Research Security & the ROI

Results from COGR’s Research Security Costing Model Survey
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
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?
### Survey Responses

#### Response Counts

<table>
<thead>
<tr>
<th>Completion Rate:</th>
<th>100%</th>
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<tbody>
<tr>
<td>Complete</td>
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**Totals:** 25
### Institution Type

<table>
<thead>
<tr>
<th>Value</th>
<th>Percent</th>
<th>Responses</th>
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<tbody>
<tr>
<td>Public</td>
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<tr>
<td>Private</td>
<td>44.0%</td>
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</table>

**Totals: 25**
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)
Types of Research Conducted

- Fundamental Research 100% (N=25)
- Export Controlled Research 84% (N=21)
- Classified Research 28% (N=7)
### FY21 Annual Federal R&D Expenditures

<table>
<thead>
<tr>
<th>Value</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100M-$249M</td>
<td>20.0%</td>
<td>5</td>
</tr>
<tr>
<td>$250M-$499M</td>
<td>28.0%</td>
<td>7</td>
</tr>
<tr>
<td>$500M or above</td>
<td>44.0%</td>
<td>11</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Value</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100M-$249M</td>
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<td>5</td>
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<tr>
<td>$500M or above</td>
<td>28.0%</td>
<td>7</td>
</tr>
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</table>

### Main Funding Agencies

<table>
<thead>
<tr>
<th>Item</th>
<th>Overall Rank</th>
<th>Rank Distribution</th>
<th>Score</th>
<th>No. of Rankings</th>
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<td>86</td>
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<td>NIH</td>
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<tr>
<td>DOEnergy</td>
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<td>4</td>
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<tr>
<td>Other (Please specify in comment box below)</td>
<td>5</td>
<td>5</td>
<td>34</td>
<td>13</td>
</tr>
</tbody>
</table>

Legend:
- 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)
Costs for Additional Employees? Yes!
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.
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
Re-allocation of Duties & Associated Opportunity Costs
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.
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
Substantial IT Costs?

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

Yes!
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
Faculty Burden

• Difficult to quantify, though all 24 indicated “Yes”
• Training, New Committee Work, Other

• **Intangible costs**
  • Reduced participation in international research and collaborations and impact on scientific output
  • Faculty morale
  • The new generation of scientists and “why bother with academia?”
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?
... and who's drinking!

- What barriers does this create for smaller institutions and institutions with the most significant resource challenges?
Major Survey Themes re. Research Security Programs
Training on Research Security Program Requirements

- Majority of institutions 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)
Details on Respondents That Implemented New or Modified Existing Training

<table>
<thead>
<tr>
<th>Training Area</th>
<th>New or Existing</th>
<th>Modality</th>
<th>Trainees</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Cyber Security</td>
<td>80% New</td>
<td>80% Mainly Online</td>
<td>Faculty</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Staff</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Students</td>
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<td></td>
<td></td>
<td></td>
<td>60% Annually</td>
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<tr>
<td>Export Controls</td>
<td>100% Existing</td>
<td>80% Mainly Online</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>100% Other than Annual</td>
</tr>
<tr>
<td>Research Security</td>
<td>83.3% New</td>
<td>83.3% Mainly Online</td>
<td>100%</td>
<td>83.3%</td>
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<tr>
<td></td>
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<td></td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100% Other than Annual</td>
</tr>
</tbody>
</table>
New or Modified Existing IT in Response to Research Security Requirements

Respondents that Implemented New/Modified IT

![Pie chart showing 57.1% Yes (N=12) and 42.9% No (N=9).]

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%

Yes 57.1% (N=12)
No 42.9% (N=9)
New/Modified Export Control Program Requirements

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

59.1% (N=13) of respondents have **not** 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.
New/Modified International Travel Requirements

- Yes, we are implementing new requirements: 5.3% (N=1)
- Yes, we will modify existing requirements: 26.3% (N=5)
- Yes, we will both implement new and modify existing requirements: 21.1% (N=4)
- No, we believe our travel policies already meet the Research Security requirements: 47.4% (N=9)

Legend:
- 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
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)
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
Next Steps

• Additional analysis
• Preliminary report: Disclosure Requirements and Cost of Compliance
• Phase II of Survey – after OSTP issues additional guidance
Questions?