

# COLLABORATIVE PORTFOLIO ANALYSES

---

Examples of approaches and benefits

*Cara Long*  
*Office of Science Policy and Planning, NINDS*

# *Why conduct a shared portfolio analysis?*

- **Shared framework for categorizing research**
  - Analysis of trends in support across organizations
  - Identification of gaps, synergies, and opportunities for coordination or collaboration
  - Resource for identifying researchers for review panels, workshops, and working groups

# *What to analyze*

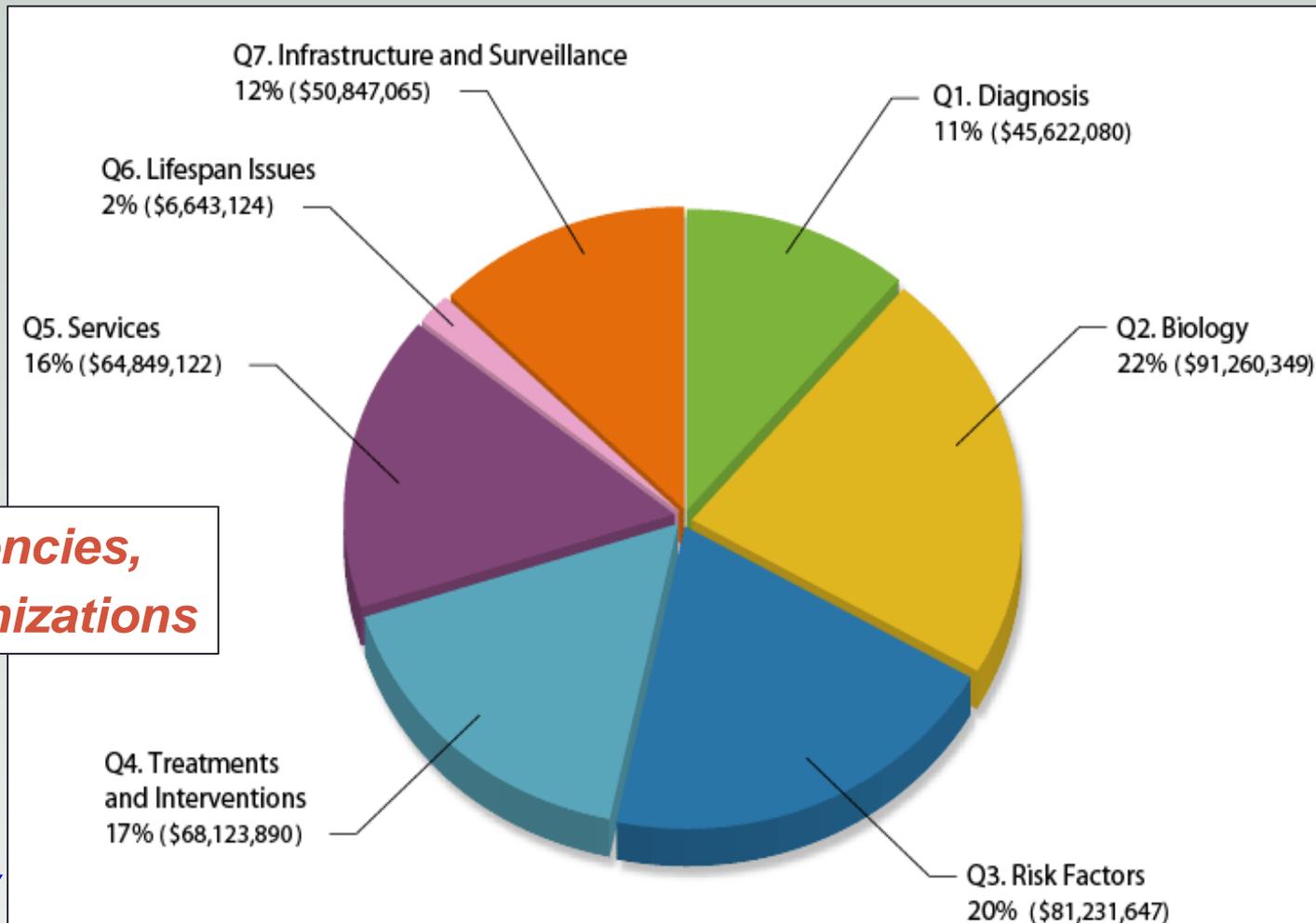
## **Purpose of the analysis dictates approach**

- How do funded research projects align with a strategic plan or other defined priorities?
- How is support distributed across scientific topics?
- How is support distributed across stages of research? (e.g., basic, translational, clinical)
- What mechanisms of support are available across different sources? (e.g., research grants, training, resources, infrastructure, workshops/conferences, etc.)
- What trends emerge across portfolios over time?

***Multiple, complementary coding dimensions may be desired***

# IACC: Interagency Autism Coordinating Committee

- Annual analysis of portfolio alignment with *IACC Strategic Plan*
- Subcategories independent of plan objectives added for complementary view
- Helps outline gaps, opportunities



**10 Federal agencies,  
8 private organizations**

# ***IADRP: International Alzheimer's Disease Research Portfolio***

- Led by the National Institute on Aging (NIA) and the Alzheimer's Association, with 11 other participating organizations
- **CADRO**: Common Alzheimer's Disease Research Ontology, developed to integrate and compare research portfolios from public and private organizations in US and abroad

## ***Three-tier classification system, with seven major categories:***

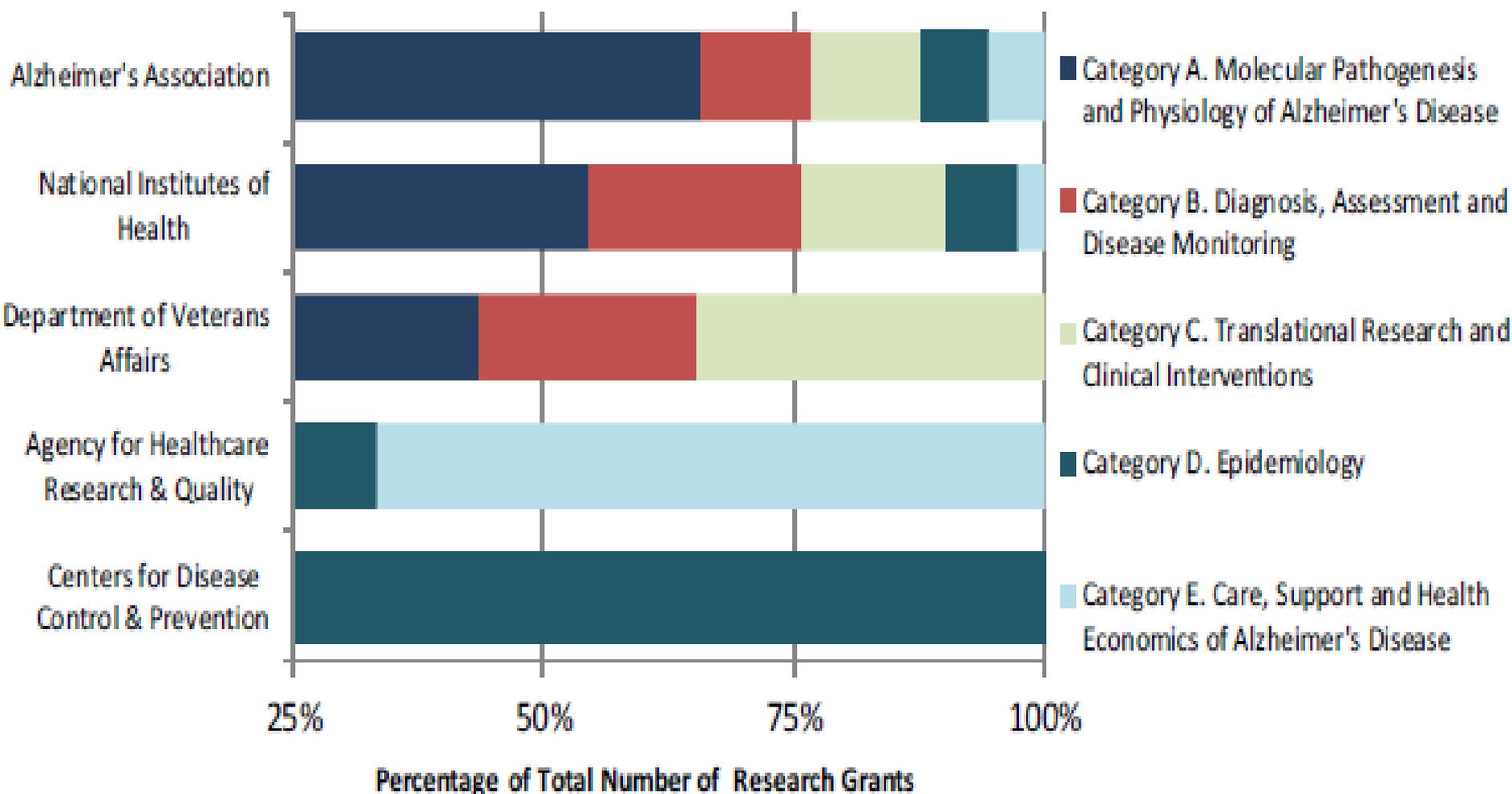
- *Molecular pathogenesis and pathophysiology of AD*
- *Diagnosis, assessment and disease monitoring*
- *Translational research and clinical interventions*
- *Epidemiology*
- *Care, support, and health economics of AD*
- *Research resources*
- *Consortia and public private partnerships*

Categories stratified into research topics; divided into research themes

<http://iadrp.nia.nih.gov/>

# IADRP: International Alzheimer's Disease Research Portfolio

Example - Distribution of Projects Across CADRO's Research Categories, 2011



# **ICRP: International Cancer Research Partnership**

Alliance of over 50 governmental and non-governmental cancer organizations in the US, Canada, the UK, France, The Netherlands, Australia, and Japan

- **Common Scientific Outline (CSO)**, a classification system organized around seven scientific areas in cancer research:
  - *Biology*
  - *Etiology (causes of cancer)*
  - *Prevention*
  - *Early Detection, Diagnosis, and Prognosis*
  - *Treatment*
  - *Cancer Control, Survivorship, and Outcomes Research*
  - *Scientific Model Systems*
- Complementary cancer type/site coding
- Portfolio analyses based on the CSO have identified gaps to address through strategic planning and joint initiatives
- CSO widely used/adapted by other organizations (US and abroad) for cancer research and biomedical research more generally

<https://www.icrpartnership.org/>

# ICRP Data Report 2005-2008

**Table 2: CSO profile of high investment cancer sites (all partners) in the calendar year 2008**  
(Investment (USD \$M))

SITE	CSO1 Biology	CSO2 Etiology	CSO3 Prevention	CSO4 Early detection, diagnosis & prognosis	CSO5 Treatment	CSO6 Cancer control, survivorship & outcomes	CSO7 Scientific model systems	2008 Total
Bladder	\$4.2	\$9.4	\$3.2	\$7.9	\$5.7	\$3.0	\$1.0	\$34.4
Breast	\$238.4	\$133.7	\$53.3	\$168.7	\$226.1	\$141.5	\$33.8	\$995.7
Colorectum	\$49.1	\$65.7	\$49.1	\$50.2	\$60.9	\$66.2	\$11.2	\$352.5
Corpus uteri	\$4.2	\$6.2	\$1.6	\$1.7	\$8.7	\$3.2	\$6	\$26.1
Haematological malignancy	\$153.2	\$83.0	\$10.4	\$43.0	\$227.0	\$27.6	\$23.4	\$567.5
Kidney	\$11.1	\$4.1	\$1.6	\$5.3	\$17.2	\$3.4	\$1.9	\$44.5
Lung	\$37.2	\$42.7	\$44.2	\$43.3	\$60.7	\$59.4	\$11.4	\$298.7
Melanoma of skin	\$22.7	\$16.1	\$8.5	\$17.4	\$53.3	\$4.3	\$6.0	\$128.2
Ovary	\$24.5	\$20.2	\$7.6	\$31.6	\$54.4	\$8.1	\$5.2	\$151.7
Pancreas	\$22.6	\$15.2	\$3.9	\$18.0	\$37.5	\$4.1	\$6.0	\$107.4
Prostate	\$90.3	\$47.2	\$35.8	\$70.0	\$117.7	\$47.4	\$12.3	\$420.7
Thyroid	\$4.9	\$5.0	\$5	\$1.5	\$1.7	\$1.3	\$6	\$15.5
Other sites	\$139.1	\$144.4	\$58.2	\$104.1	\$205.8	\$70.9	\$36.0	\$758.5
Not site specific	\$402.1	\$74.5	\$51.6	\$82.7	\$214.9	\$69.7	\$41.6	\$937.2
<b>TOTAL</b>	<b>\$1203.6</b>	<b>\$667.5</b>	<b>\$329.6</b>	<b>\$645.4</b>	<b>\$1291.7</b>	<b>\$510.1</b>	<b>\$190.9</b>	<b>\$4838.8</b>

# *General themes and lessons*

- Typical (initial) approach:
  - participating organizations agree to a common coding framework
  - each funding organization contributes and codes their own portfolios
- The common coding framework should be
  - Relevant – align with goals for the analysis
  - Simple – balance complexity with feasibility
  - Multi-dimensional – to enable complementary analyses
  - Standardized – categories should be clearly defined
  - Consistent – robust across users and time
  - Flexible – enough to allow for emerging concepts

# *Discussion*

- Would a shared portfolio analysis by ICARE members be useful?
- What types of questions should a shared analysis address? What categories for scientific content or type of funding should be included?
- How would we carry out the analysis? What would be the roles and responsibilities of ICARE members?
- How frequently would we want to update the analysis?
- Identify potential next steps and volunteers for small working group