Research Security & the ROI

Results from COGR's Research Security Costing Model Survey

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Presentation Overview

Survey Purpose and Participants
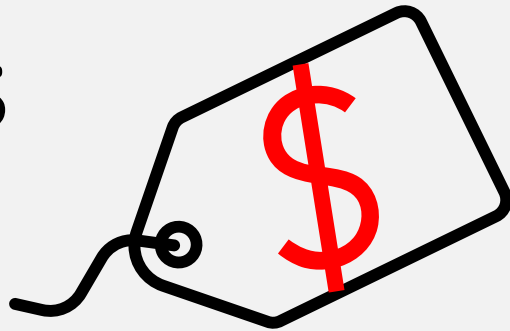
Methodology & Results

Major Survey Themes

Conclusions & Next Steps

Survey Purpose & Participant Demographics

Purpose: Getting a Handle on the Costs

- **PHASE I: Disclosures**
  - Collection of information from faculty
    - Systems/processes
    - Training
    - Certifications
- **PHASE II: Research Security Programs**
  - Cyber Security
  - Foreign Travel Security
  - Export Control Training (as applicable)
  - Research Security Training

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Purpose: Getting a Handle on the Costs

- **ALSO, THERE ARE IMPORTANT QUESTIONS TO BE ASKED (AND POINTS FOR ADVOCACY):**

  - We support the federal policy, but the question of "how to pay?" should be contemplated with our federal partners.

  - ROI — Agencies seem to be focused on enforcement numbers. Is "security" the "return," or is it "transparency"? Are case numbers the correct "return" metric?

  - Will cost implications create barriers to entry for some?

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Survey Responses

Institution Type

Value		Percent	Responses
Public		56.0%	14
Private		44.0%	11
			Totals: 25

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Institution Type

- University with an associated academic medical center 64% (N-16) 🟣
- University without an associated academic medical center 32% (N=8) 🔵
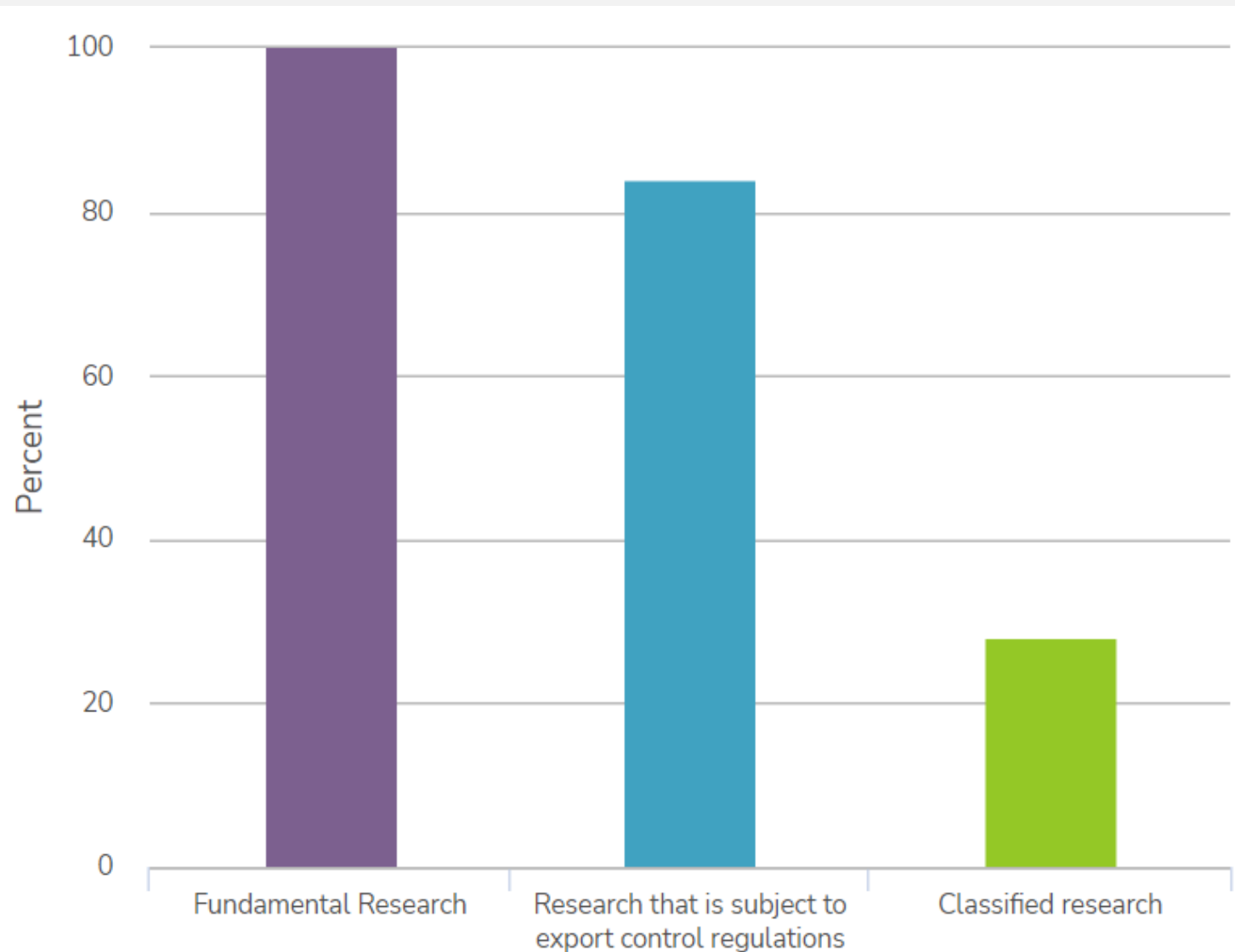- Academic medical center 4% (N=1) 🟢

AMC 4% (N=1_

University w/o AMC 32% (N=8)

University with AMC 64% (N=16)

- 🟣 University with an associated academic medical center
- 🔵 University without an associated academic medical center
- 🟢 Academic Medical Center

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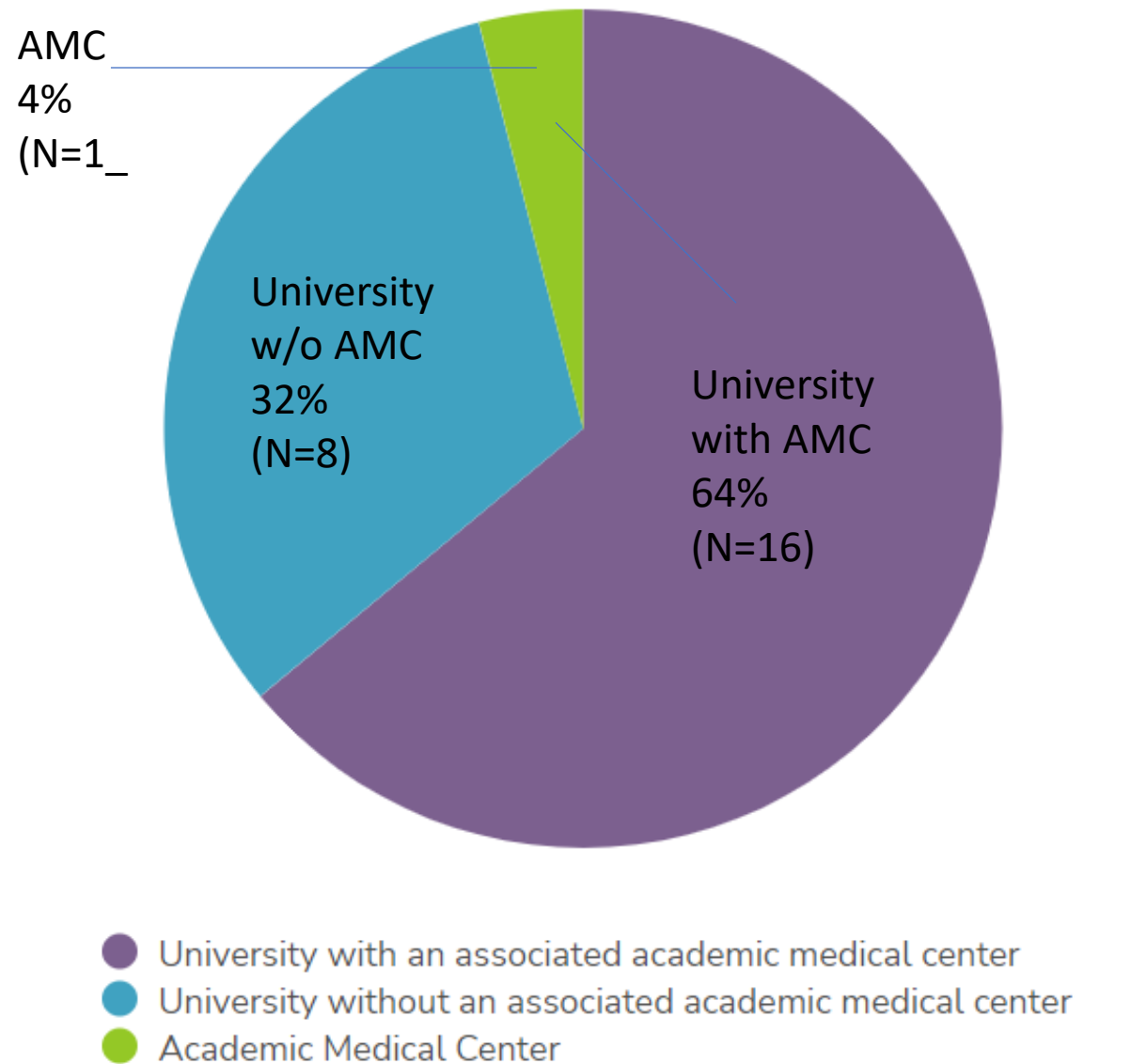
Types of Research Conducted

- Fundamental Research 100% (N=25)

- Export Controlled Research 84% (N=21)

- Classified Research 28% (N=7)

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Institutional Funding

FY21 Annual Federal R&D Expenditures

Value		Percent	Responses
		8.0%	2
$100M-$249M		20.0%	5
$250M-$499M		28.0%	7
$500M or above		44.0%	11
			Totals: 25

Main Funding Agencies

Item	Overall Rank	Rank Distribution	Score	No. of Rankings
NSF	1		86	22
NIH	2		85	21
DOD	3		69	21
DOEnergy	4		42	20
Other (Please specify in comment box below)	5		34	13

Lowest Rank — Highest Rank

Methodology and Results:
Phase I – Disclosure
Requirements

Extrapolation

- 24 surveys analyzed (25 & 26 asap)

- Diversity of research volume! (smallest federal R&D is # 220 per 2020 NSF HERD)

- Therefore, 24 surveys extrapolated to the top 220 (out of 665) reporting to NSF

- Also note: Top 220 in federal R&D represent over 95 percent of all federal R&D reported ($44.2 B out of $46.1 B)

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Costs for Additional Employees?

Yes!
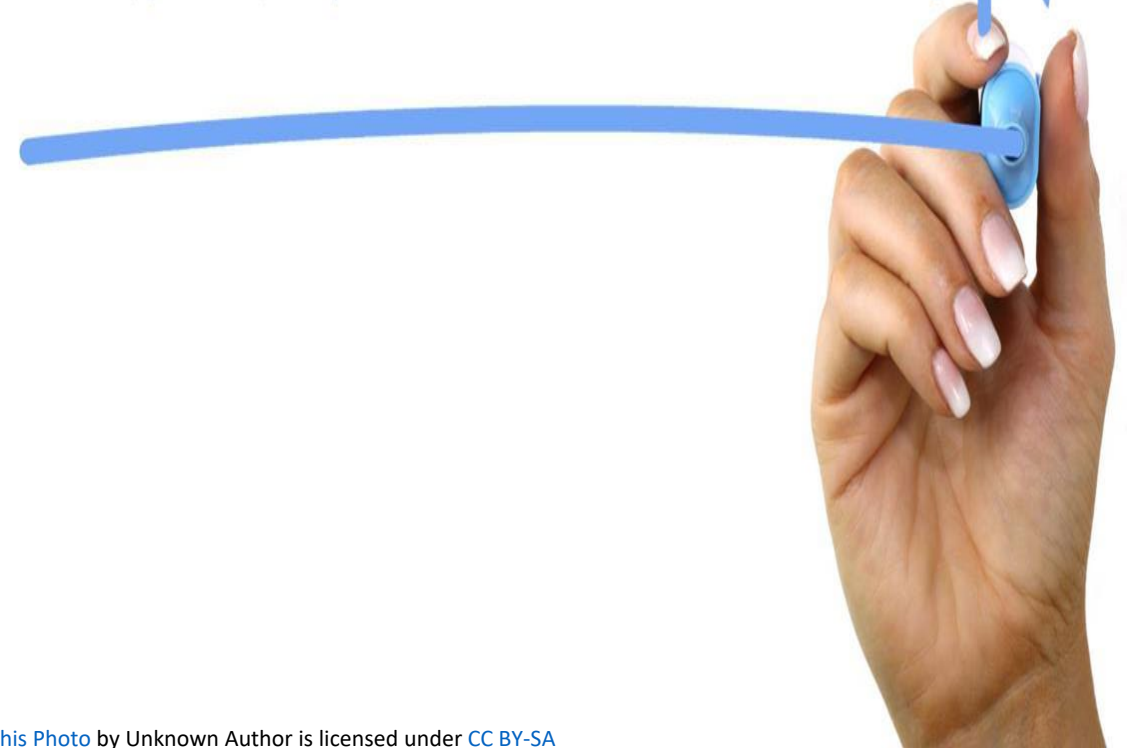
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New Employees

- Of those who responded "YES," half indicated they have (or expect to) hire more than 1 new employee.

- Most hires as operational/clerical staff or senior staff.

Pie chart legend: 1 • 2 • 4 • 5 • More than 5 (please specify)

6.3% (N=1)

50% (N=8)

31.3% (N=5)

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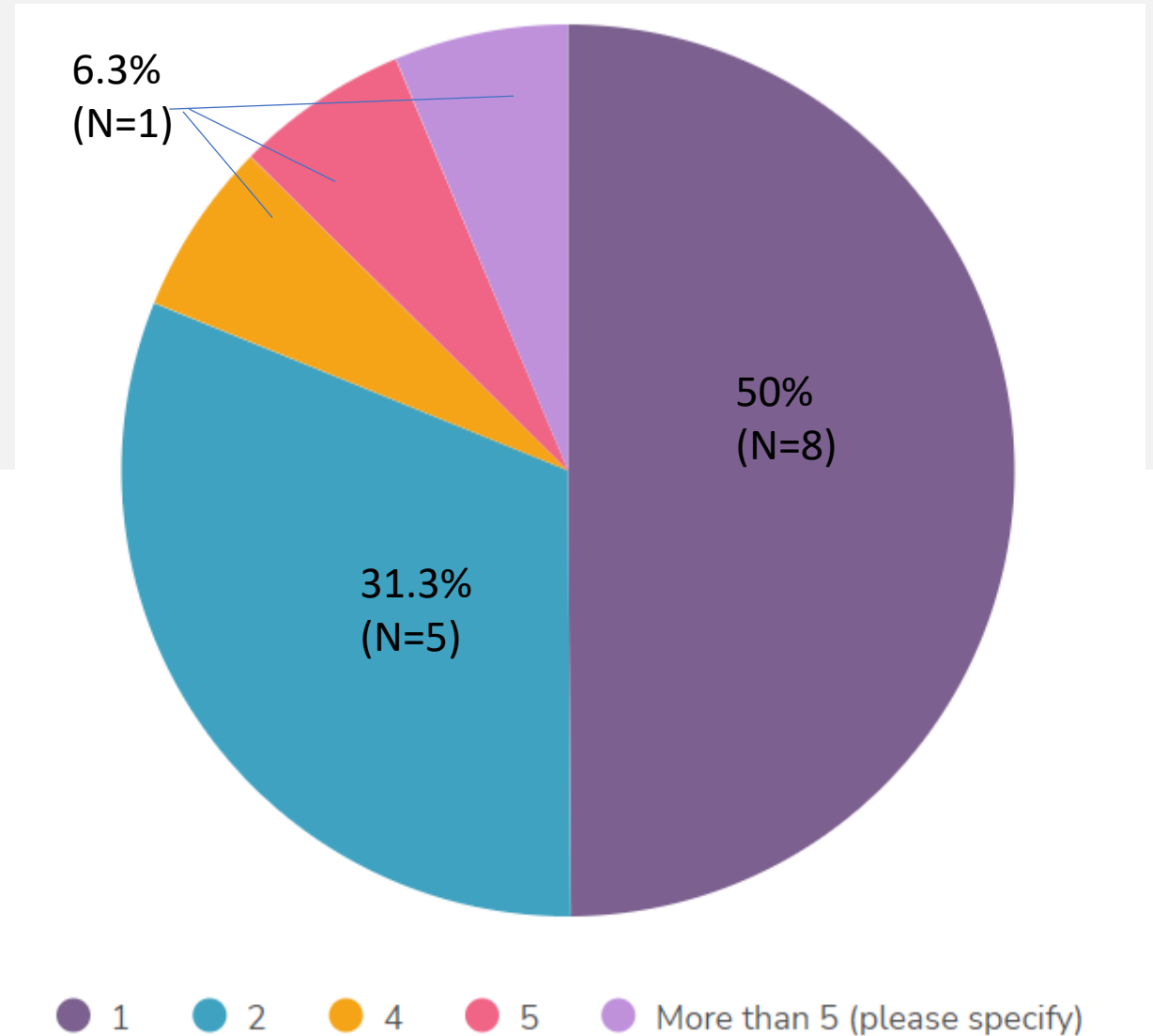
Costs Associated with New Employees

- Total Salary projected for new employees hired by the 24 survey respondents = $2,679,493

- Extrapolation of the 24 to 220 institutions = $24,562,019

- $111,646 per institution

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Re-allocation of Duties & Associated Opportunity Costs

Yes!

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Reallocation of Employee Effort

20 of 24 of respondents indicated effort for existing employees will be reallocated to address disclosure requirements
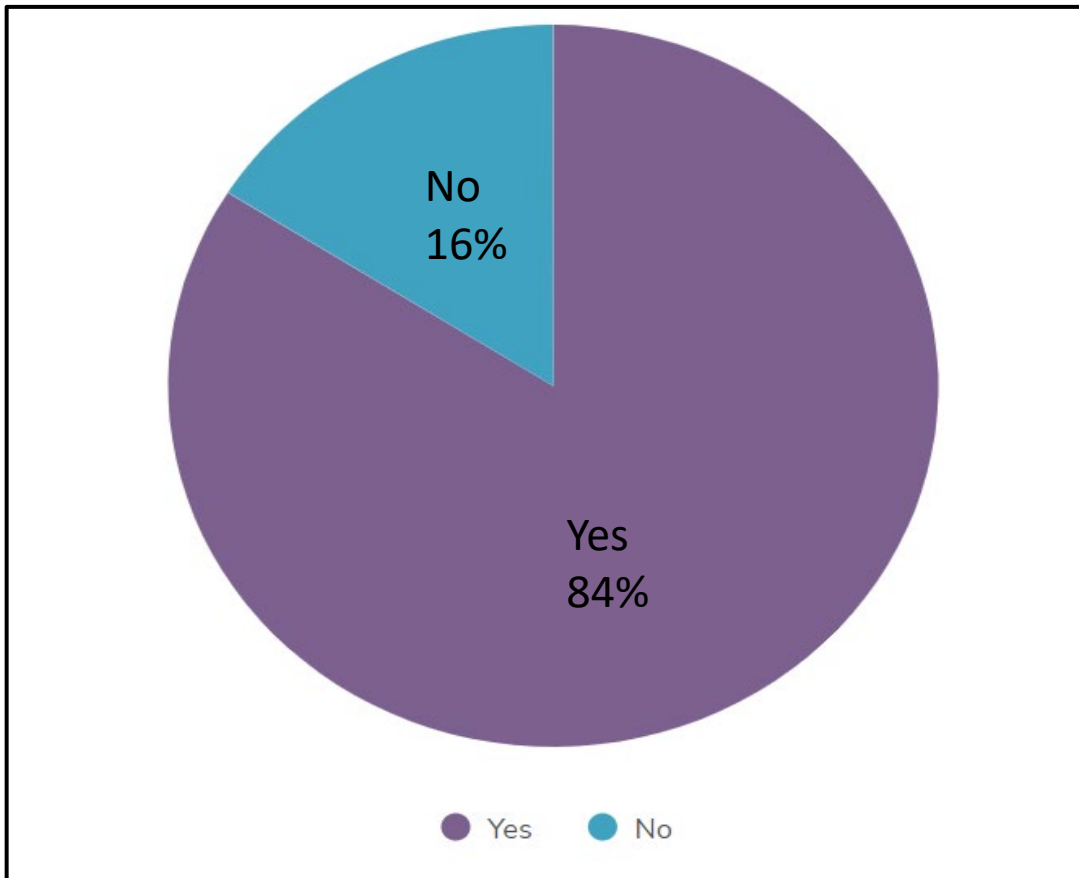
Of those 20, 16 indicated 2 or more employees will have effort reallocated to address disclosure requirements

No 16%
Yes 84%

Yes • No

1 19%
2 19%
3 23.8%
4 4.8%
5 9.5%
>5 23.8%

• 1 • 2 • 3 • 4 • 5 • More than 5 (Please specify):
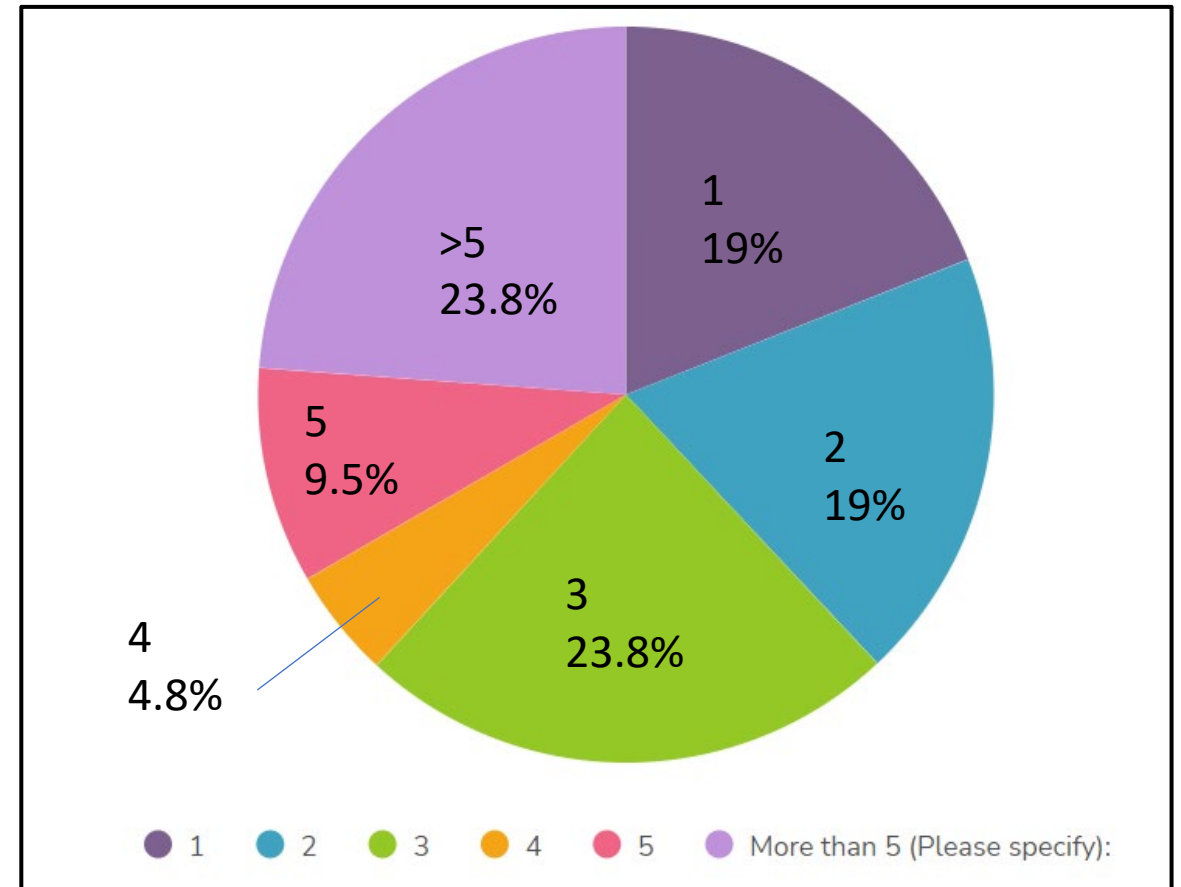
Opportunity Cost

- Total Effort (Salary) projected to be reallocated by the 24 survey respondents = $2,094,057

- Extrapolation of the 24 to 220 institutions = $19,195,518

- $87,252 per institution

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Substantial IT Costs?

Yes!

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IT Costs

- 20 out of 24 respondents indicated significant one-time IT costs, for a total of $4,240,110

- Extrapolation of the 24 to 220 institutions = $38,867,675

- $176,671 per institution (one-time)

- PLUS … on-going costs will be incurred

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One-Time Preparation, Training, & Agency-Specific Costs?

Yes!

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Training + Prep + Other

- All 24 respondents indicated "Yes"
- Other includes legal, translation services, etc.
- One-time costs = $1,970,949
- Extrapolation of the 24 to 220 institutions = $18,082,083
- $82,191 per institution (one-time)
- PLUS ... on-going costs will be incurred

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Faculty Burden

- Difficult to quantify, though all 24 indicated "Yes"
- Training, New Committee Work, Other
- <u>Intangible costs</u>
  - Reduced participation in international research and collaborations and impact on scientific output
  - Faculty morale
  - The new generation of scientists and "why bother with academia?"

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Is the Juice Worth the Squeeze ? May depend on what the juice (i.e., return) is . . .

- Security v. Transparency
  - Is $250k+ per year a fair cost for knowing what your faculty are doing?
  - Can we digest more easily by sharing the costs?

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. . . and who's drinking!

- What barriers does this create for smaller institutions and institutions with the most significant resource challenges?

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Training on Research Security Program Requirements

- Majority of institution have not yet implemented training to address NSPM-33 Research Security Program requirements.

- Reasons:
  - 33.3% (N=5) waiting for government produced training modules
  - 40% (N=6) are working on training, but have not yet implemented it
  - 26.7% (N=4) combination of foregoing reasons or do not meet financial threshold for research security program

Yes
31.8%
(N=7)

No
68.2%
(N=15)

● Yes ● No

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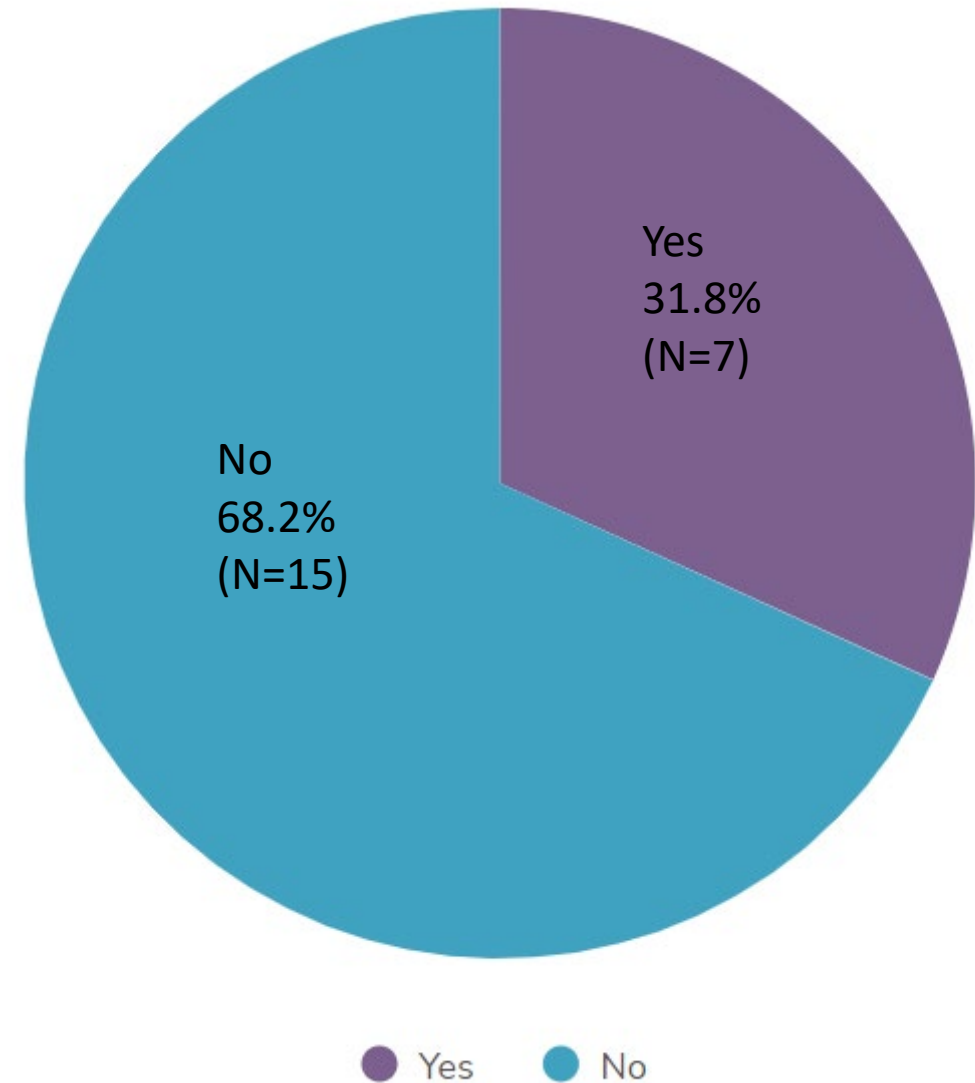
Details on Respondents That Implemented New or Modified Existing Training

Training Area	New or Existing	Modality	Trainees			Frequency
Cyber Security	80% New	80% Mainly Online	Faculty	Staff	Students	60% Annually
			100%	100%	100%	
Export Controls	100% Existing	80% Mainly Online	100%	100%	60%	100% Other than Annual
Research Security	83.3% New	83.3% Mainly Online	100%	83.3%	50%	100% Other than Annual

New or Modified Existing IT in Response to Research Security Requirements

Respondents that Implemented New/Modified IT

No
42.9%
(N=9)

Yes
57.1%
(N=12)

● Yes ● No
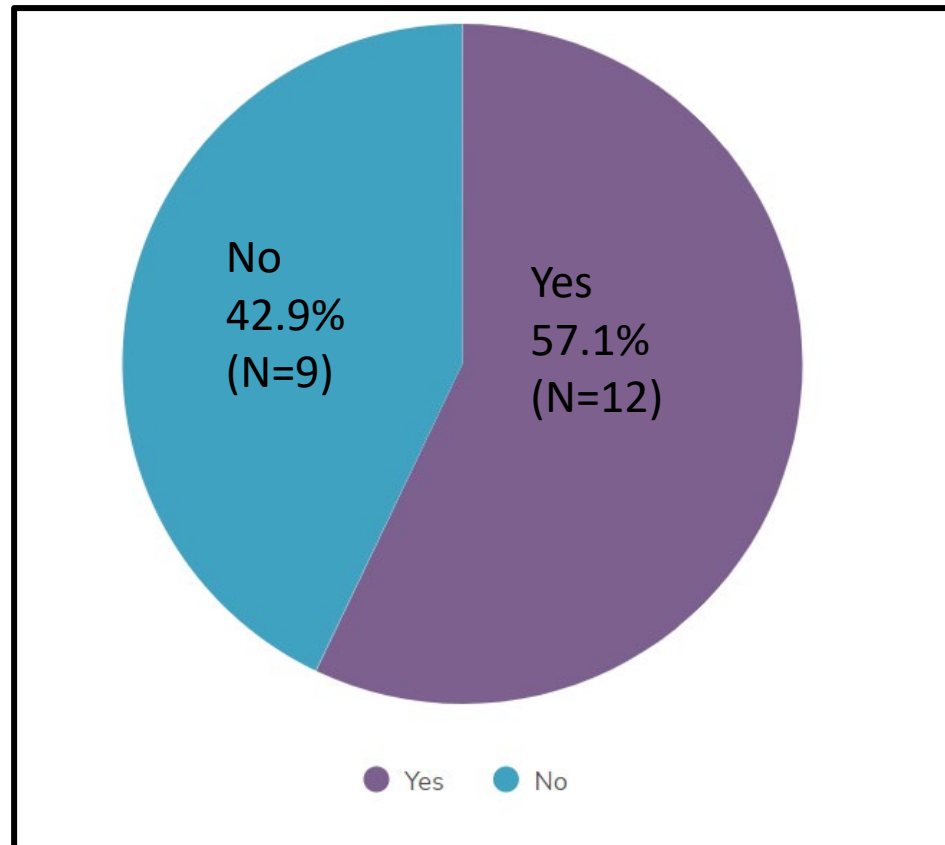
Types of Changes/Modifications

New IT (systems, software, hardware, etc.): 66.7%
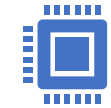
Modifications to IT: 75%

Software: 58.3%

Hardware: 16.7%

Associated one-time costs: 50%

Associated on-going costs: 33.3%

New/Modified Export Control Program Requirements

100% (N=23) of respondents have an existing export controls program

59.1% (N=13) of respondents have <u>not</u> made changes to their existing export controls program to respond to research security requirements because they believe their existing programs are satisfactory.

40.9% (N=9) of respondents made changes to their existing export controls program to respond to research security requirements

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New/Modified International Travel Requirements

5.3%
(N=1)

26.3%
(N=5)

47.4%
(N=9)

21.1%
(N=4)
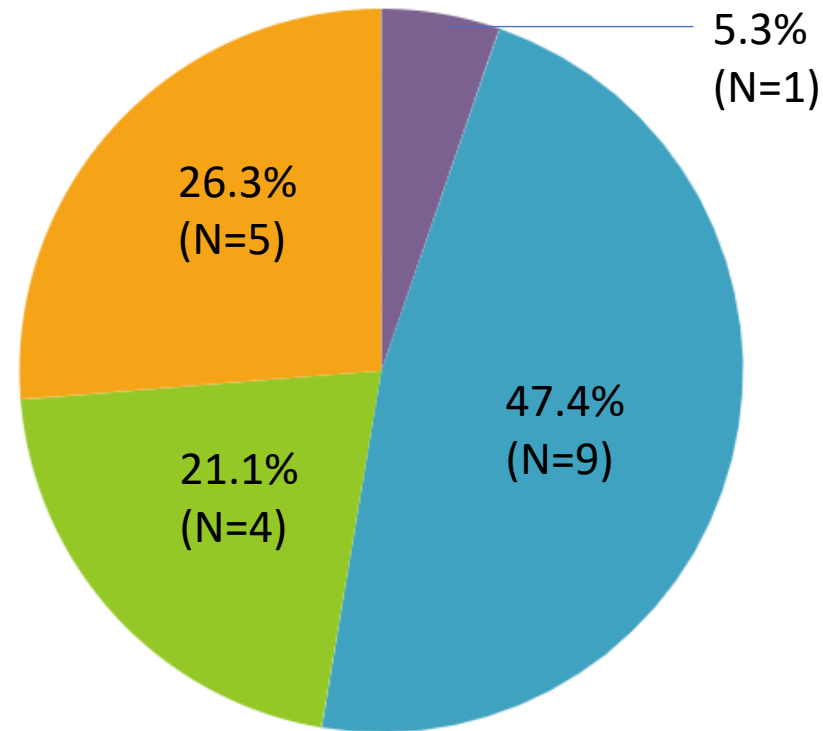
- Yes, we are implementing new requirements
- Yes, we will modify existing requirements
- Yes, we will both implement new and modify existing requirements
- No, we believe our travel policies already meet the Research Security requirements

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Types of Changes to International Travel Requirements

- Require Preapproval for International Travel: 64.3% (N=9)
- Require Registration for Some/All International Travel: 21.4% (N=3)
- Other requirements: 14.3% (N=2)

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Conclusions

- Substantial costs associated with disclosure requirements
- Too early to tell what costs will be associated with research security program requirements, but the likely will be substantial
- How should burden be allocated?
- What is return on investment (ROI) and how should it be viewed?
  - Possible Lenses
    - Foreign Influence
    - Faculty transparency and avoidance of conflicts of commitment/interest
    - Lens impacts "success" metrics

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Next Steps

- Additional analysis

- Preliminary report: Disclosure Requirements and Cost of Compliance

- Phase II of Survey – after OSTP issues additional guidance

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Questions?