



Transforming Discoveries into Products: *Maximizing NIH's Levers to Catalyze Technology Transfer*

NIH Mission & Workshop Objectives

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National Institutes of Health
Turning Discovery Into Health



MISSION

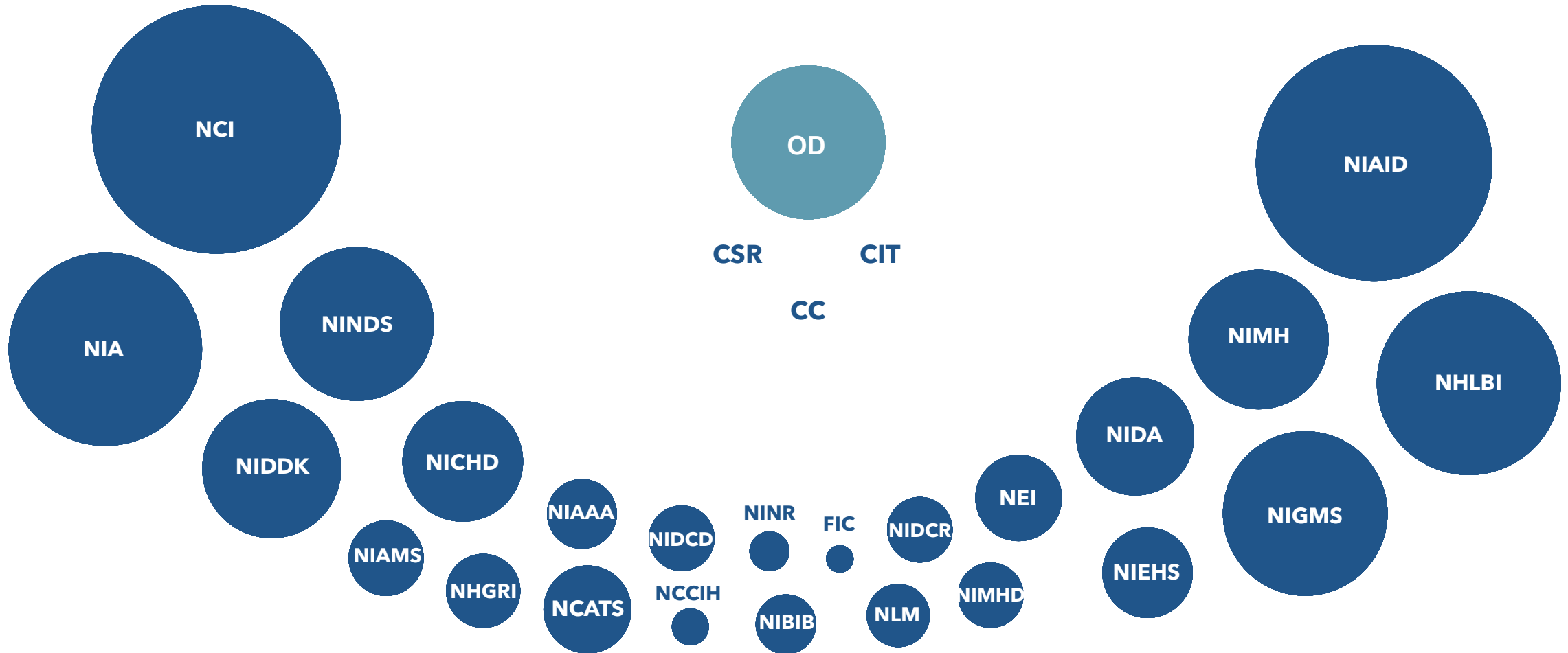
NIH is the steward of medical and behavioral research for the Nation. Its mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

NIH's Impact: Improving Health & Serving Society



- **Cardiovascular disease** death rates have fallen >70% in the last 60 years
- **Cancer** death rates now falling >1% per year; each 1% drop saves ~\$500 billion
- **HIV** therapies enable people in their 20s to live to age 70+
- NIH funding generated an estimated \$94.18 billion in economic activity in FY 2021—**2.6 times the taxpayers' investment**
- Supported over **552,000 jobs at more than 2,500 institutions/small businesses** nationwide

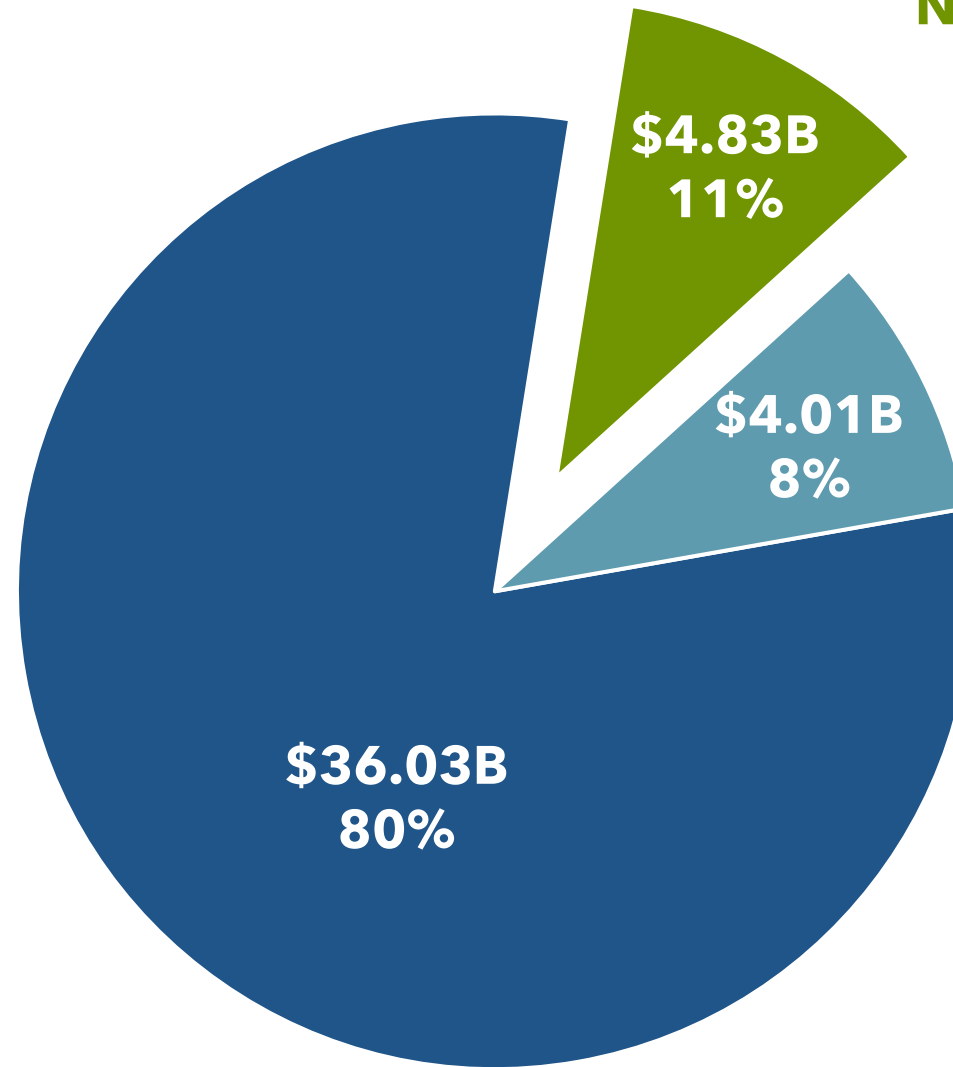
NIH: Legally Decentralized but Functionally Integrated



NIH Budget & Funding

Spending outside NIH

- Research project grants at universities, medical schools
- Research centers
- Training



NIH Intramural Research

- Projects conducted by NIH scientists

Other Spending at NIH

- Research management and support
- Other operational costs

FY 2022 Operating Plan

NIH Intramural Program (IRP) by the Numbers



~3,138
Projects from
24 NIH ICs



1,158
Principal
investigators



2,135
Postdocs



2,030
Predocs &
Postbacs



140 Issued
U.S.
Patents/yr*



334
Executed
Licenses/yr*

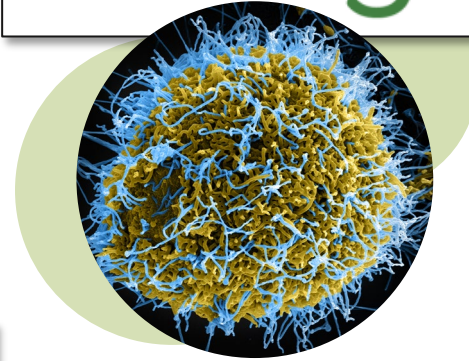
*FY 2021 Data

IPR Licenses Contribute to Novel Vaccines and Therapeutics

 **COMIRNATY**[®]
(COVID-19 Vaccine, mRNA)

 ebanga

 **AREXVY**[®]
(RESPIRATORY SYNCYTIAL VIRUS
VACCINE, ADJUVANTED)



 **Zokinvy**[®]
(lonafarnib)
capsules 50 mg/75 mg

 **Abecma**[™]
(idecabtagene vicleuce) SUSPENSION
FOR IV INFUSION

Public Health & Economic Impact Study

May 2023

Technology Transfer and Licensing at the U.S. National Institutes of Health



Source: *Public Health & Economic Impact Study of NIH Intramural Technology Transfer Licensing*

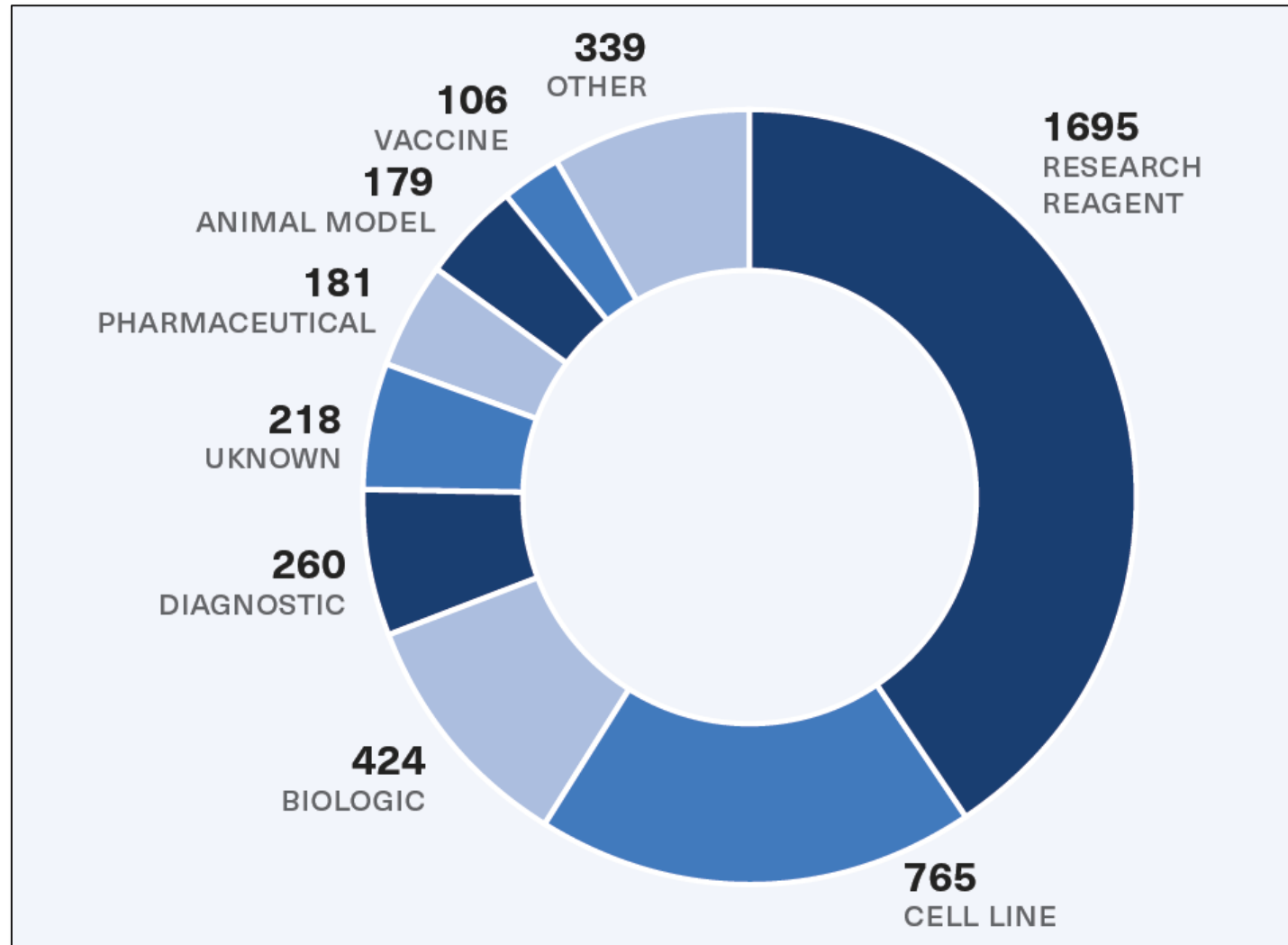
Health Impact: HPV Vaccines

- Underlying technology developed by **NCI scientists**
- Licensed to Merck and GSK
- **Potentially averted over 80,000 cases and 26,500 deaths** from cervical cancer in the U.S. from 2008-2019



Innovation Impact: IRP Licenses Spur Further R&D

NIH Licenses by Product/Technology Type (1980-2021)



Economic Impact: Supporting Small Businesses and Job Growth

- Sales of products based in IRP licenses supported an average of **74,500 employment positions annually** between 2001-2021



Workshop Goals & Objectives

- 1 Outline NIH's current policy and approach to patenting and licensing biomedical inventions**
- 2 Identify best practices and potential new approaches**
- 3 Discuss NIH's role promoting the application of knowledge to enhance human health**

Workshop Goals & Objectives *(cont.)*

Discovery



Evaluation
&
Protection



Marketing
&
Partnership



Negotiation



Development



**Keynote Speaker:
Maria Freire, PhD**





Thank you!