



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

2014 A³CR² Annual Chief Resident Survey

Anup Shetty, MD
Mallinckrodt Institute of Radiology



St. Louis

AKA The Lou, Mound City, Gateway to the West



Survey Format

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

The screenshot shows a survey management interface. At the top, there is a 'TITLE & LOGO' section with 'Edit Title' and '+ Add Logo' buttons. Below this is a dark blue header with the text '2014 A3CR2 Chief Resident Survey'. Underneath the header is an 'Add Page Before' button. A navigation bar includes 'PAGE 1', 'Edit Page Options', 'Add Page Logic', 'Move', 'Copy', 'Delete', and a dropdown menu currently showing '#1. SURVEY DETAILS'. Below the navigation bar is a section titled '1. SURVEY DETAILS' with the following text:

Thank you for taking time to complete the annual survey of diagnostic radiology chief residents sponsored by the A3CR2. **Radiation oncology chiefs need not fill out this survey as it applies to diagnostic radiology chief residents only.**

Please complete the survey by Monday, March 3, 2014. The responses to this survey will be compiled and presented on Tuesday, April 1 during the AUR conference in Baltimore, MD.

The survey will take about 15-20 minutes to complete. You cannot save your progress during the survey, so make sure you allot enough time when you start the survey.

*** For programs with multiple chief residents, we ask that ALL CHIEF RESIDENTS FILL OUT THE SURVEY. We will use your program name only to separate out non-opinion based responses, such as resident numbers, etc., to make the statistical analysis as accurate as possible, after which responses are anonymized. ***

Survey Purpose

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

Survey Topics

- Recurring
 - Basic Program Information and Resident Benefits
 - Chief Resident Responsibilities
 - Call and Outside Hospital Studies
 - New Board Exam Format and its Impact On:
 - Curriculum, Call System, Fellowships
 - Ultrasound and MR interpretations on call
 - Healthcare Reform and its Economic Impact on Residency Programs, Fellowships, and the Job Market
 - Practice Quality Improvement
 - Senior Selectives/Mini-Fellowships
 - Core Exam Board Review Format
- New in 2014
 - Moonlighting
 - Informatics
 - Milestones

Limitations

- Opinions and estimations
- Sampling bias (only chief residents who responded were included)
 - Attempted to increase response rate via APDR/APCR this year
- Duplicate responses from programs with multiple chief residents
 - Attempted to exclude from the numerical (non-opinion) data sets

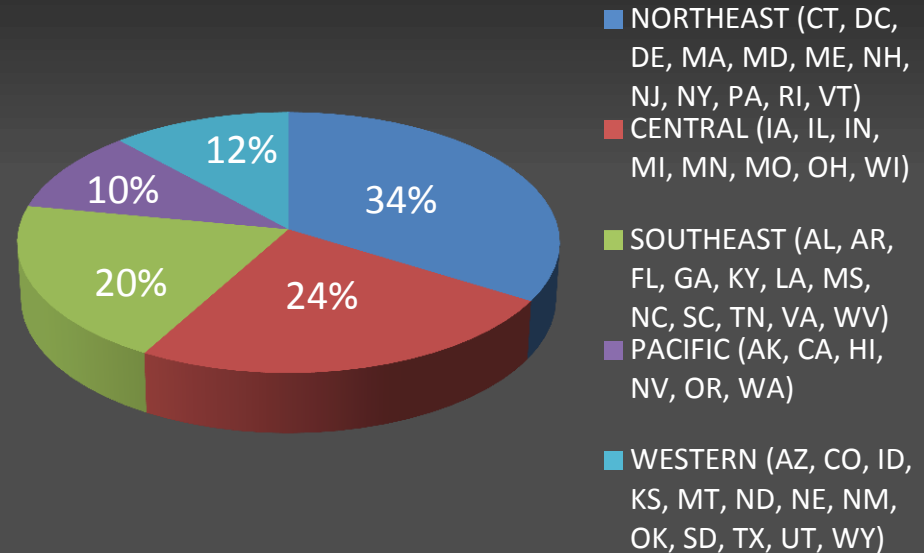
PROGRAM DETAILS

Participation

Number of Responses 2009-2014

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

Out of 187 ACGME-accredited programs, 173 AUR member-programs



- Results available to A³CR² members by e-mail on request, or on the AUR website

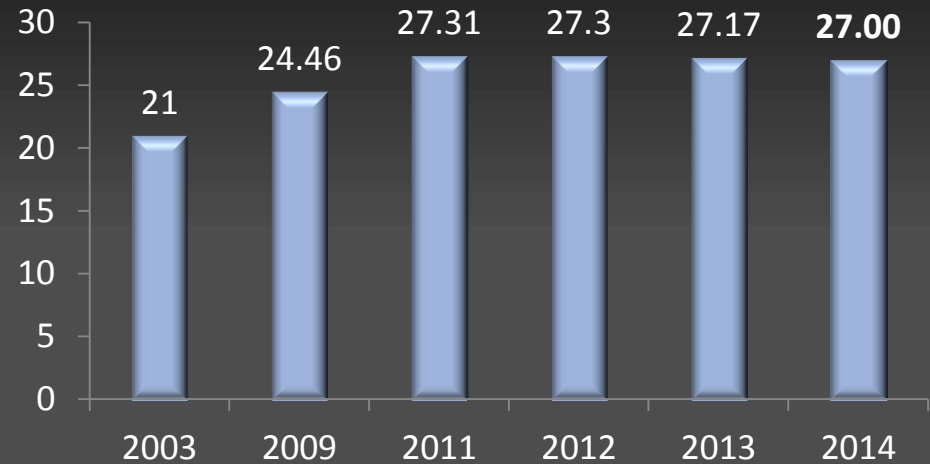
THANK YOU FOR PARTICIPATING!

Program Size

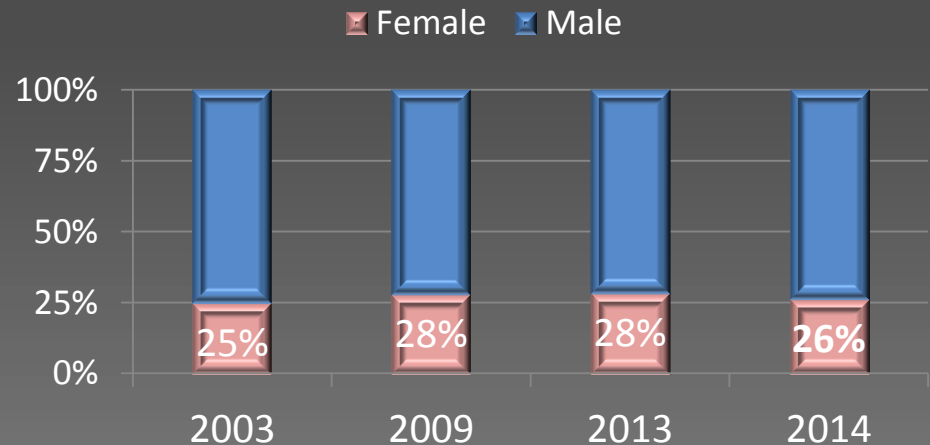
Changes in Size

- Increase in program size over 11 years
 - Total # residents increased 29% from 2003 to 2014
 - # women residents increased 35% from 2003 to 2014

Average # Residents / Program

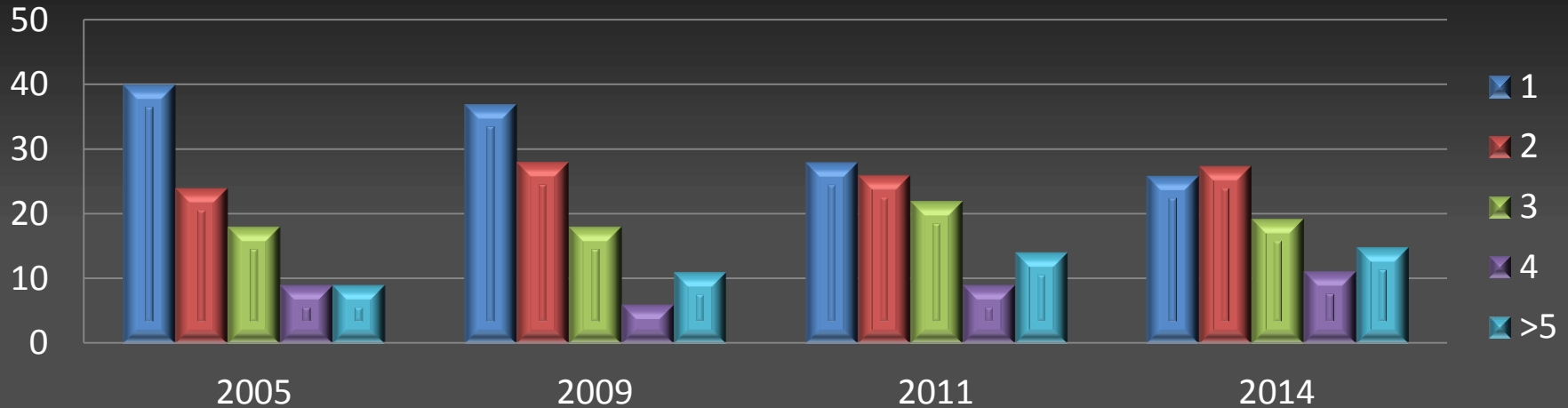


Gender Distribution of Residents



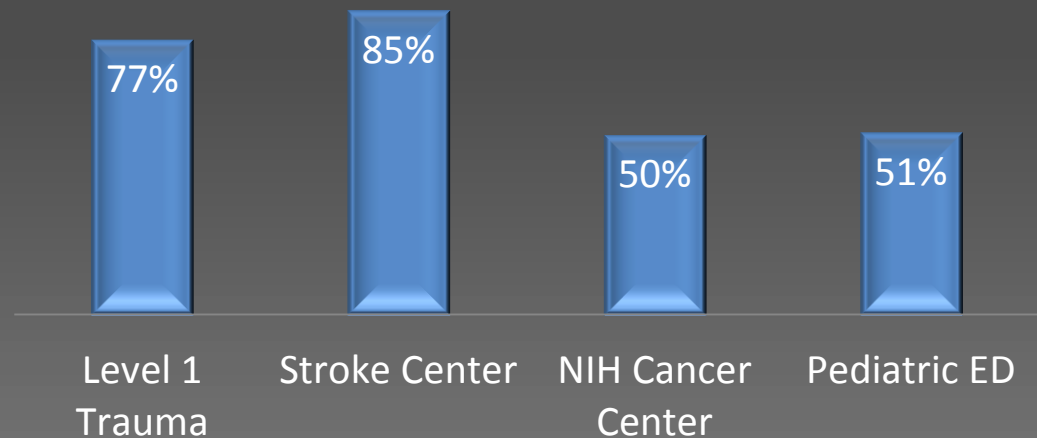
Hospital Coverage

% Programs Covering Specified # of Hospitals



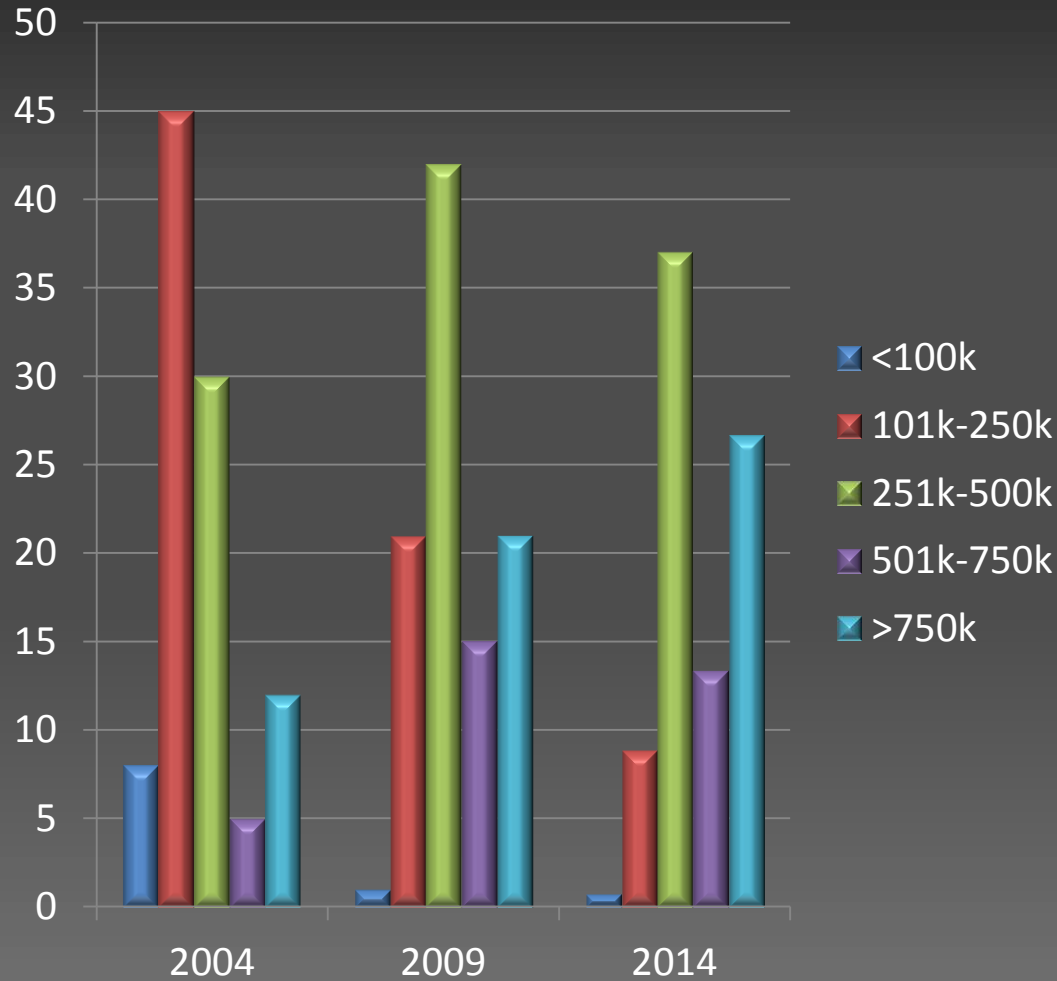
Type of Institution

- The average number of hospitals covered per program continues to increase, from 2.23 in 2005 to 2.61 in 2014

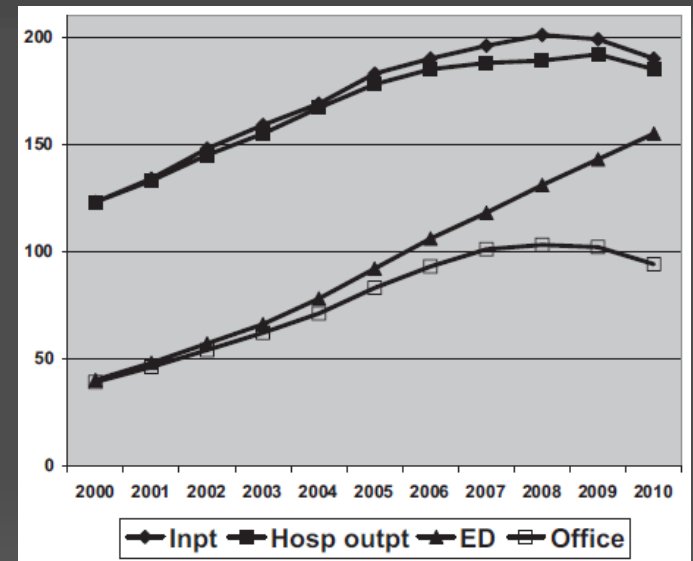


Volume

Proportion of Programs with Specified Volume of Radiologic Studies Per Year

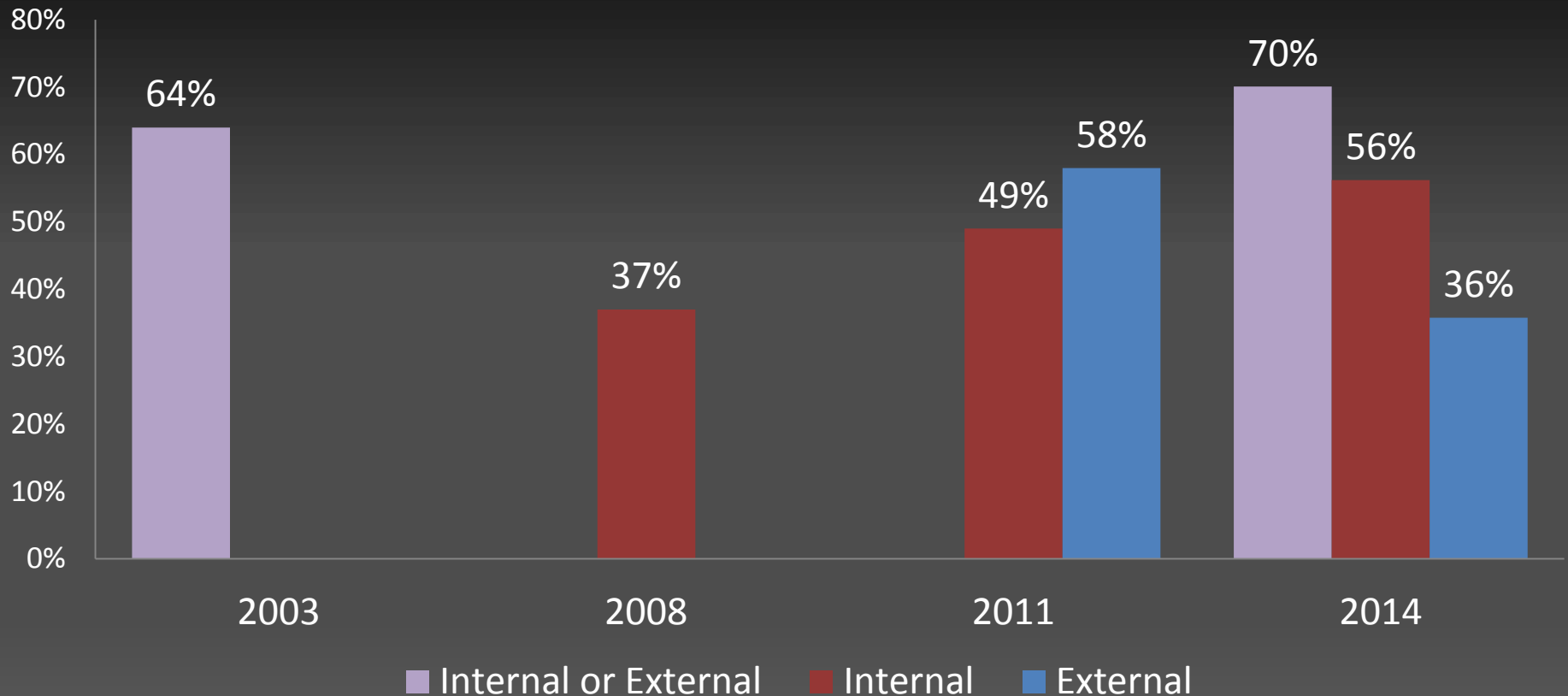


CT Utilization rates per 1000 fee for service Medicare beneficiaries



* Levin DC, Rao VM, Parker L. The Recent Downturn in Utilization of CT: The Start of a New Trend? *J Am Coll Radiol* 2012;9:795-798.

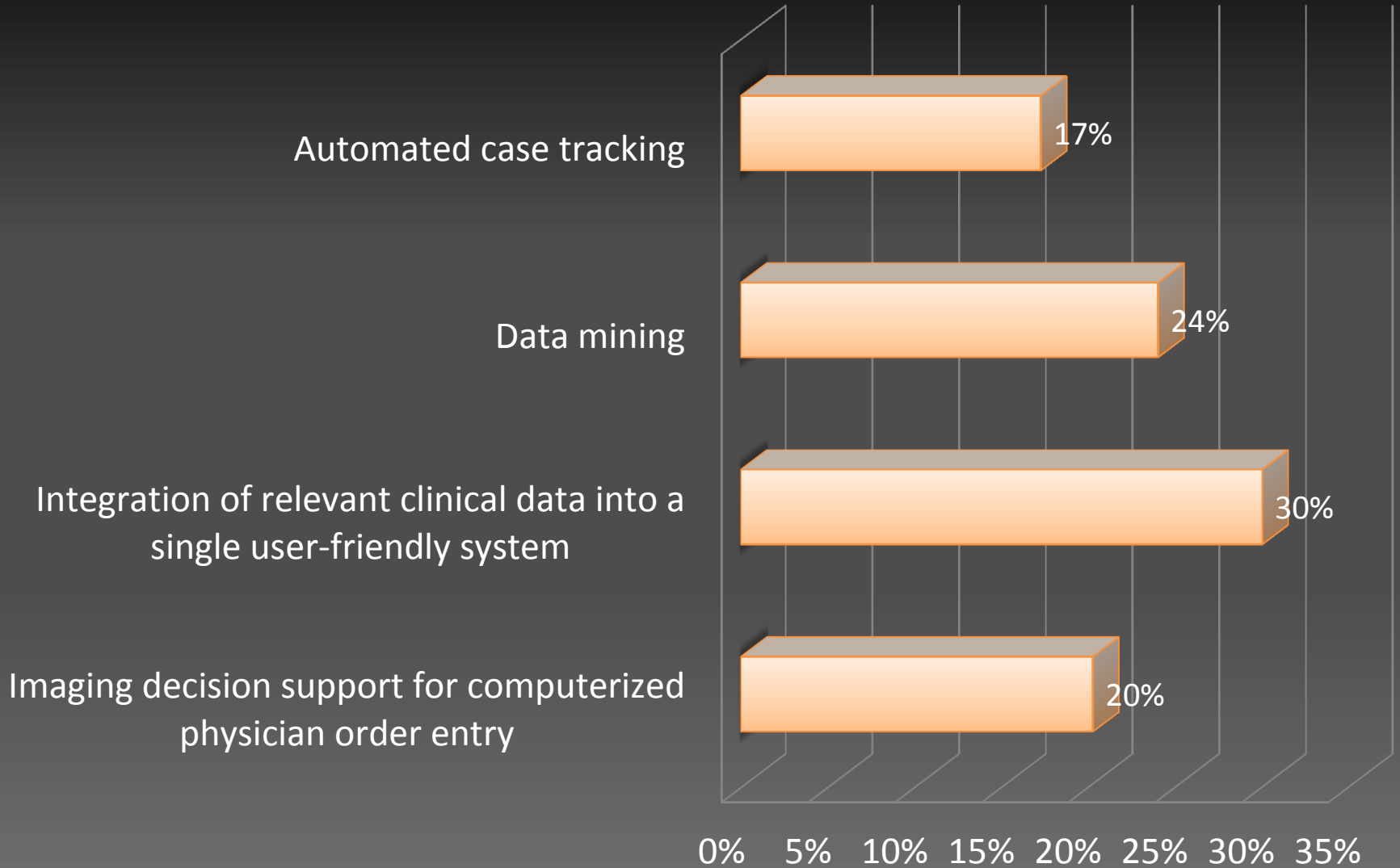
Moonlighting Opportunities



Notes

- Correlates with recent report of 72% of institutions with residents moonlighting

Informatics Tools

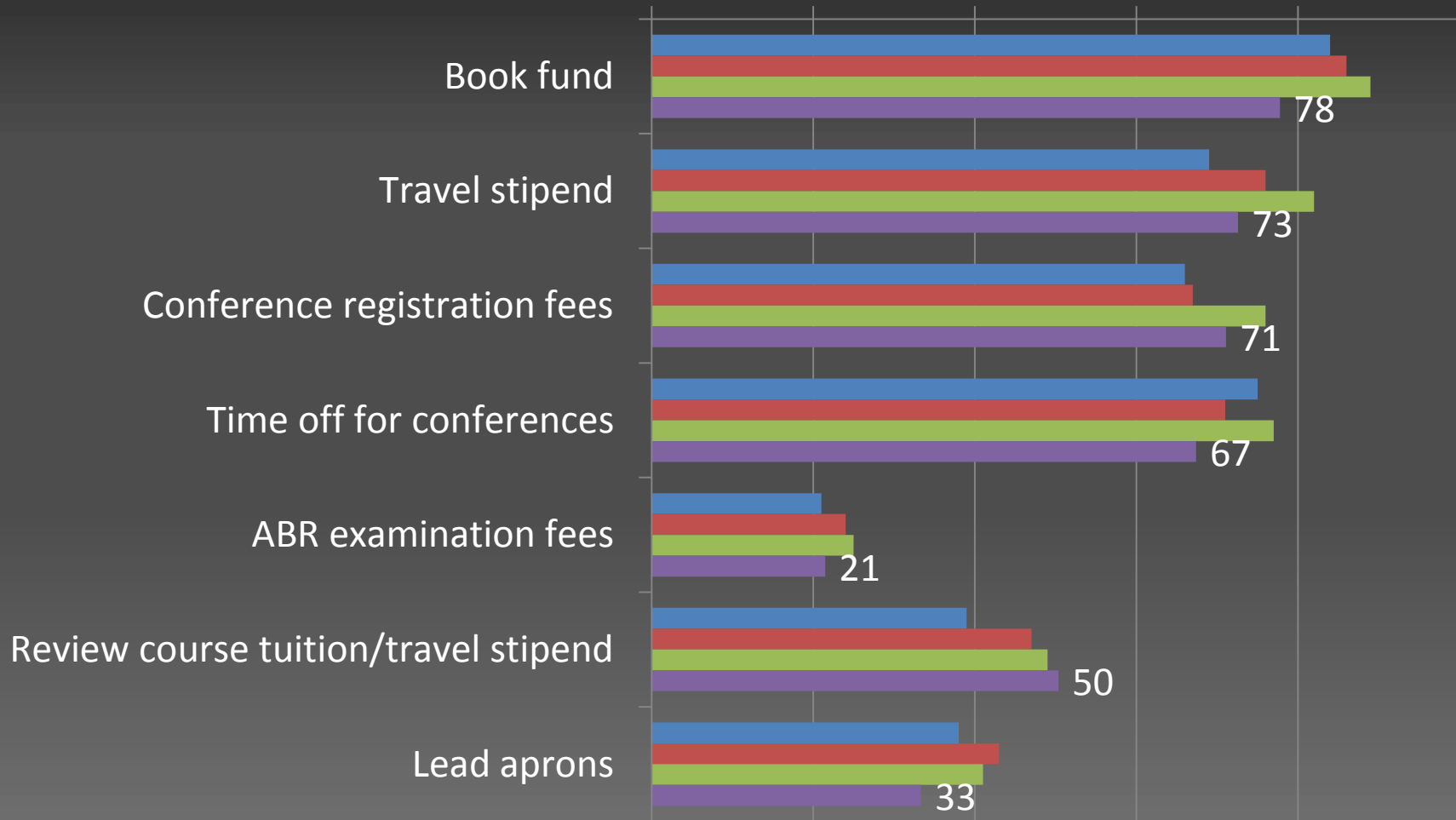


RESIDENT BENEFITS

Resident Benefits

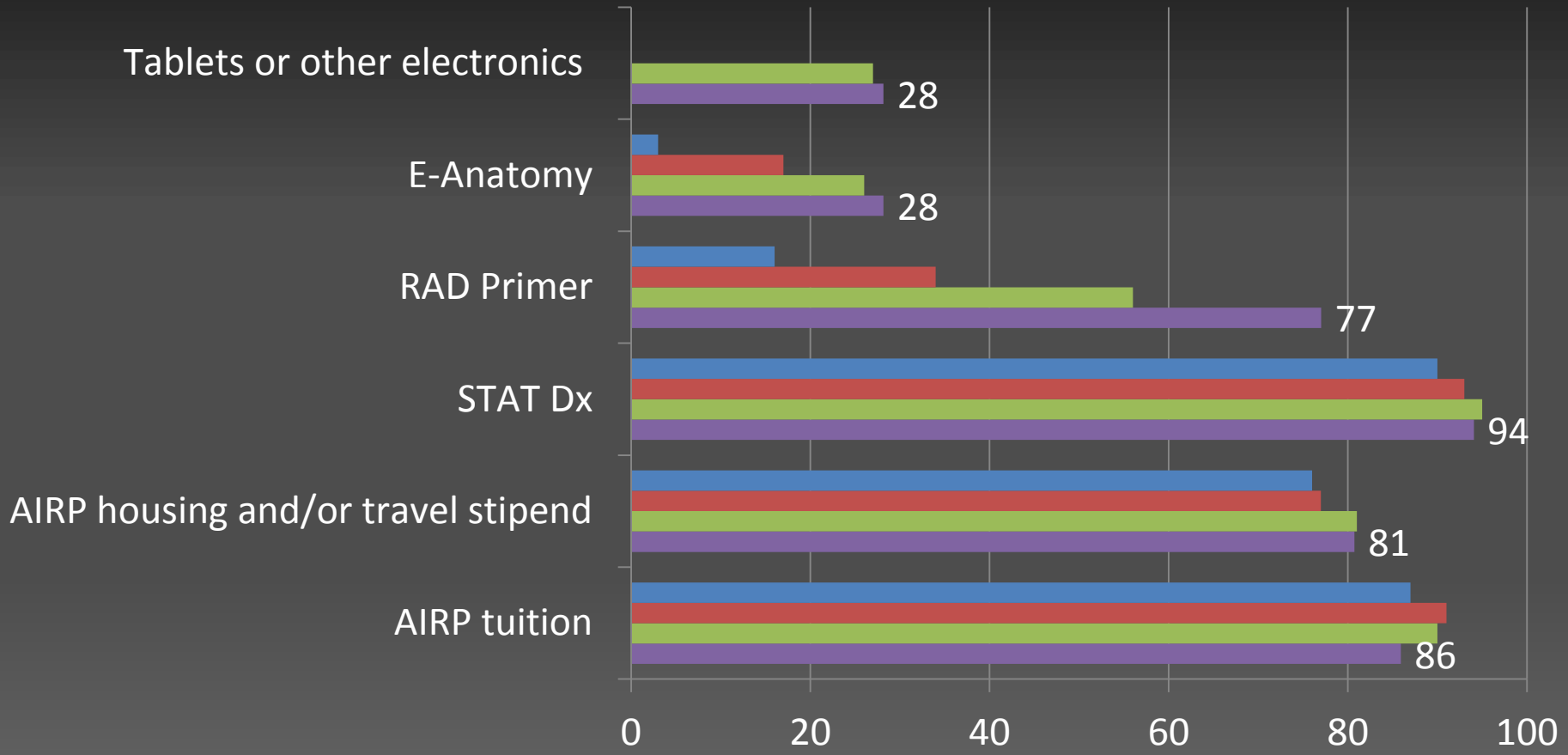
2011 2012 2013 2014

0 20 40 60 80 100



Resident Benefits

■ 2011 ■ 2012 ■ 2013 ■ 2014



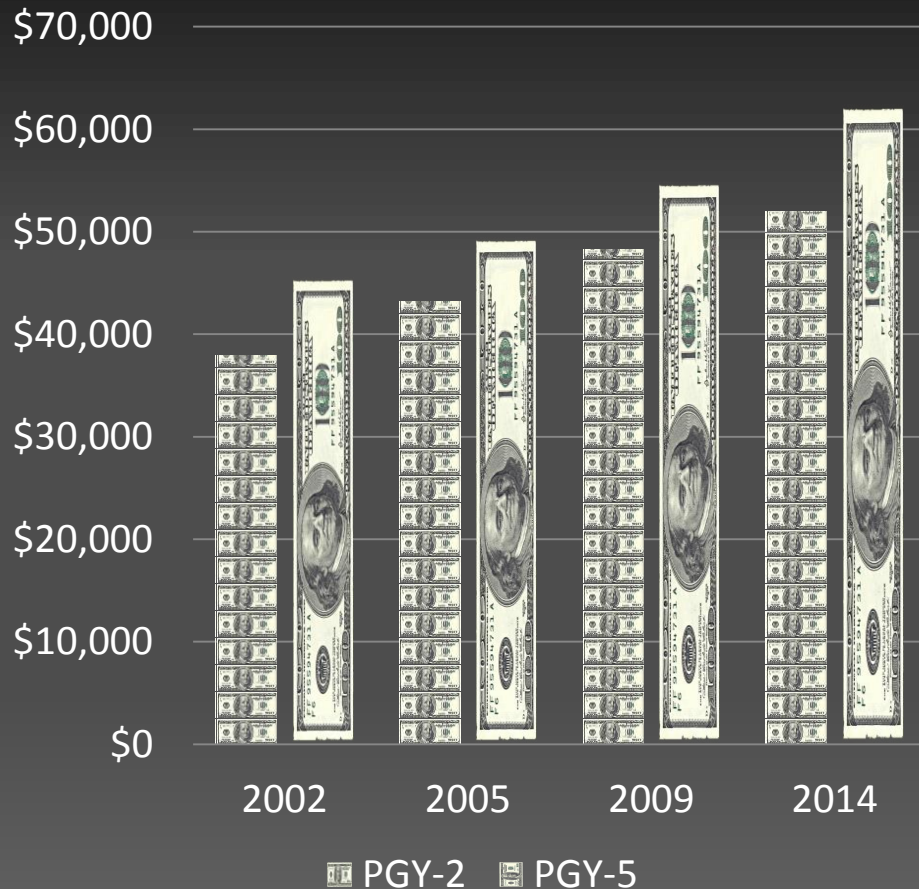
Average AIRP Stipend = \$2065 (\$750-\$6000)

% Residents that attend AIRP = 97%

Other Benefits: meals, parking, computer fund, happy hours, flexible funds, licensing fees

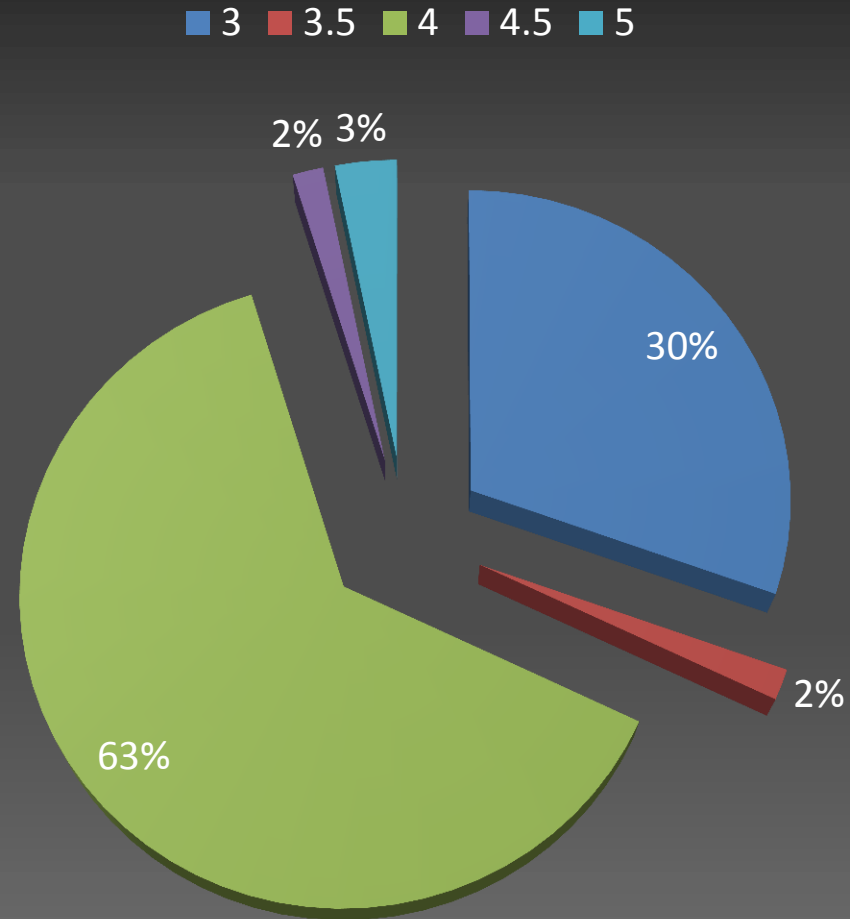
Vacation and Salary

Average Resident Salaries



Resident salaries have increased 37% over the past 12 years, slightly more than US inflation of approximately 30%

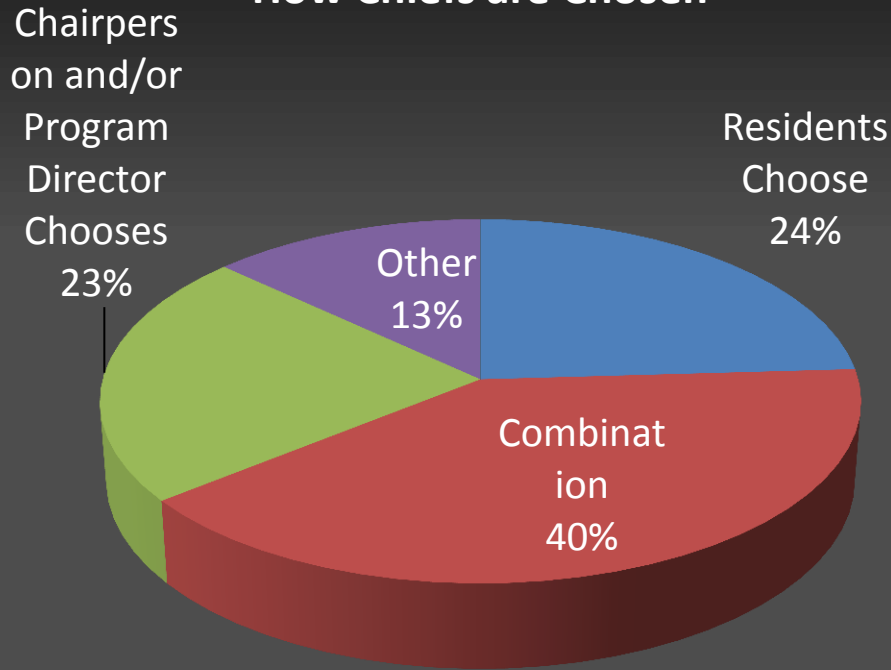
Proportion of Residencies with Specific Weeks of Vacation



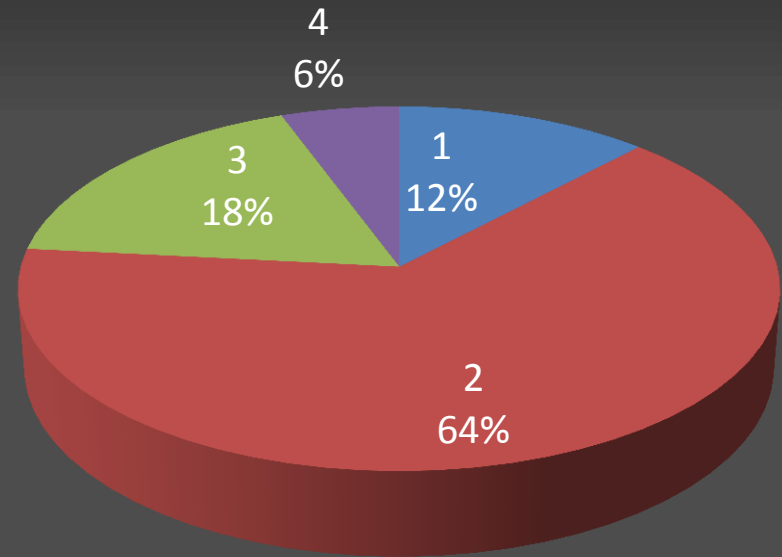
CHIEF RESIDENTS

Chief Resident Selection

How Chiefs are Chosen



of Chief Residents / Program

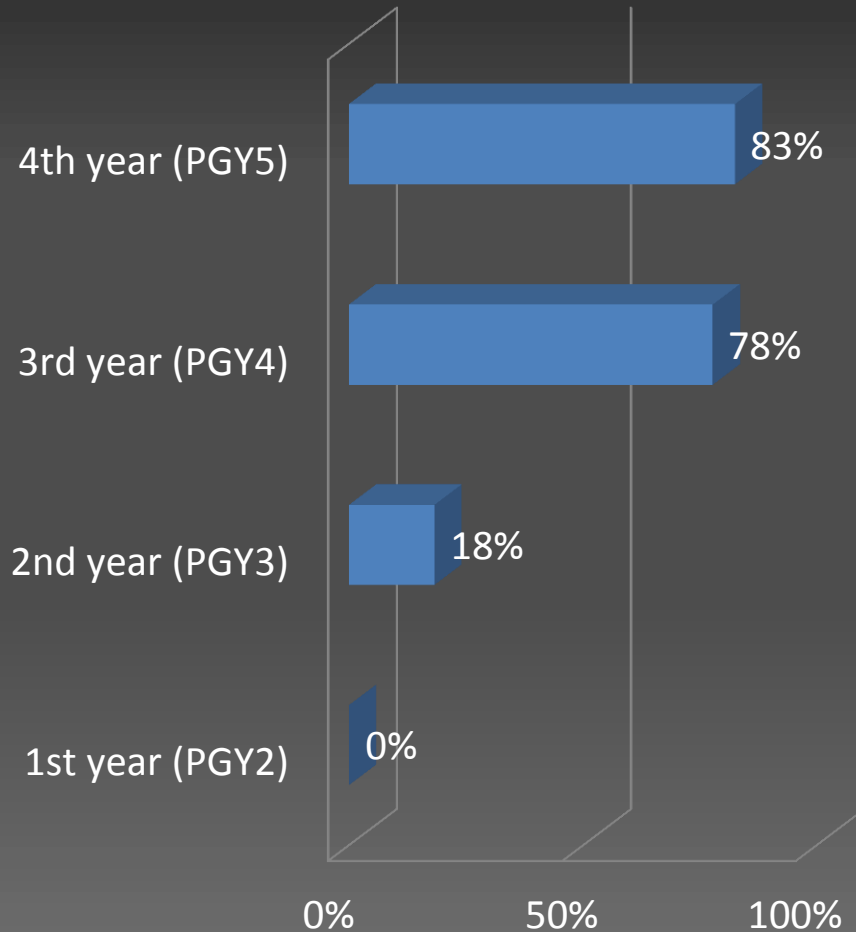


Other

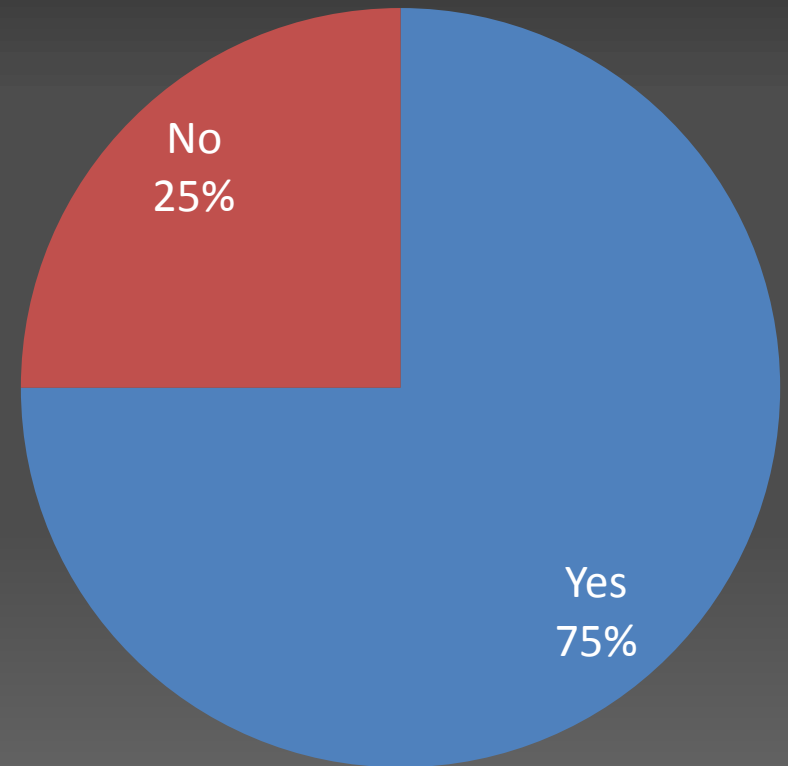
All Seniors are Chiefs
All faculty and/or residents vote
Education committee chooses
Everyone in department votes
(techs, admin staff, etc.)

Chief Resident Time Period

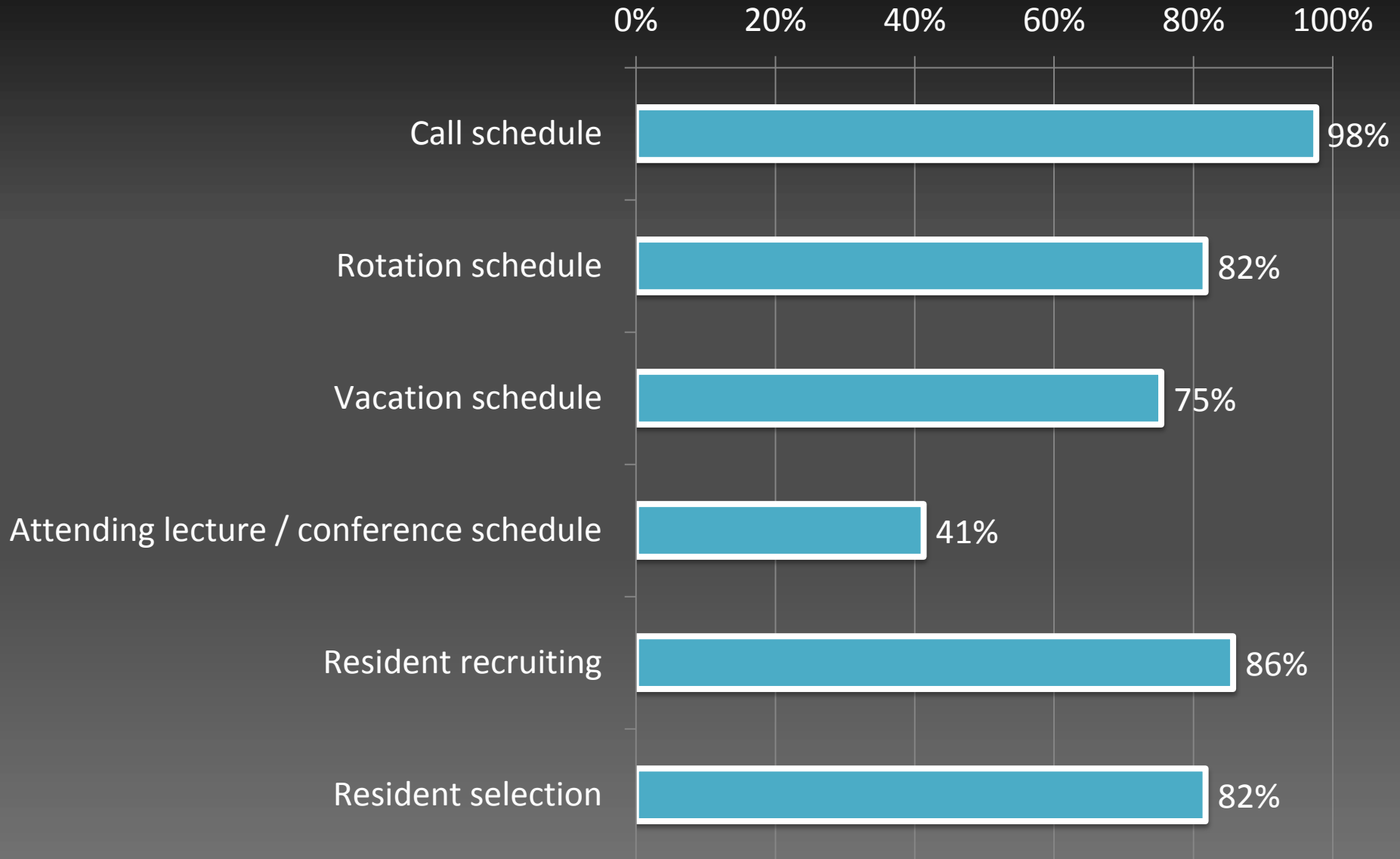
Chief Resident Tenure



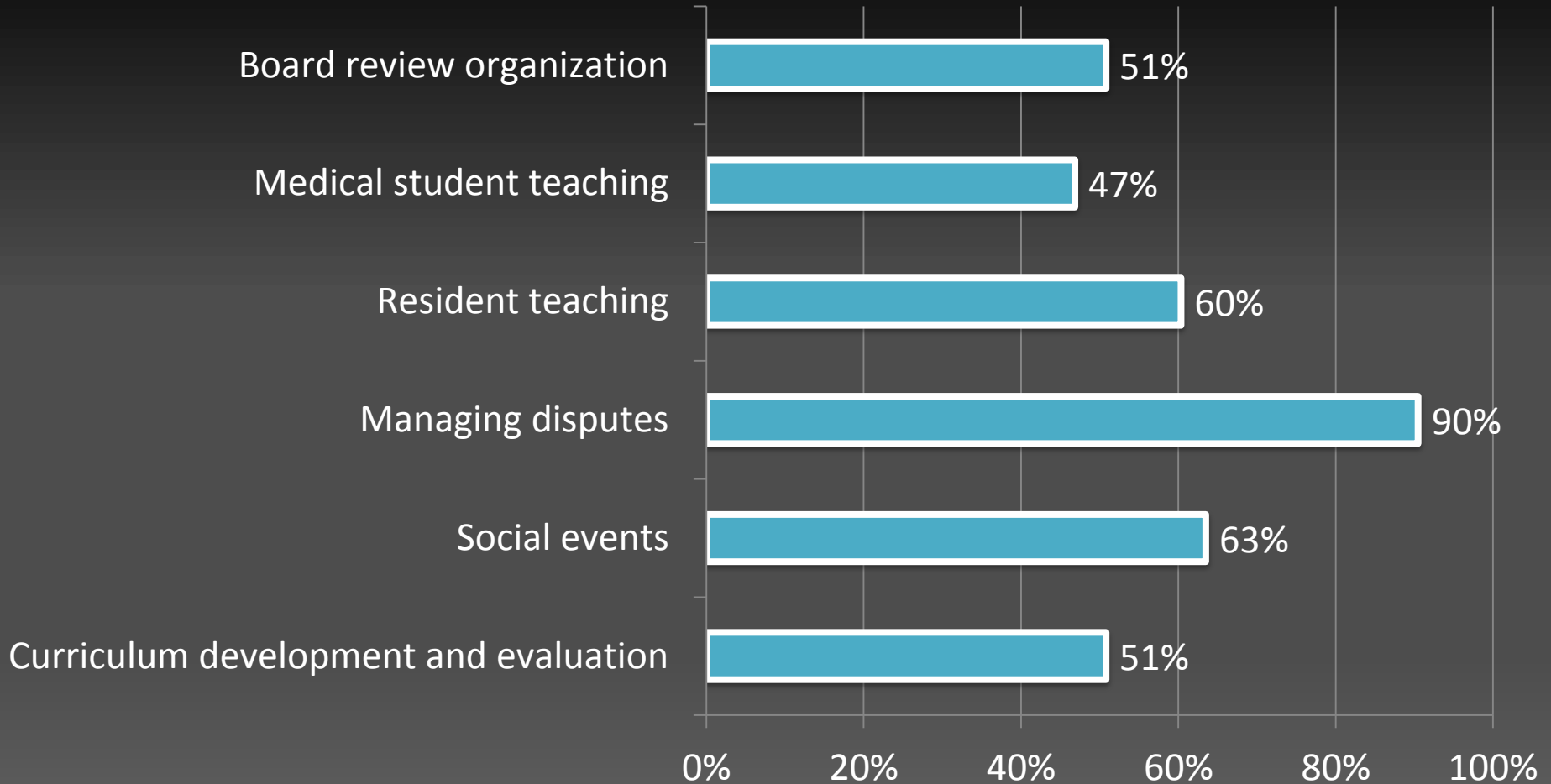
Recent Change in Chief Residency Timeline



Chief Resident Responsibilities

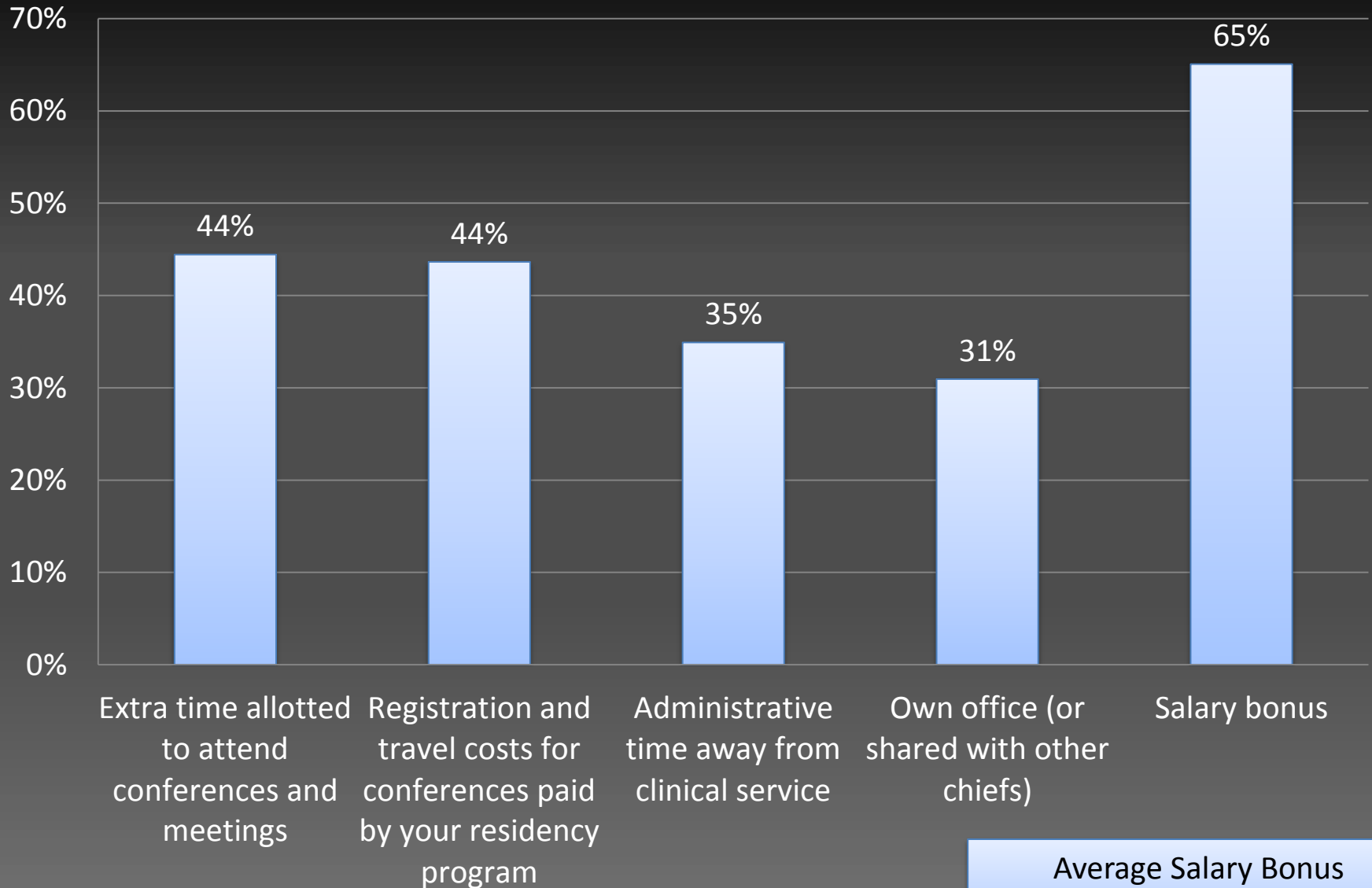


Chief Resident Responsibilities



- Emergency coverage
- QA/town hall meetings
- Physics curriculum
- Milestones
- Guest speakers
- Interdisciplinary conferences
- Grand rounds

Chief Resident Benefits



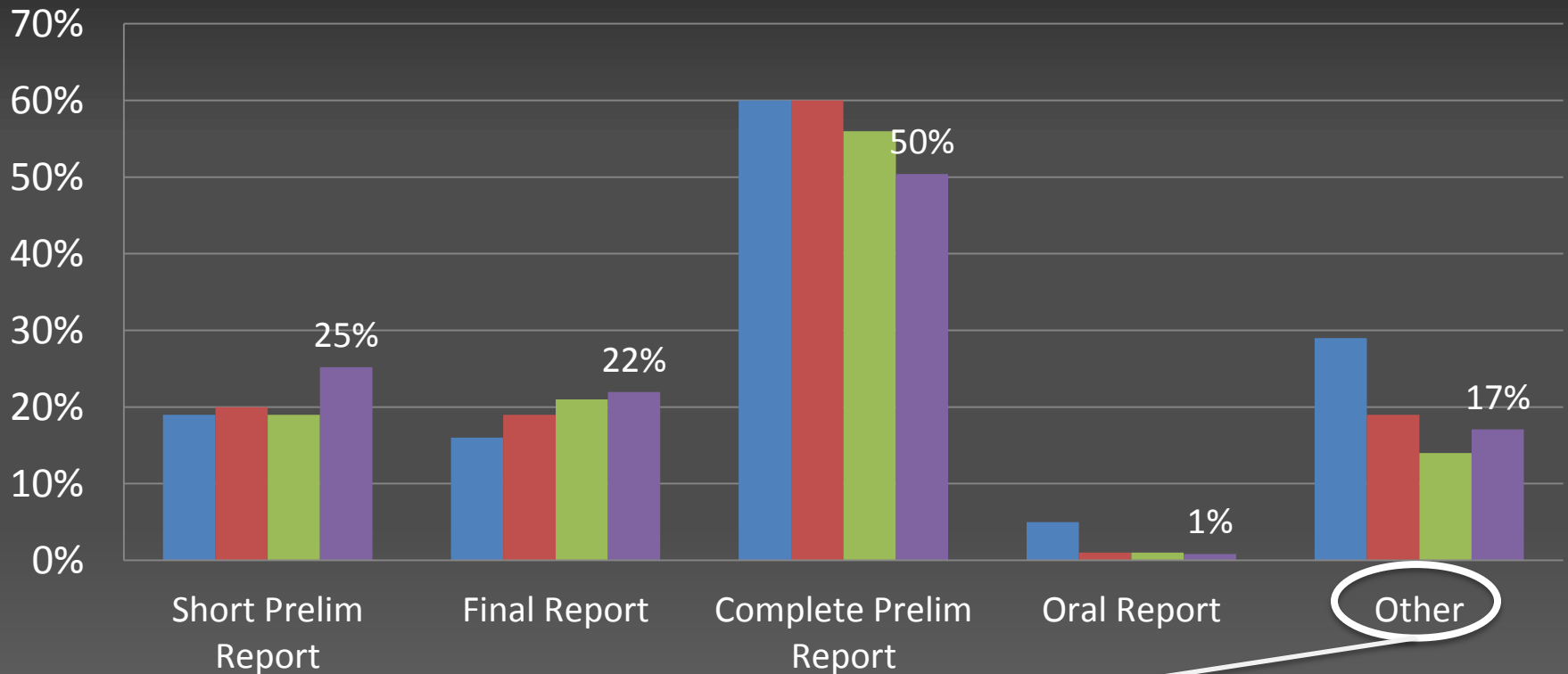
Average Salary Bonus
\$2058

CALL, WEEKENDS, AND ATTENDING COVERAGE

Call and Weekend Coverage

Type of On-Call Report

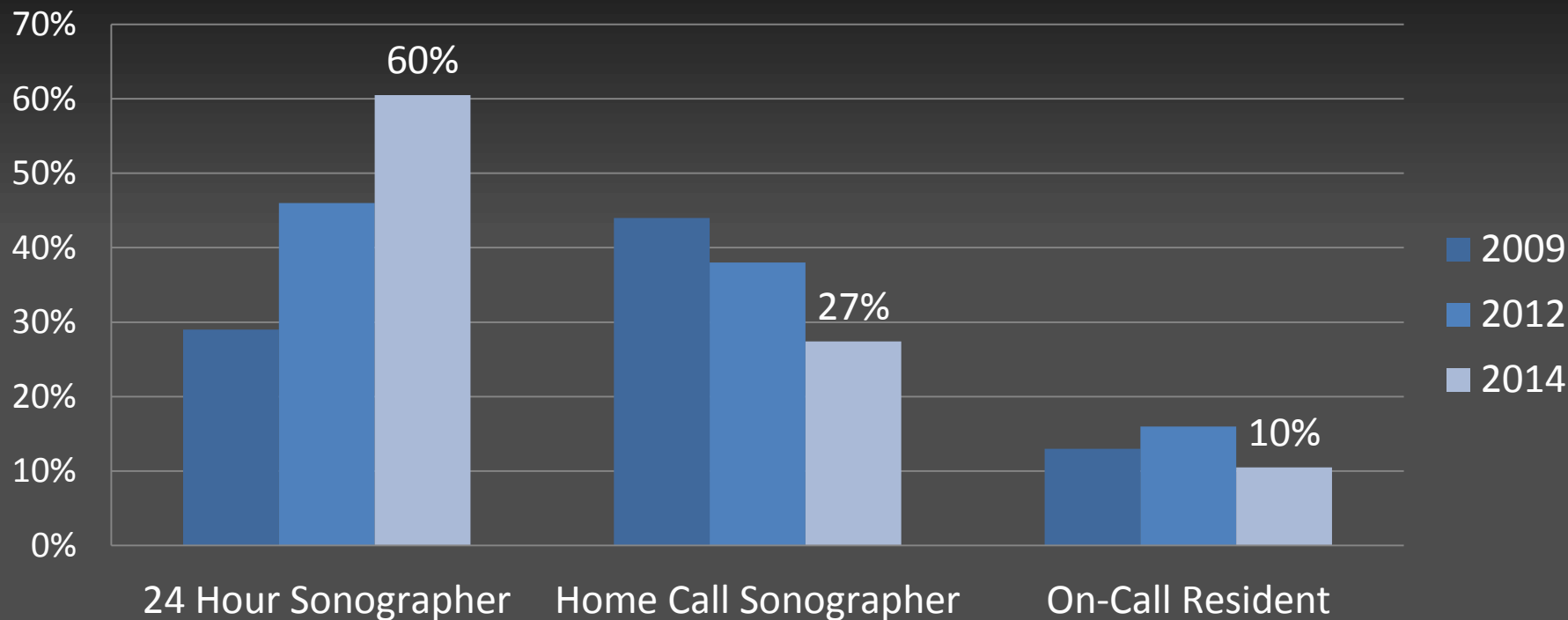
2011 2012 2013 2014



- Short Prelim depending on modality (US, neuro)
- ER cases finalized with attending, inpatient cases prelimmed
- Site dependent

Ultrasound Coverage

On-Call Sonography



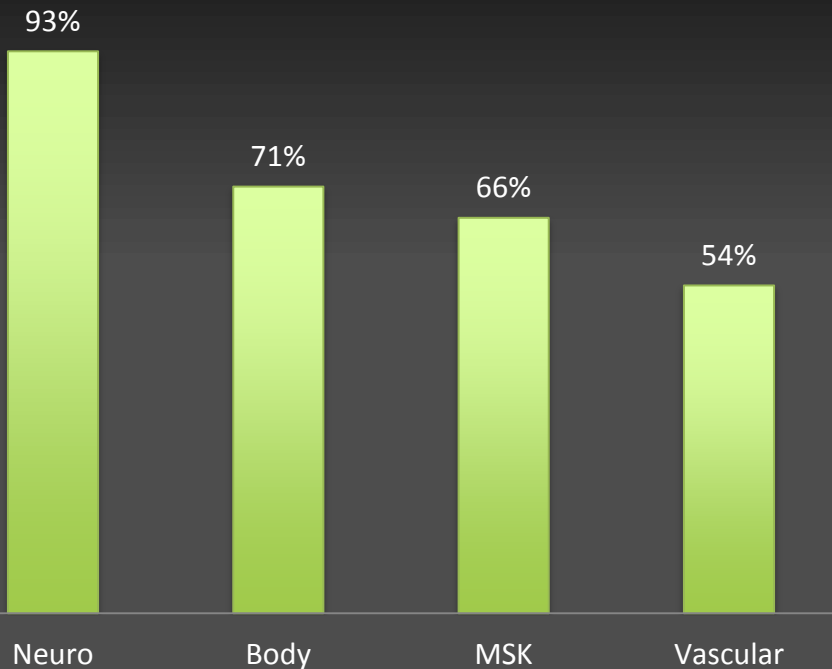
Specific Situations

Ob-Gyn Service performs Pelvic US
Vascular Surgery Service performs DVT US
Resident performs certain studies
(RUQ, Scrotal, Renal)

In-house sonographer depending on time,
hospital, and day of the week

MRI Coverage

Program Performing After-Hour MRI

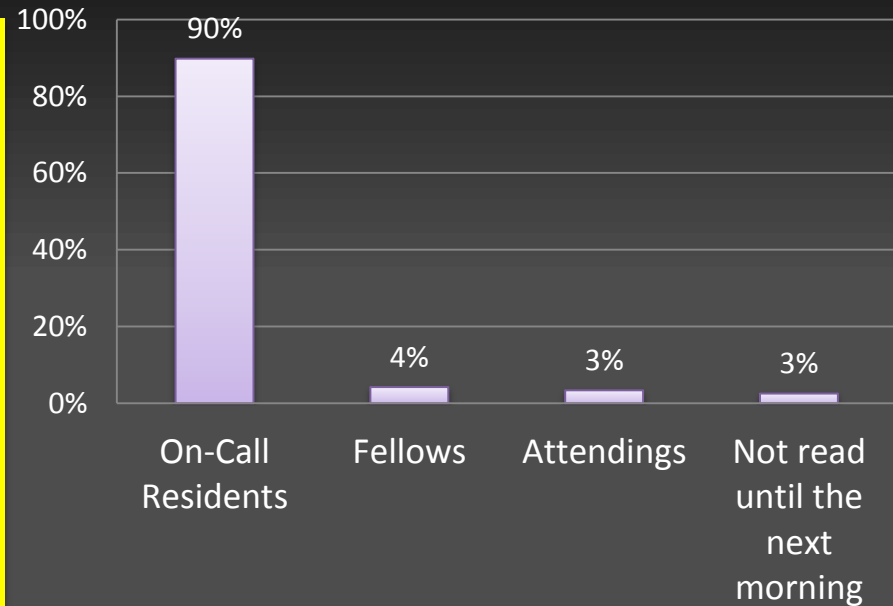


*No significant change from 2012-3

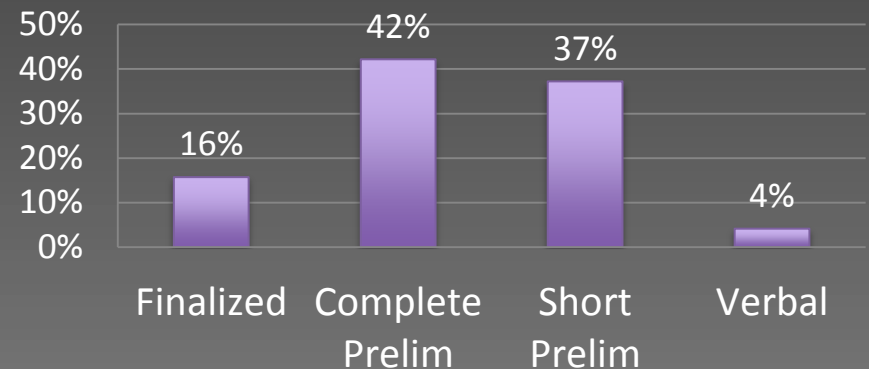
Specific Situations

Emergent MR Examinations only
"STAT" Examinations only
ER or Inpatient MR Exams only

Who Reads MRI after Hours



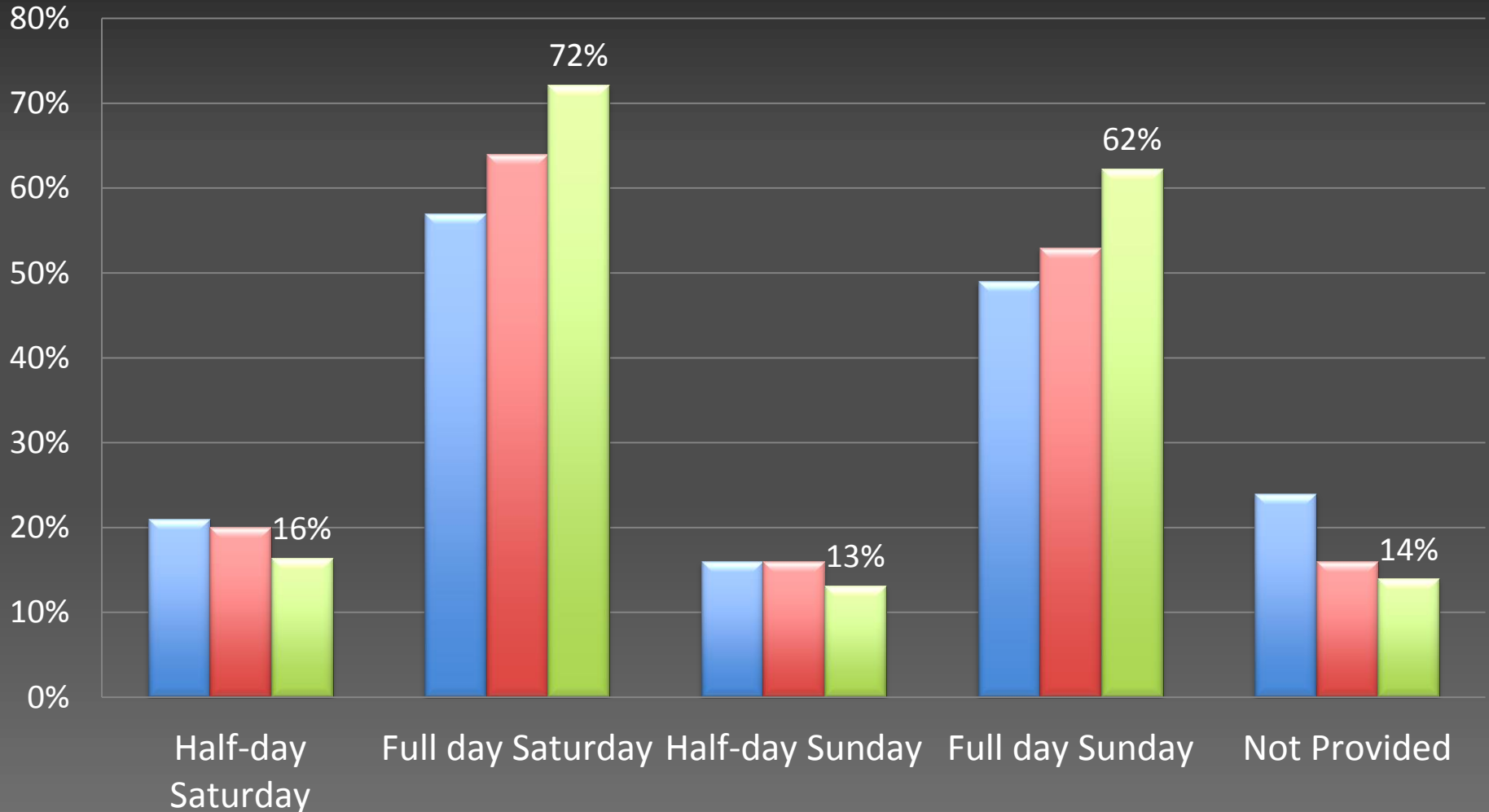
What Type of Report for After-Hour MRI



Weekend Coverage

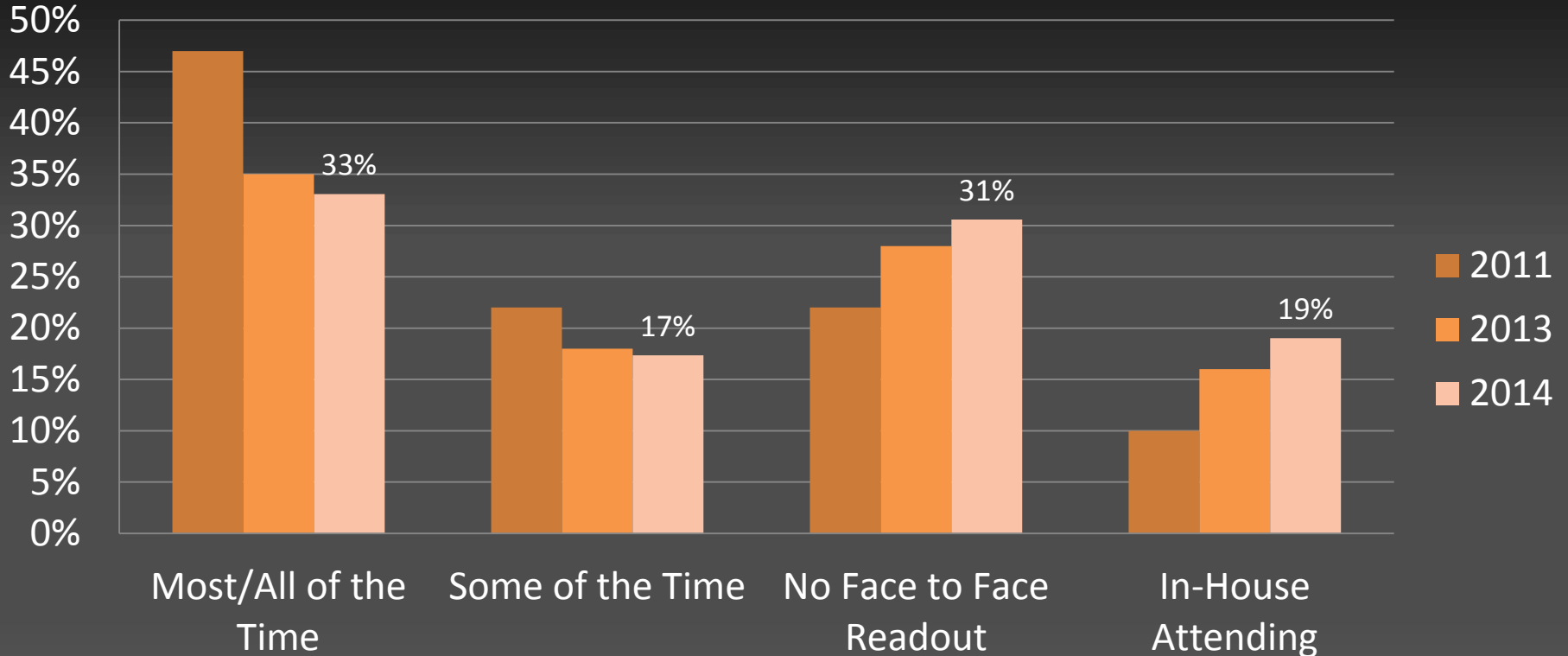
Programs Covering Routine Services on Weekends

■ 2011 ■ 2013 ■ 2014



Readout Format

How Often Face to Face Post-Call Readout Occurs



Notes

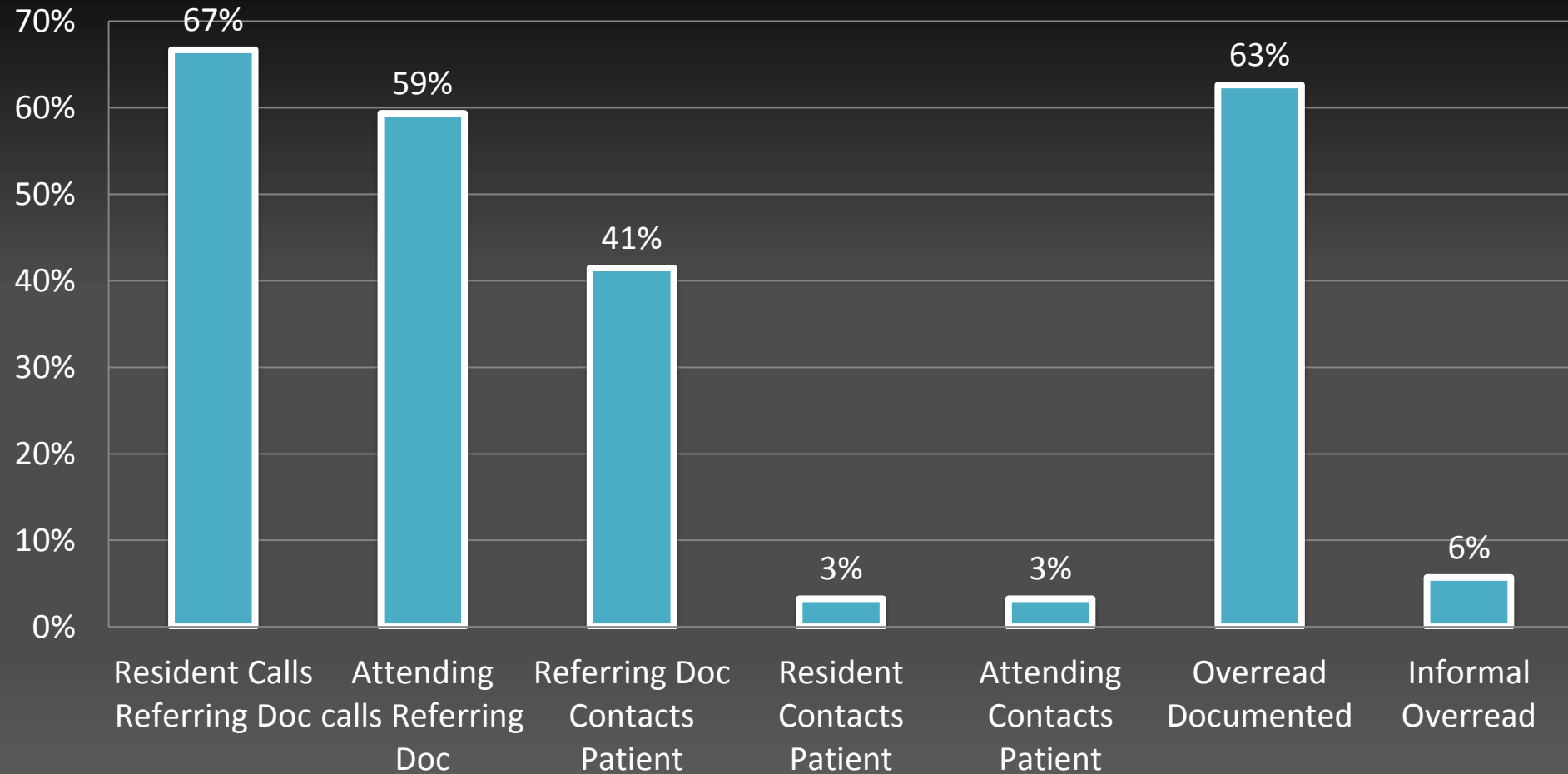
Too many sites covered for face to face readout

Face-to-face readout for specific types of studies (e.g. Neuro, plain films)

Face-to-face readout for junior residents only

Face-to-face readout only if there is a question on the study, at resident's discretion

Overread Procedure

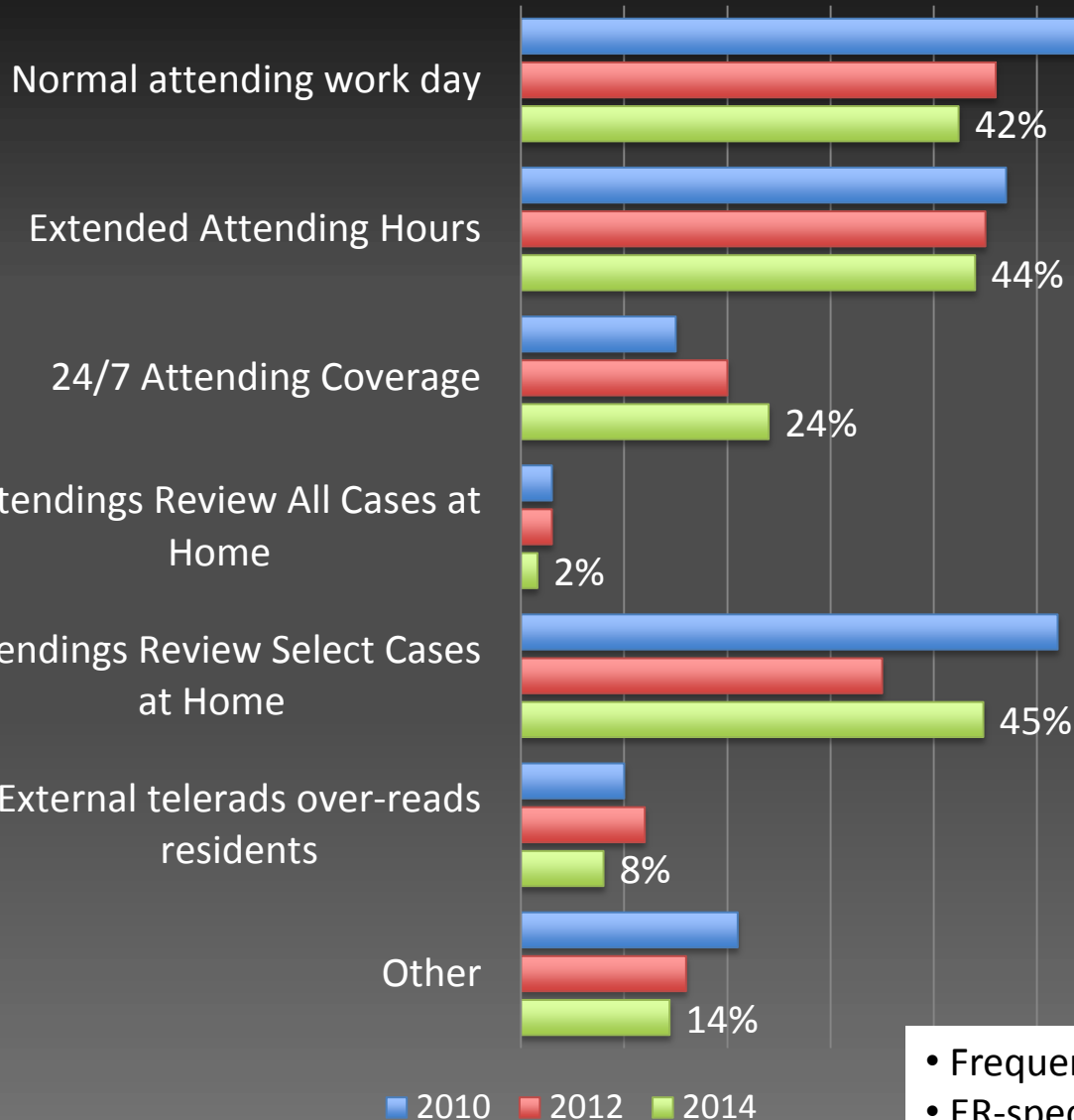


Specific Situations

Not applicable to programs with overnight in-house attendings

After Hour Attending Coverage

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



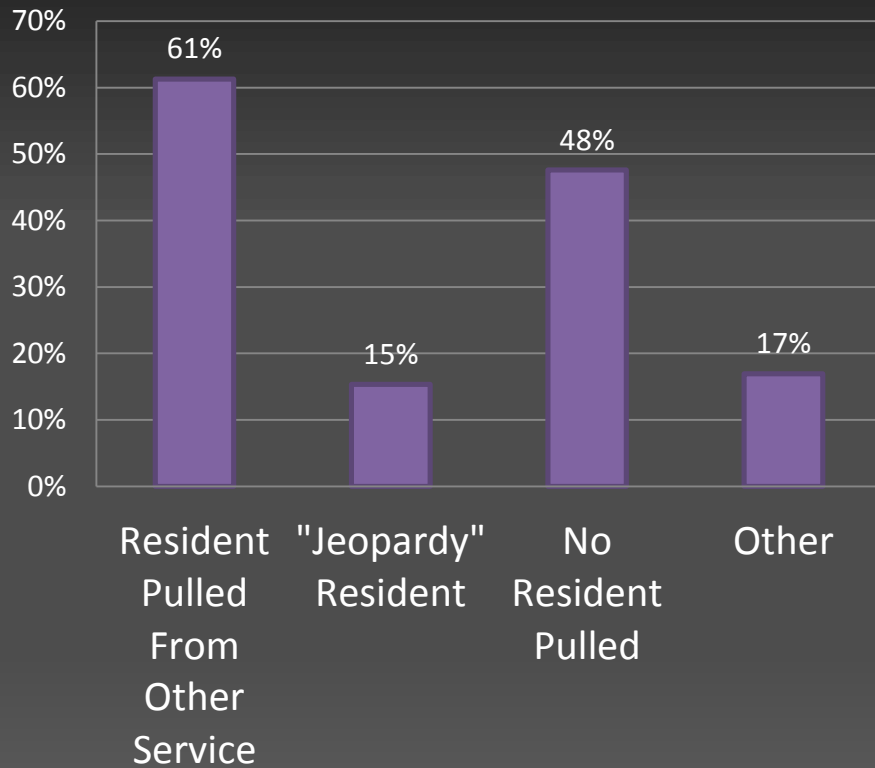
6% programs plan to implement extended in-house attending coverage (5-10pm) within the next year

4% programs plan to implement overnight in-house attending coverage within the next year

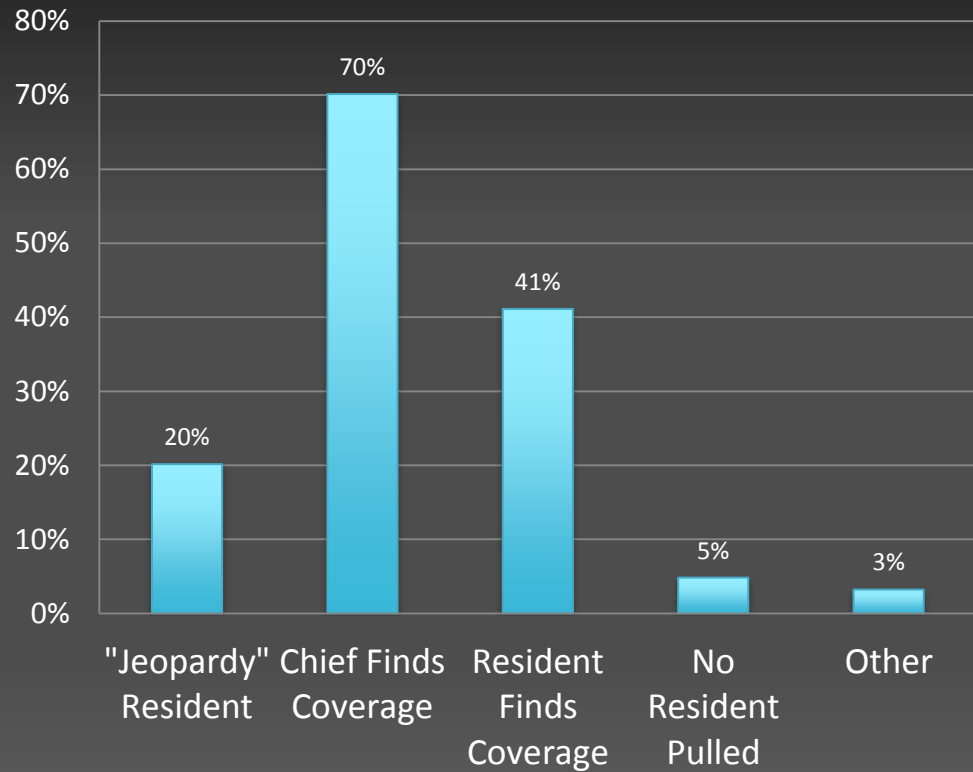
- Frequently section, modality, or site-dependent
- ER-specific coverage 24 hrs

Sick Resident Coverage

Regular Shift Coverage



Call Shift Coverage



Specific Situations

More frequently pulled for procedural services (IR, US)
Service dependent

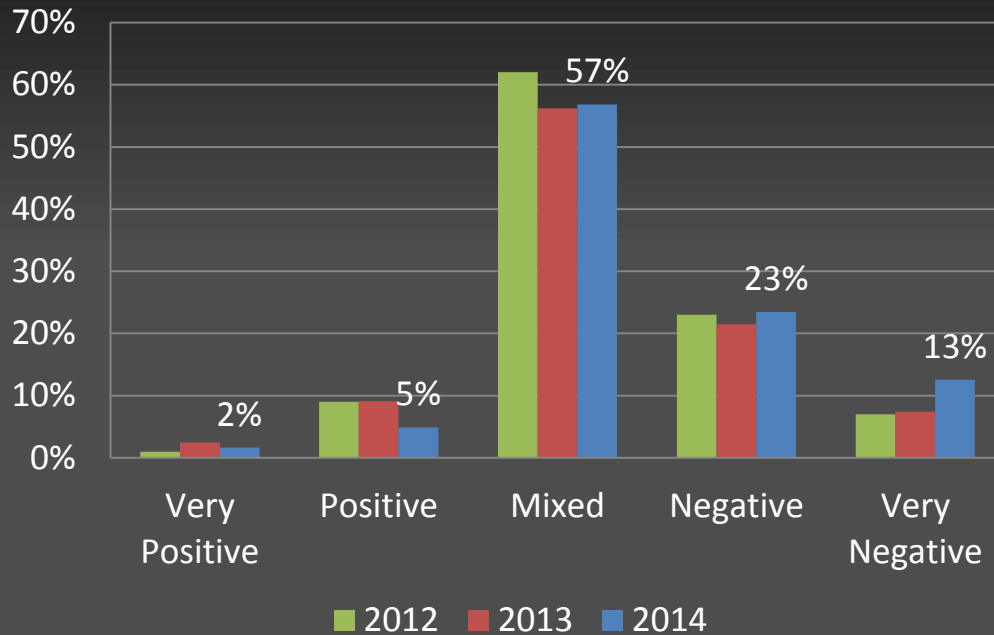
Specific Situations

Resident scheduled for next shift covers
Staff may cover if no other alternative

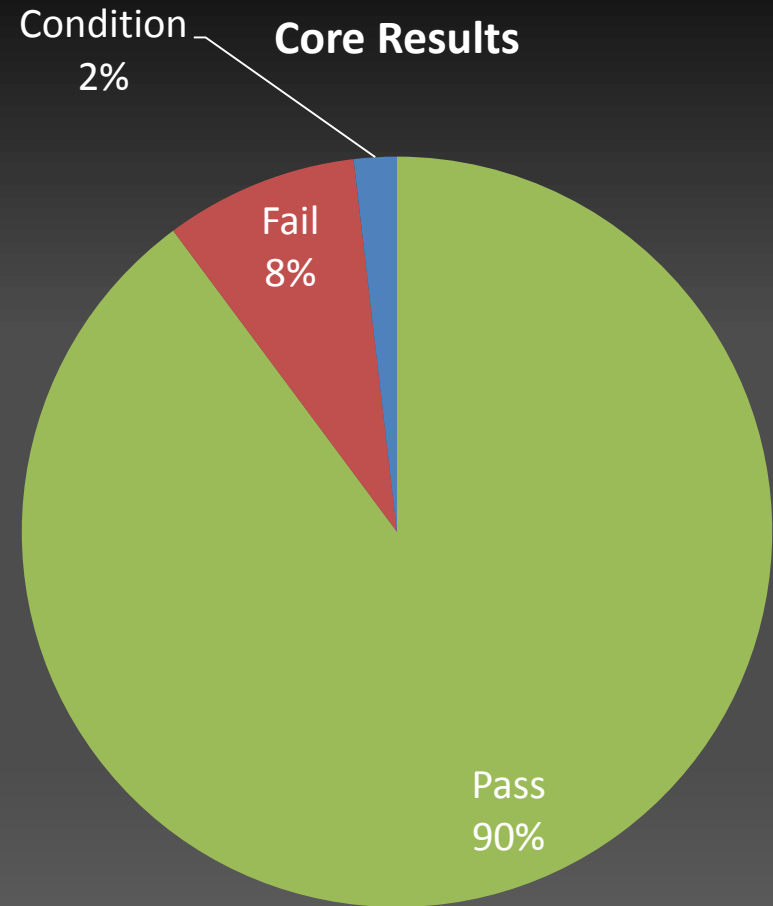
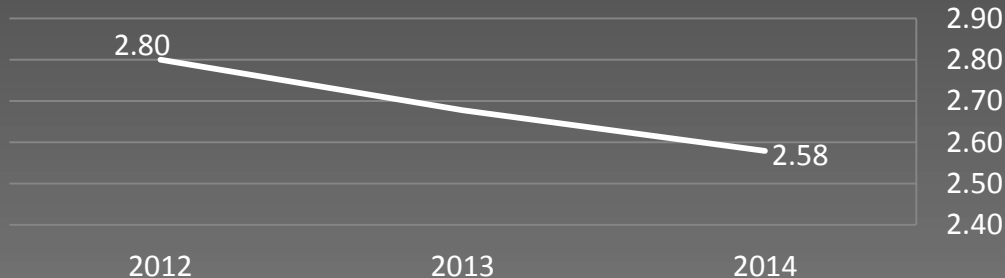
ABR CORE EXAM

ABR Core Exam

Sentiment Toward ABR Core Exam



Sentiment Towards ABR Core Exam (1 = Very Negative, 5 = Very Positive)



Notes

- Survey pass rate concordant with published ABR data of 87%

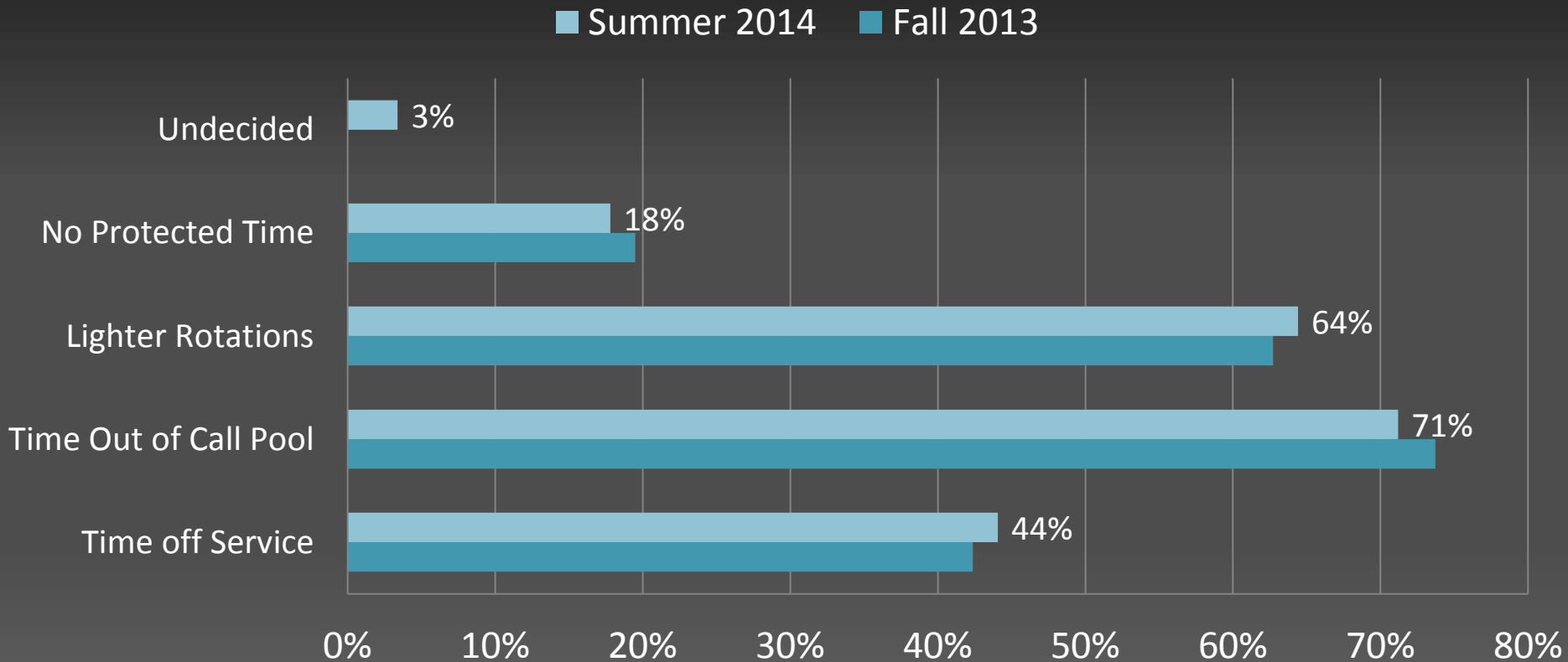
ABR Core Exam

Comments

- Timing interferes with neuro/IR fellowship match
- More “fair” and “objective”, more relevant physics, computer-based good change
- Gets 4th years back onto service, rather than perpetually studying; more flexibility with schedule
- Tests minutiae, more an assessment of test-taking skill than command of radiology
- Deemphasizes critical thinking, differential diagnoses and communication skills, lessening radiologists’ value and skill
- No longer board certified coming out of training, need to study for 3 months at beginning of job, will practices adjust?
- Devalues 4th year of residency (less motivation)
- Concerns overblown (much more to fear from changes in health care regulations/market response than change in board format)
- MCQs inferior to Oral Boards for assessing real-life competency
- 15-month wait for certifying exam forces residents to do fellowships, more likely to accept junior faculty positions, catering to academic radiology; 12 month wait would be better
- Poor transparency/communication of results from ABR

ABR Core Exam Prep

Core Exam Review Plans for Residents



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

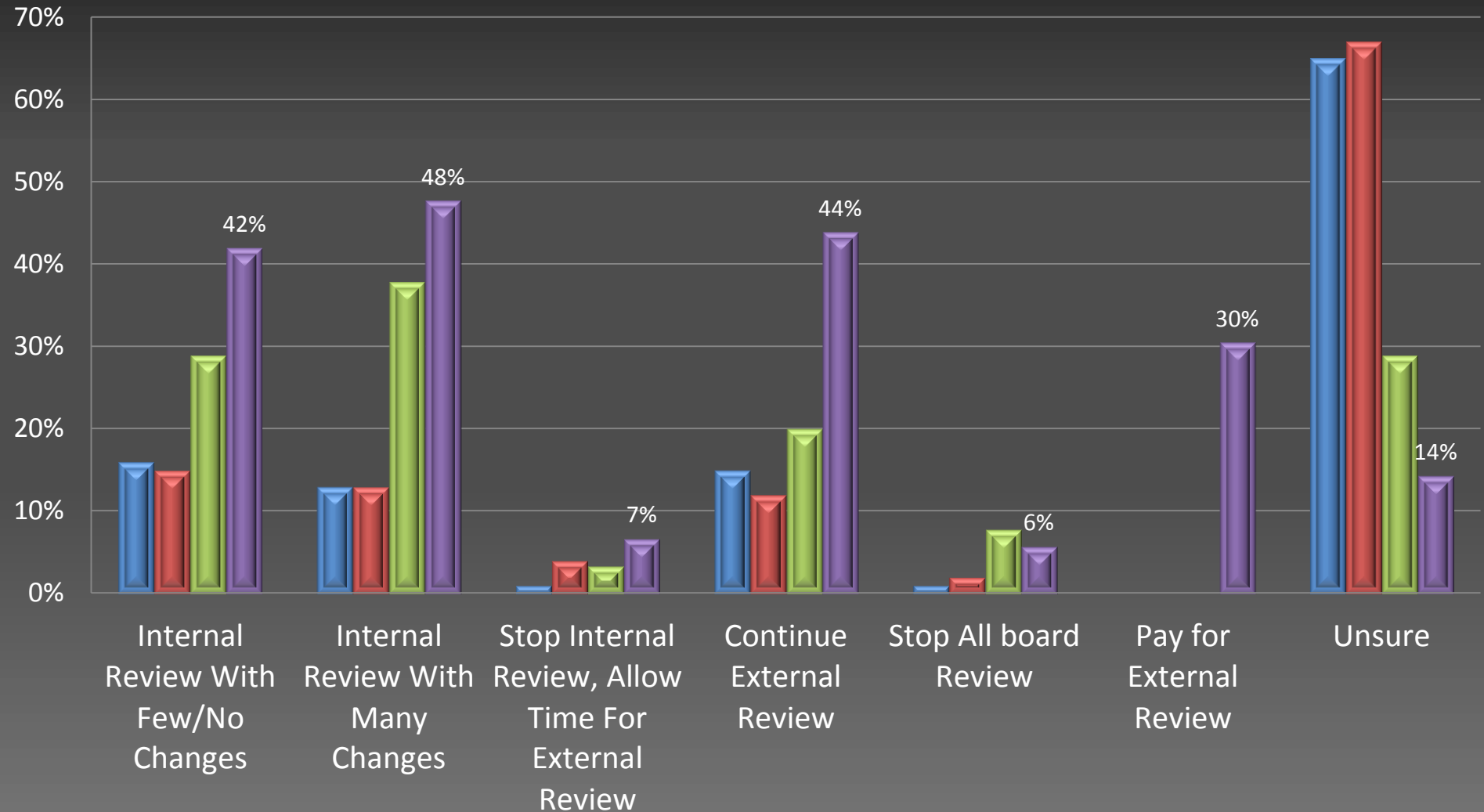
Call Pool
9.6 weeks

Off Service
6.6 weeks

ABR Core Exam Prep

Core Board Review

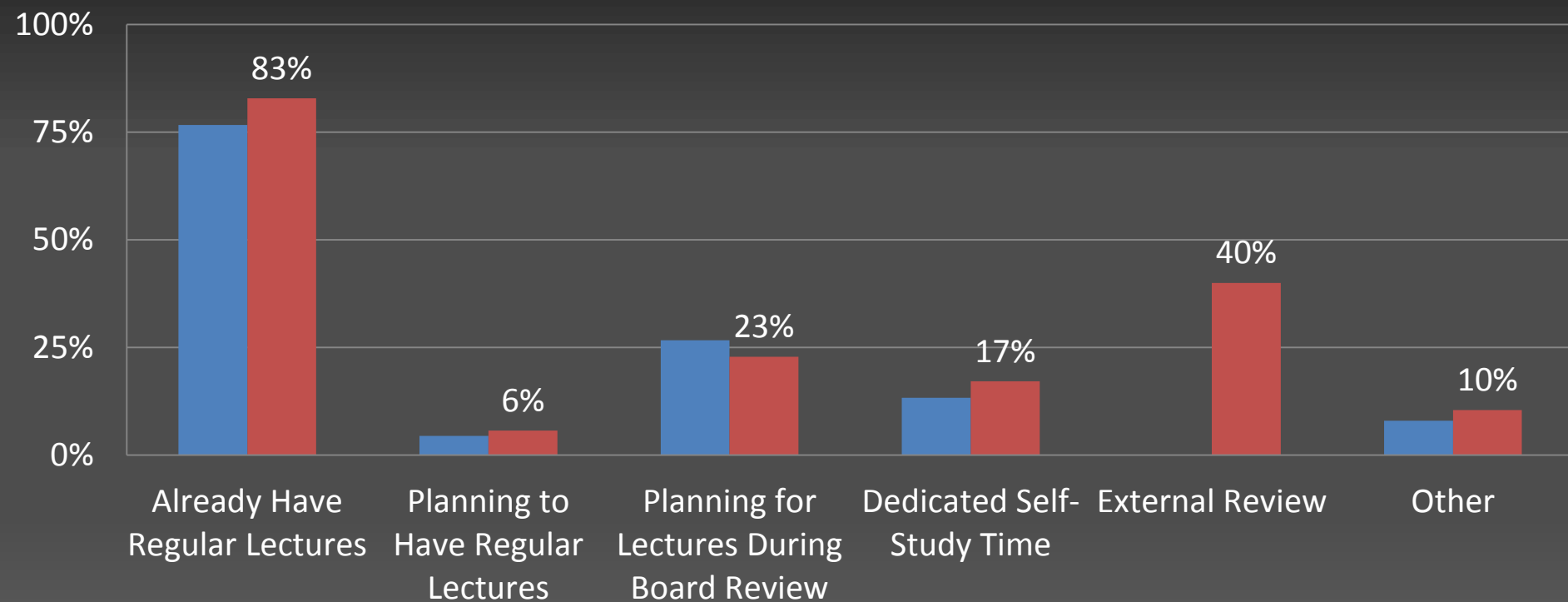
2011 2012 2013 2014



Changing Board Examination

Physics Preparation

■ 2013 ■ 2014



Notes

- RSNA modules, either alone or incorporated into curriculum
- Huda review course popular

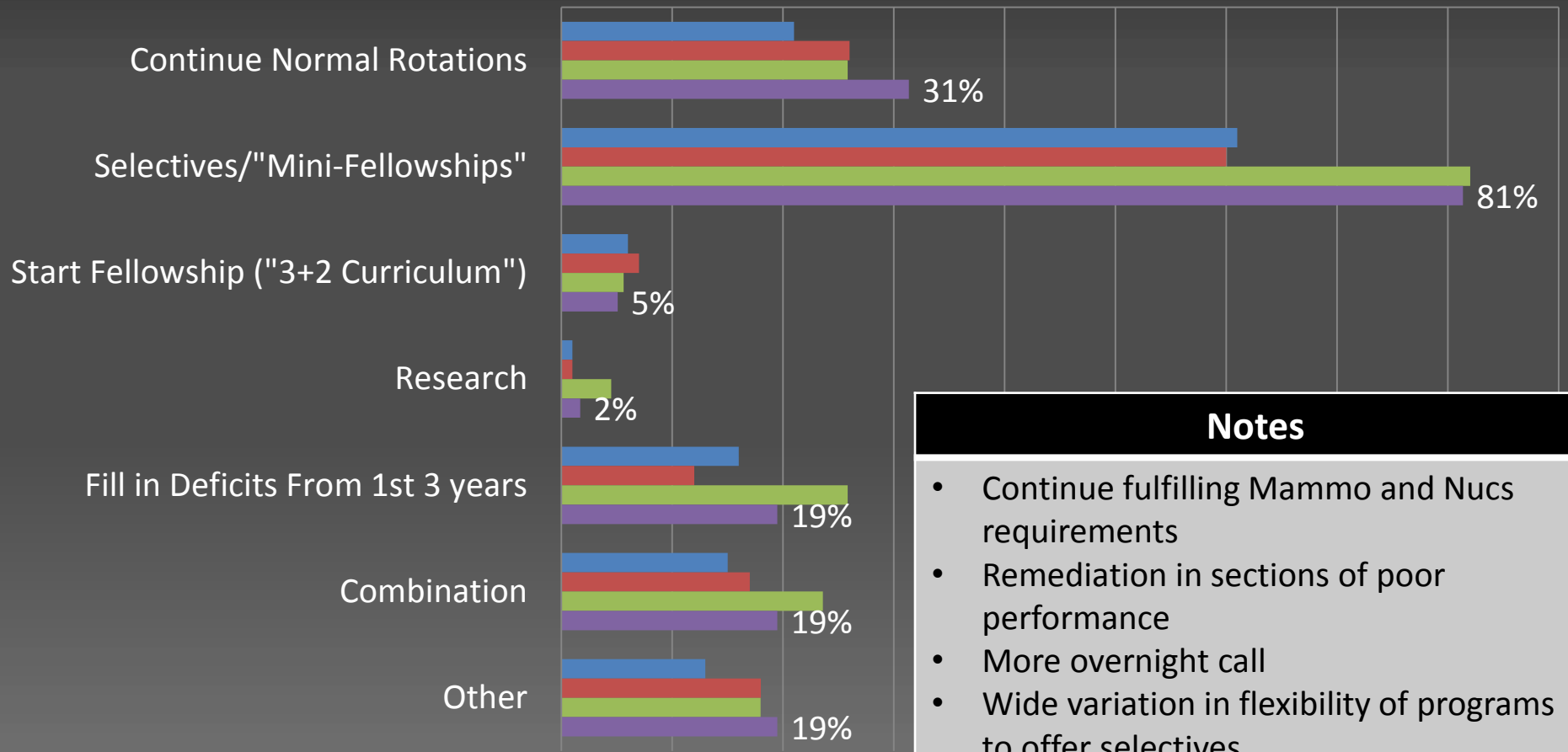
THE FOURTH YEAR

The Fourth Year

Purpose of 4th Year

2011 2012 2013 2014

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

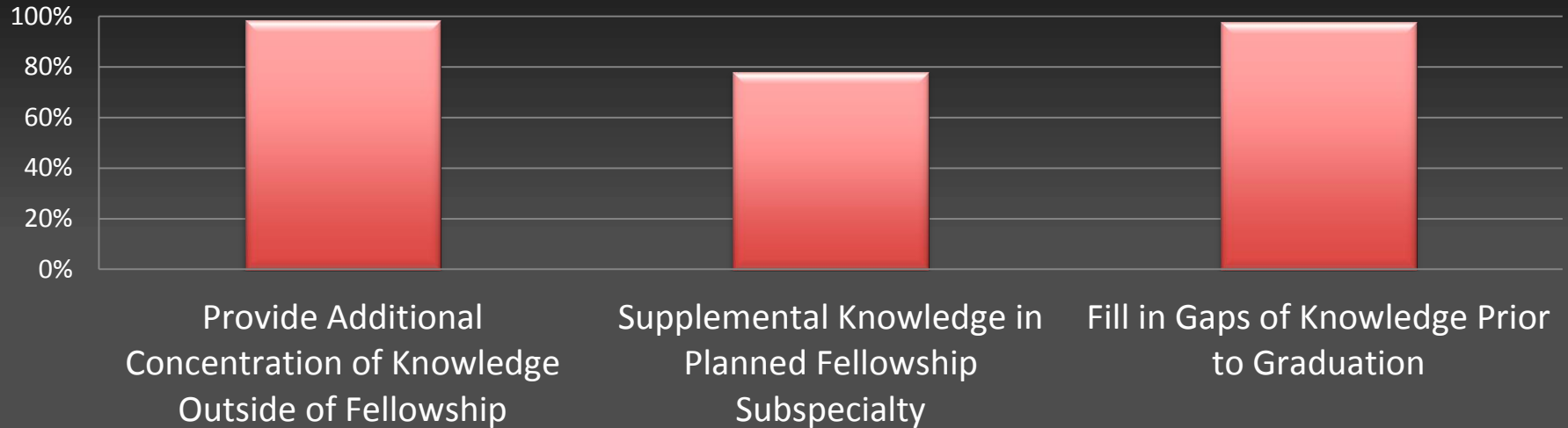


Notes

- Continue fulfilling Mammo and Nucs requirements
- Remediation in sections of poor performance
- More overnight call
- Wide variation in flexibility of programs to offer selectives

Selectives/"Mini-Fellowships"

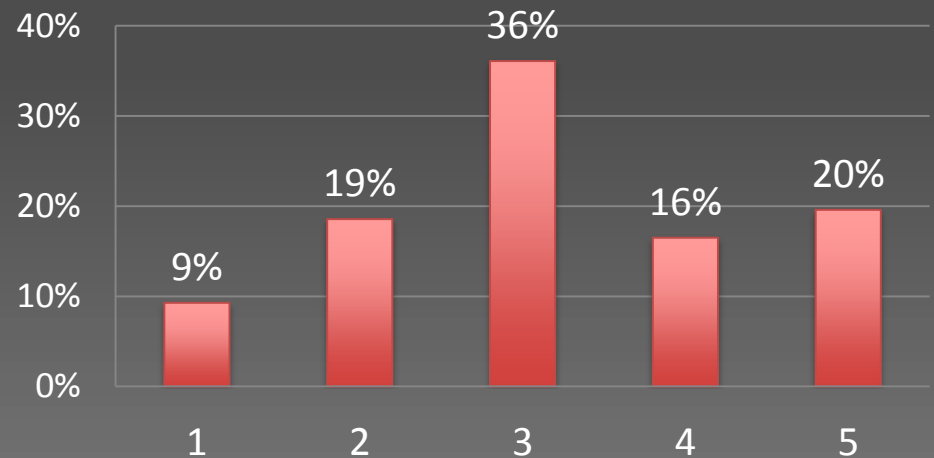
Purposes of Selectives



Weeks Allotted in 4th Year

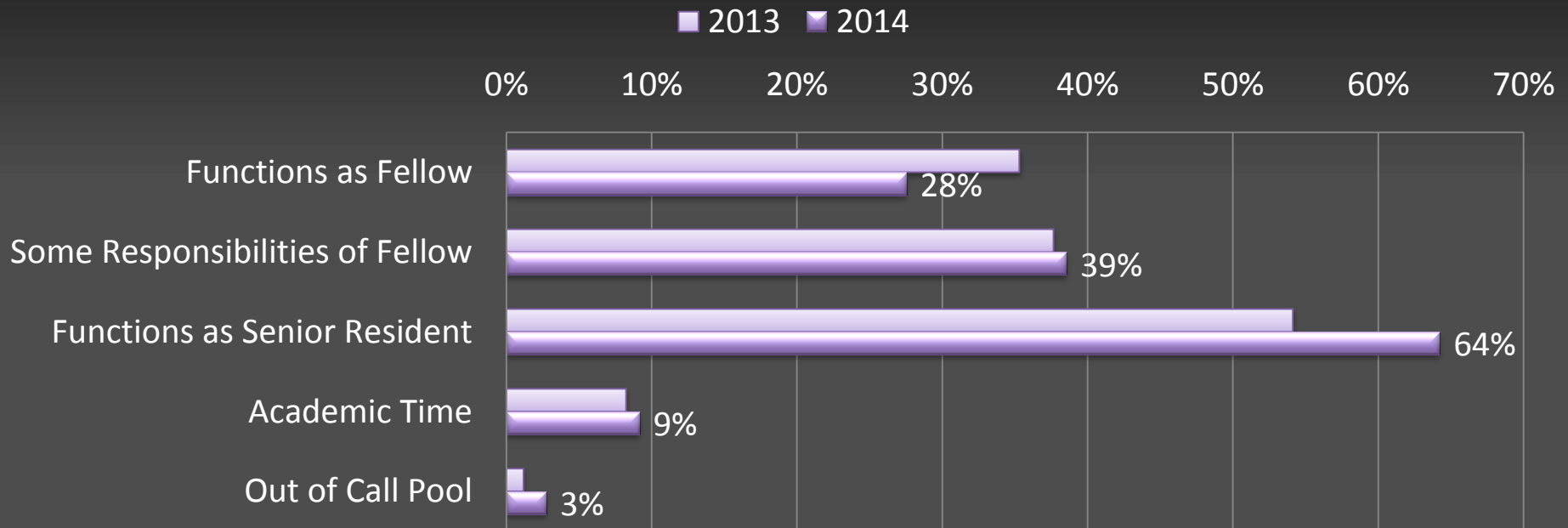
18.9 weeks average
(3-52 weeks)

of Selectives Offered to 4th Years



Selectives

Selective Details



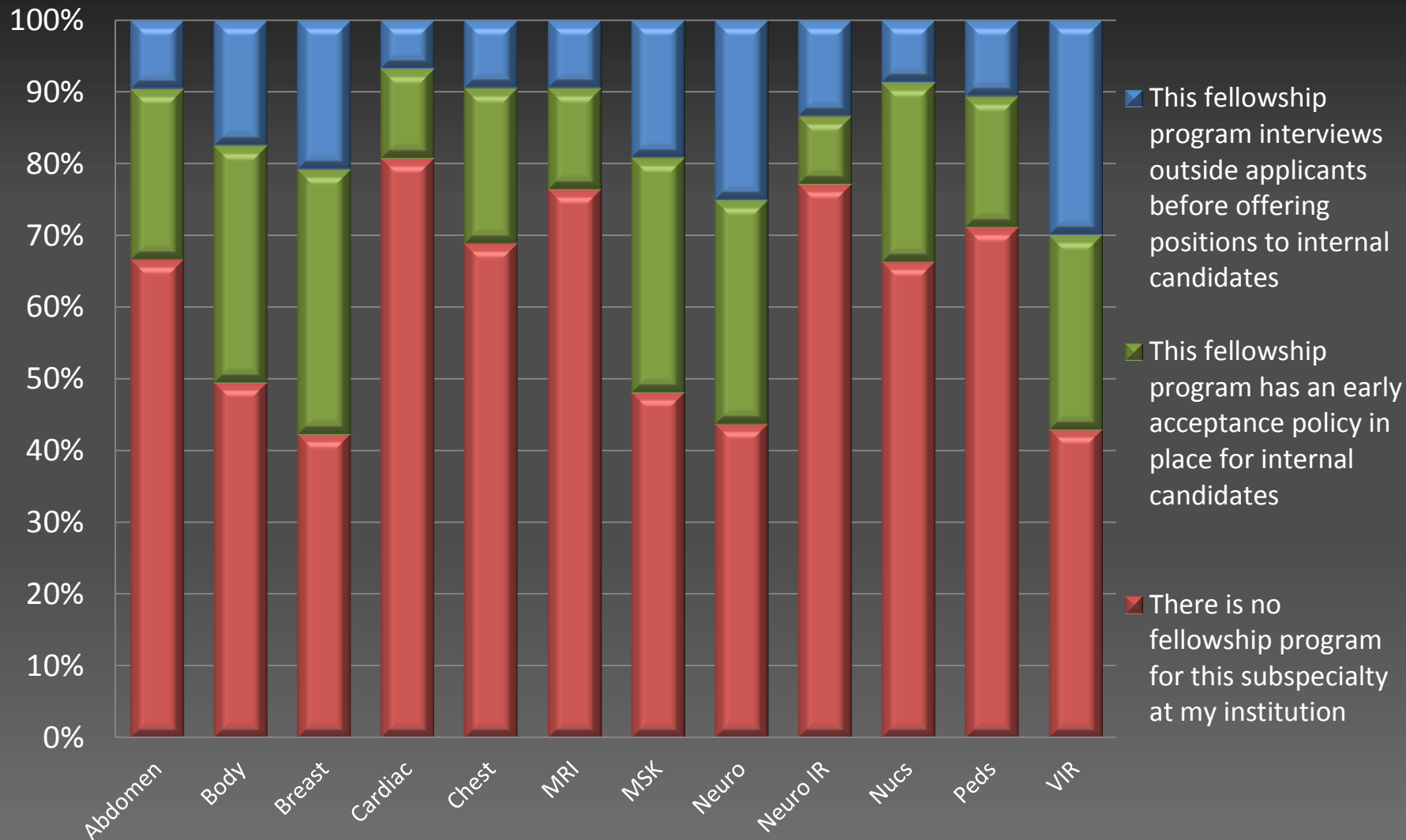
Notes

- Space limitations on high demand selectives (e.g. Breast, MSK)
- Research track selective a possibility
- The selective plan did not work for a small program where residents are responsible for covering the services

FELLOWSHIPS

Fellowships

How Are Fellowship Applicants Interviewed?

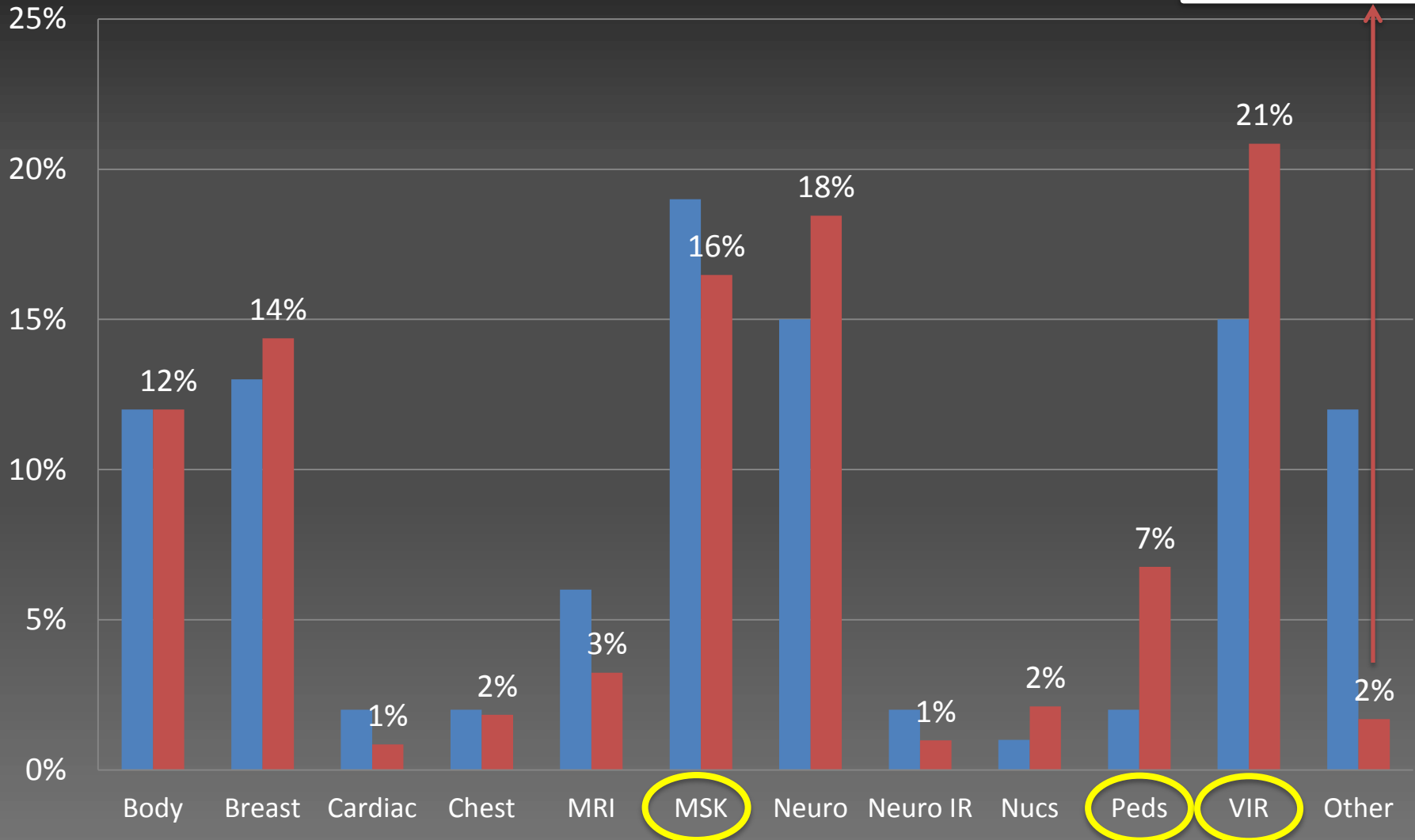


Fellowships

What Fellowships 4th Year Residents are Pursuing

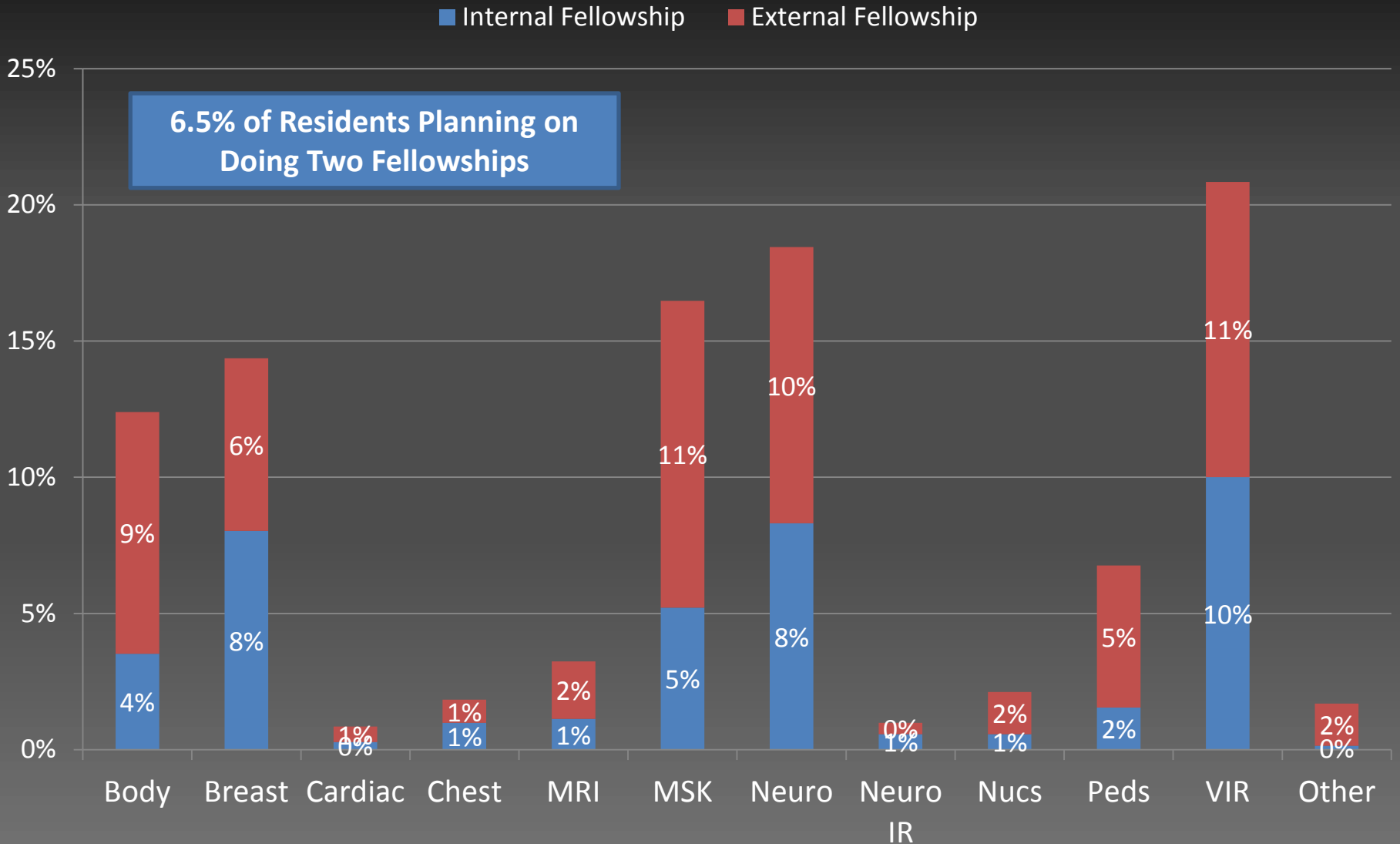
■ 2009 ■ 2014

Emergency
Women's Imaging
Informatics



Fellowships

Distribution of 4th Year Residents Choosing Internal vs External Fellowships

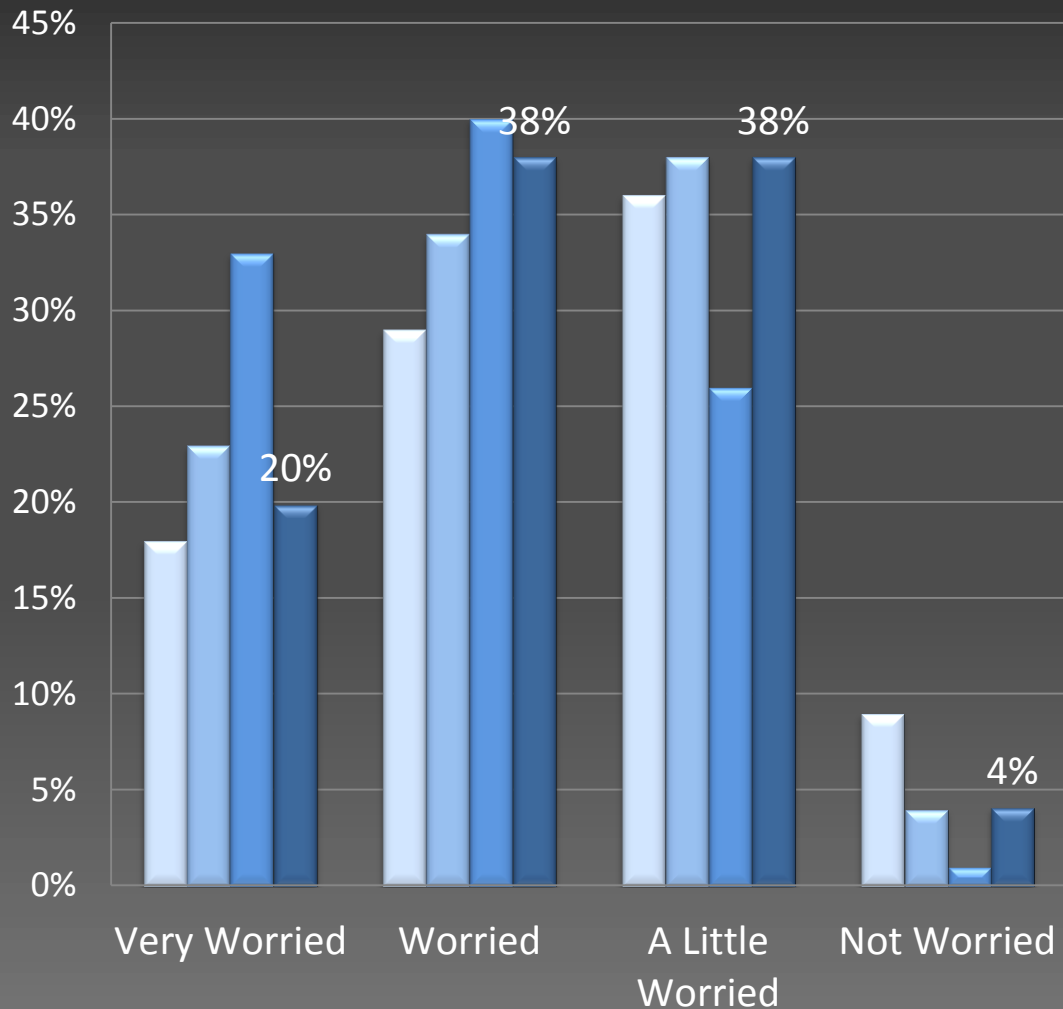


HEALTHCARE ECONOMIC\$ AND THE JOB MARKET

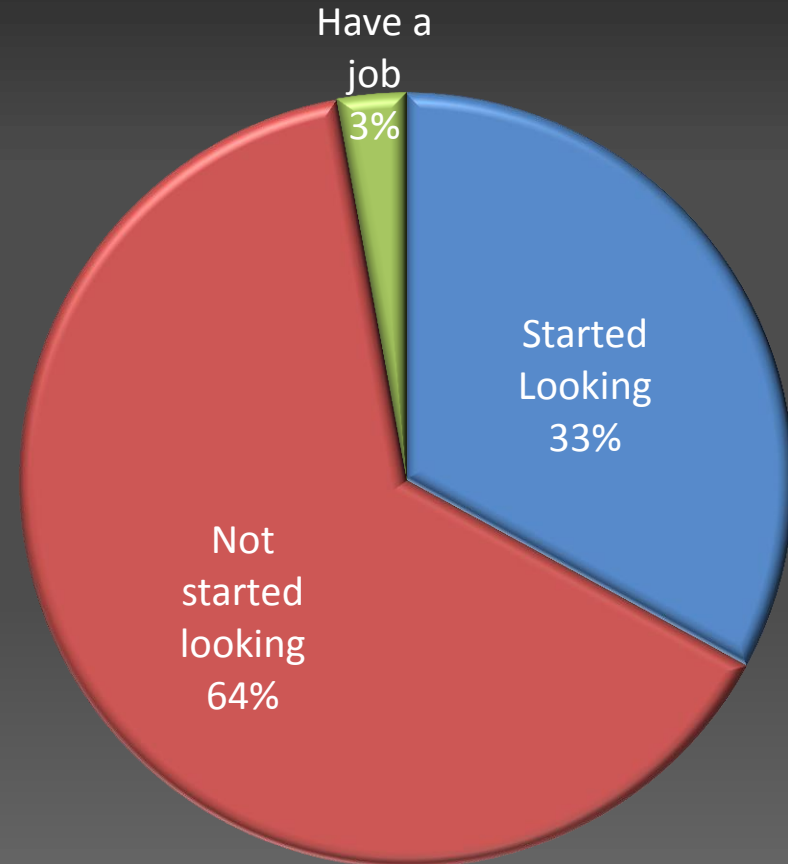
Healthcare Economics and the Job Market

Job Market Sentiment

■ 2011 ■ 2012 ■ 2013 ■ 2014

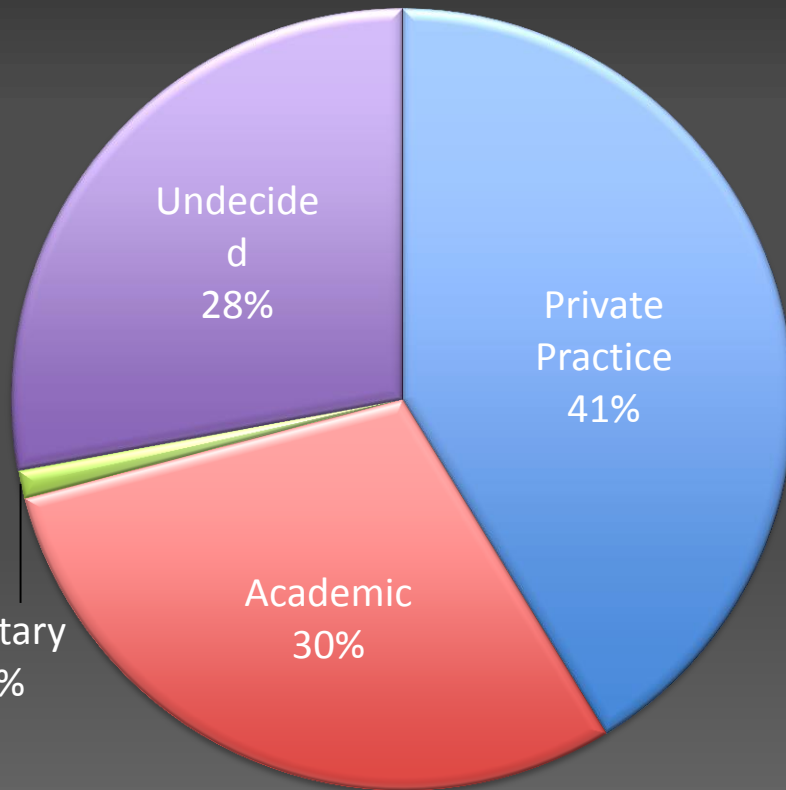


Job Status

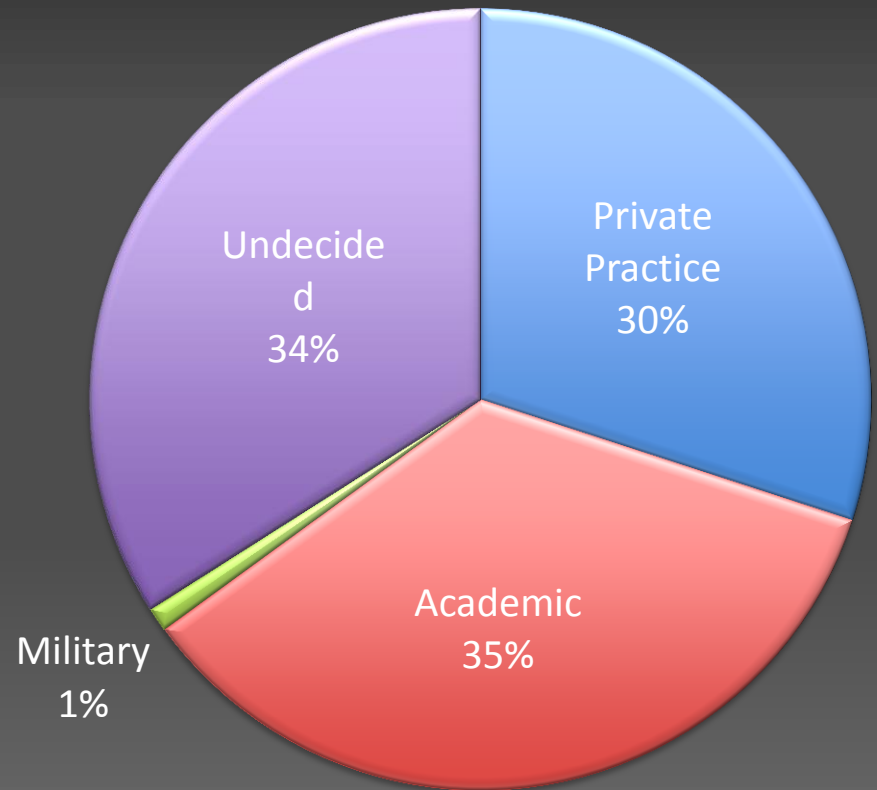


Healthcare Economics and the Job Market

Long-Term Plans 2014



Long Term Plans 2013

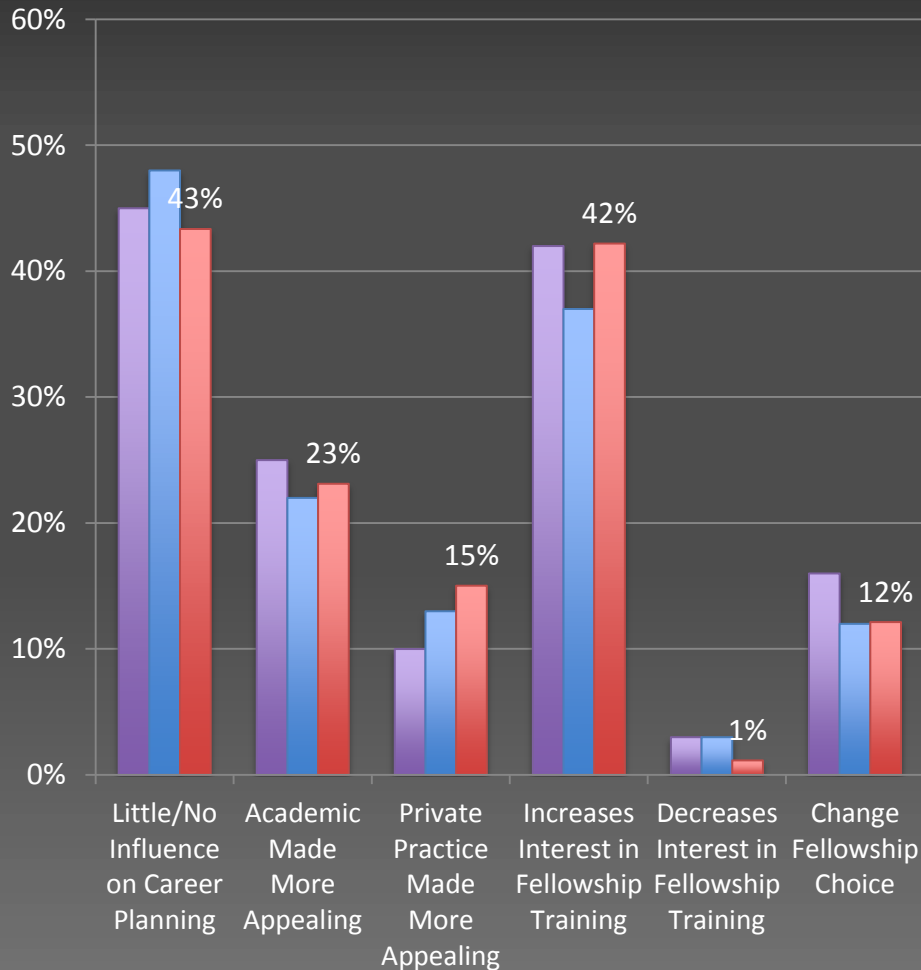


98% respondents entering fellowship after residency

Healthcare Economics and the Job Market

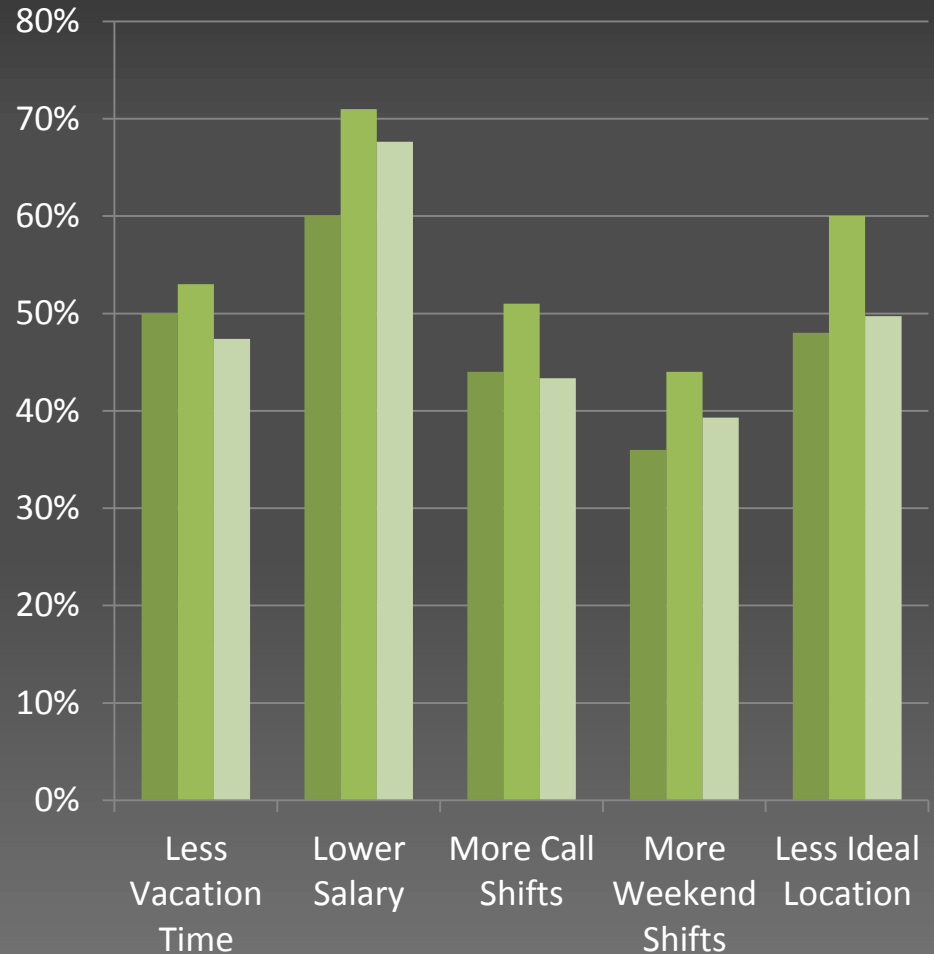
How the Current Economic Environment and Current Job Market Influences Career Plans

2012 2013 2014



What are you willing to compromise to obtain a job?

2012 2013 2014

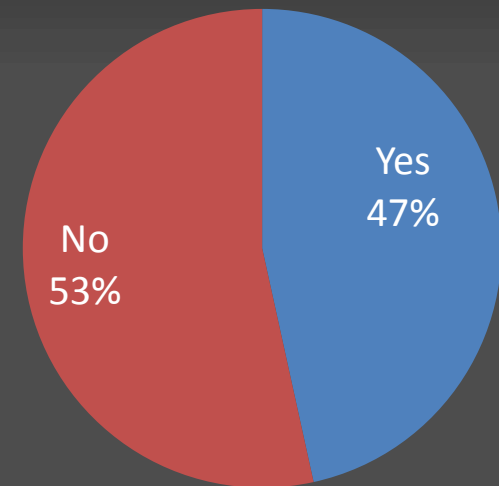


Healthcare Economics and the Job Market

What effects do you think healthcare reform will have on radiology?

- 85% (previously 92%) feel practices will try to increase their volume to maintain a similar salary despite the lower reimbursement rates
- 77% (previously 70%) feel it will discourage top-tier medical students from choosing radiology
 - 1% feel it will encourage top-tier medical students to choose radiology
- 33% (previously 41%) feel that practices are going to be looking for radiologists trained in more than one fellowship

Do You Receive Structured Training in Healthcare Economics/Business of Radiology



Notes

- Radiology Learning Institute webinars
- Local opportunities through state medical society

Healthcare Economics and the Job Market

Poor economic climate has led to budget issues at some programs, esp. programs that have more trainees than its training “cap,” paying for a certain # trainees out of pocket.

- 53% programs with # trainees = training “cap”
- 14% programs with # trainees > training “cap”

- 14% programs planning on increasing # trainees
- 3% programs planning on decreasing # trainees
- 41% programs not planning on changing # trainees

- 6% programs planning on increasing # fellows
- 8% programs planning on decreasing # fellows
- 31% programs not planning on changing # fellows

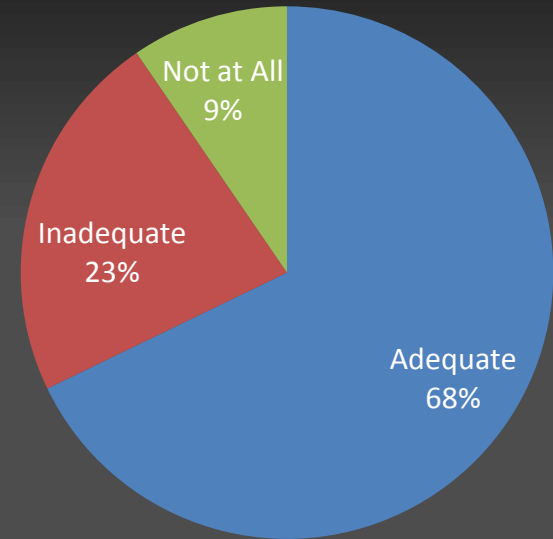
MISCELLANEOUS

Quality Improvement

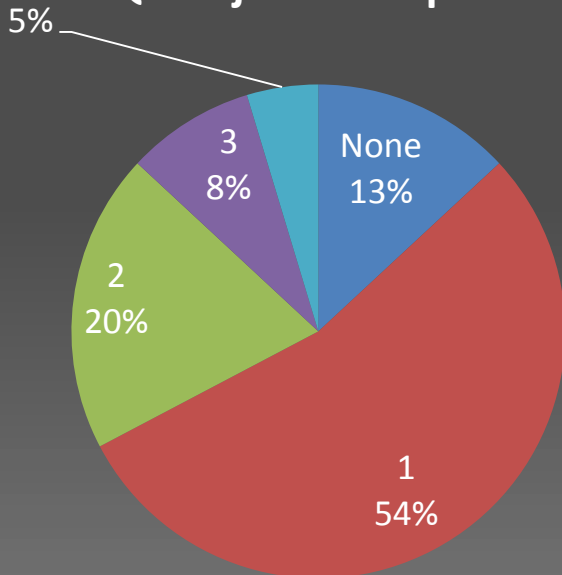
How well does your training program prepare you for ABR's PQI requirements?*

ABR requires radiologists to document participation in 3 successful PQI projects every 10 years to maintain board certification

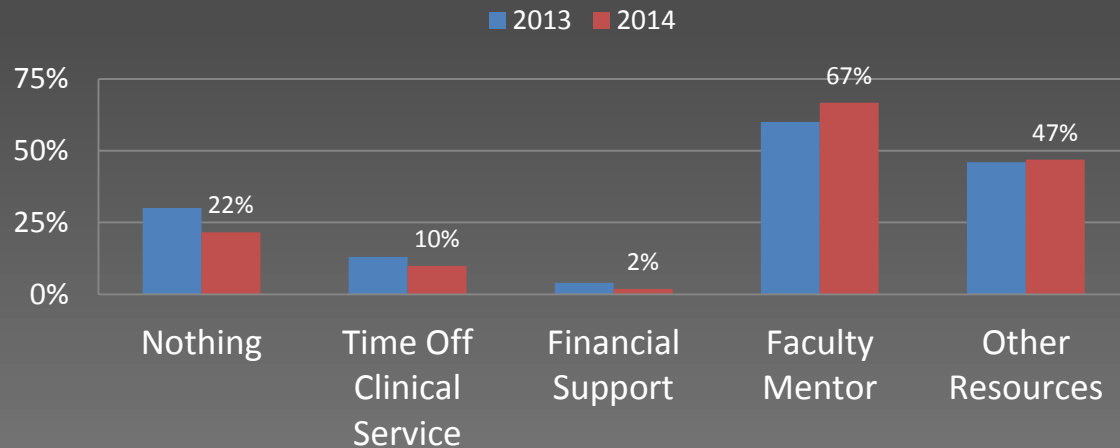
Preparation for PQI



PQI Projects Completed

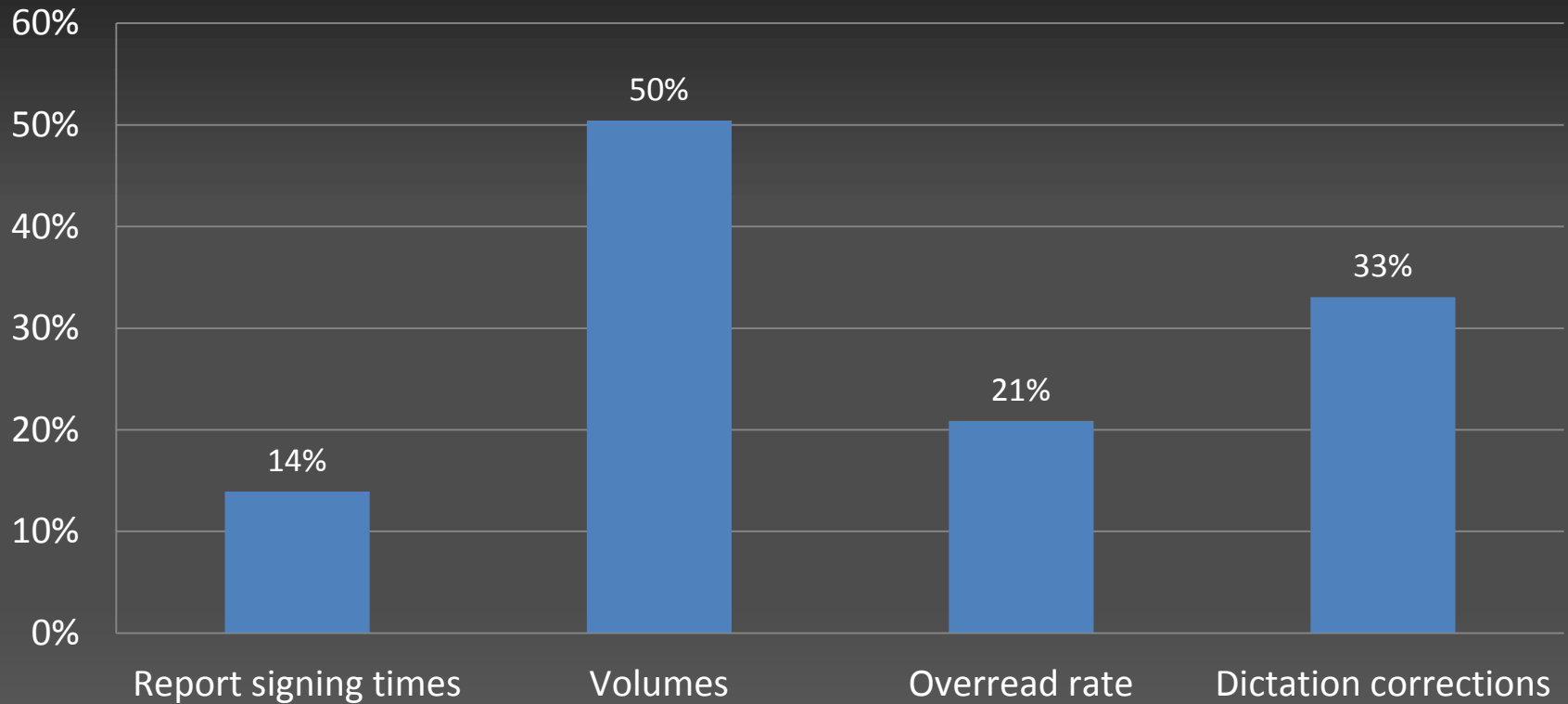


PQI Support



Resident Feedback

Feedback Provided by Programs

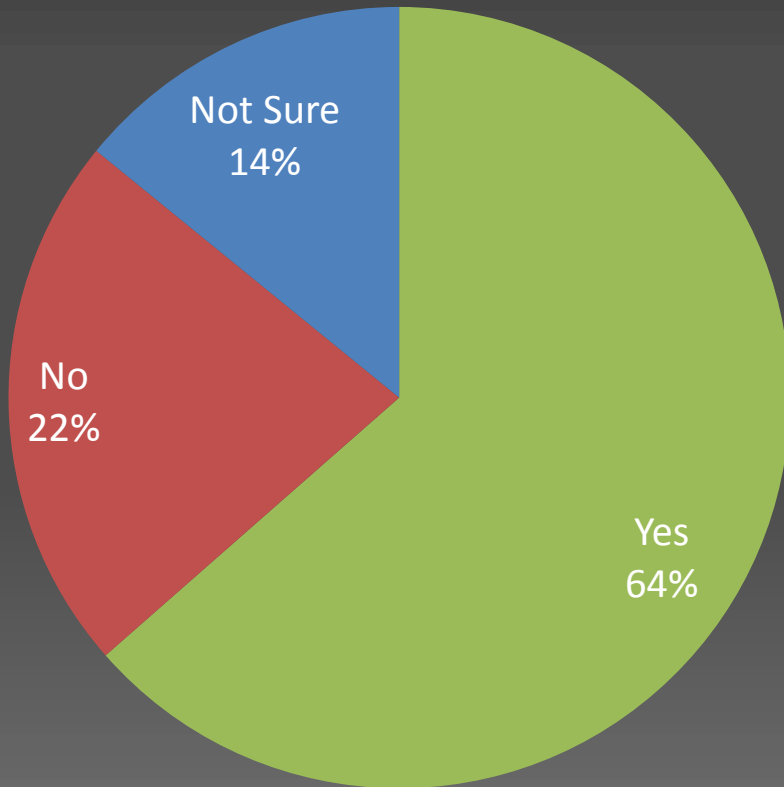


Feedback Notes

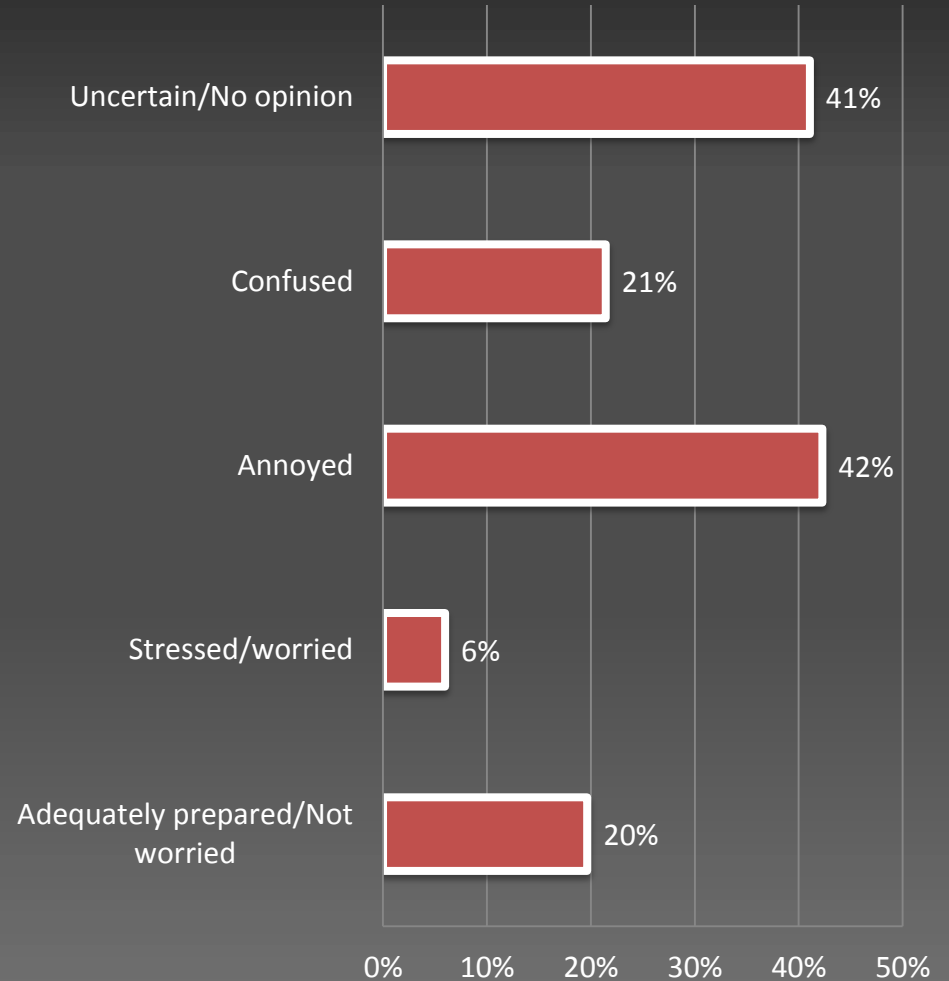
- Formally review two dictations for every section rotated through during residency

Milestones

Have You Received Your Milestone Report?

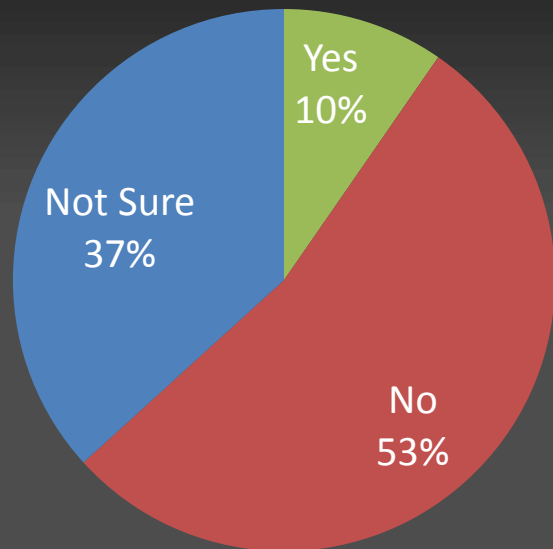


Response to Milestones

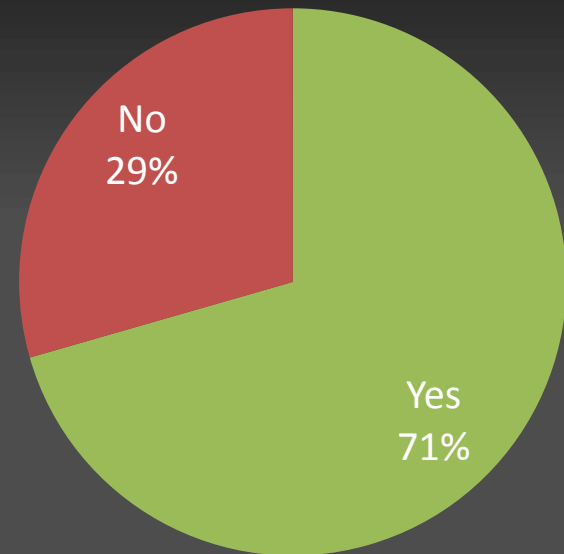


Milestones

Will Milestones Improve Training?



Are Milestones a Fair Assessment?



Milestone Notes

- Level 4 and 5 seem too advanced, beyond what most attendings do
- Extra paperwork, for what purpose?
- Too generalized, not applicable enough to radiology
- Burdensome without effecting real change

DISCUSSION

Discussion

- Women comprise ~26% of residents, an increase of 35% in the last decade; lags overall rate across all residencies (46%) and specialties such as ophthalmology (44%), dermatology (64%) and anesthesiology (36%)
- Moonlighting occurs in about $\frac{2}{3}$ of programs
- Informatic tools are used in a minority of programs
- Rapid adoption of RadPrimer over the past 3 years (16%→34%→56%→77%)
- Timing of chief residency has changed in $\frac{3}{4}$ of programs recently due to new board format

Discussion

- 24 hour sonographer availability has doubled to 60% over the past 5 years
- Full-day Saturday and Sunday routine service coverage provision has continued to increase
- Less face-to-face post-call resident readout
- Increasing 24 hour attending coverage in ED, resulting in more finalized reports on call
- Increasingly negative sentiment towards ABR Core Exam despite similar pass rate to oral boards
- Many programs providing time off/less call preceding the boards, despite APDR position statement

Discussion

- Core board review a moving target, especially physics
- Wide variety of implementation of selectives, especially within smaller programs
- 7% residents pursuing dual fellowship training
- VIR, Neuro, MSK, Breast remain popular fellowships
- Slight improvement in sentiment towards job market, with more chiefs interested in private practice and less willing to compromise for job
- Uncertainty regarding purpose and validity of Milestones

Select Comments

- Listening to current residents and fellows looking for a job, the job market is not good. The offers are low and the expectations higher than ever. In my opinion, it is indeed a scary time in radiology. We have invested so much money and time just to find out that we would have to pioneer taking a new board exam, do mini fellowships in our fourth year, possibly have to do a SECOND fellowship after our regular fellowship, have to maintain a continuous maintenance of certification (as opposed to being grandfathered in or only being maintained every 10 years). Physicians are bogged down with more paperwork, "goals" and "milestones", and they lose focus on what they were trained to do: care for patients. I think we need support from ABR/ACR now more than ever. I fear that in the future, smart compassionate individuals will decline pursuing medicine at all and instead find a more family friendly career in which they have no worry of litigation, reimbursements, and debt.
- The ABR has created serious inequities in this new examination format which are causing significant harm to those of us in smaller programs. The larger programs have staff members with inside knowledge of the test goals & questions which they can (and DO) pass on to their residents. While perhaps not in the form of specific questions, they know exactly what to teach their residents to prepare them for what the ABR wants. Smaller programs don't have that luxury & consequently, their residents (including me!) are scrambling trying to catch up.
- I feel like there is a big difference from what I expected and hoped for with these senior selectives and how they are being run at my institution. I feel like the primary focus should be to allow for self-directed education (for instance, if you really want to focus on PET within the NUCs division you should be allowed to do that rather being assigned to other areas to help with coverage.) I was never even asked what my own goals were for these rotations, instead the program forced their own "goals and objectives" on me.

Future Directions

- How successful were our board preparations for the core exam
- How senior selectives were received
- ACGME residency milestones
- Informatics

Thanks!

- Chief Resident Participants
- Laurie May and Kristin Martino at RSNA
- Lynn Lammers, APCR President and MIR program coordinator
- Gautham Reddy and the A³CR² executive and steering committees
- Jennifer Gould and Ron Evens
- David Slat, Taylor Stone, Mark Hammer, Daniel Holt, and Sarah Connolly
- To request data from this survey: shettya@mir.wustl.edu
- Data will also be available soon on the AUR Website