Building Strategic Investments: Research Priority Areas
Example: Substance Use Disorder

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The University of Kentucky

Strength in Research
College of Medicine
College of Pharmacy
College of Agriculture, Food and Environment
College of Engineering

Significant Growth
Sponsored Project Grants and Contracts

25% Increase
Over FY 2018

FY 2019
$417.1M
FY 2018
$333.8M

The University of Kentucky
one of 22 institutions with all three major center grants
Research Strategic Plan

Expand our scholarship, creative endeavors, and research across the full range of disciplines to focus on the most important challenges of the Commonwealth, our nation, and the world.

I. Invest in UK's existing strengths and areas of growth in selected focus areas that benefit and enrich the lives of the citizens of the Commonwealth and beyond.

II. Recruit and retain outstanding faculty, staff and students that support our research and scholarship across the range of disciplines at the University.

III. Improve the quality of the research infrastructure across campus.

IV. Strengthen engagement efforts and translation of research and creative work for the benefit of the Commonwealth of Kentucky, the nation and the world.
Research Priority Areas (RPA)
Supporting research strengths that impact the Commonwealth

Criteria for Selection:

- Local relevance of the research, global impact
- Existing faculty strength and research leadership
- Disciplinary research diversity
- Potential interconnections of research with educational opportunities
- Impact (economic, health, etc) of research on UK and the Commonwealth
- Sustainability of research
Finding Data to Support our Decisions

1. Developed a **Natural Text Language Analysis Tool** to search titles and abstracts of funded projects

2. Used **SciVal Research Areas** to create custom research areas based on topics and keywords to develop publication sets
Criteria: Existing strength defined by extramural funding (2017)

Note: Expenditures for each thematic area are not mutually exclusive. Projects may be represented in one or more areas. Additionally, expenditures are based on keyword searches and may not include all related projects and may contain some projects that aren't specific to that area of research.

The two graphs are not at the same scale.
Criteria: Research sustainability

Note: Expenditures for each thematic area are not mutually exclusive. Projects may be represented in one or more areas. Additionally, expenditures are based on keyword searches and may not include all related projects and may contain some projects that aren't specific to that area of research.
## Criteria: Existing strength in research scholarship

<table>
<thead>
<tr>
<th>Strength</th>
<th>Scholarly Output</th>
<th>Citations</th>
<th>Citations/publication</th>
<th>Field-weighted citations</th>
<th>% Publications in top tier journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>4,715</td>
<td>63,120</td>
<td>13.4</td>
<td>1.73</td>
<td>50</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>3,282</td>
<td>39,658</td>
<td>12.2</td>
<td>1.71</td>
<td>50</td>
</tr>
<tr>
<td>Diabetes/obesity</td>
<td>2,709</td>
<td>38,383</td>
<td>14.2</td>
<td>1.80</td>
<td>52</td>
</tr>
<tr>
<td>Energy</td>
<td>4,268</td>
<td>47,518</td>
<td>11.1</td>
<td>1.65</td>
<td>48</td>
</tr>
<tr>
<td>Neuroscience</td>
<td>6,592</td>
<td>75,839</td>
<td>11.5</td>
<td>1.66</td>
<td>48</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>1,974</td>
<td>19,481</td>
<td>9.9</td>
<td>1.40</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: SciVal by Elsevier. 2012 through 2018
Substance Use Disorder Scholarship (2014 through 2019 YTD)

Search Terms: cocaine, methamphetamine, heroin, rewarding properties of drugs, alcoholism, drug abuse, addiction, substance abuse, nicotine, smoking cessation, marijuana, Buprenorphine, Fentanyl, Hydrocodone, Methadone, Morphine, Opioid

Overall research performance

<table>
<thead>
<tr>
<th>Metric</th>
<th>Output</th>
<th>Citations</th>
<th>Field-Weighted Citation Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholarly Output</td>
<td>707</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>2,532</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field-Weighted Citation Impact</td>
<td>1.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citation Count</td>
<td>6,217</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citations per Publication</td>
<td>8.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Publications in Top Journal Percentiles

Community collaboration, weighted citation impact:

<table>
<thead>
<tr>
<th>Collaboration Type</th>
<th>Output</th>
<th>Citations</th>
<th>Weighted Citation Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>International collaboration</td>
<td>99</td>
<td>1,384</td>
<td>1.91</td>
</tr>
<tr>
<td>Only national collaboration</td>
<td>366</td>
<td>3,273</td>
<td>1.61</td>
</tr>
<tr>
<td>Only institutional collaboration</td>
<td>217</td>
<td>1,384</td>
<td>1.54</td>
</tr>
<tr>
<td>Single authorship (no collaboration)</td>
<td>25</td>
<td>176</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Source: SciVal by Elsevier (09/10/2019)
Co-Authorship Network
2009 – 2019 YTD
Substance Use Disorder Keywords

Colors represent clusters or research communities that collaborate on similar topics.

Distance represents how close the collaborators are to each other. Meaning how often they collaborate together.

Lines indicate collaboration connections based on co-authorship on publications.

Source: SCOPUS data analyzed by VosViewer, 9-10-19
Compiled by: UK Office of the Vice President for Research
Co-Authorship Network (2009 – 2019 YTD) **Substance Use Disorder Keywords**

Source: SCOPUS data analyzed by VosViewer, 9-10-19
Compiled by: UK Office of the Vice President for Research
Can this approach make a difference?

• **Example: Substance Use Disorder (SUD) group**
  • Began thematic coordination with this group in early 2017
  • SUD group began to coalesce, worked on thematic template to illustrate current strengths, future growth needs
  • Had first institution-wide research day in early 2019 (140 participants, 70 poster presentations)
  • Worked together on HEALing Communities grant with leadership in place (Dr. Sharon Walsh), with support from several research offices.
  • One of 4 states to obtain NIH HEALing Communities and Networks Helping End Addiction Long-term: $87,133,542, with the goal of reducing drug-related deaths by 40%.
  • The coming together of this research priority area under strong leadership, and in alignment with the research enterprise, epitomizes what we hope to see with this initiative.