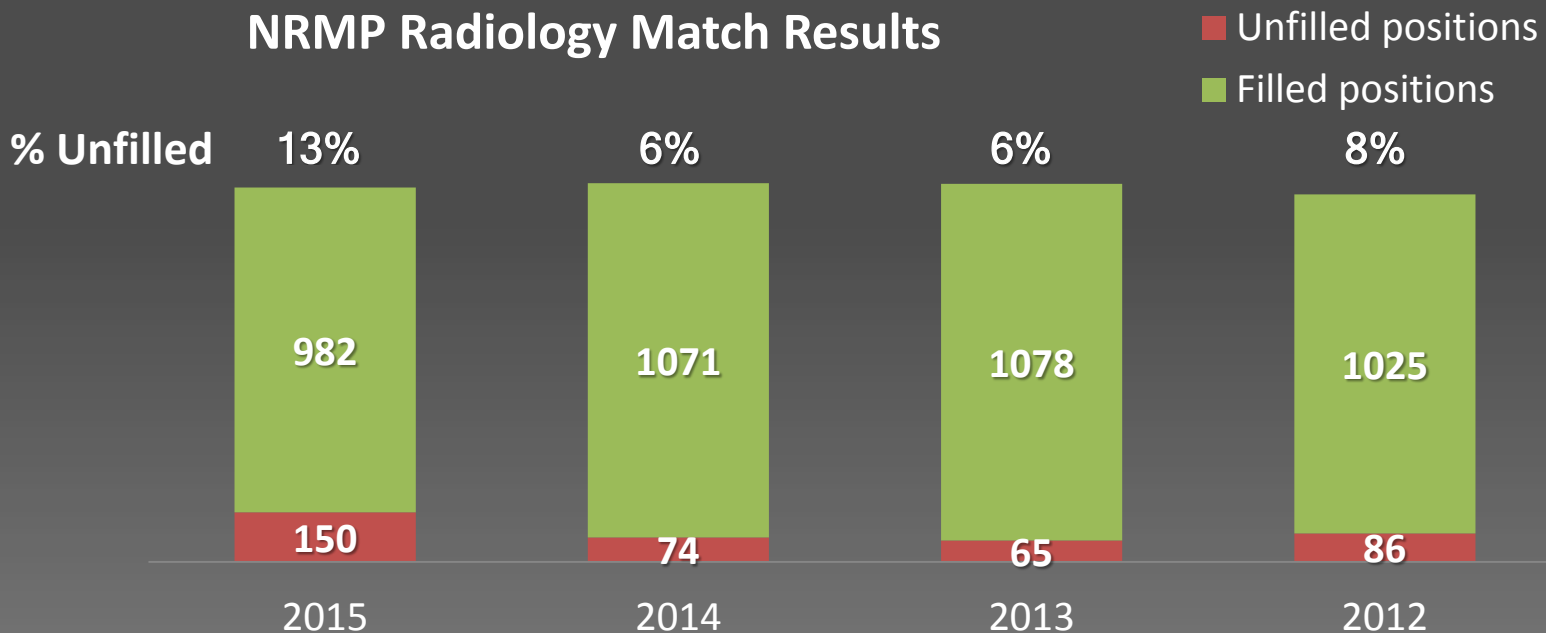
Summary

- VIR, Neuro, and MSK remain the most popular fellowships
 - VIR increased this year – 22% of residents at responding programs
- Already 15% of residents do not match in IR per NRMP
- Around 1/3 of residents take internal spots, but at many programs there are far more interested residents than internal spots
 - This is destined to worsen with the IR Residency changes: a 2-year fellowship can only take half as many fellows/year
- The good news – job market prospects appear much improved

Summary

- The bad news – job market perceptions may influence medical student choices
 - Majority of residents perceive it is discouraging interest
 - 15% drop in US applicants to radiology (NRMP 2015 data)
 - Worst % unfilled spots in years (NRMP 2015 data)
 - Worst % unfilled spots of all major specialties in NRMP

NRMP Radiology Match Results



Summary

- Virtually all residents have now received reports of their Milestones feedback
- Per ACGME, among other goals, Milestones are supposed to:
 - “Guide curriculum development of the residency or fellowship;”
“Support better assessment practices”
 - “Provide more explicit and transparent expectations of performance;” “Support better self-directed assessment and learning;” and “Facilitate better feedback for professional development”
- Very few residents feel that implementation of the Milestones has concretely improved their feedback or education in any category
 - Is there a problem to solve in residency feedback, curriculum, or education?
 - Are we solving it with Milestones? Is there a better solution?

Thanks!

- Chief Resident Survey Participants!
- Laurie May at RSNA
- Lynn Lammers, APCR President and MIR program coordinator
- Gautham Reddy and the A³CR² executive and steering committees
- Jennifer Gould and Ron Evens
- Ziga Cizman and Cory Pfeifer
- Anup Shetty, Daniel Holt, and Sarah Connolly
- This presentation will also be available on the AUR Website
 - We would be happy to share more data with you upon request