Research Impact Evaluation

Jen Mortensen, PhD, Research Outcomes Manager

October 6, 2022
<table>
<thead>
<tr>
<th>Category</th>
<th>Metric</th>
<th>Institutional Undergrad Training Programs</th>
<th>Predoctoral Fellowship</th>
<th>Postdoctoral Fellowship</th>
<th>Career Development Award</th>
<th>Established Investigator Award</th>
<th>Innovative Project Award</th>
<th>Translational Award</th>
<th>AIREA</th>
<th>Collaborative Science Award</th>
<th>AHA Merit Award</th>
<th>Strategically Focused Research Networks</th>
<th>Health</th>
<th>Equity</th>
<th>Research</th>
<th>Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention, Treatments, and Policy</td>
<td>Treatments, Products, Innovations, Devices to Market</td>
<td>Clinical Trials (where applicable)</td>
<td>Policy citations</td>
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<tr>
<td>Collaborations</td>
<td>Collaborations: institutional, local, national, international, academic, industry, policy, education and outreach</td>
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<tr>
<td>Patents and Inventions</td>
<td>Patent applications, awards, citations, Licensing</td>
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<tr>
<td>Publications and Citations</td>
<td>Number of award-related publications</td>
<td>Number of total publications</td>
<td>Author position of all publications</td>
<td>Number of citations and RCR of all publications</td>
<td>Author H Index</td>
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<tr>
<td></td>
<td>Number of citations and RCR of award-related publications</td>
<td>Number of author positions</td>
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<tr>
<td>Additional Funding</td>
<td>NIH funding, number of awards, dollars, and award</td>
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<tr>
<td>Career Progression</td>
<td>Degrees earned</td>
<td>Retention/progression in research-related faculty position or equivalent; Tenure track achievement and rate</td>
<td>Leadership roles (e.g., Director of an institute or research center)</td>
<td>NIH K to R progression</td>
<td>Mentee: number and progression/retention</td>
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<tr>
<td>AHA Awards and Contributions</td>
<td>AHA engagement (e.g., AHA membership, events/conferences, peer review, volunteer committees, local affiliates)</td>
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<td></td>
<td>Total AHA awards and dollars</td>
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# Evaluation Timeline

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<tr>
<th>Institutional Undergrad Training Programs</th>
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<th>Strategically Focused Research Networks</th>
<th>Health Equity Research Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Award Length</td>
<td>3 years</td>
<td>1 - 2 years</td>
<td>3 years</td>
<td>5 years</td>
<td>2 years</td>
<td>3 years</td>
<td>2 years</td>
<td>3 years</td>
<td>5 years</td>
<td>4 years</td>
<td>4 years</td>
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<tr>
<td>Award Amount</td>
<td>$165,000</td>
<td>$32,553/year</td>
<td>varies based on experience</td>
<td>$231,000</td>
<td>$400,000</td>
<td>$200,000</td>
<td>$300,000</td>
<td>$154,000</td>
<td>$750,000</td>
<td>$1 Million</td>
<td>$4.3 Million per center</td>
</tr>
<tr>
<td>Evaluation Rules</td>
<td>Every 3 years</td>
<td>Every 3 years</td>
<td>Every 3 years</td>
<td>Every 5 years</td>
<td>Every 3 years</td>
<td>Every 3 years</td>
<td>Every 3 years</td>
<td>Every 5 years</td>
<td>Every 5 years</td>
<td>After 3 SFRNs have finished</td>
<td>After 2 HERNs</td>
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<tr>
<td>Last Evaluation</td>
<td>Unknown</td>
<td>Fall 2021</td>
<td>Fall 2021</td>
<td>Summer 2016</td>
<td>Winter 2022</td>
<td>Winter 2022</td>
<td>Some initial work on</td>
<td>Some initial work in 2019</td>
<td>Never collectively</td>
<td>Never collectively</td>
<td></td>
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</tbody>
</table>
Using Dimensions to Assess Outcomes
Selecting and Comparing Dimensions

AHA selected Dimensions in 2020 to replace previous vendor

- Integrates with our Grants Management System
- Provides a more robust set of data sources
- Costs less than previous vendor
- Provides direct access by AHA staff and a public-facing portal
- Allows for independent consulting projects

AHA contracted with a consultant to review additional data sources

- Used a small cohort of awardees to compare Dimensions to ORCID and OpenAlex
  - ORCID is accurate but limited
  - OpenAlex is promising but just getting started
Content types and links in Dimensions

1.6bn links
2m links
485k links
129m Publications
improved metadata of 92m

224m Altmetric data points
18m links
2m links
719k Clinical trials
485k links
14m links
719k Clinical trials
147m Patents
423m links

6.3m Grants
$2.2 trillion in funding
904k links
1.6m to funders

12m Datasets
2.4m links
271k links
290k to funders

902k Policy documents
245k links
327k to funders

$2.2 trillion

814m Patents
810m links
813m links

423m links

Status: July 2022

Part of Digital Science
Comparing Awarded vs. Not Funded Applicants

Goal: Compare outcomes of awarded verses not funded applicants who were just above versus just below the pay line to understand if AHA awards support career development

Dimensions pulled publication, funding, policy, and clinical trial data for early career awards
AHA Awards Help Launch Careers

• No significant difference in the number of subsequent publications, however some awardees had a higher proportion of heart/brain-focused publications compared to not-funded applicants

• Those who received AHA funding early in their career earned more than twice as much subsequent funding compared to those who were not funded by the AHA

• Awarded applicants had a greater number of individuals with two or more NIH awards, a greater number of overall NIH awards, and early career awardees had three times as much aggregate NIH funding
Data-Driven Award Recommendation

Goal: Assess outcomes of designated AHA ‘Innovation’ awards compared to ‘Non-Innovation’ awards

Dimensions pulled data on publications, funding, and patents

Strategic Outcomes Subcommittee reviewed data and made recommendation to Research Committee
Innovation vs “Non-Innovation” Awards

• Similar volume of resulting publications, higher RCR and Altmetric for Innovation awardees

• Similar number of subsequent grants, but higher productivity when controlling for number of years post-award

• Higher volume of patent applications and awards for Innovation awardees