



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

2017 A³CR² Annual Chief Resident Survey

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MIR Mallinckrodt Institute
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Financial Disclosures

- None

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

1. SURVEY DETAILS

Thank you for taking time to complete the annual survey of diagnostic radiology chief residents.
**Radiation oncology chiefs need not fill out this survey as it applies to diagnostic radiology

Please complete the survey by Friday, March 31, 2017. The responses to this survey will be presented at the AUR conference on May 8 during the AUR conference in Hollywood, Florida.

The survey will take about 20 minutes to complete. You cannot save your progress during the survey. Please take enough time when you start the survey.

Survey Topics

- Basic Program Information
- Program Demographics
- Resident Benefits
- Chief Resident Responsibilities and Benefits
- Moonlighting
- Call
 - Readout, Attending Coverage, Ultrasound
- Core Exam
- Fourth year and Fellowships
- Healthcare Economics and the Job Market
- Adding Value

Limitations

- Opinions and estimations
- Sampling bias (only chief residents who responded were included)
- Duplicate responses from programs with multiple chief residents
 - Average response used for institutional questions (numerical)
 - Most similar responses used for ordinal/nominal data

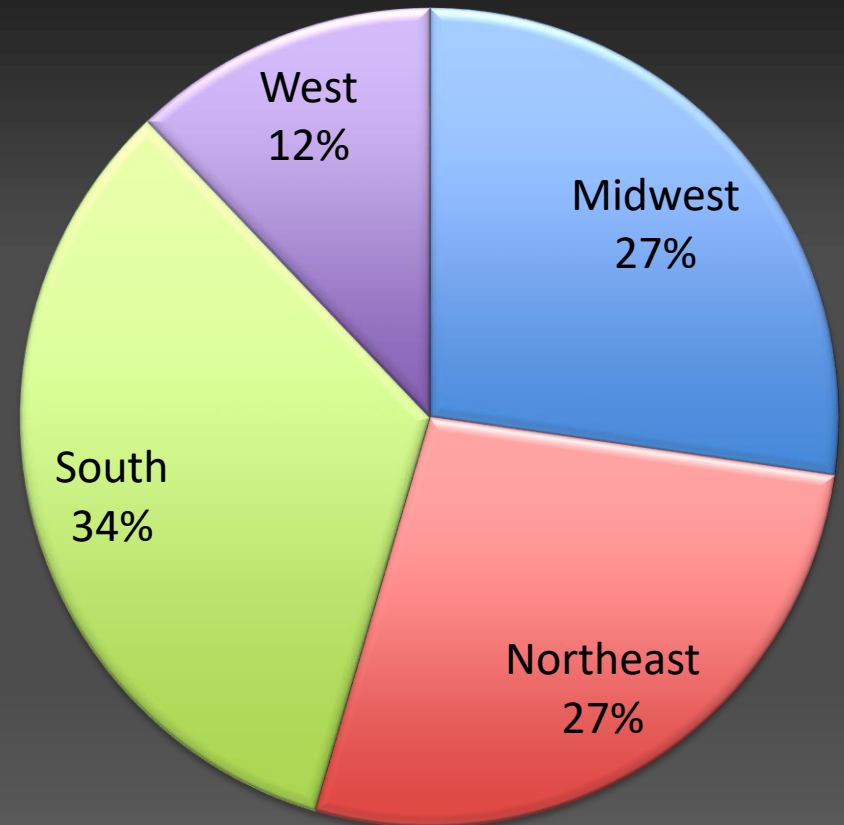
Participation

Number of Responses 2010-2017

Year	Individual Responses	Unique Programs
2017	160	111
2016	173	104
2015	193	120
2014	212	136
2013	134	99
2012	185	135
2011	259	148
2010	228	140

Approximately 180 programs total.

Region



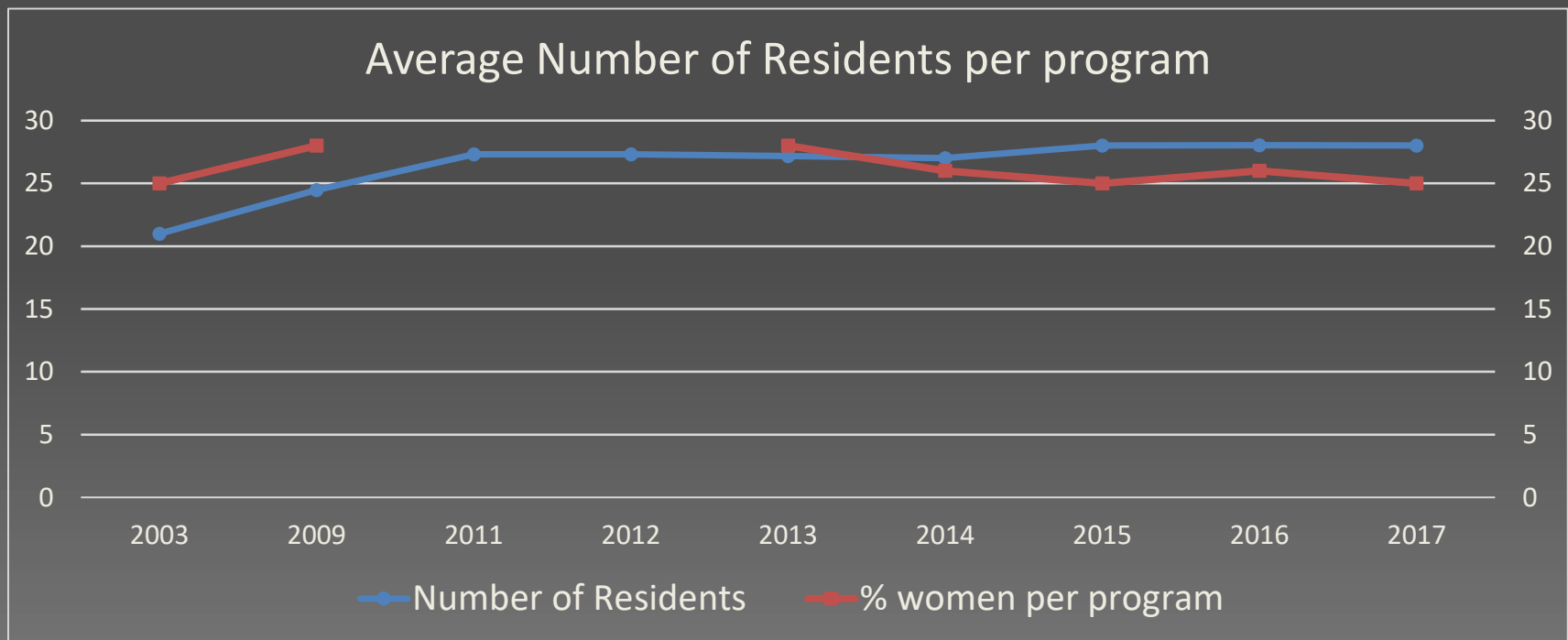
- Results available to A³CR² members and on the AUR website

THANK YOU FOR PARTICIPATING!

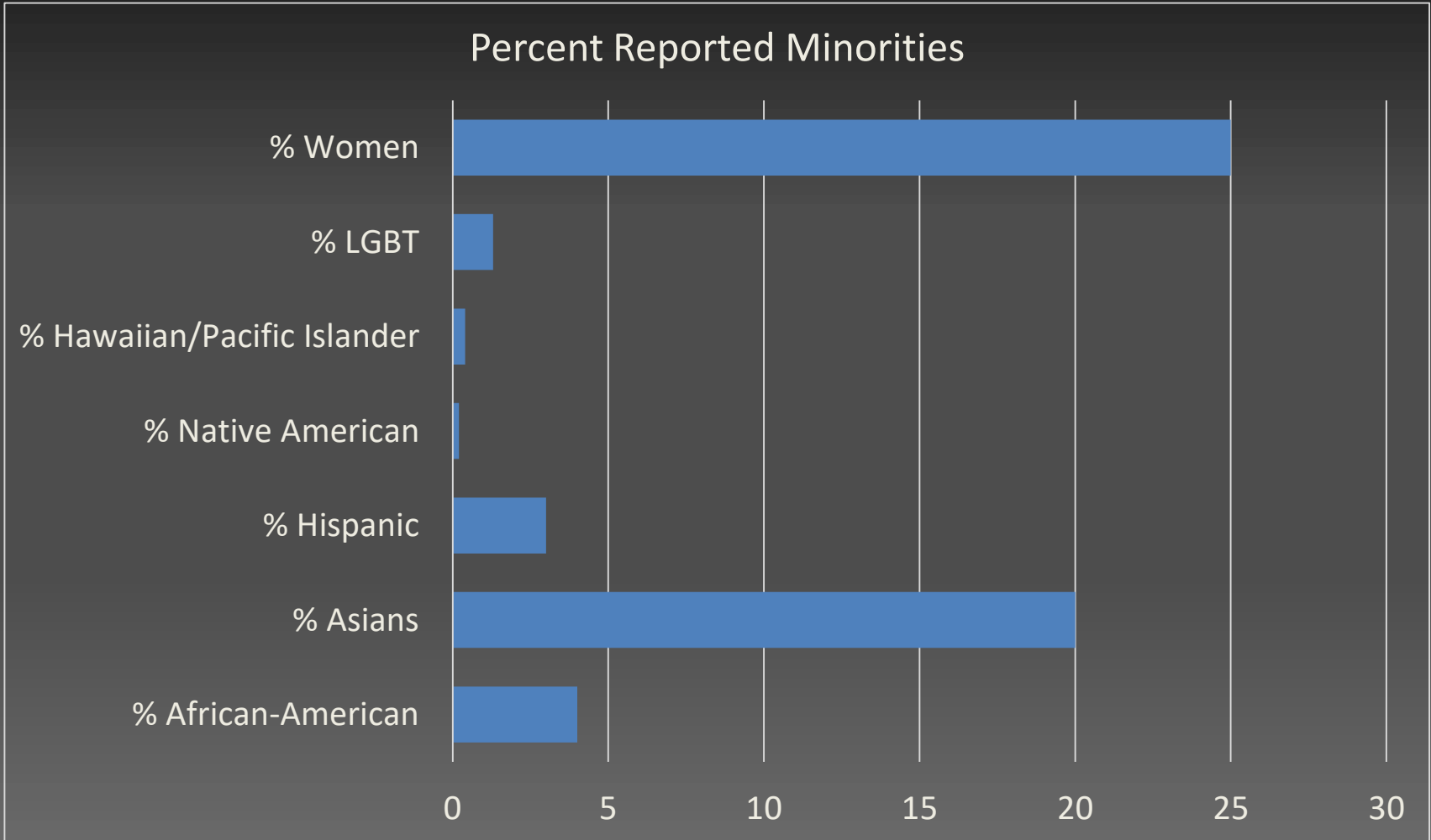
PROGRAM DETAILS

Program Size

- Program size increased in the early 2000s but has remained relatively stable (mean 28, median 26 per program)
- The percentage of women has remained low at 25% this year (average %/program)
 - Percentage of women in medicine = 46% of all residents



Program Demographics

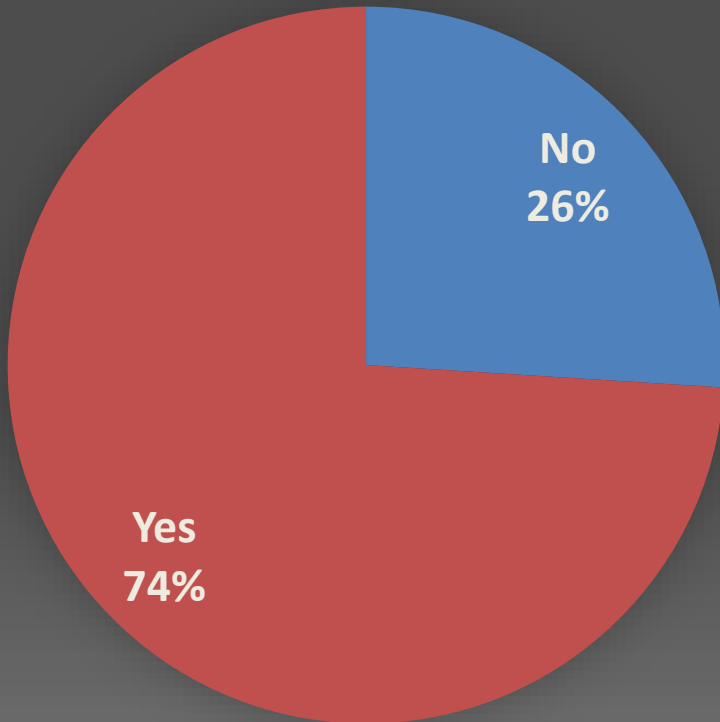


Programs report 27% residents are minorities (excluding women)

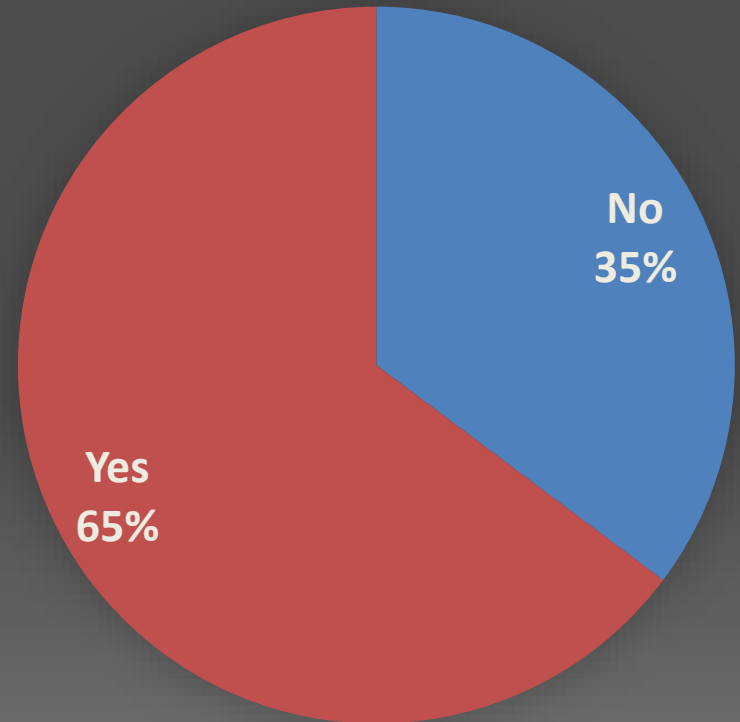
Program Demographics

Does your program accept D.O.s? FMGs?

Percent of Programs that Accept DO's

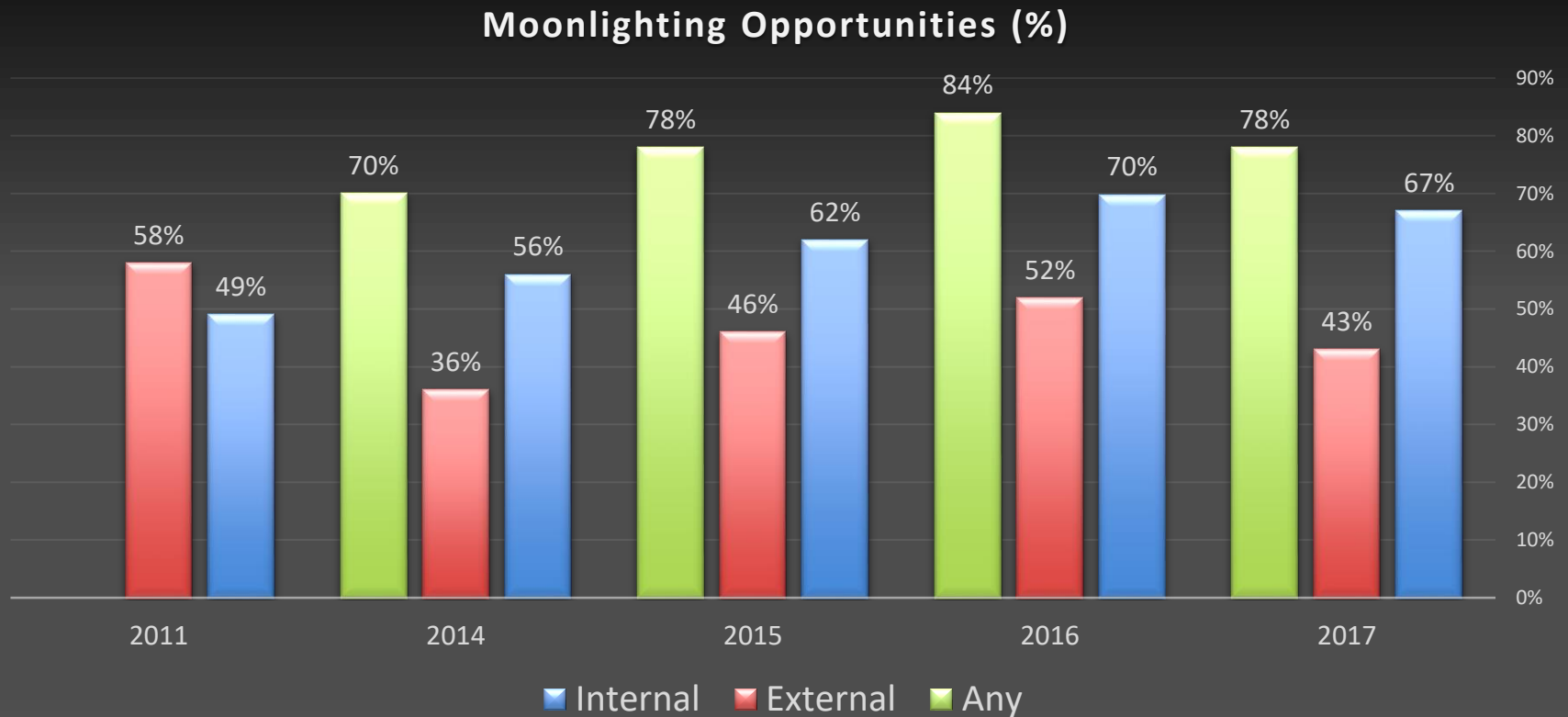


Percent of Programs that Accept FMG's



MOONLIGHTING

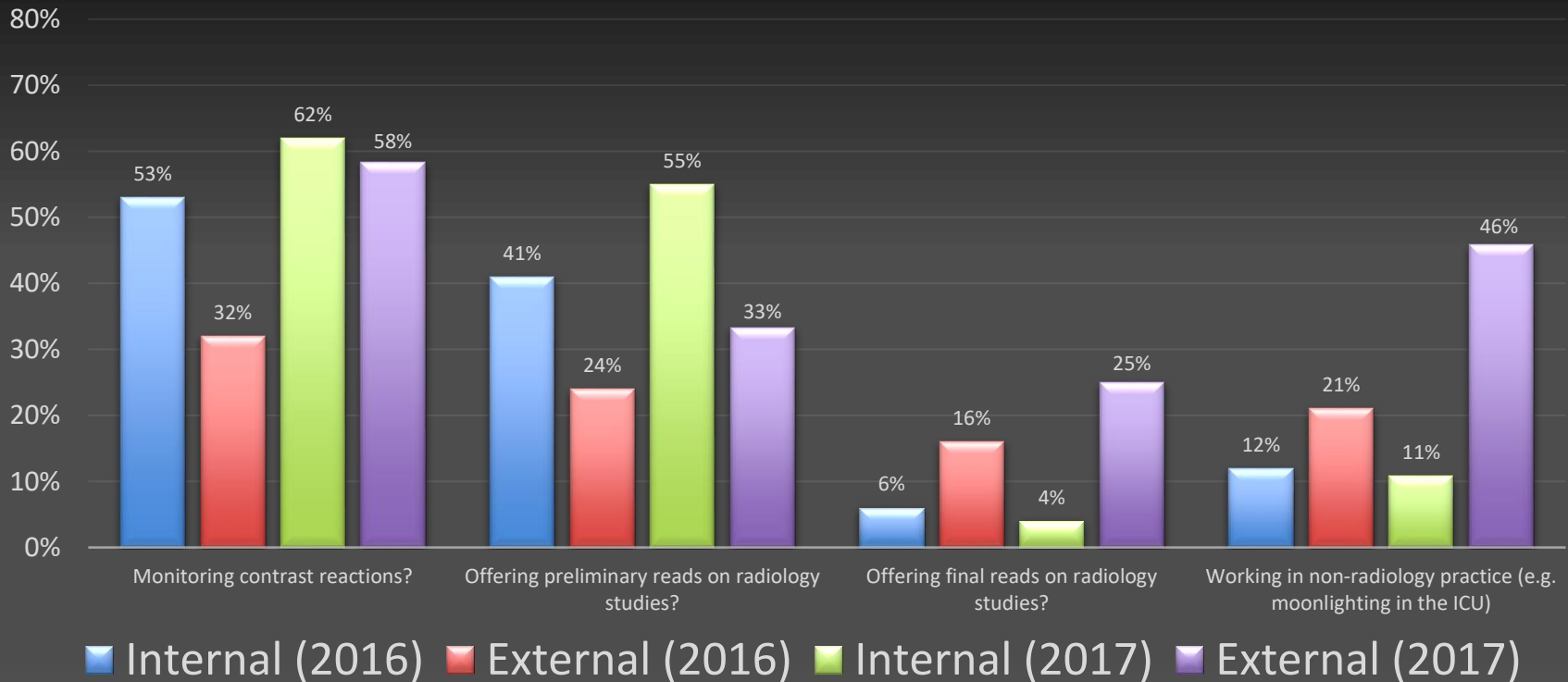
Moonlighting Opportunities



- Moonlighting remains very prevalent among radiology programs with internal moonlighting being more common than external moonlighting
- 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 (2016)

Moonlighting Opportunities

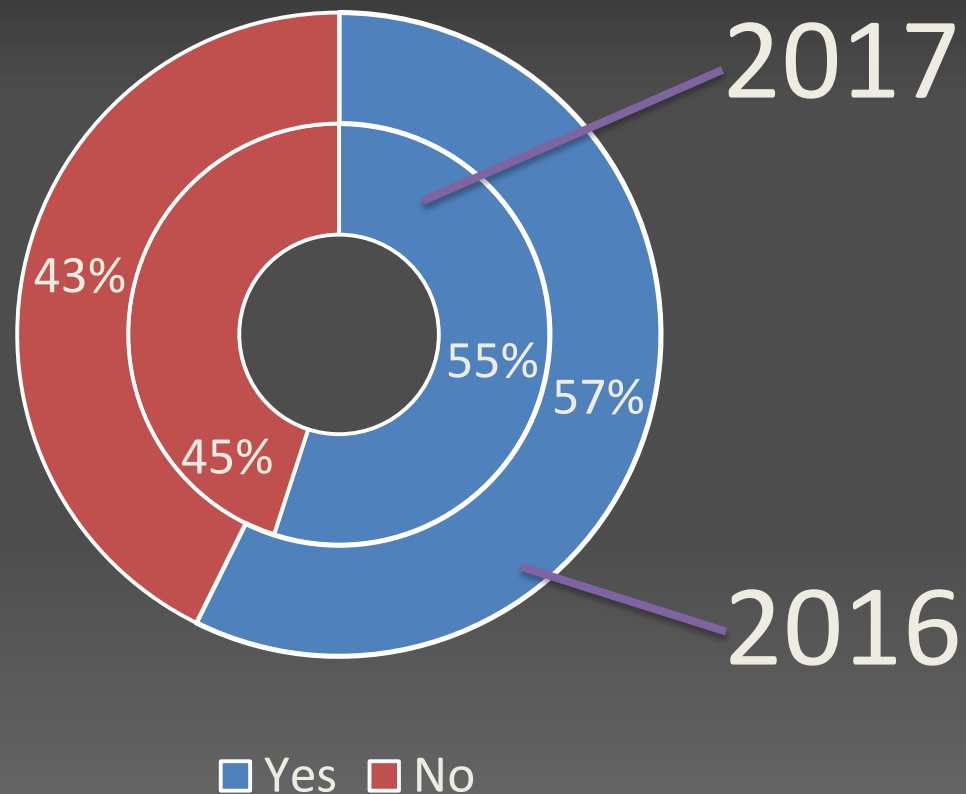
Number of Programs with Each Moonlighting Opportunity



- Both contrast injection monitoring and offering preliminary reads are most common overall
- Non-radiology moonlighting increased in the last year for external opportunities

Moonlighting Opportunities

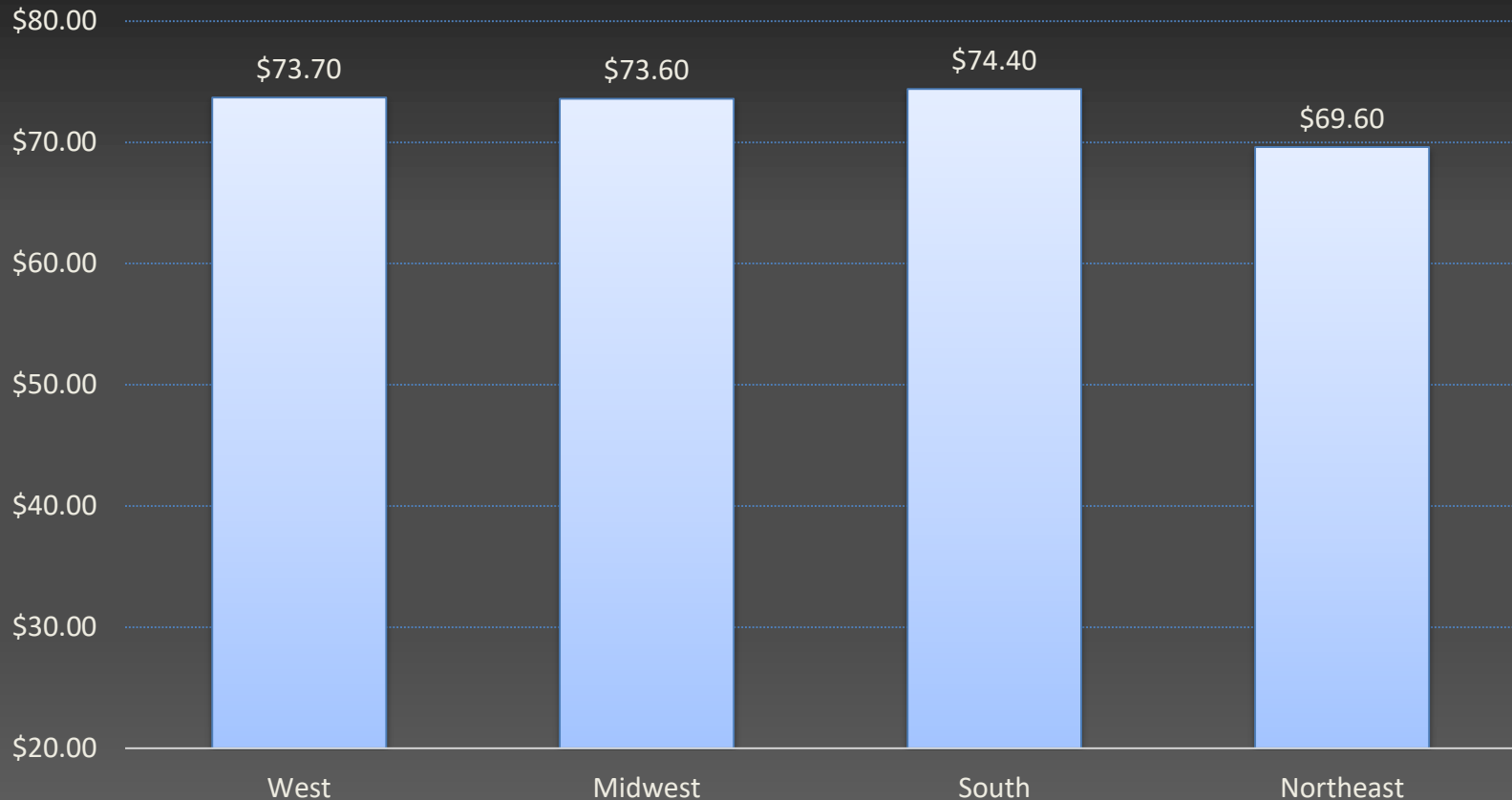
Sufficient Moonlighting



48% programs require permanent license for internal moonlighting (49% last year)

Moonlighting Reimbursement

Moonlighting (Average \$/hour)



The average reimbursement for all regions is \$72.81 / hour. The median is \$75 / hour

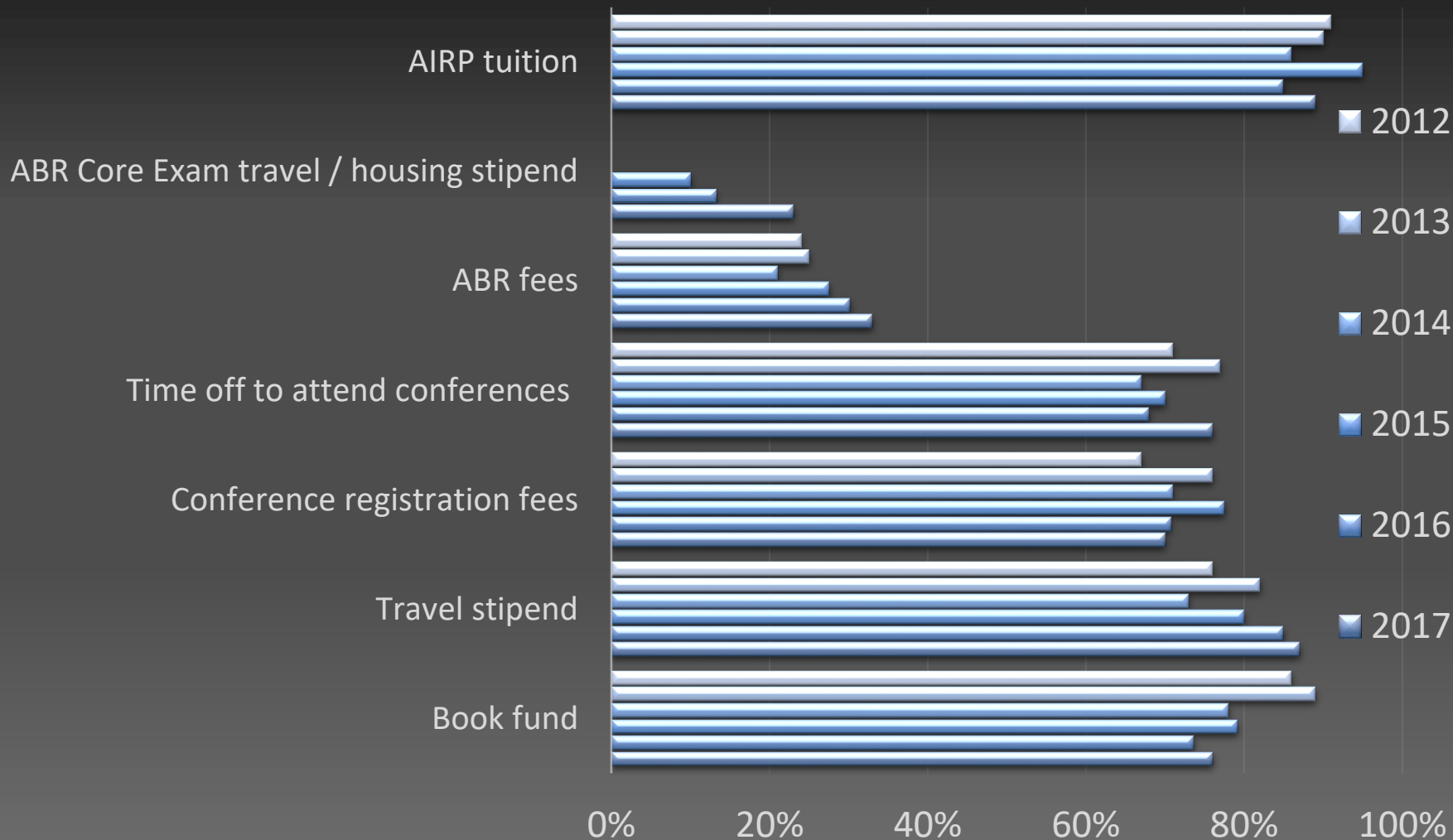
Median by geography:

West \$80/hr, Midwest \$73.75/hr, South \$82.5/hour, Northeast \$75/hr

RESIDENT BENEFITS

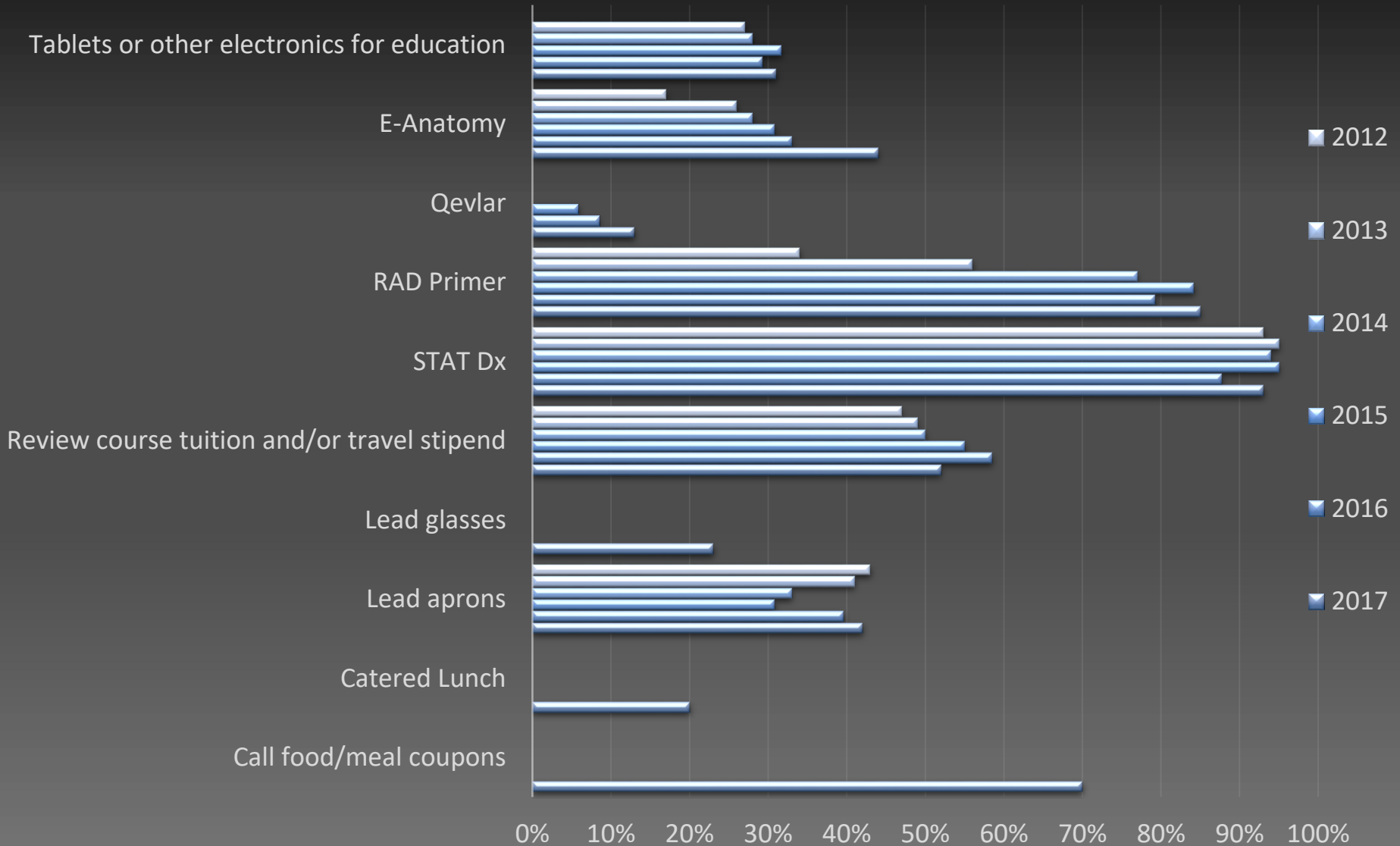
Resident Benefits

Program Benefits (1/2)



Resident Benefits

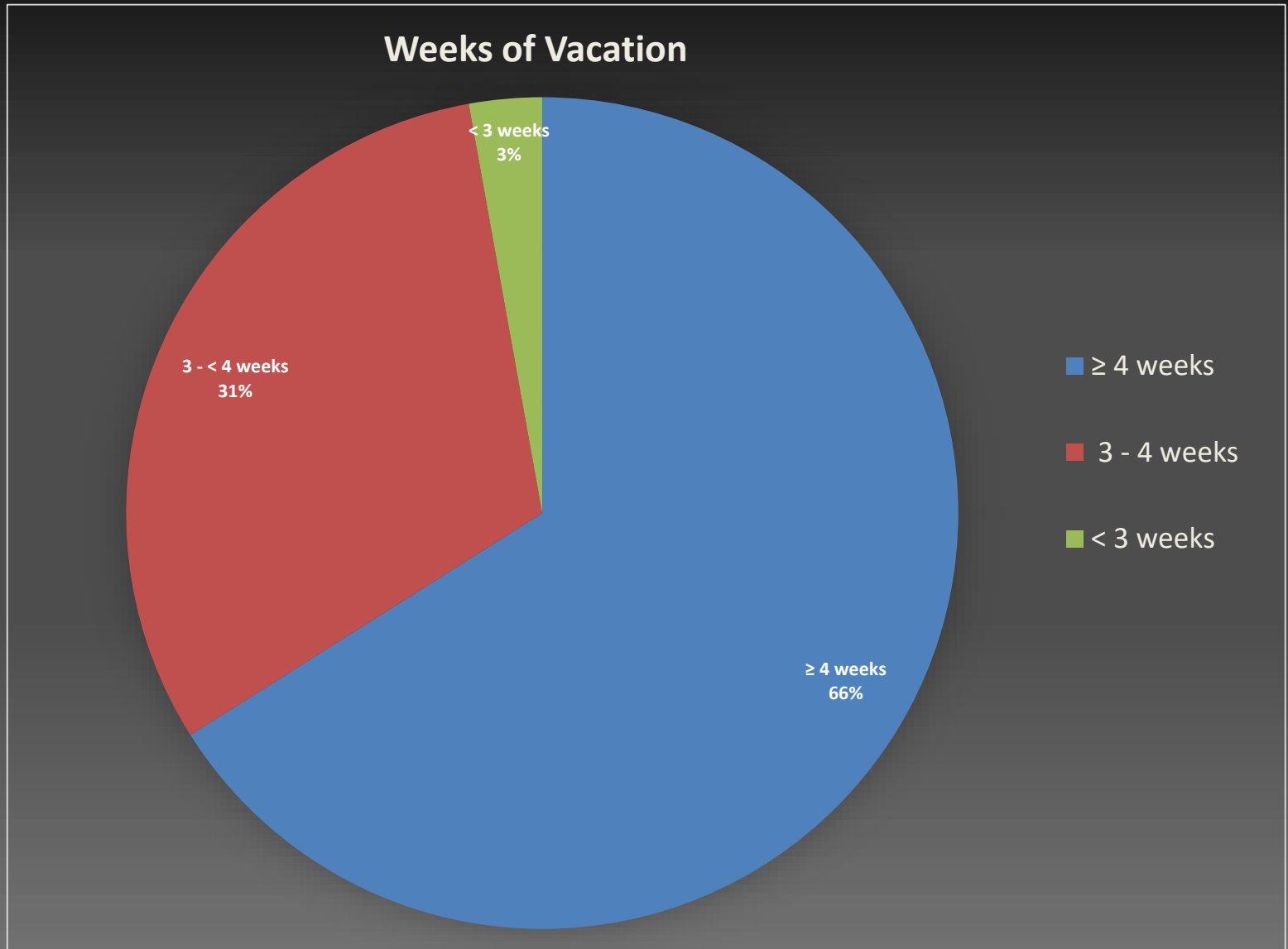
Program Benefits (2/2)



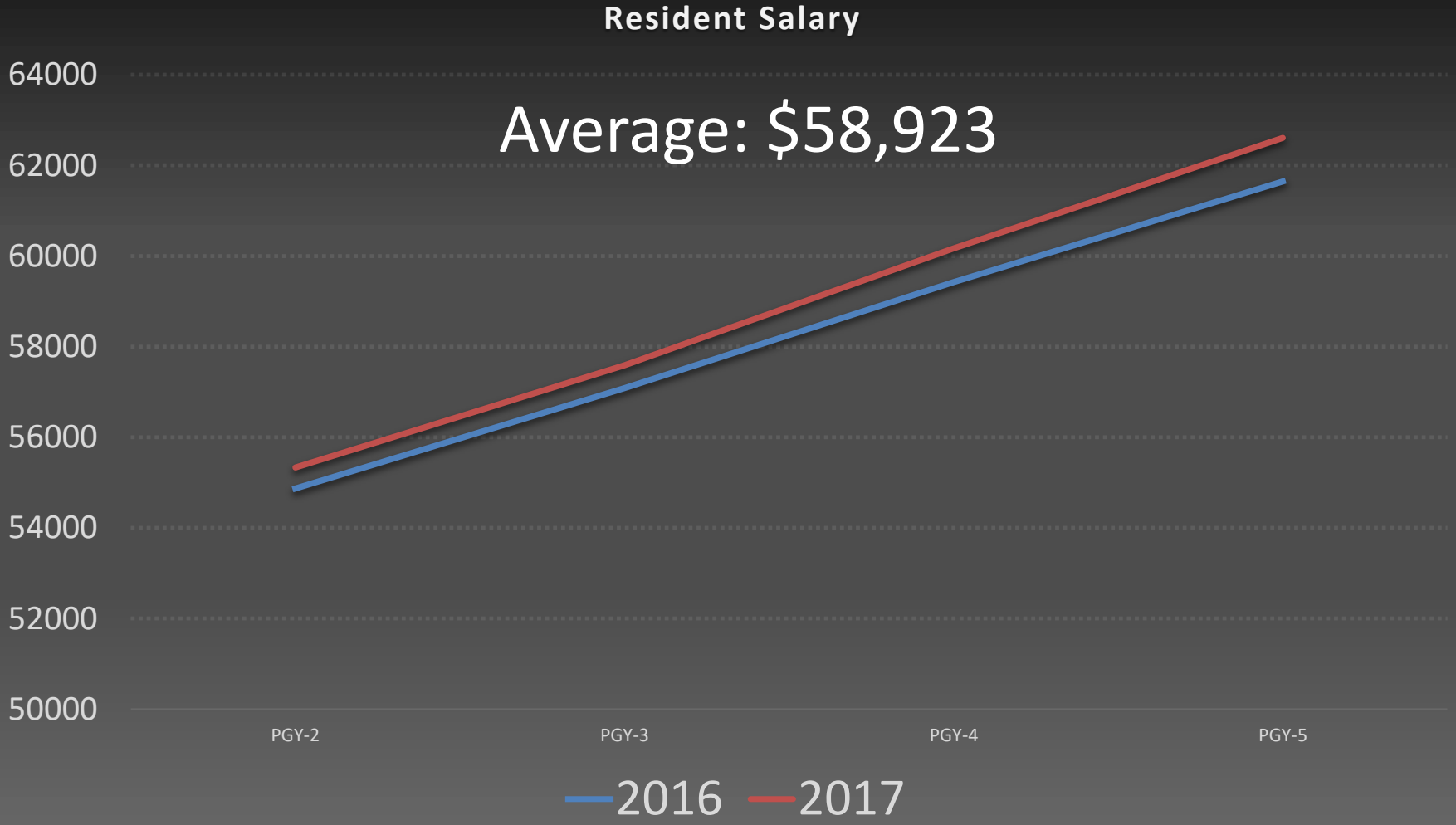
Resident Benefits cont'd

- AIRP Stipend
 - Average \$2477 (\$2172 2016)
 - 93% of residents attend AIRP (95% 2016)
- ABR
 - Program coverage fees uncommon (33%)
 - Many report that book/study fund is expected to encompass these costs
 - Program coverage ABR travel/housing even less common, but has increased to 22% from 10% (2016)
- Other benefits mentioned
 - Radprimer (2017 – 85%, 2013 – 56%)
 - Meal stipends for call
 - Travel stipends

Vacation Weeks



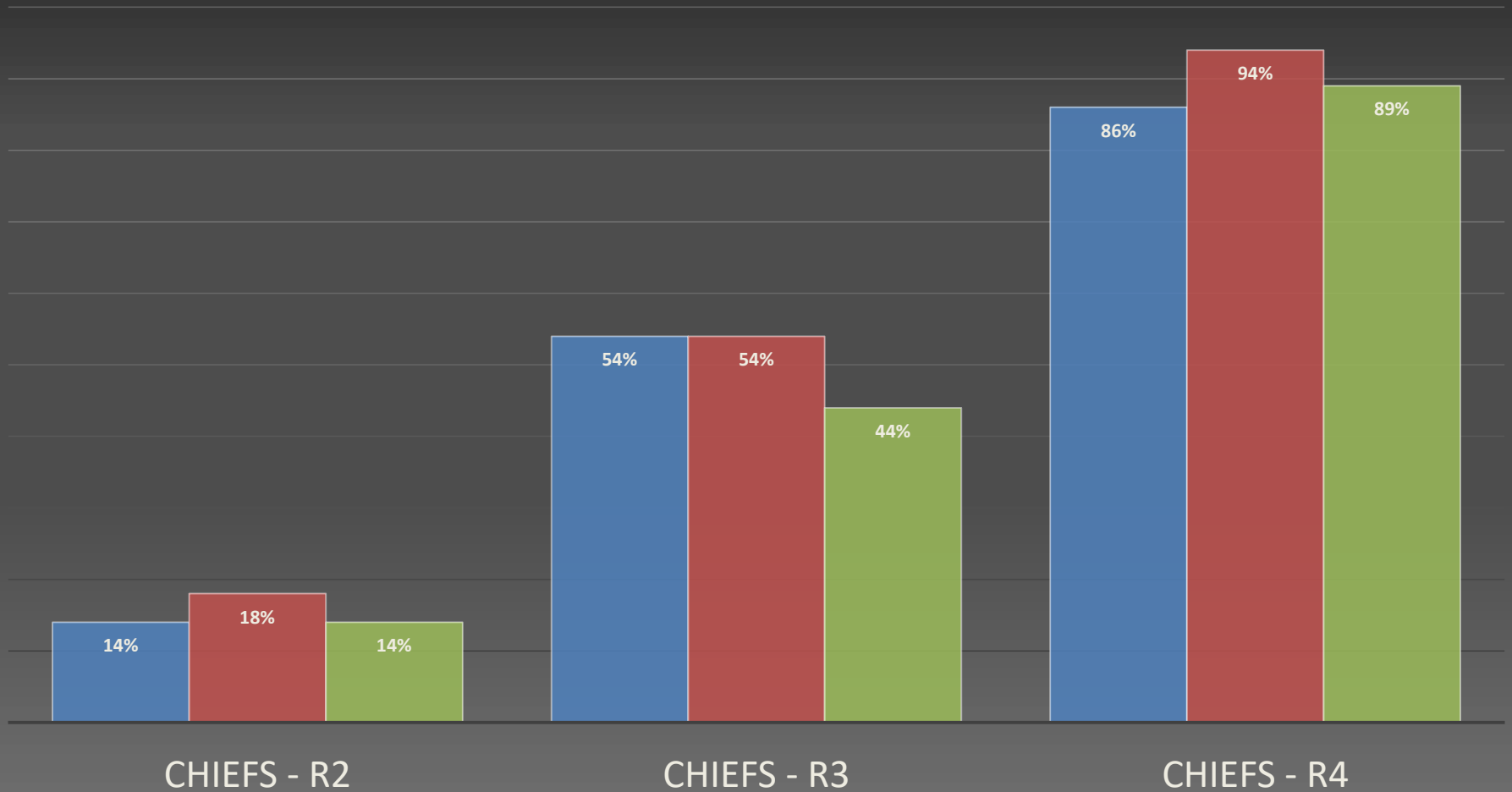
Resident Salaries



CHIEF RESIDENTS

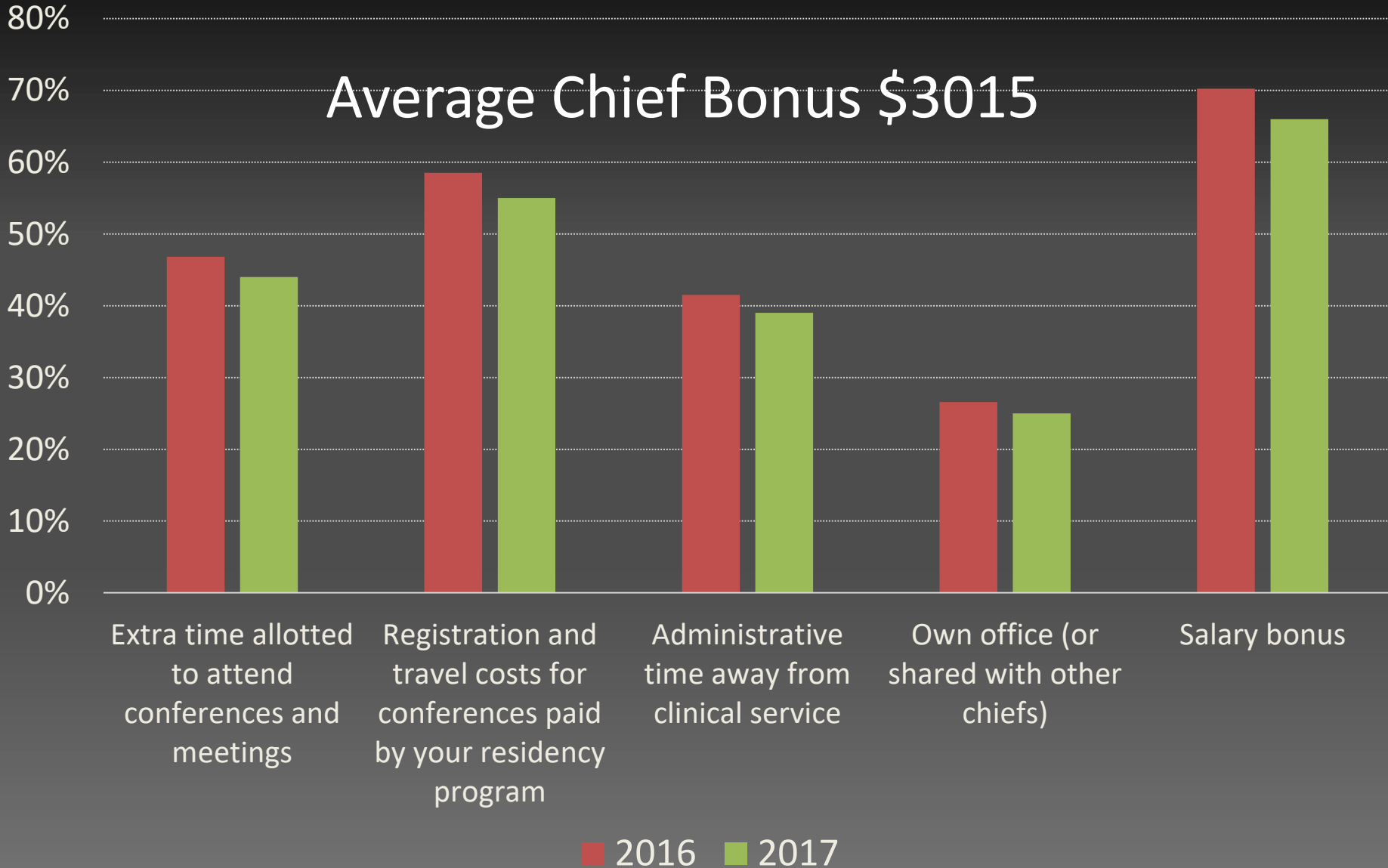
Chief Resident Tenure

■ 2015 ■ 2016 ■ 2017



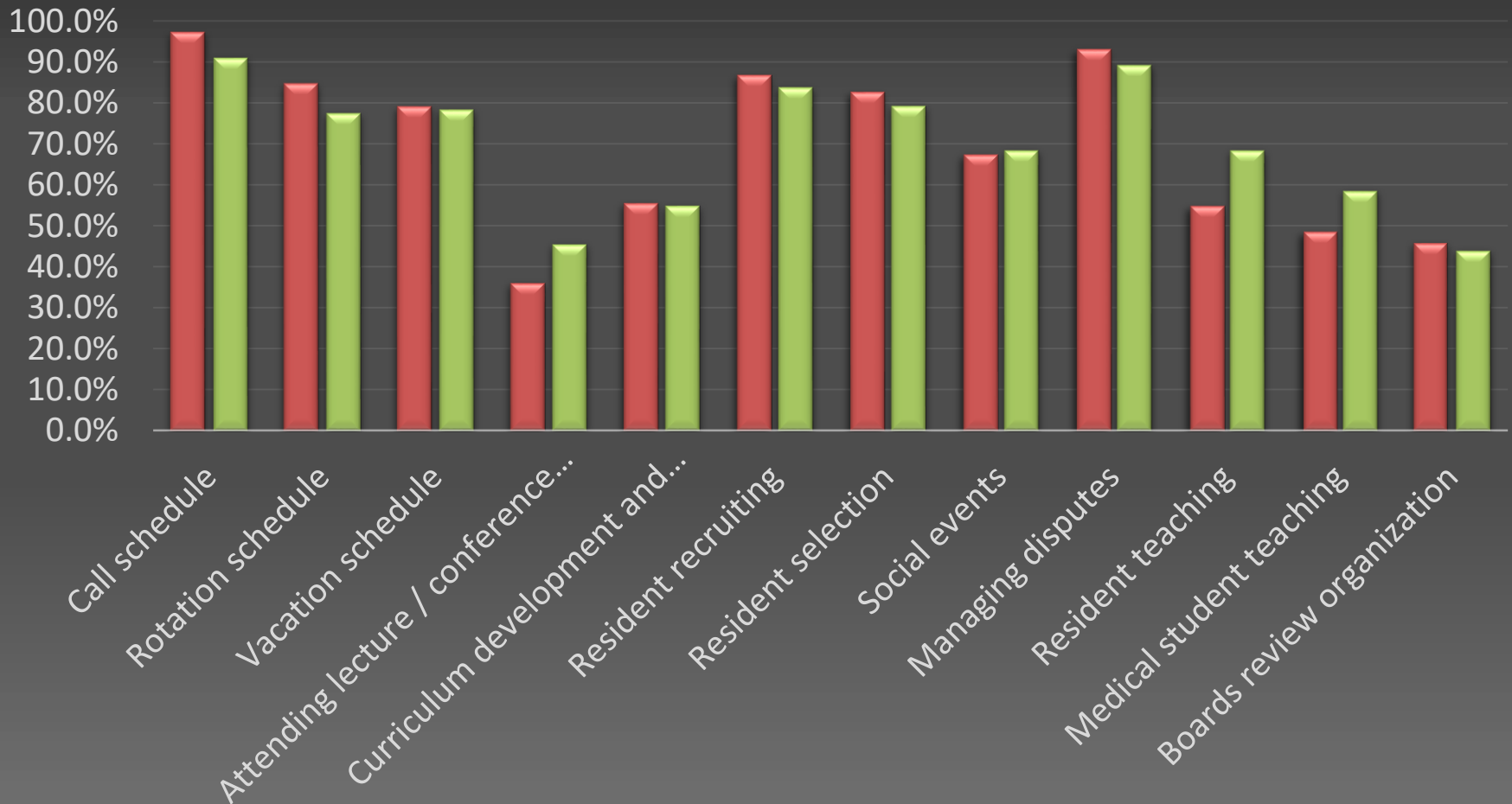
Chief Resident Benefits

Average Chief Bonus \$3015



Chief Resident Responsibilities

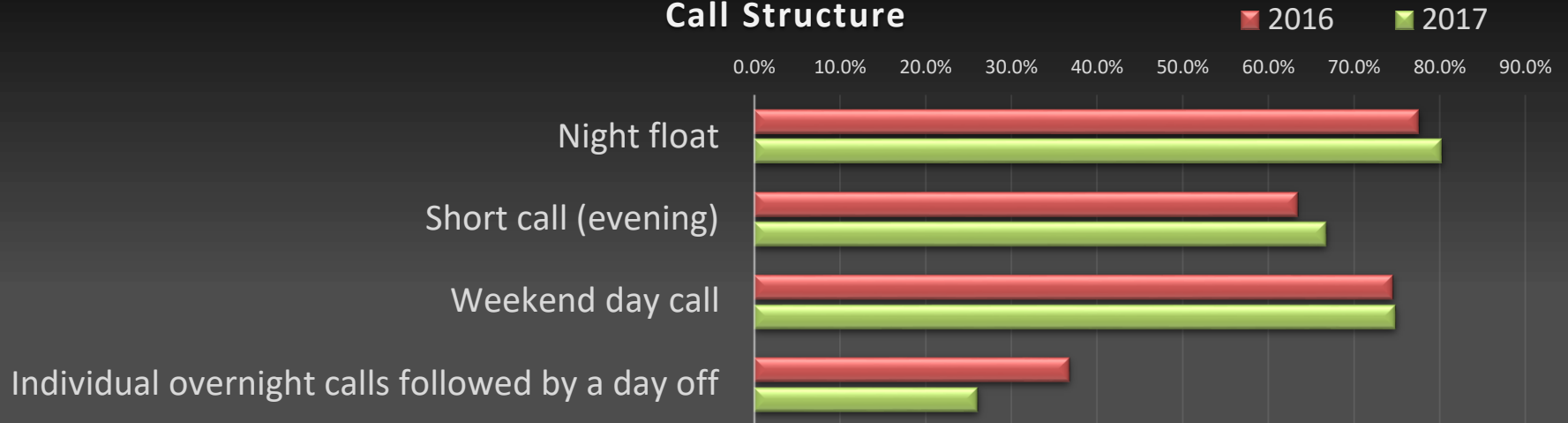
2016 2017



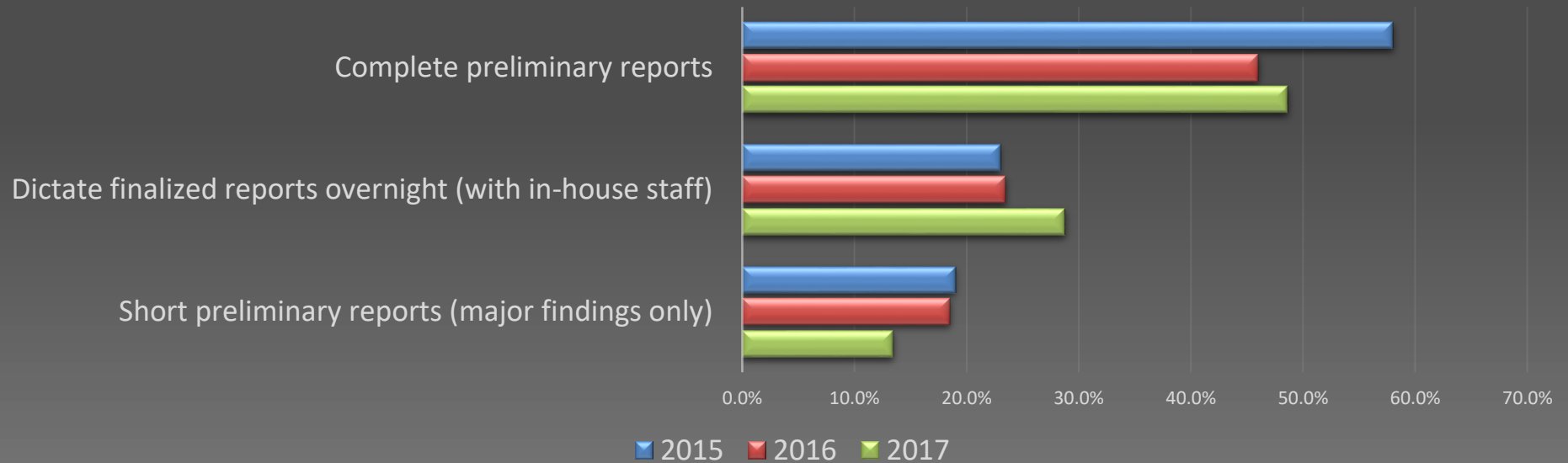
CALL AND ATTENDING COVERAGE

Call and Weekend Coverage

Call Structure

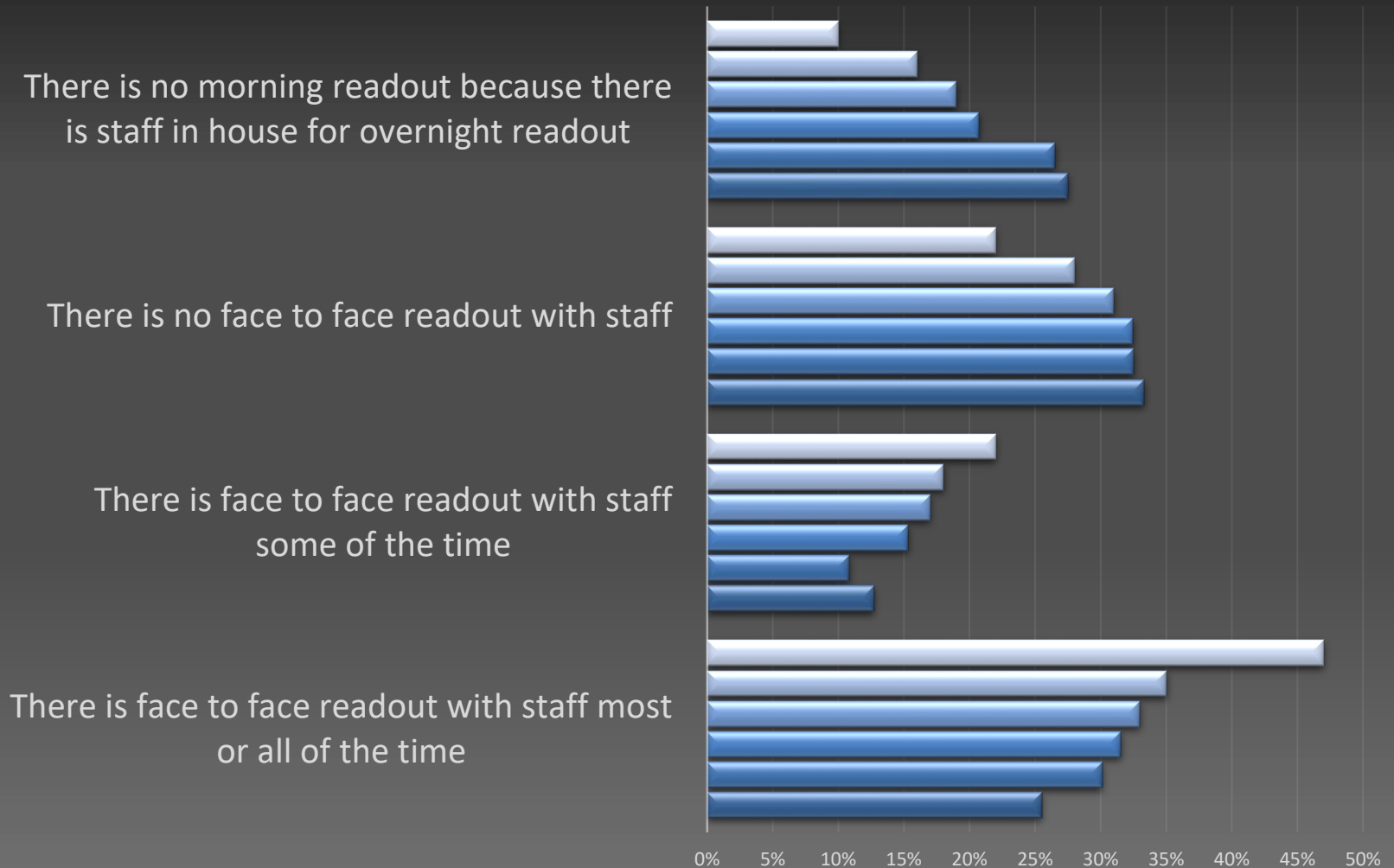


Call Reports

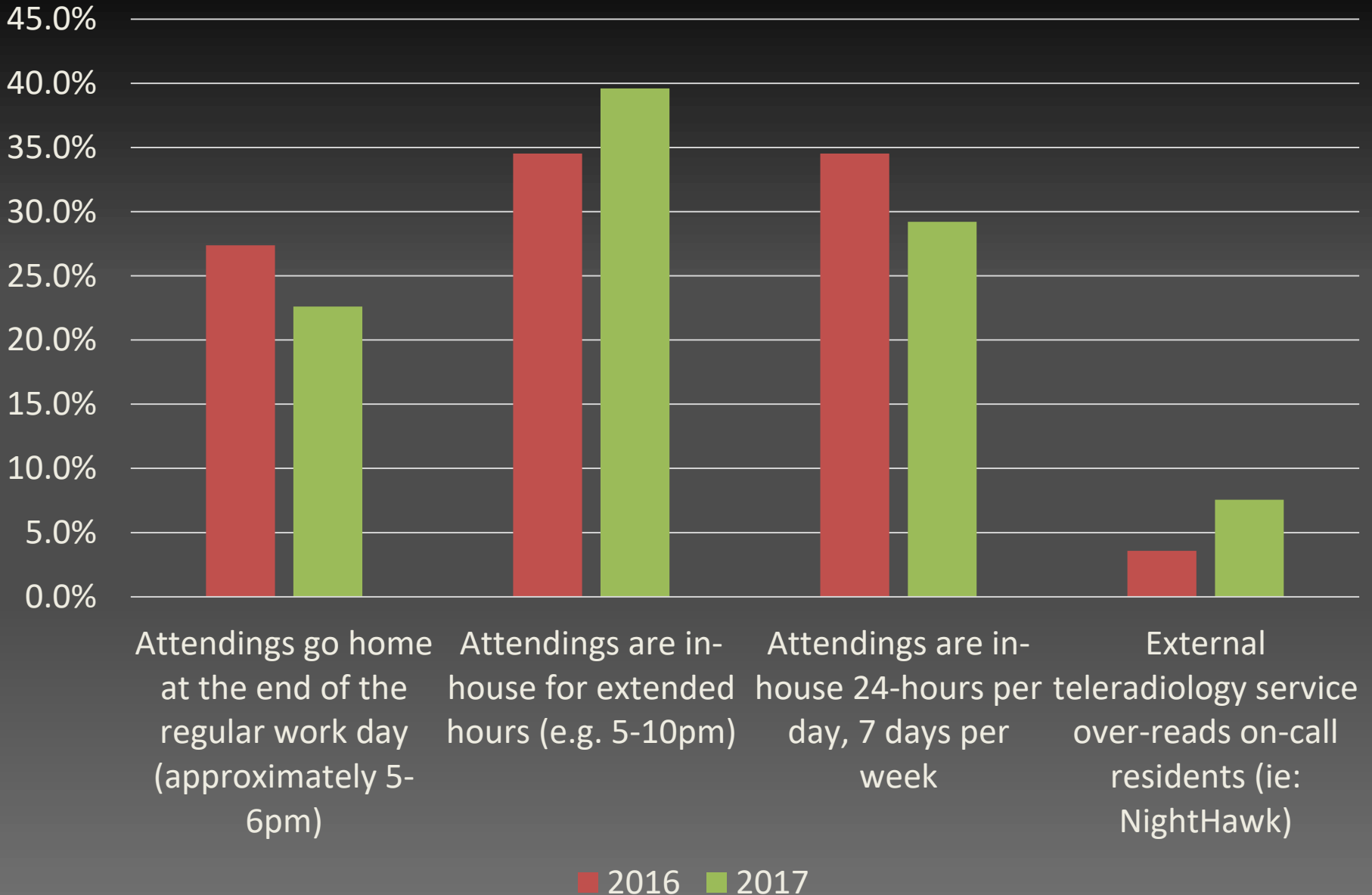


Post Call Readout

■ 2011 ■ 2013 ■ 2014 ■ 2015 ■ 2016 ■ 2017



Attending Hours

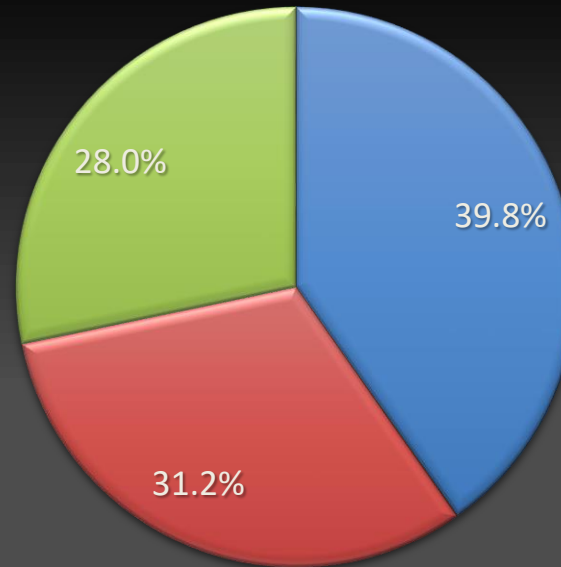


Call plans

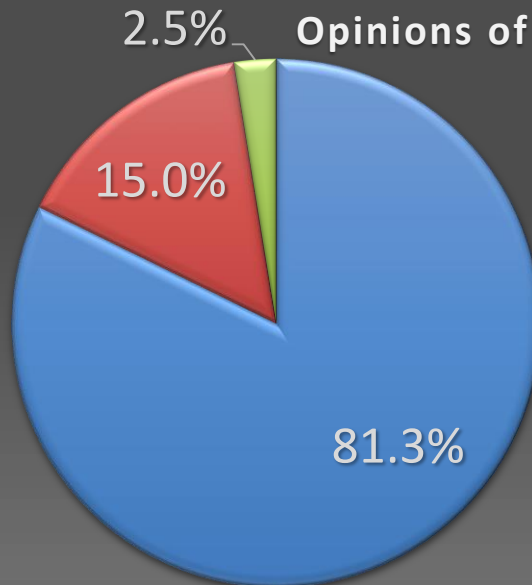
- For those without extended/overnight coverage
 - 82% have no plans to implement more coverage
 - 8% have plans to implement overnight coverage
 - 11% have plans to extend coverage
- For those with extended in-house coverage
 - 69% have no plans to implement overnight coverage
 - 24% have plans to implement overnight coverage

Opinions of Overnight/Extended Coverage

- Extended or overnight attending coverage does not affect my autonomy or training
- Extended or overnight attending coverage positively affects my autonomy or training
- Extended or overnight attending coverage negatively affects my autonomy or training

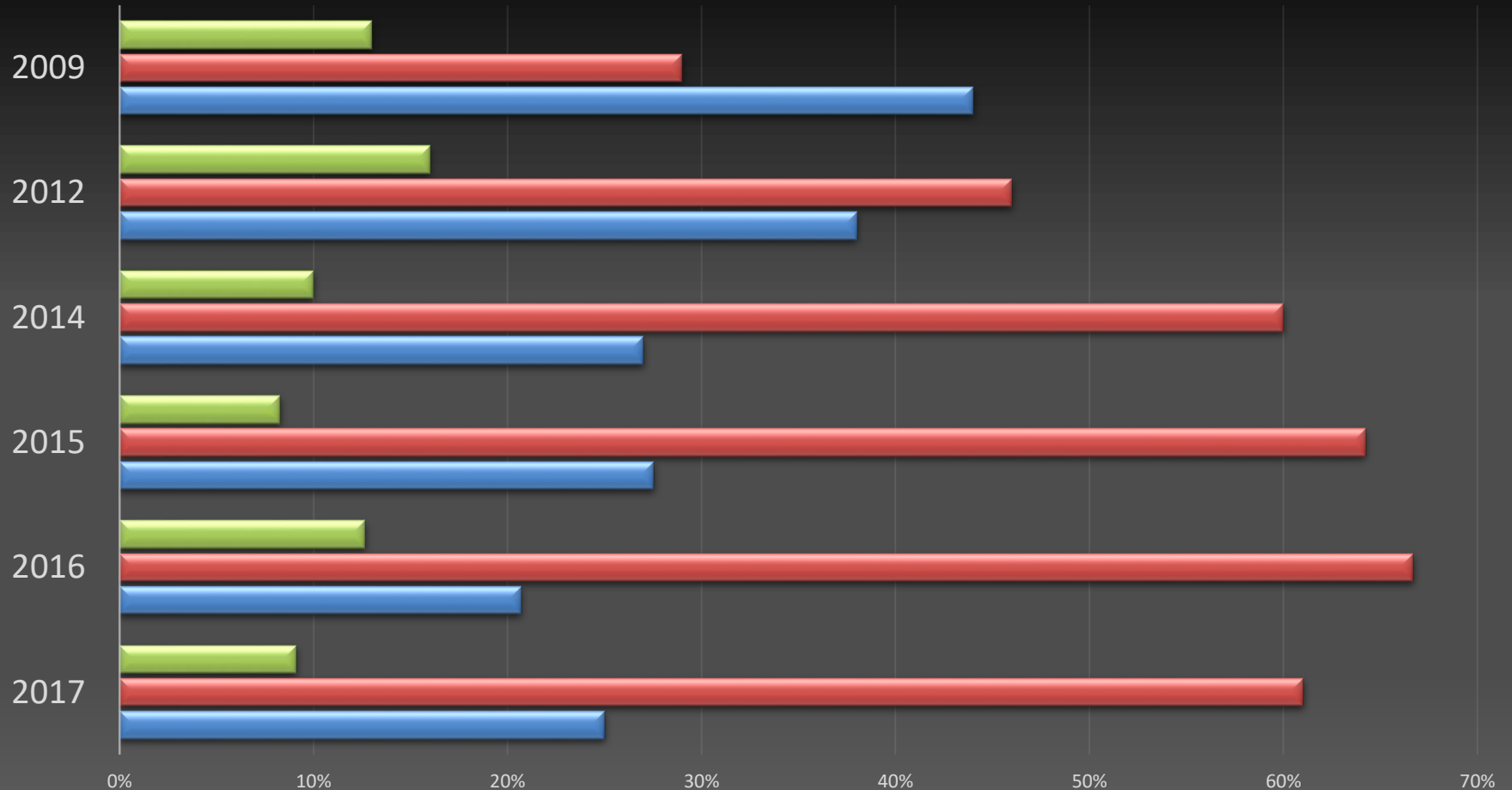


Opinions of Independent Call



- Attendings are available (on-call) overnight for consultation on cases, and I am comfortable calling them
- Attendings are available (on-call) overnight for consultation on cases, but I am NOT comfortable calling them
- Attendings are NOT available (on-call) overnight for consultation on cases

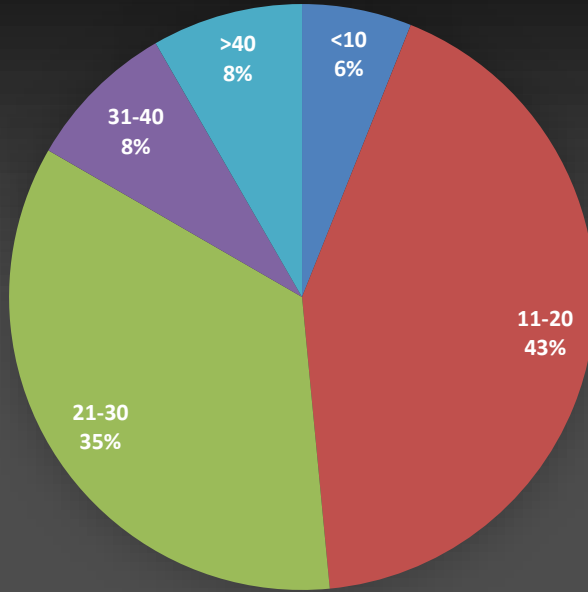
Ultrasound Coverage



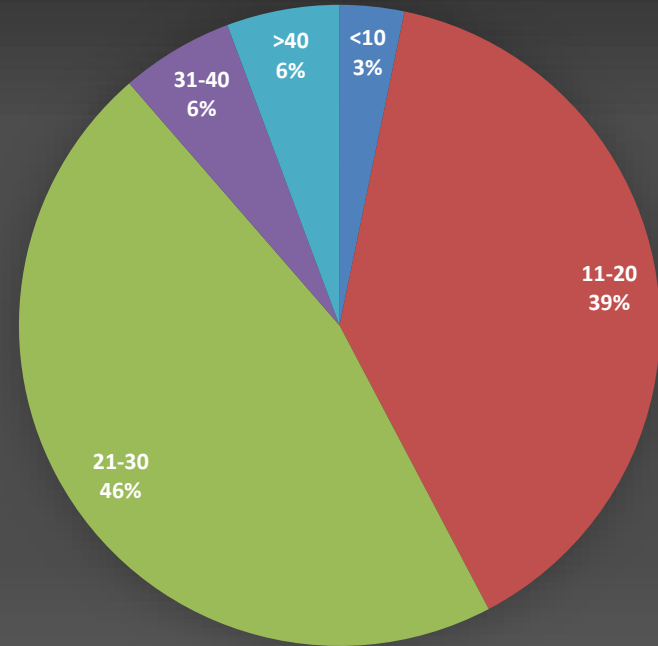
- On-call residents perform overnight ultrasound examinations
- Sonographer in-house 24 hours
- Sonographer takes home call for after hours studies

Call Volume

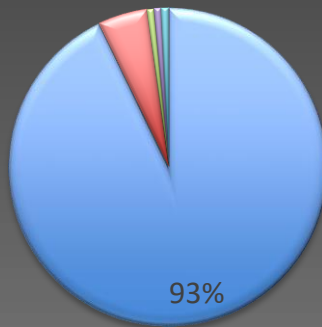
Volume of Cross-sectional Neuro Studies on Call



Volume of Body Cross-sectional Studies on Call



Volume of Cross-sectional MSK Studies on Call

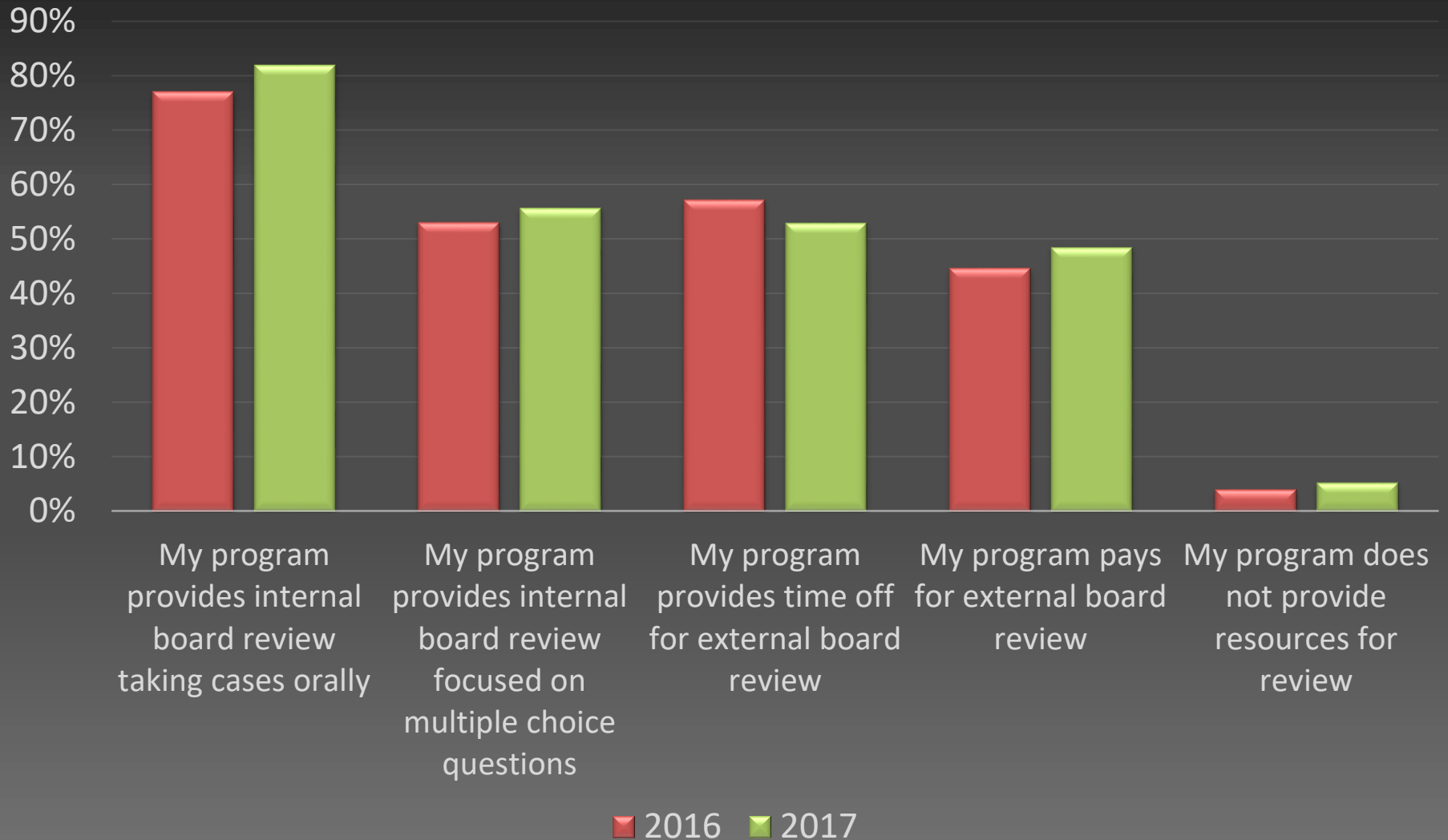


Legend: ■ <10 ■ 11-20 ■ 21-30 ■ 31-40 ■ >40

ABR CORE EXAM

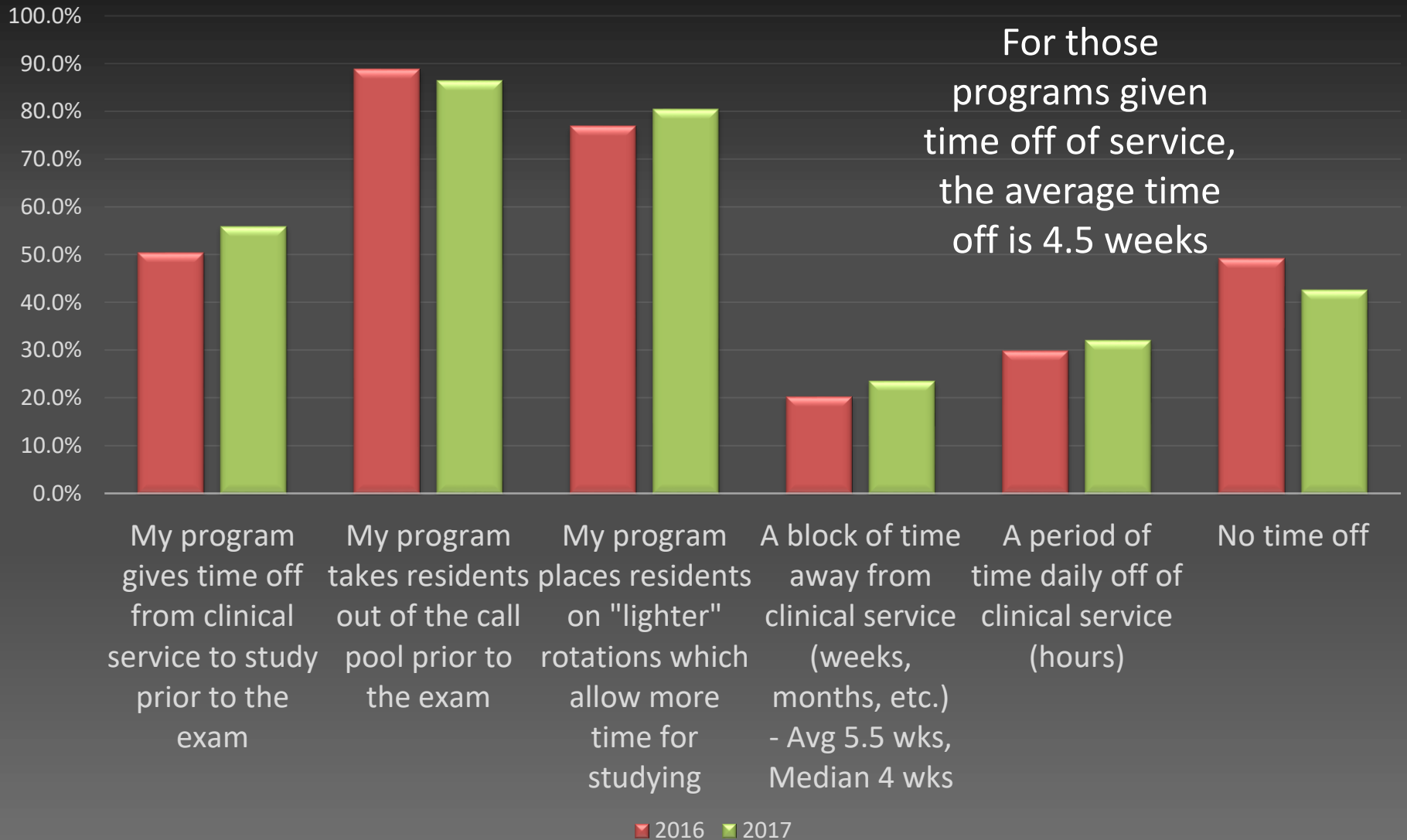
ABR Core Review

Board Review

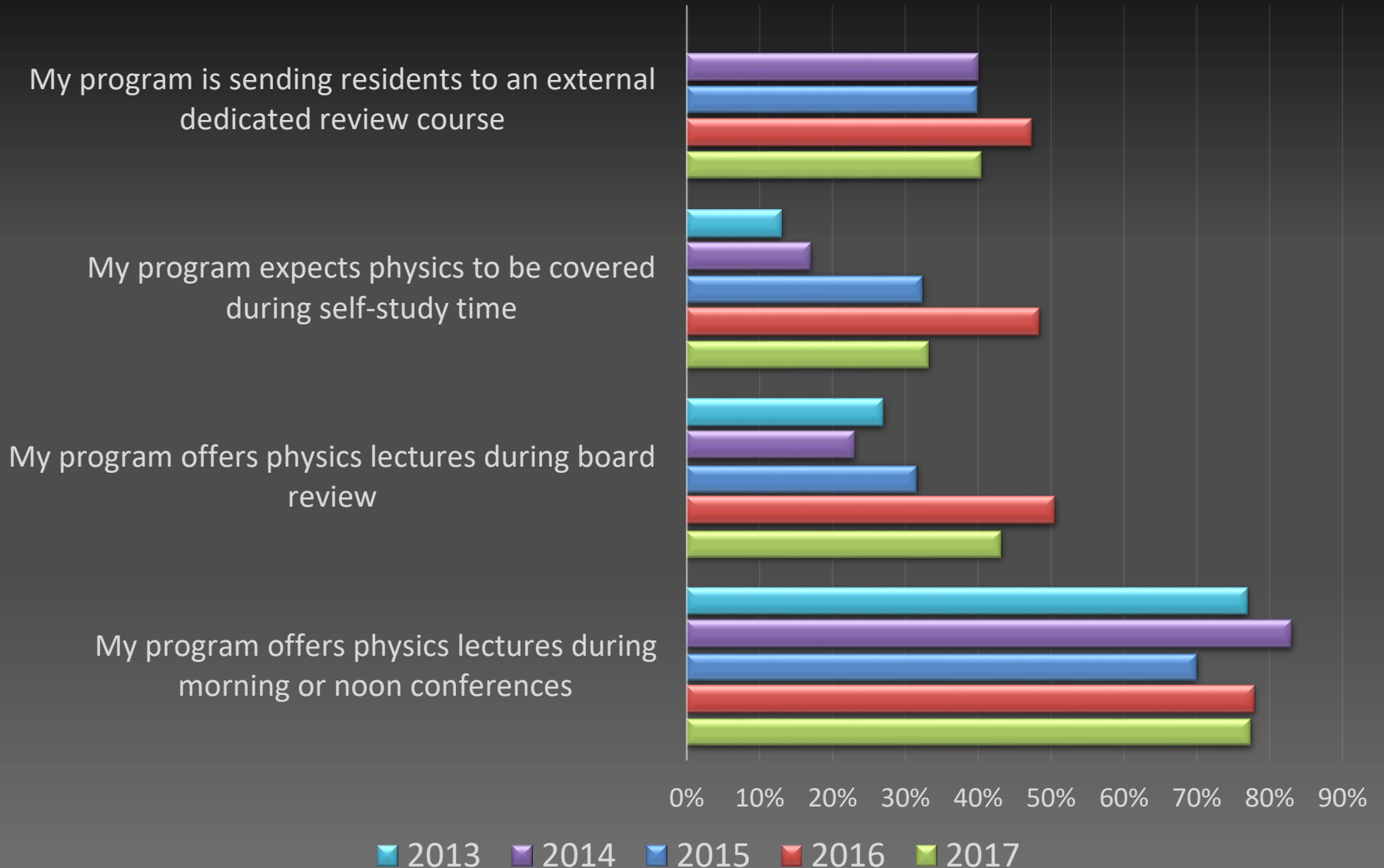


ABR Core Exam Board Review

Time off for the ABR CORE

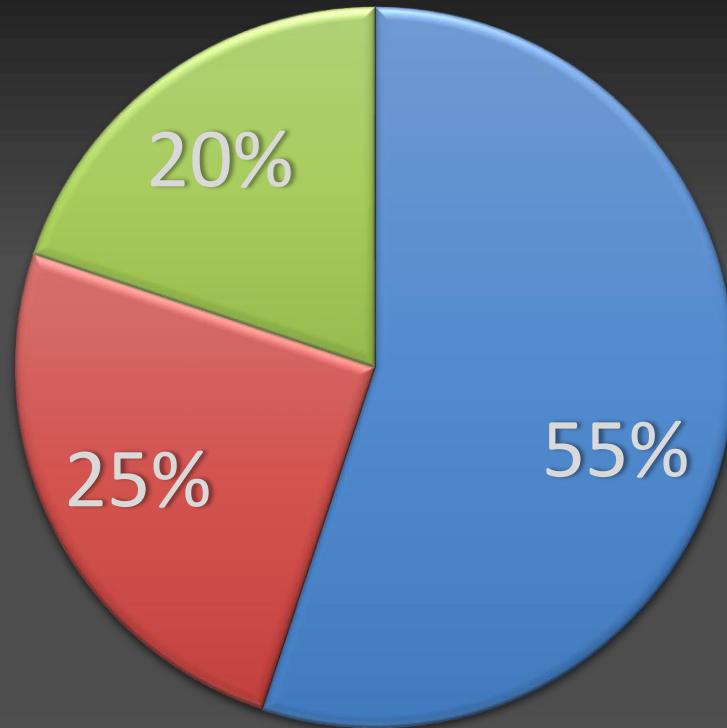


Physics Review



THE FOURTH YEAR AND FELLOWSHIPS

The Fourth Year

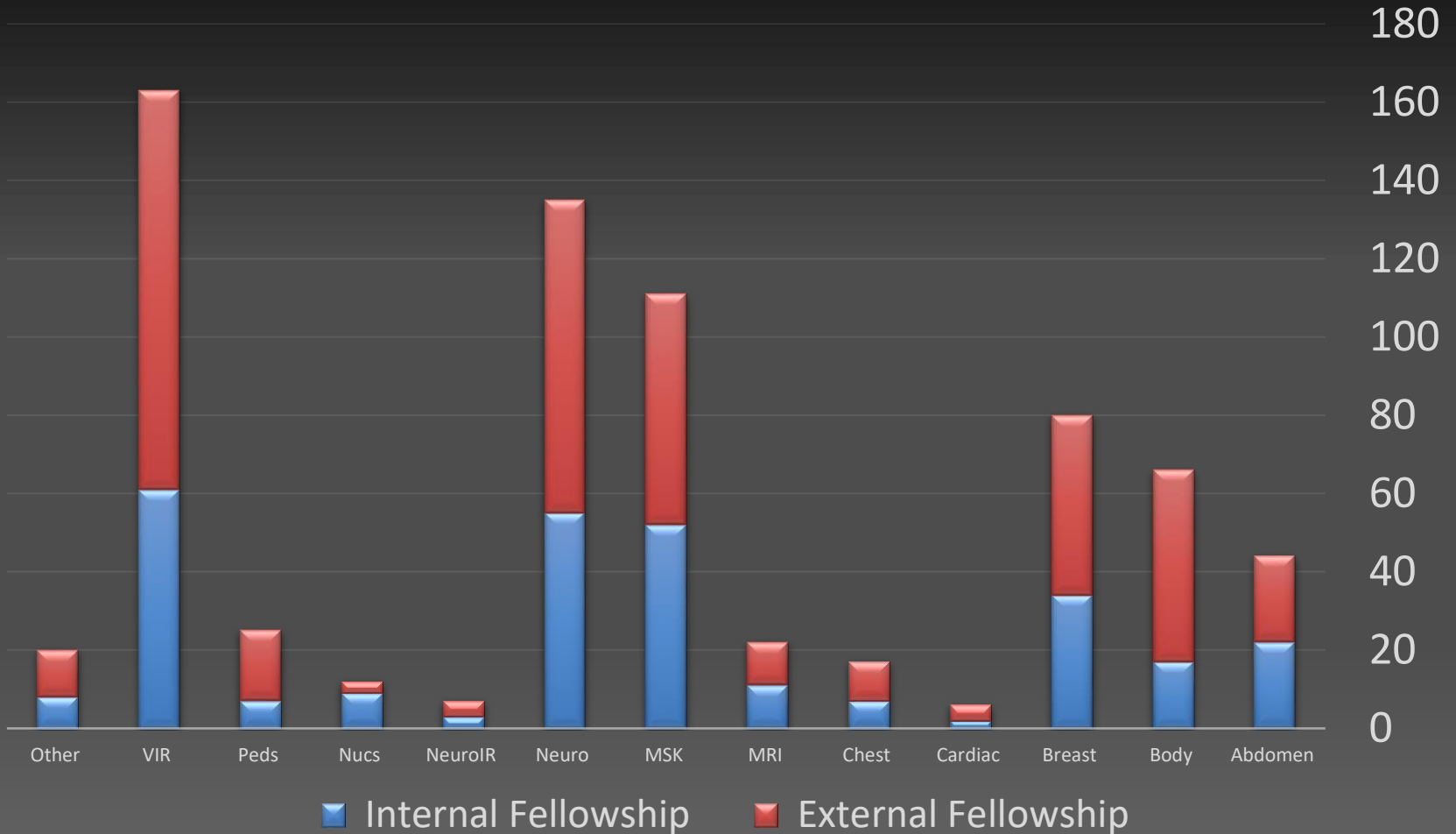


- Useful, increased general knowledge
- Useful, helps increase subspecialty knowledge
- Not useful

The Fourth Year

- Improving the fourth year
 - 55% of chief residents would like early fellowship start (3 + 2 years)
 - 40% would like increase in healthcare economics
 - 32% would like additional research time
 - 31% would like informatics training
- Fellowship interviews
 - 78% reported dedicated time off for interviews
 - 21% had unlimited time off
 - For those with limited time off, the average days for interviews was 5.7

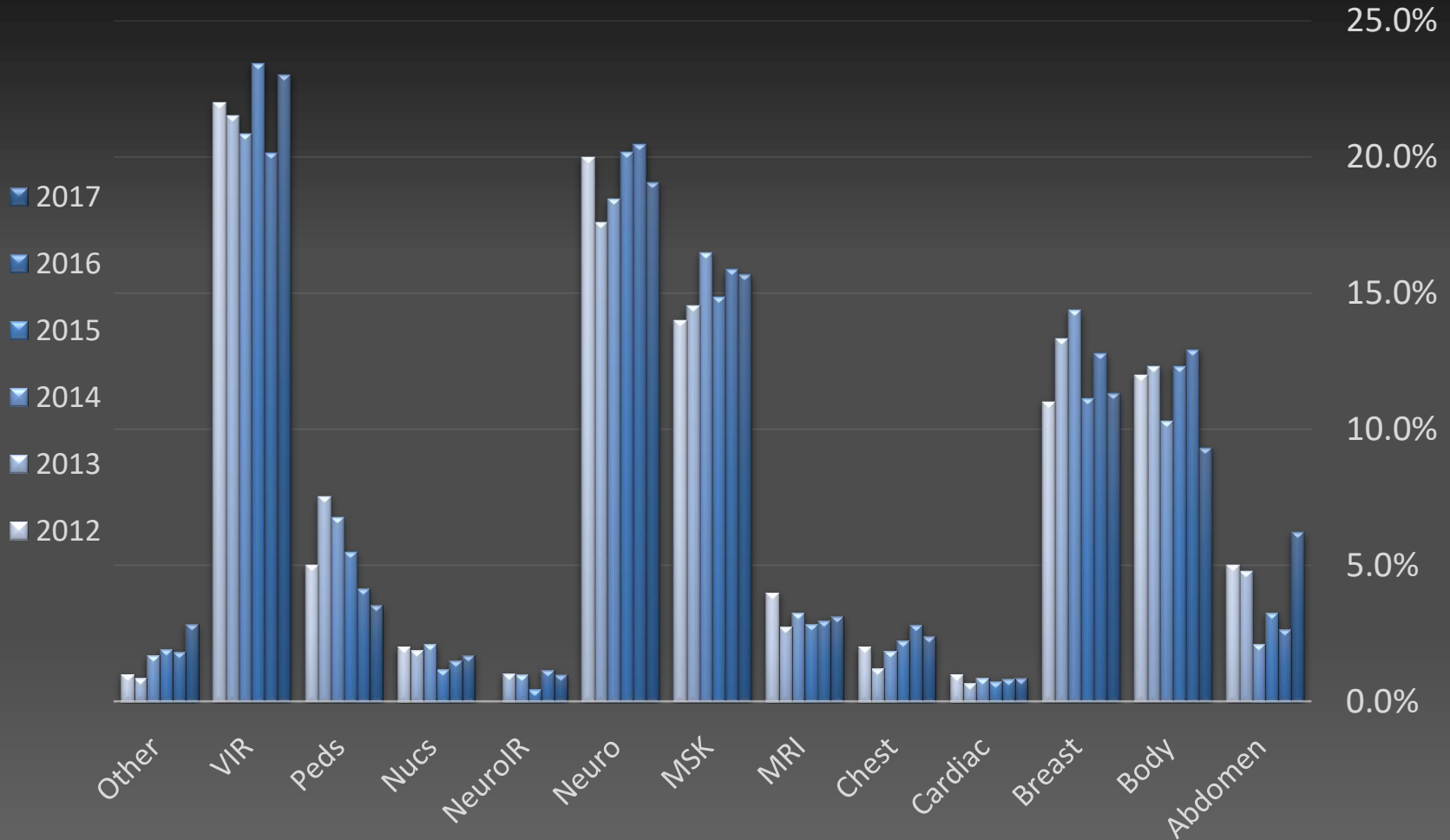
Fellowships



Approximately 3% of residents plan to do two fellowships (previously 5%)

Fellowship Choices over the Years

Fellowship Choices

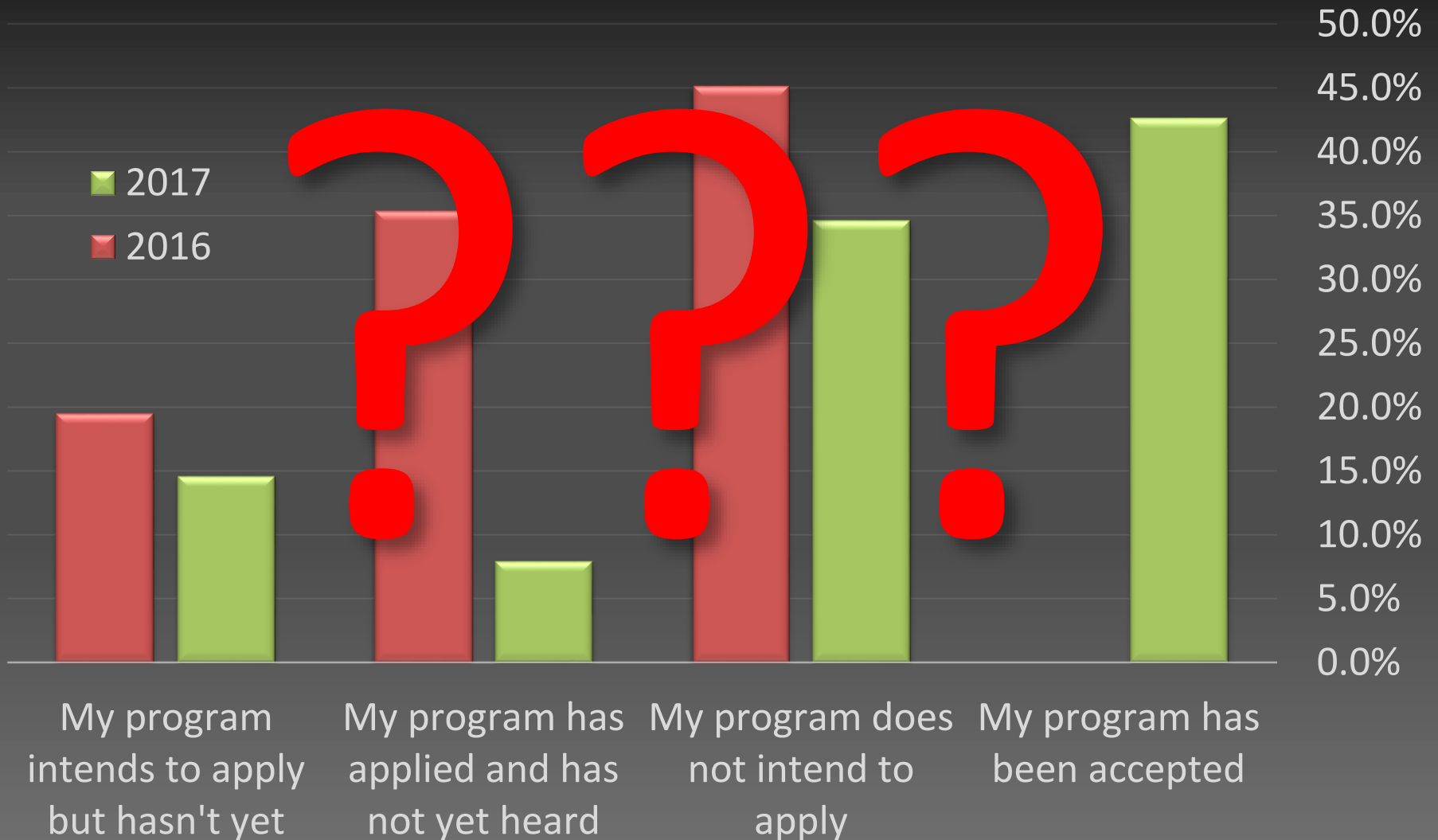


- MSK, Neuro, and VIR remain the top 3
- Decreasing trend in pediatric radiology

IR/DR PATHWAY

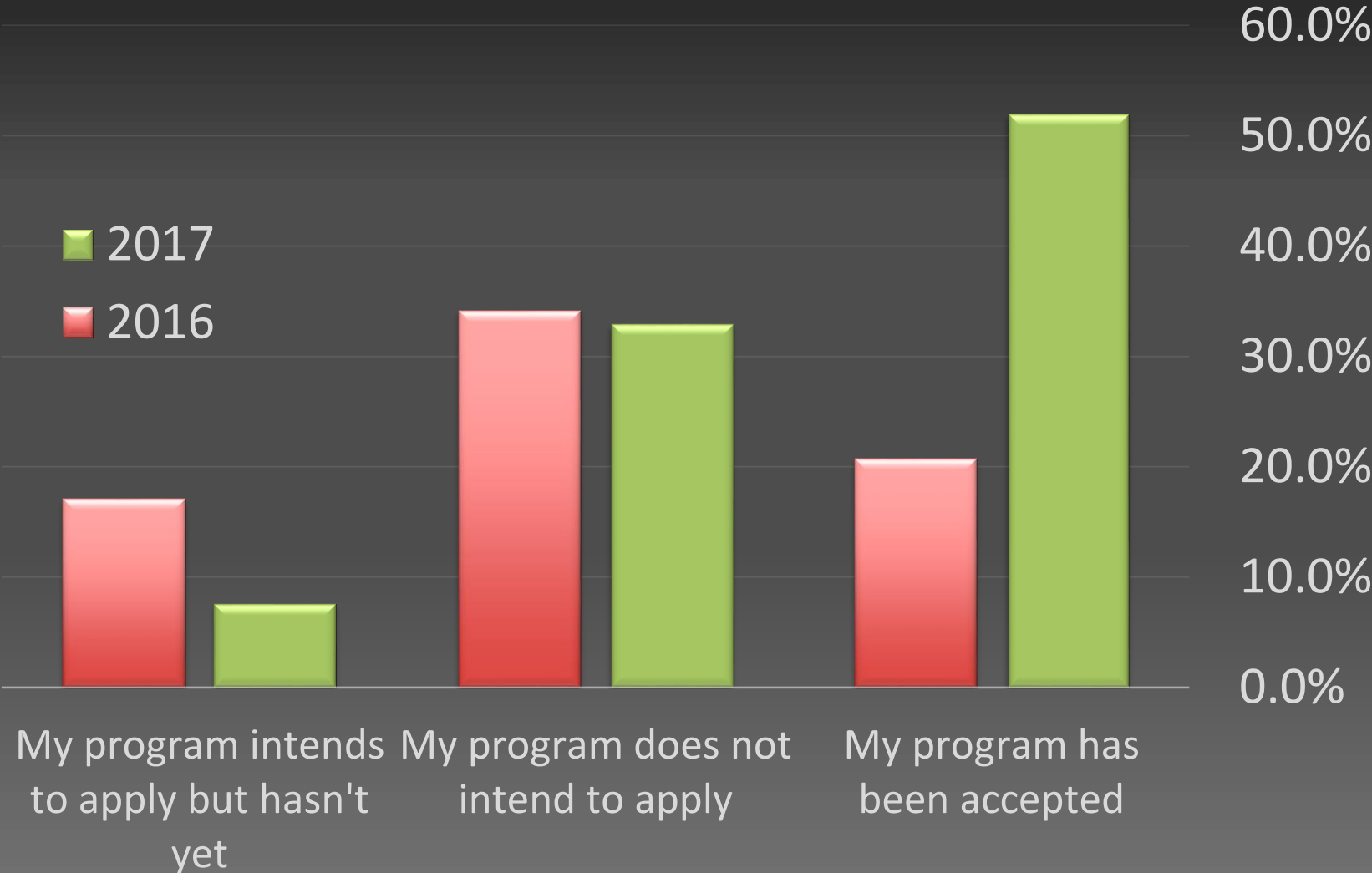
IR Independent Residency

1-2 year program following a 4 year DR program



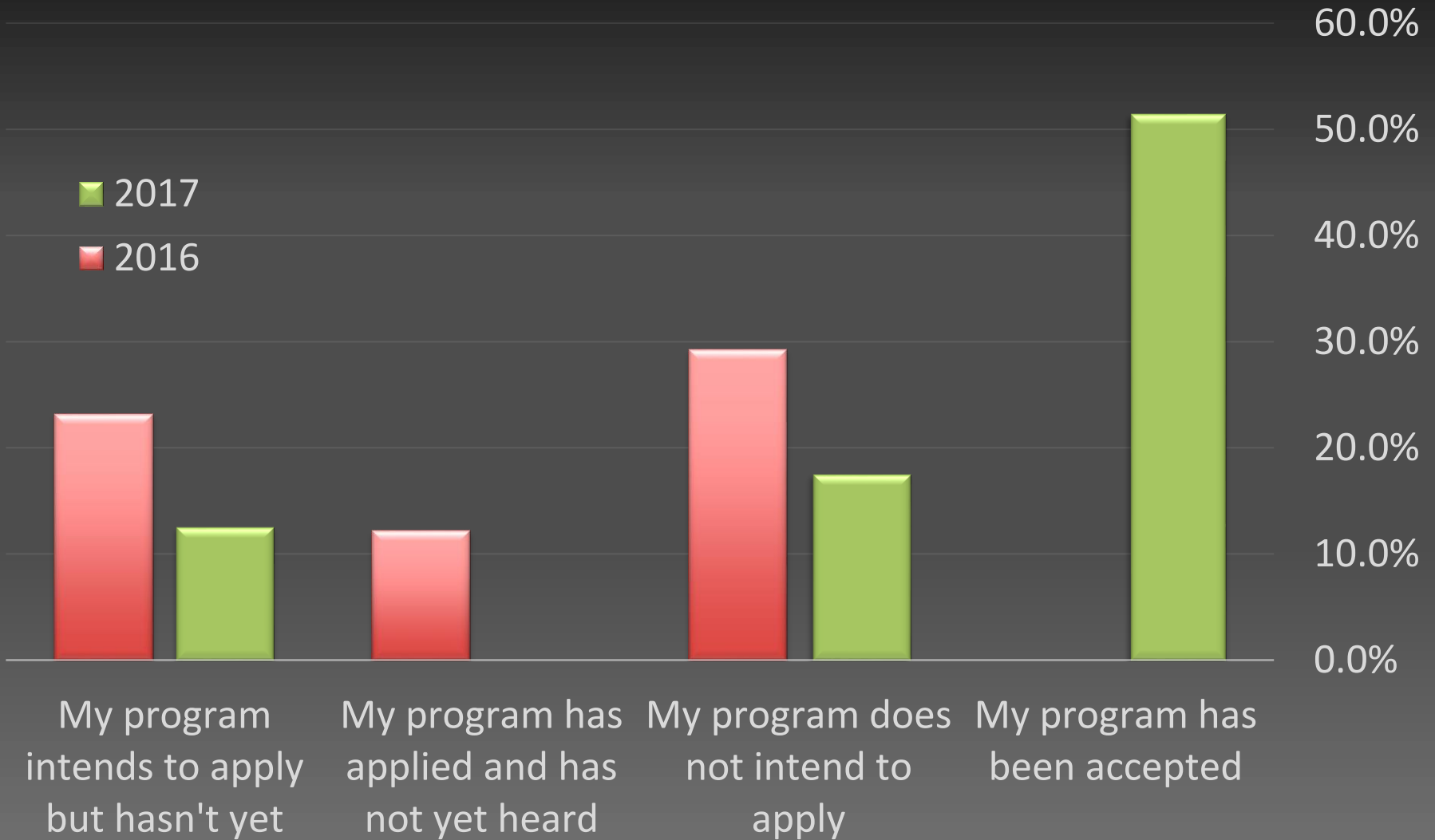
IR Integrated Residency

5 year program with 3 years of DR and 2 years of IR

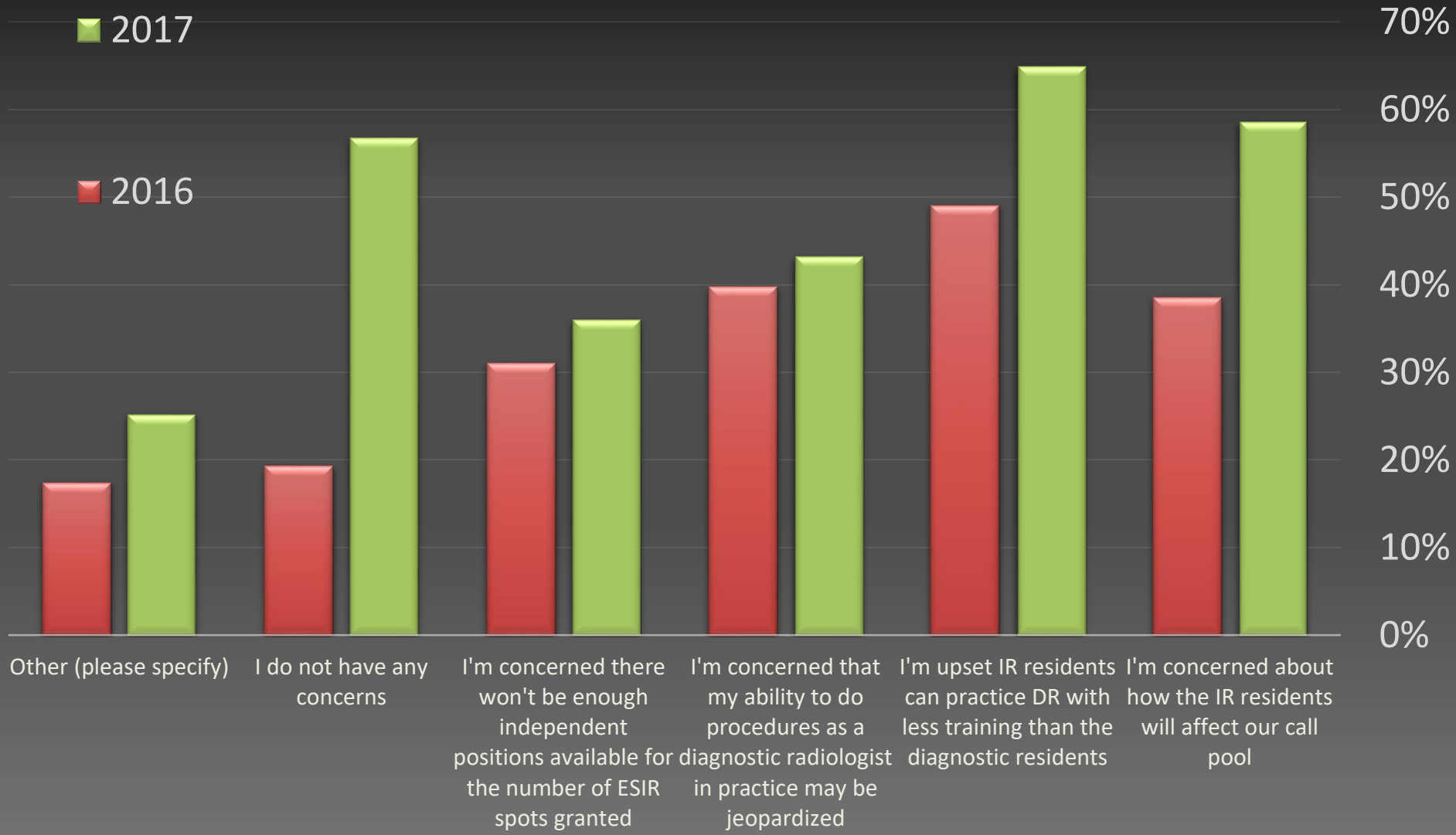


ESIR

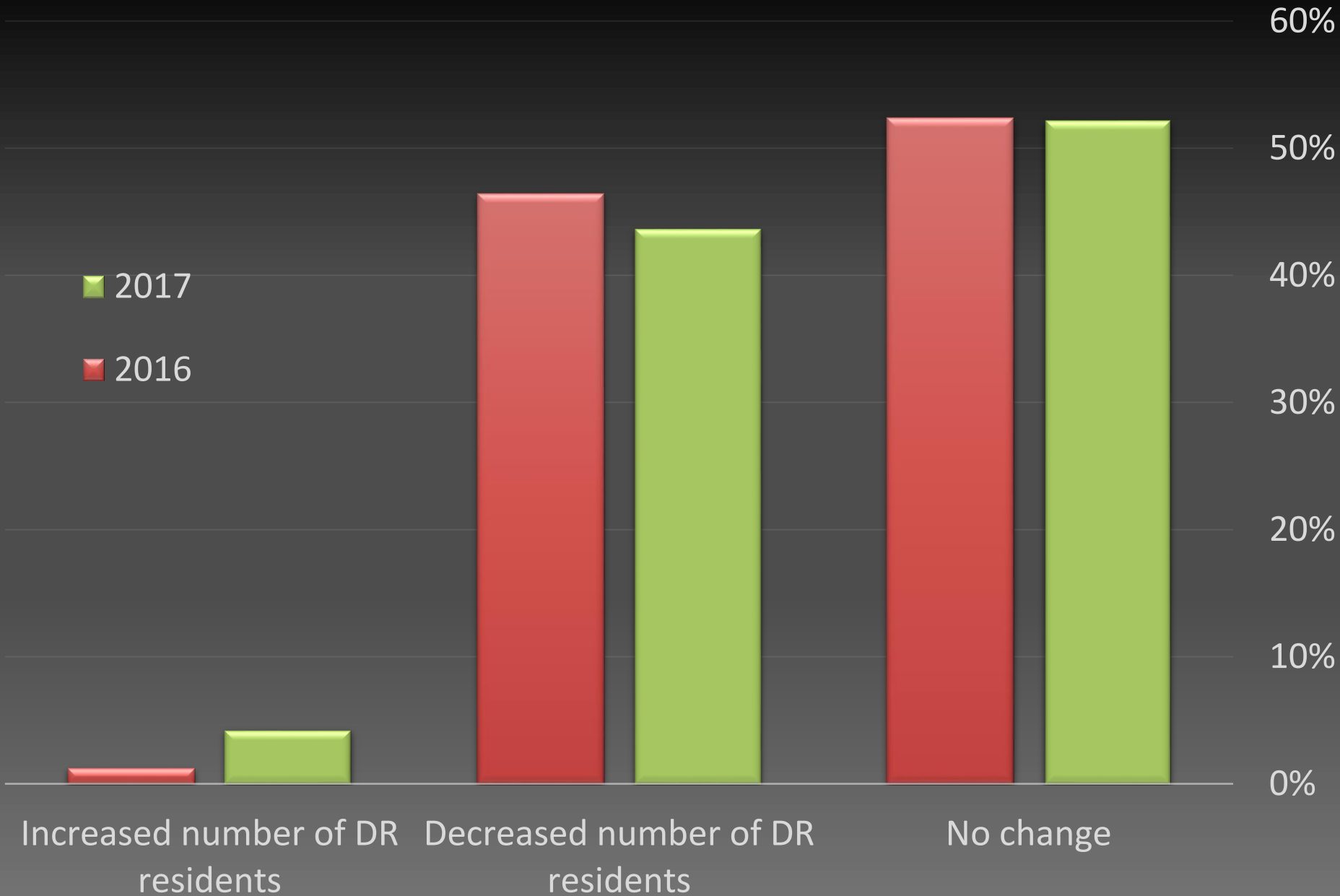
4th year DR residency structured to focus on IR



IR Concerns

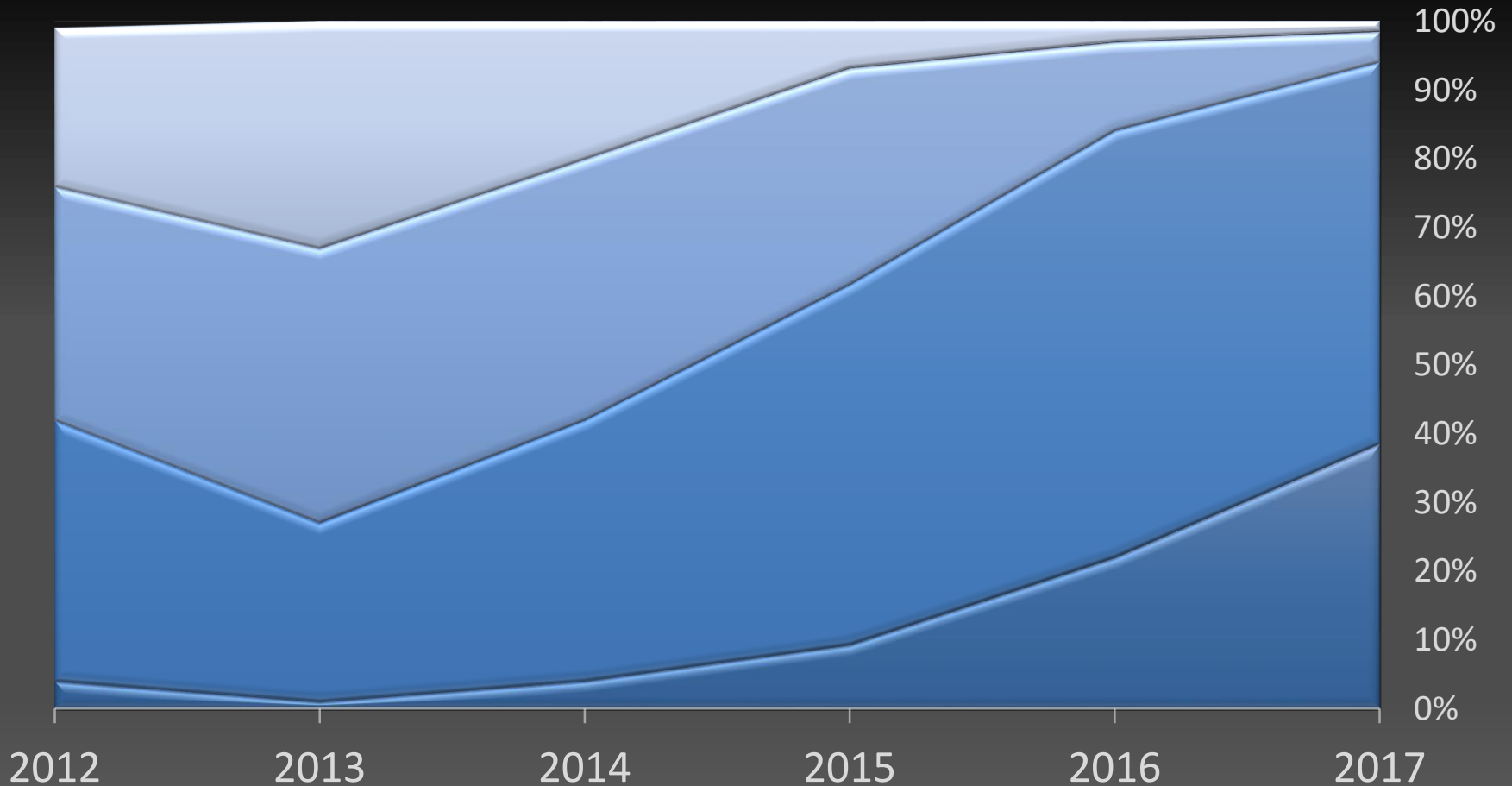


Program Response to IR Residency



HEALTHCARE ECONOMIC\$ AND THE JOB MARKET

Job Market Outlook



- Extremely Poor (I am VERY WORRIED about finding a job in the near future)
- Poor (I am WORRIED about finding a job in the near future)
- OK (I am A LITTLE WORRIED about finding a job in the near future)
- Good (I am NOT AT ALL WORRIED about finding a job in the near future)

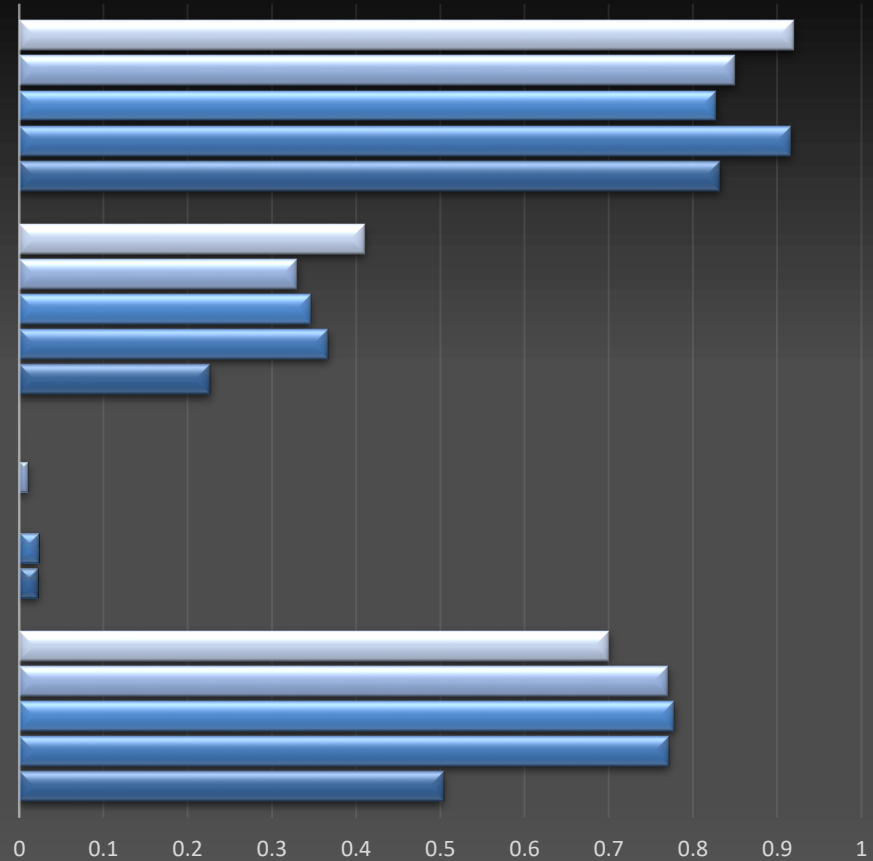
Job Market – Perceived Effects on Radiology

Practices are trying to increase their volume to maintain a similar salary despite the lower reimbursement rates.

Due to lower reimbursement rates, practices are looking for radiologists trained in more than one fellowship

Encouraging top-tier medical students to choose radiology

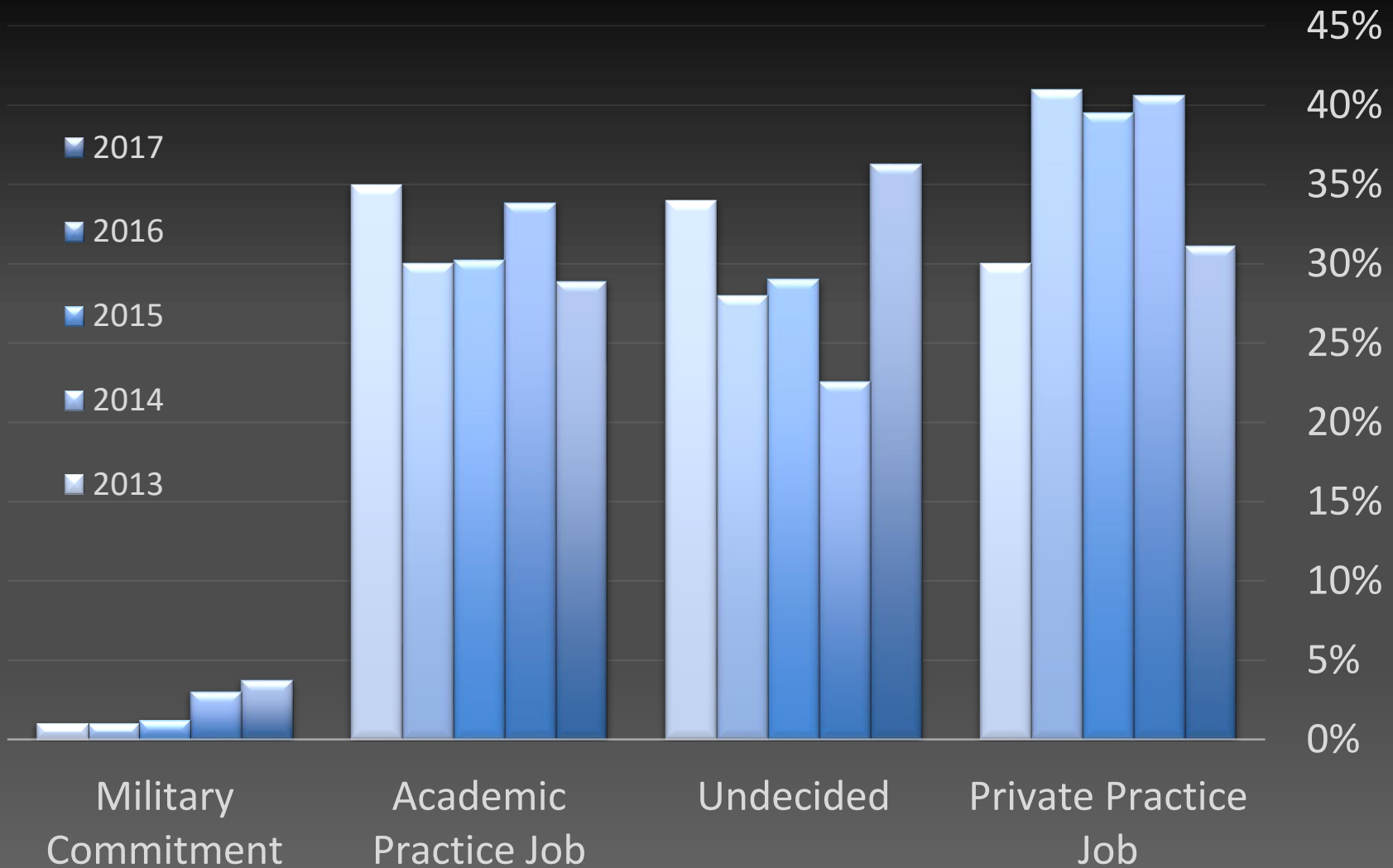
Discouraging top-tier medical students from choosing radiology



■ 2013 ■ 2014 ■ 2015 ■ 2016 ■ 2017

- Outlook much better than in previous years
- Less perceived need for 2 fellowships
- Less belief that the job market is discouraging top-tier medical students

Long-term career plans

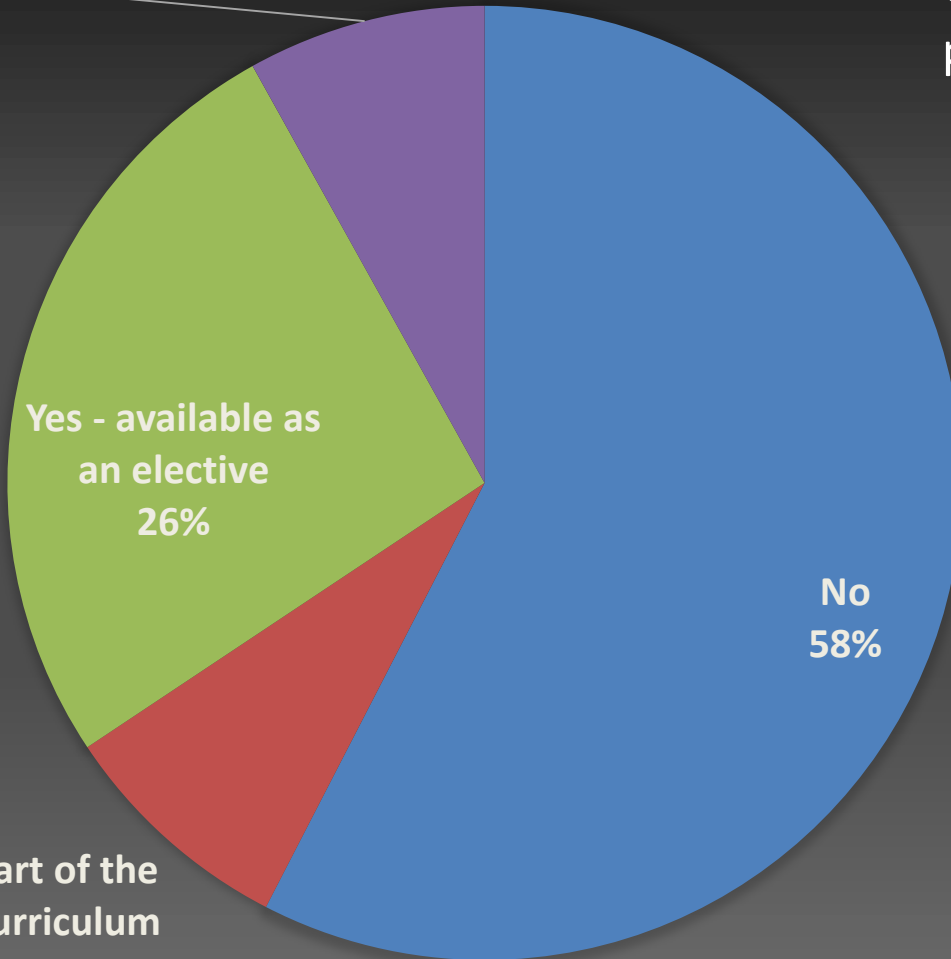


- More residents than ever are undecided

VALUE

CLINICAL ROTATIONS

Yes - as part of a
"mini fellowship"
during fourth year
8%



Other ways radiology programs are adding value:

- Consult rotation (senior residents)
- Multi-disciplinary/Tumor conference
- QI projects
- Teaching non-radiology residents

Yes - as part of the
general curriculum
8%

Summary

- Compared to other medical subspecialties, radiology has fewer women
- Internal moonlighting is most commonly available
 - Non-radiology practice has increased dramatically
 - Average reimbursement is \$72.81/hour
- There is a continued trend towards 24-hour attending coverage on call with decreased face-to-face readouts
 - An increasing number of programs have NO face to face readout
- Average AIRP stipend increases (\$2,477)
- Majority of chief residents want an early start on fellowship

Summary

- VIR, Neuro, and MSK remain the most popular fellowships
- Confusion and uncertainty continue to surround the new IR pathways
- Most programs plan to decrease the number of DR residents to accommodate the IR residents
 - What does this mean for call?
- Job market prospects continue to improve with more residents than ever feeling okay or good about the job market

Summary

- Thanks again to the 160 of you who filled out the survey!
- Thank you to my co-chief residents Steve Currie and Whitney Sipe
- Thanks to Drs. Jennifer Gould, Jennifer Demertzis, and Ronald Evens
- There was 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.

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