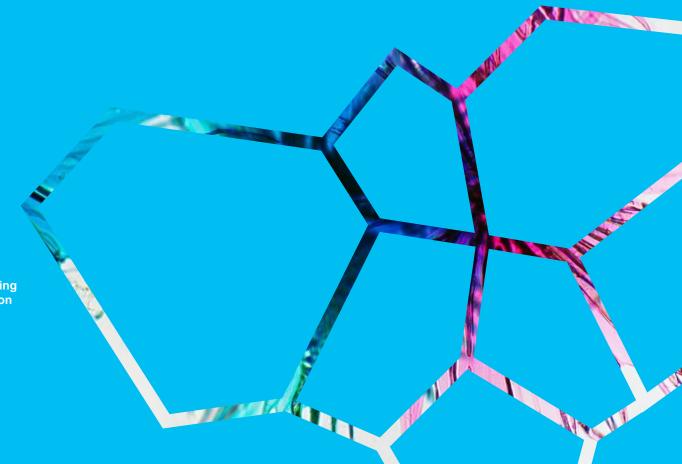
# **Accelerating Treatments to Patients: Bridging the Valley of Death**

Eric Schaeffer, PhD

Neuroscience Therapeutic Area Lead, J&J Innovation Center, Boston

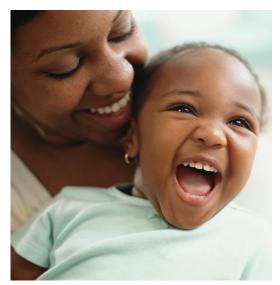


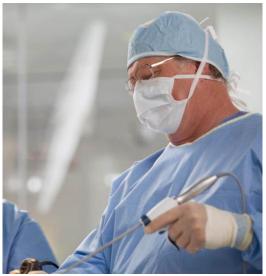
Health Research Alliance Members Meeting Sponsored by the Alzheimer's Association Chicago, 2017



# Johnson Johnson

- Global leader in health care
- More than 250 operating companies in 60 countries
- Selling products in more than 175 countries
- 126,500 employees worldwide







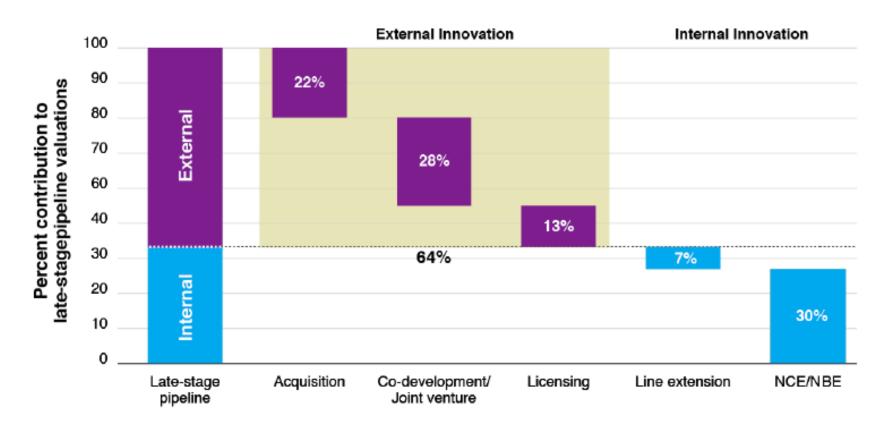
Consumer

**Medical Devices** 

**Pharmaceutical** 

## High percentage of pipelines are external

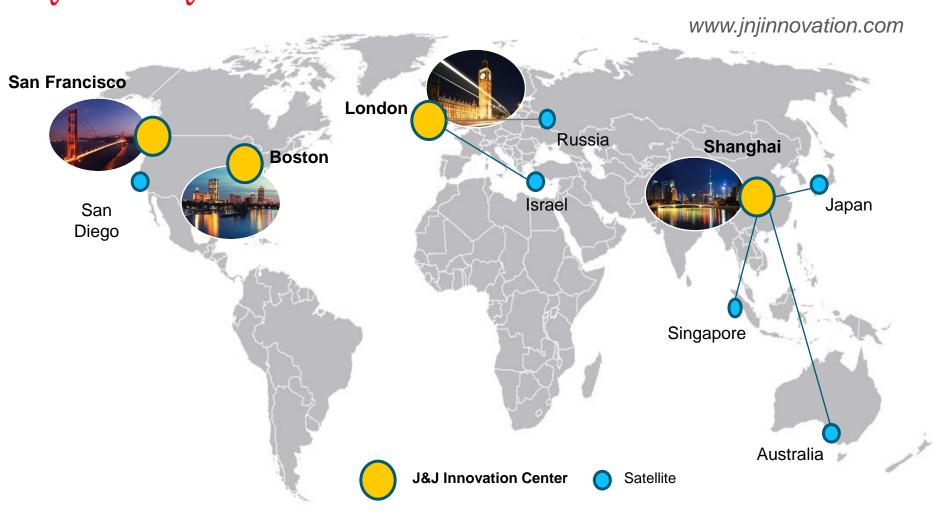
Top 12 Big Pharma's late-stage pipeline valuations by source, 2012-2013



Source: Deloitte Consulting and Thomson Reuters



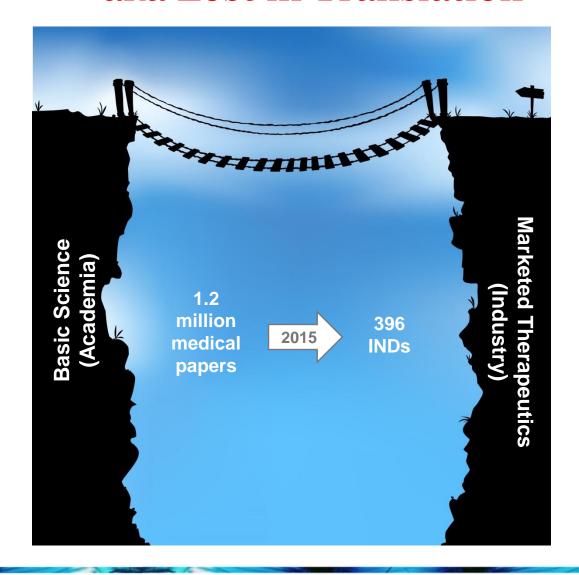
### Johnson Johnson Innovation Our Innovation Centres



- Janssen Business Development
- Our Corporate VC J&J Development Corporation
- Our Incubator JLABS http://jlabs.jnjinnovation.com/

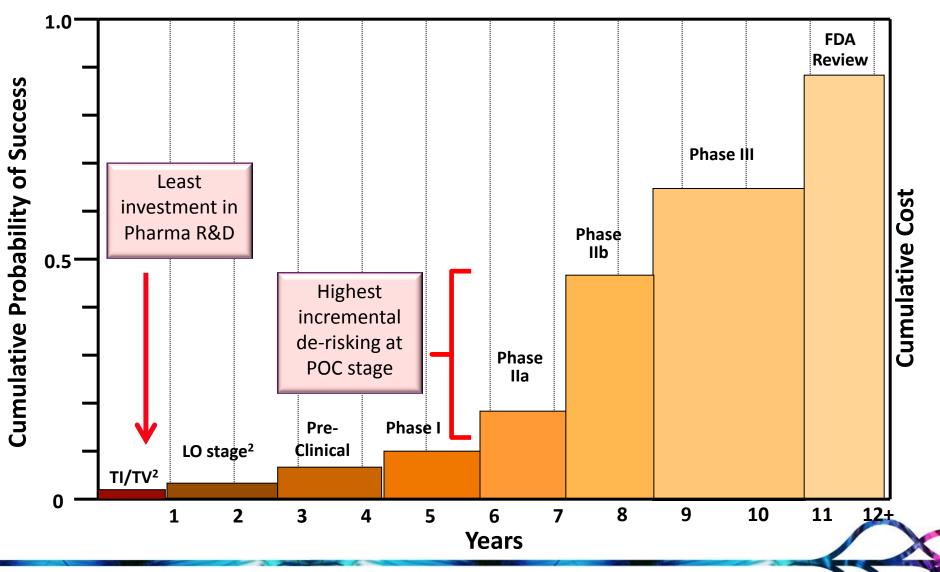


# "The Valley of Death" aka Lost in Translation





#### CNS Drug Discovery – Little risk discharge before Phase 2!



### Valley of Death from Different Perspectives

The "Pharma" Valley of Death The "Academia" Valley of Death Therapeutic Drug scovery Pipeline FDA Target Preclinical Phase I Lead Process Phase II Phase III Application Discovery **Clinical Trial** Validation Optimization Chemistry Development **Clinical Trial** Clinical Trial & Approval NIH Biotech & Pharma Translation Gap - the "Valley of Death" \$29 Billion/Yr \$64 Billion/Yr Sources: Michael J. Fox Foundation for Parkinson's Research; FasterCures



#### Evolving Roles of stakeholders & Novel Partnerships

Pharma/ Biotech Precompetitive partnerships
External innovation centers

Academic

Drug discovery centers
Tech transfer
collaborating with
industry

Government Interest in fostering/speeding translational science Willing to partner & invest with Industry

Venture/ financial Exit via acquisition/licensing Collaborative/strategic

#### **Venture Philanthropy**









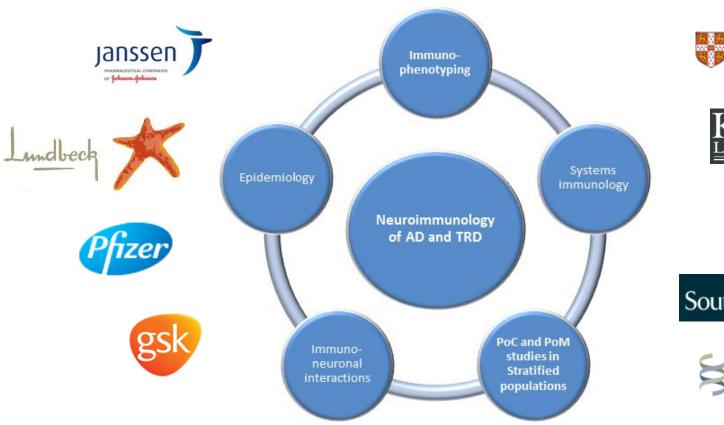






# Wellcome Trust consortium for neuroinflammation in Mood and Alzheimer's (NIMA)

A high unmet medical need calls for an innovative approach

















- Engage leading academic and pharma experts to:
  - Understand the role of neuroinflammation in depression and AD
  - Leverage our drug discovery successes against immunological disorders

#### John Hopkins Brain Sciences Institute

External TI/TV networks fostering early stage drug discovery

Novel mechanism discovered by academic/ scientists

J&J Tool Compound

Target investigation and validation by Academic scientists

Benefits for academics

Access to Tool compound before peers

Ability to connect pathway to disease first

High Impact discoveries for grants & publications

Enthusiasm for tool compound research

Understanding of new pathway in disease models

Lead Op

**NME** 

Ph1

Ph2

Ph3

Transformational drug programs: first in class

Benefits for J&J Pharma

Tests of therapeutic hypotheses

Rights to work on new pathways

New pathways directed toward drug development

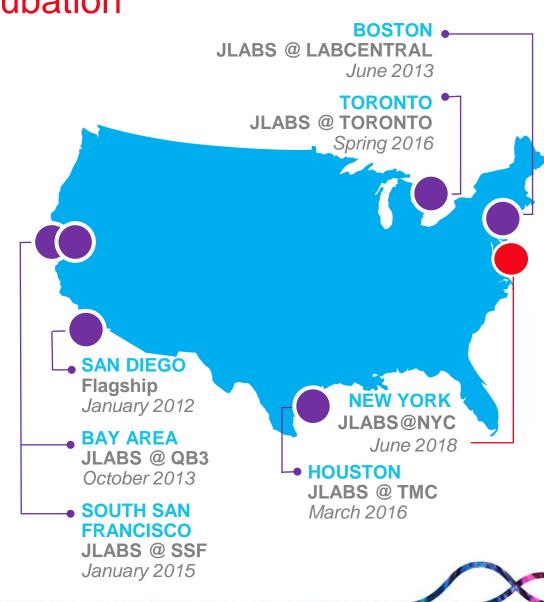
Validated pathways for Lead optimization

Academic labs validating biomarkers

### JLABS | Company Incubation

- Open innovation model
- Flexible, capital-efficient
- Turn-key lab space
- Community of entrepreneurs
- Access to experts

No strings attached!



## Where do we go from here?

- Early Education
  - Integrate training in drug discovery as part of graduate programs, since many students will consider this path
  - Provide mentoring to academic investigators seeking to develop their discoveries (SPARKS, Stanford)
- Continue to foster new models
  - Government sponsored programs (NCATS, CTSC's)
  - Academic drug discovery units (Emory, Harvard, Vanderbilt, etc)
  - Pharma investment in experimental medicine studies
  - More investment by Pharma and VCs in early biotech
- More cross-sector collaboration
  - Public Private Partnerships (focused projects)
  - Better communication across "boundaries"

Sharing expertise and removing siloes is needed to make progress

# Thank you

