



# SCIENCE FOR THE PEOPLE

*advancing equity and a culture of inclusivity  
through open science*

Maryam Zaringhalam, Ph.D.

Office of Strategic Initiatives, National Library of Medicine, NIH

CZI Open Science Meeting

June 13, 2024

# *What is open science?*

---

The principle and practice of making research products and processes **available to all**, while respecting diverse cultures, maintaining security and privacy, and fostering **collaborations, reproducibility, and equity**.

NATIONAL LIBRARY  
OF  
MEDICINE

TOBACCO  
FREE  
CAMPUS

Search for authoritative federal science information



Advanced Search

## Open Science Announcements from Federal Agencies

Open Science is the principle and practice of making research products and processes available to all, while respecting diverse cultures, maintaining security and privacy, and fostering collaborations, reproducibility, and equity.

Federal agencies are celebrating 2023 as a Year of Open Science, a multi-agency initiative across the federal government to spark change and inspire open science engagement through events and activities that will advance adoption of open, equitable, and secure science.

Help spotlight the value of open science by checking out this [toolkit](#): choose and use images for social media, presentations, posters and virtual backgrounds—agency partners may even co-brand. #YearofOpenScience.

- |   |   |
|---|---|
| Centers for Disease Control and Prevention    | National Institutes of Health                       |
| Department of Agriculture                     | National Institute of Standards and Technology      |
| Department of Commerce                        | National Oceanic and Atmospheric Administration     |
| Department of Energy                          | National Science Foundation                         |
| Department of State                           | Smithsonian Institution                             |
| Department of Transportation                  | U.S. Geological Survey                              |
| Environmental Protection Agency               | U.S. General Services Administration                |
| National Aeronautics and Space Administration | White House Office of Science and Technology Policy |
| National Endowment for the Humanities         |   |



# The OSTP Year of Open Science Recognition Challenge

---

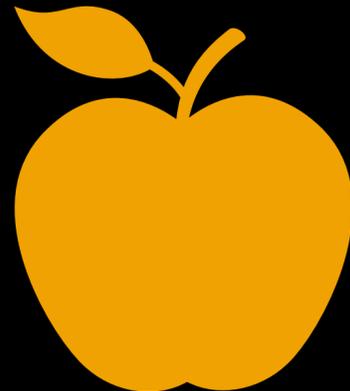
TO SERVE COMMUNITIES



**ELOKA**

"Co-developing tools for sharing Arctic Indigenous Knowledge"

TO ADVANCE EDUCATION



**FoodMASTER**

"Open science advances education"

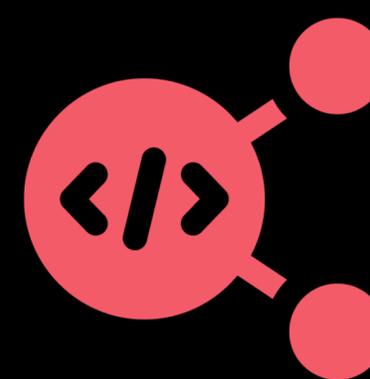
TO ADVANCE GLOBAL SOLUTIONS



**PCDC**

"Curing childhood cancer: Transforming human health through data"

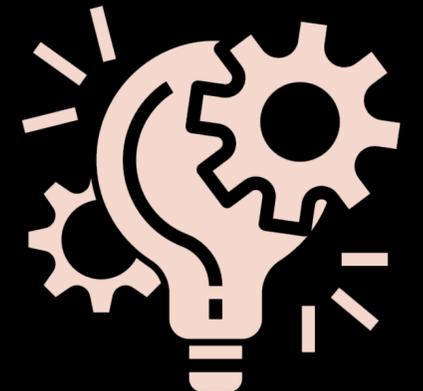
TECHNICAL  
ADVANCEMENT FOR  
OPEN SCIENCE



**Project Jupyter**

"Reproducible and collaborative computational science and education"

TO ADVANCE INNOVATION



**Zooniverse**

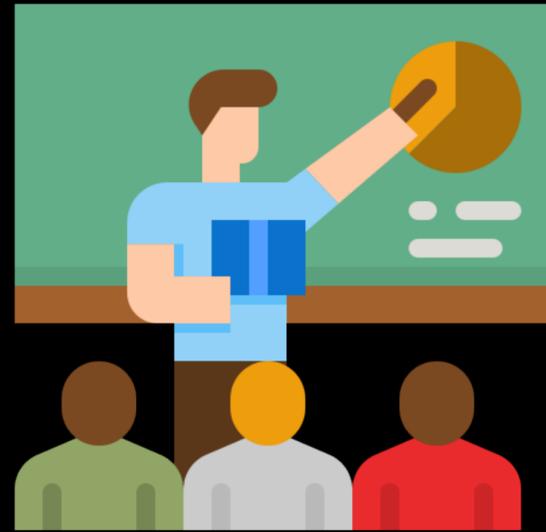
"Harnessing the Power of 2.6 Million People for Open Science"



researchers



health  
professionals



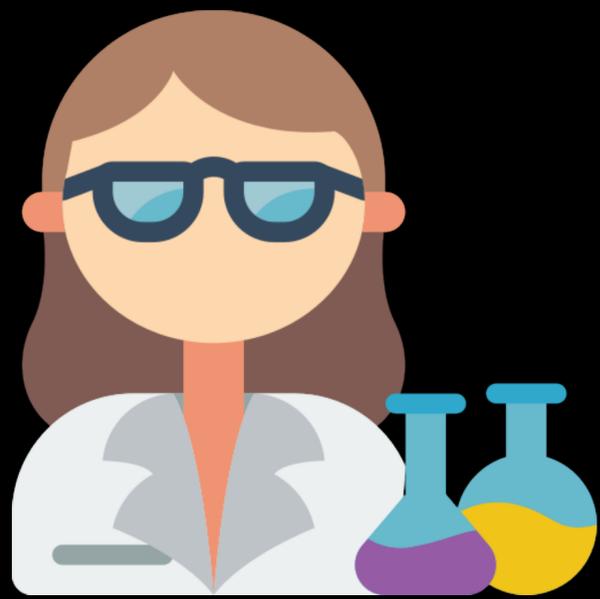
educators



librarians



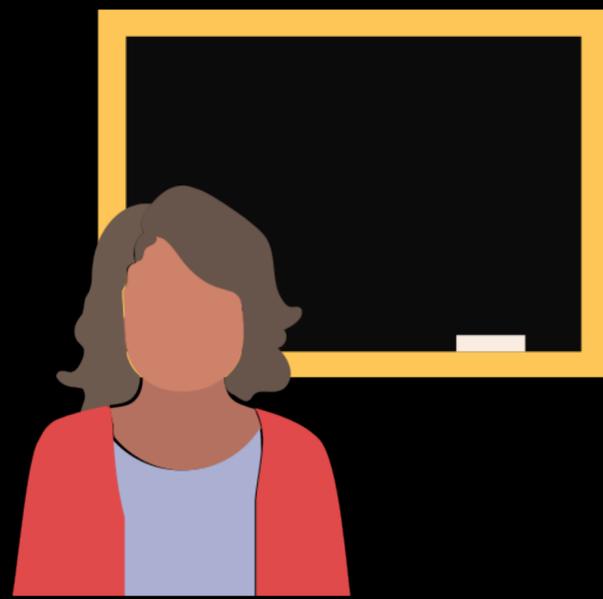
policymakers



researchers



health professionals



educators



librarians



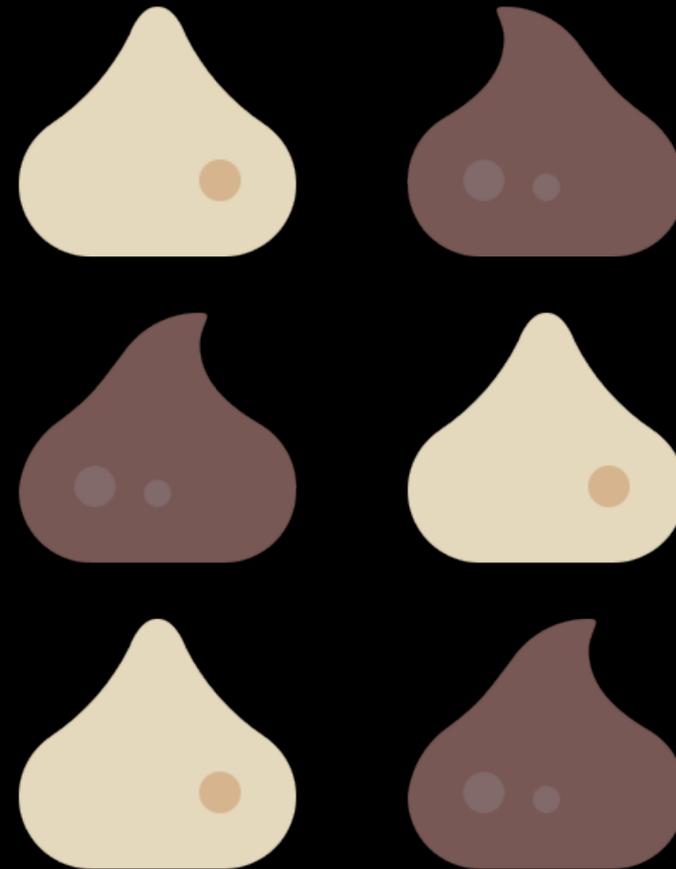
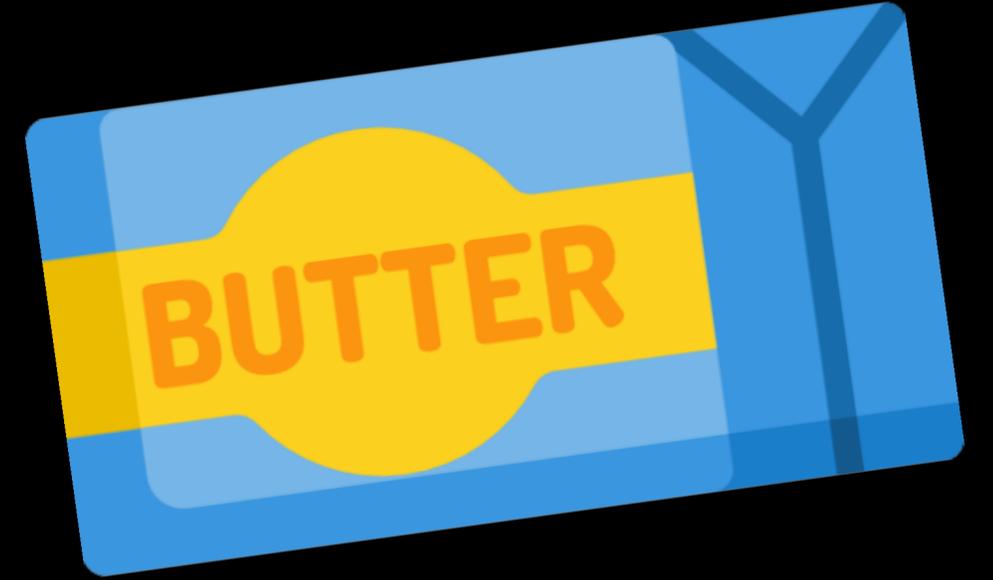
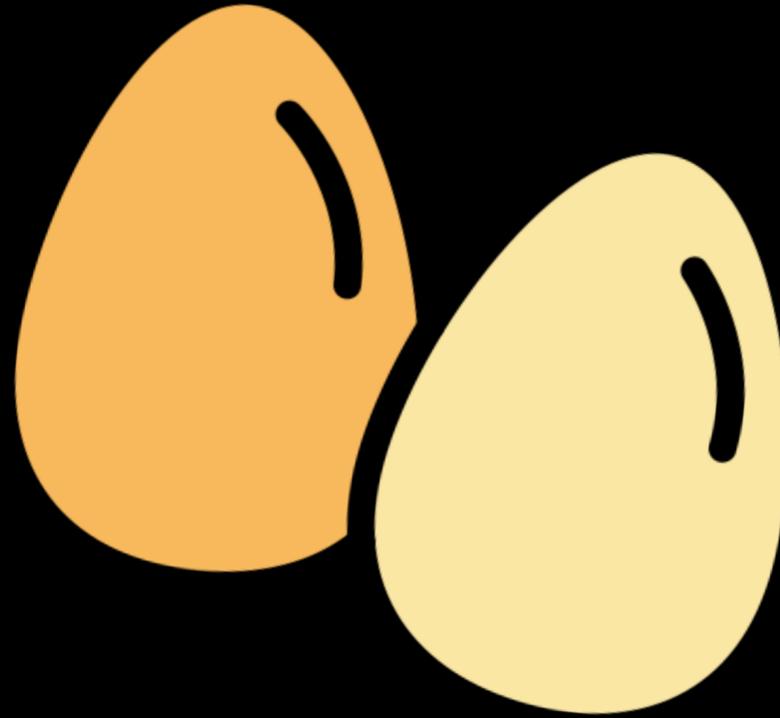
policymakers



“broader audiences that don't fit neatly into a category”



# DEFICIT MODEL

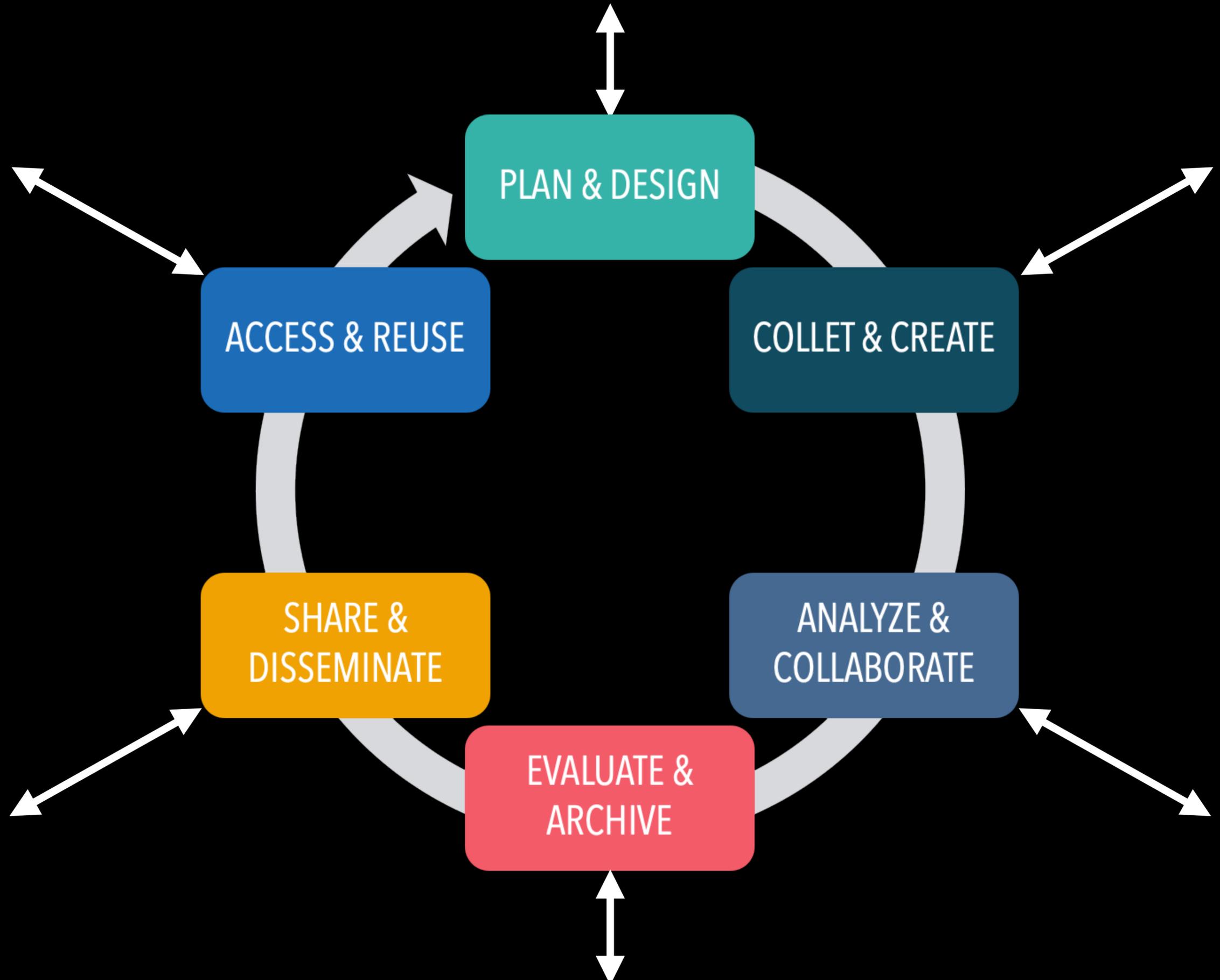








# DEFICIT MODEL PARTICIPATION MODEL



PLAN & DESIGN

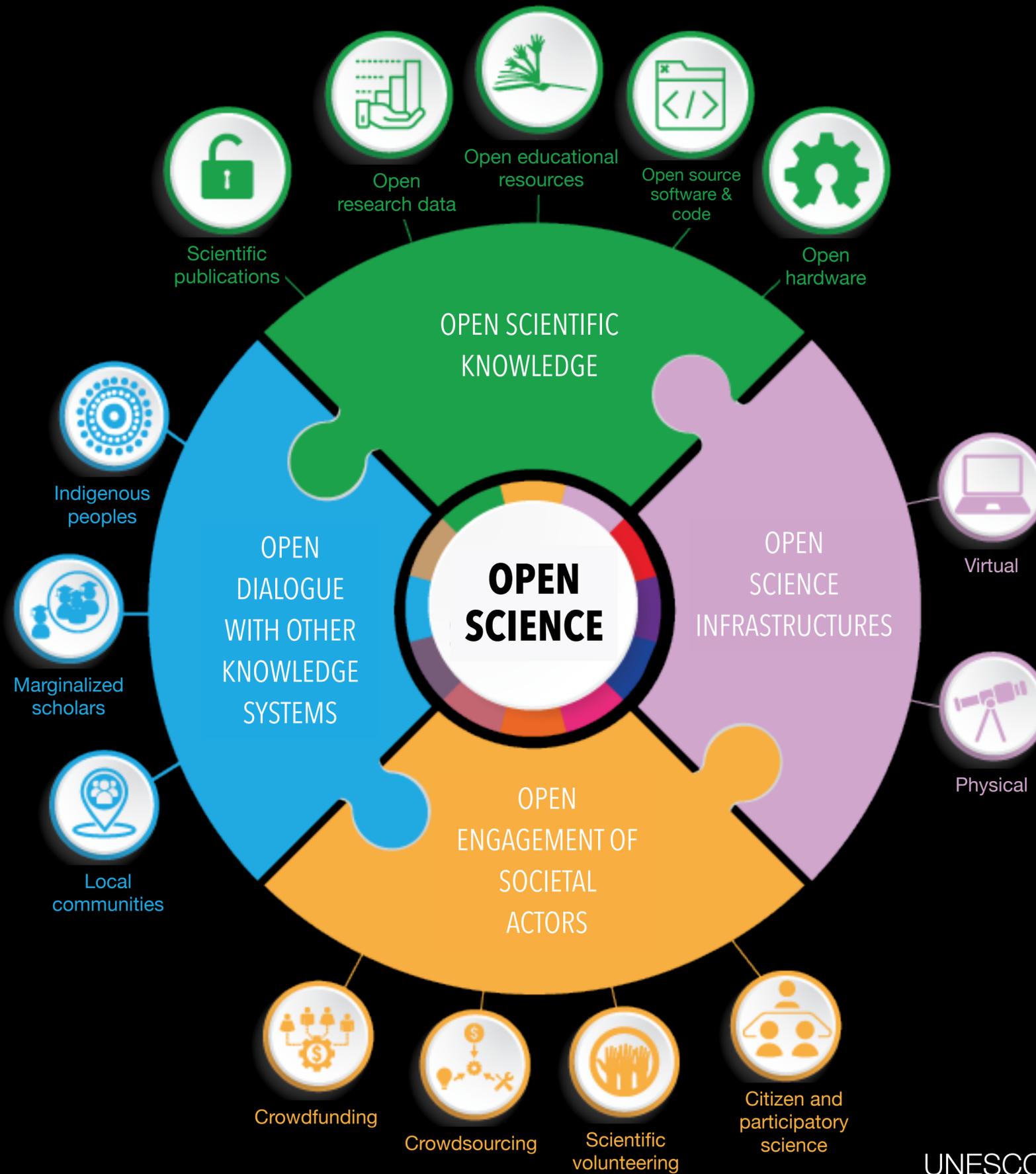
COLLECT & CREATE

ANALYZE & COLLABORATE

EVALUATE & ARCHIVE

SHARE & DISSEMINATE

ACCESS & REUSE



don't worry. this slide is intentionally blank.

how do we build and sustain

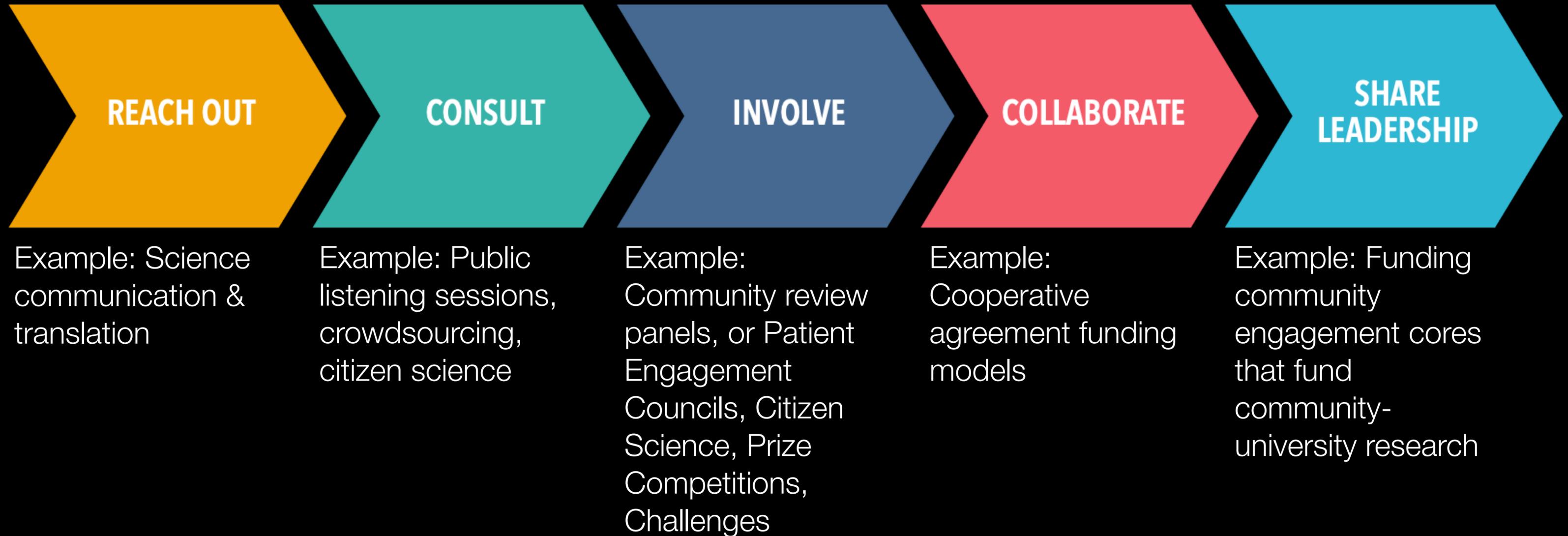
---

# PATHWAYS AND BRIDGES

---

between open science and communities of knowledge translation?

# A Continuum of Engagement Approaches



# NLM IS UNIQUELY POSITIONED TO UNDERTAKE THIS BRIDGE BUILDING

LIBRARIANS

RESEARCHERS

CLINICIANS

EDUCATORS

COMMUNITY AND  
PATIENT ADVOCATES

MUSEUMS AND  
SCIENCE CENTERS

JOURNALISTS

SCIENCE  
COMMUNICATORS

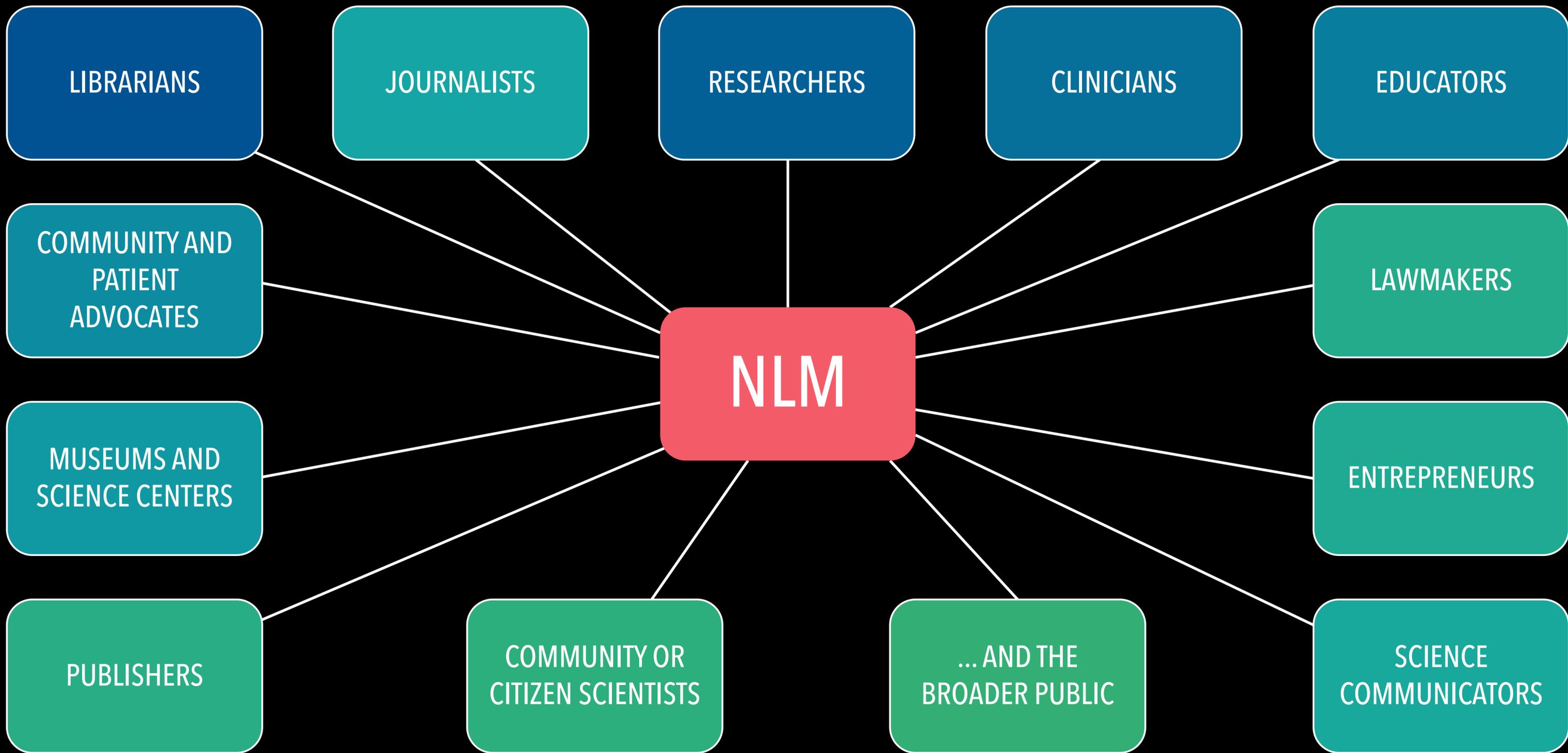
ENTREPRENEURS

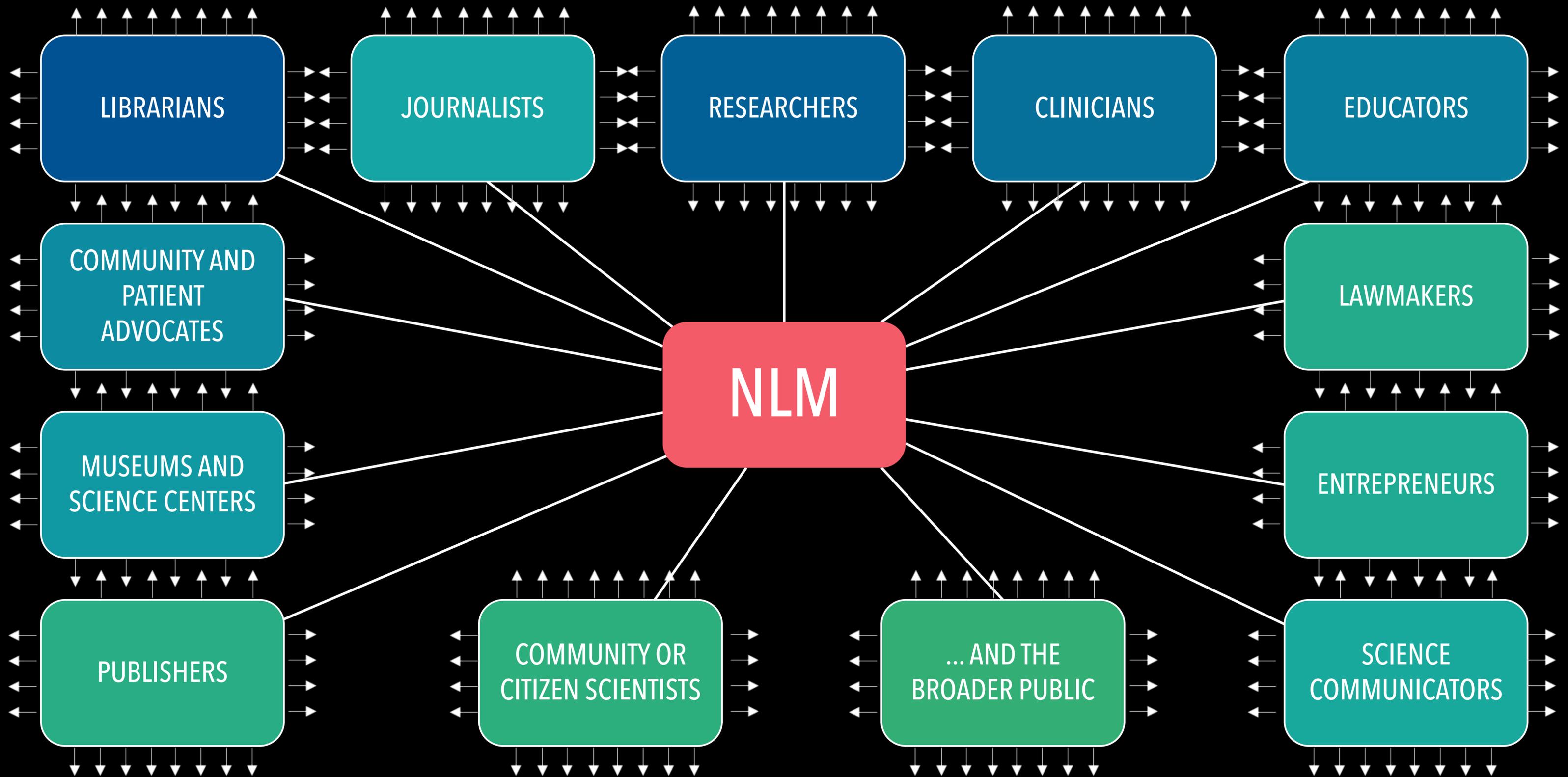
LAWMAKERS

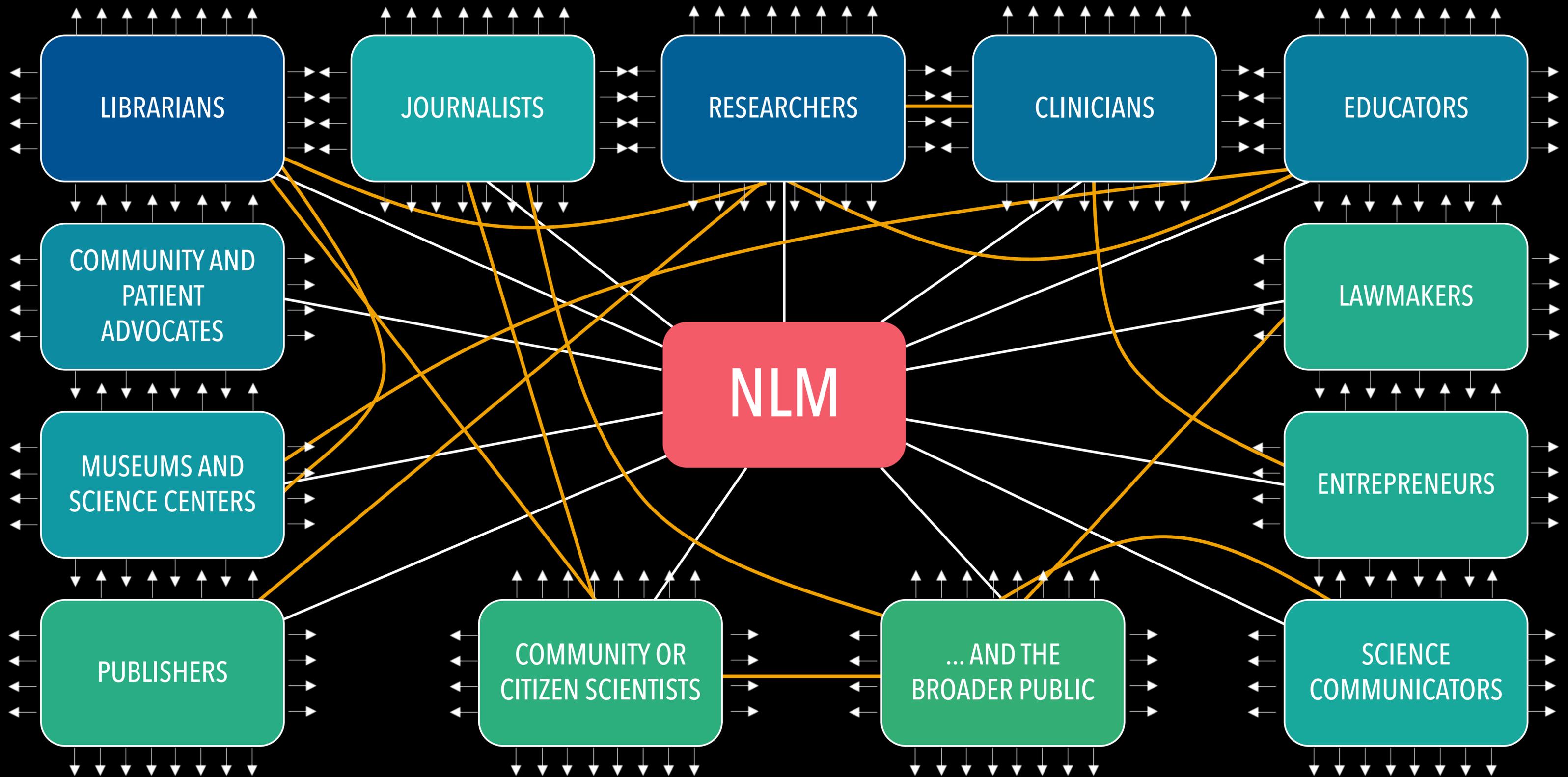
PUBLISHERS

COMMUNITY OR  
CITIZEN SCIENTISTS

... AND THE BROADER  
PUBLIC









How can NLM leverage its position to **sustainably** promote **equitable** and **meaningful** access to NIH-funded research for diverse communities of end users?

# NLM WORKSHOP ON ADVANCING A NETWORKED APPROACH TO EQUITABLE OPEN SCIENCE



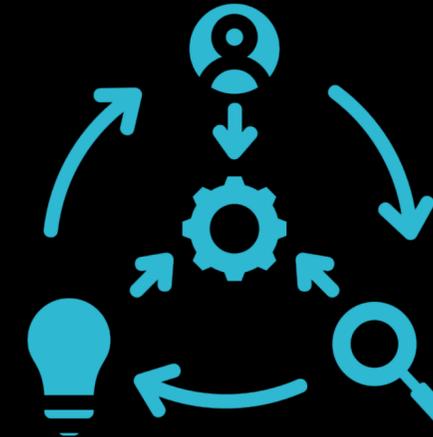
DAY 1



## BRAINSTORMING

- What are the ways in which our work in OS and KT complement and/or contrast with one another?
- How can we heighten those synergies and contrasts to identify areas for bridge building and collaboration to extend reach?

DAY 2



## SYNTHESIS

- What are opportunities to build out collaborations, networks, and feedback loops?
- How do we prioritize these opportunities?
- What does success look like?

# SO WHAT DID WE LEARN?\*

\* rough reflections from a workshop that happened a week ago

# Cultural and Social Infrastructure Is **HARD** to Build, Make Visible, and Share Practices Around

## REQUIRED

One	Half Truss	T1AR
One	"	T1AL
One	"	T2AR
One	"	T2AL
One	"	T3AR
One	"	T3AL
One	"	T4AR
One	"	T4AL
One	"	T5AR
One	"	T5AL
One	"	T6AR
One	"	T6AL
One	"	T7AR
One	"	T7AL
One	"	T8AR
One	"	T8AL
One	"	T9AR
One	"	T9AL
One	"	T10AR
One	"	T10AL
One	"	T11AR
One	"	T11AL
One	"	T12AR
One	"	T12AL
One	"	T13AR
One	"	T13AL
One	"	T14AR
One	"	T14AL
One	"	T15AR
One	"	T15AL
One	"	T16AR
One	"	T16AL
One	"	T17AR
One	"	T17AL
One	"	T18AR
One	"	T18AL
One	"	T19AR
One	"	T19AL
One	"	T20AR
One	"	T20AL
One	"	T21AR
One	"	T21AL
One	"	T22AR
One	"	T22AL
One	"	T23AR
One	"	T23AL
One	"	T24AR
One	"	T24AL
One	"	T25AR
One	"	T25AL
One	"	T26AR
One	"	T26AL
One	"	T27AR
One	"	T27AL
One	"	T28AR
One	"	T28AL
One	"	T29AR
One	"	T29AL
One	"	T30AR
One	"	T30AL
One	"	T31AR
One	"	T31AL
One	"	T32AR
One	"	T32AL
One	"	T33AR
One	"	T33AL
One	"	T34AR
One	"	T34AL
One	"	T35AR
One	"	T35AL
One	"	T36AR
One	"	T36AL
One	"	T37AR
One	"	T37AL
One	"	T38AR
One	"	T38AL
One	"	T39AR
One	"	T39AL
One	"	T40AR
One	"	T40AL
One	"	T41AR
One	"	T41AL
One	"	T42AR
One	"	T42AL
One	"	T43AR
One	"	T43AL
One	"	T44AR
One	"	T44AL
One	"	T45AR
One	"	T45AL
One	"	T46AR
One	"	T46AL
One	"	T47AR
One	"	T47AL
One	"	T48AR
One	"	T48AL
One	"	T49AR
One	"	T49AL
One	"	T50AR
One	"	T50AL
One	"	T51AR
One	"	T51AL
One	"	T52AR
One	"	T52AL
One	"	T53AR
One	"	T53AL
One	"	T54AR
One	"	T54AL
One	"	T55AR
One	"	T55AL
One	"	T56AR
One	"	T56AL
One	"	T57AR
One	"	T57AL
One	"	T58AR
One	"	T58AL
One	"	T59AR
One	"	T59AL
One	"	T60AR
One	"	T60AL
One	"	T61AR
One	"	T61AL
One	"	T62AR
One	"	T62AL
One	"	T63AR
One	"	T63AL
One	"	T64AR
One	"	T64AL
One	"	T65AR
One	"	T65AL
One	"	T66AR
One	"	T66AL
One	"	T67AR
One	"	T67AL
One	"	T68AR
One	"	T68AL
One	"	T69AR
One	"	T69AL
One	"	T70AR
One	"	T70AL
One	"	T71AR
One	"	T71AL
One	"	T72AR
One	"	T72AL
One	"	T73AR
One	"	T73AL
One	"	T74AR
One	"	T74AL
One	"	T75AR
One	"	T75AL
One	"	T76AR
One	"	T76AL
One	"	T77AR
One	"	T77AL
One	"	T78AR
One	"	T78AL
One	"	T79AR
One	"	T79AL
One	"	T80AR
One	"	T80AL
One	"	T81AR
One	"	T81AL
One	"	T82AR
One	"	T82AL
One	"	T83AR
One	"	T83AL
One	"	T84AR
One	"	T84AL
One	"	T85AR
One	"	T85AL
One	"	T86AR
One	"	T86AL
One	"	T87AR
One	"	T87AL
One	"	T88AR
One	"	T88AL
One	"	T89AR
One	"	T89AL
One	"	T90AR
One	"	T90AL
One	"	T91AR
One	"	T91AL
One	"	T92AR
One	"	T92AL
One	"	T93AR
One	"	T93AL
One	"	T94AR
One	"	T94AL
One	"	T95AR
One	"	T95AL
One	"	T96AR
One	"	T96AL
One	"	T97AR
One	"	T97AL
One	"	T98AR
One	"	T98AL
One	"	T99AR
One	"	T99AL
One	"	T100AR
One	"	T100AL

Section C1-C2  
Clips, Fills and Lat. Gases  
may be field riveted  
to comply with detail  
indicated in Gen. Plans.

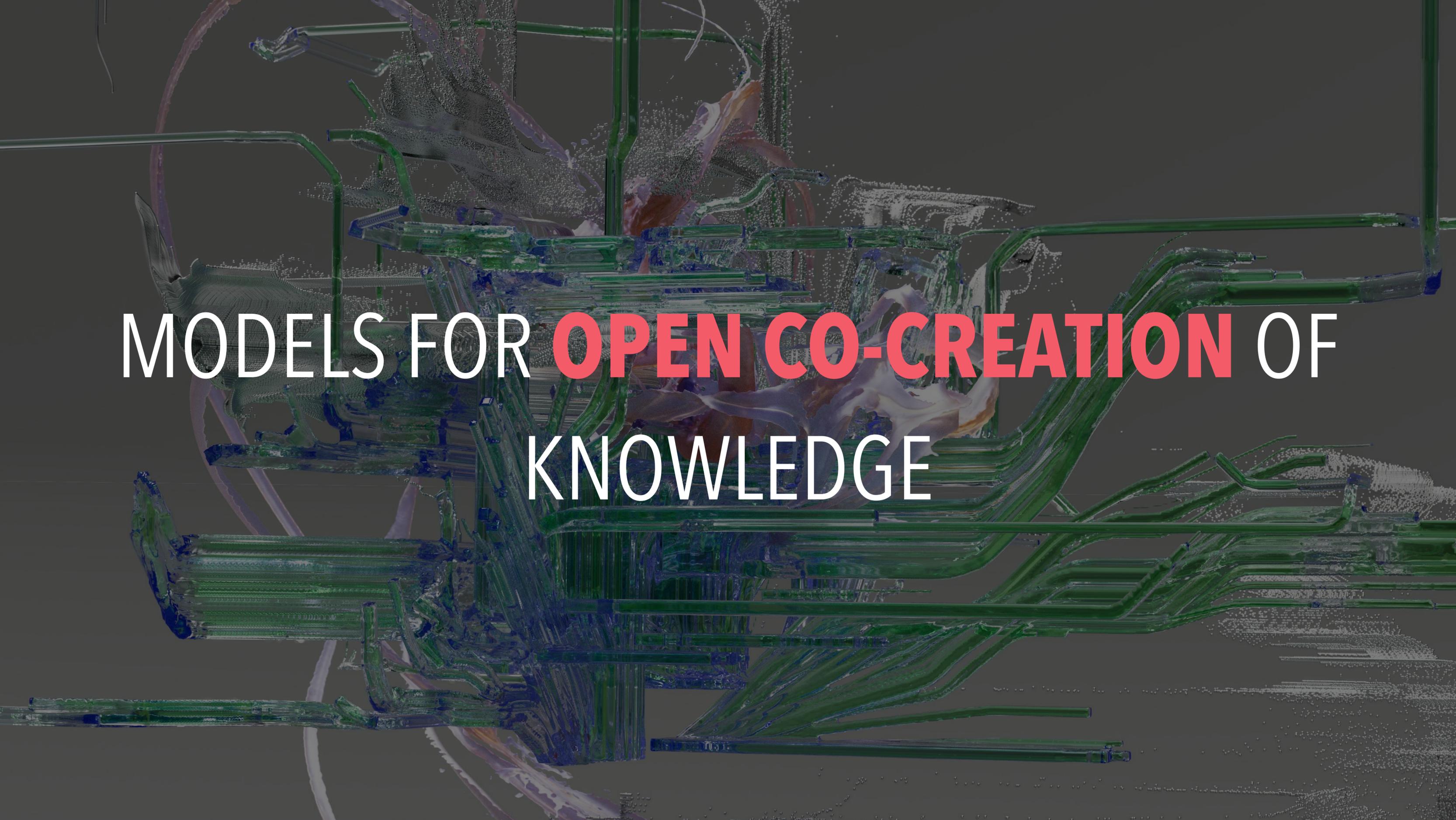
Checked for size of members and  
strength of connections  
Approved with corrections marked  
E. J. [Signature]  
Work this sheet with Sh. #2



**INCENTIVES! INCENTIVES! INCENTIVES!**

---

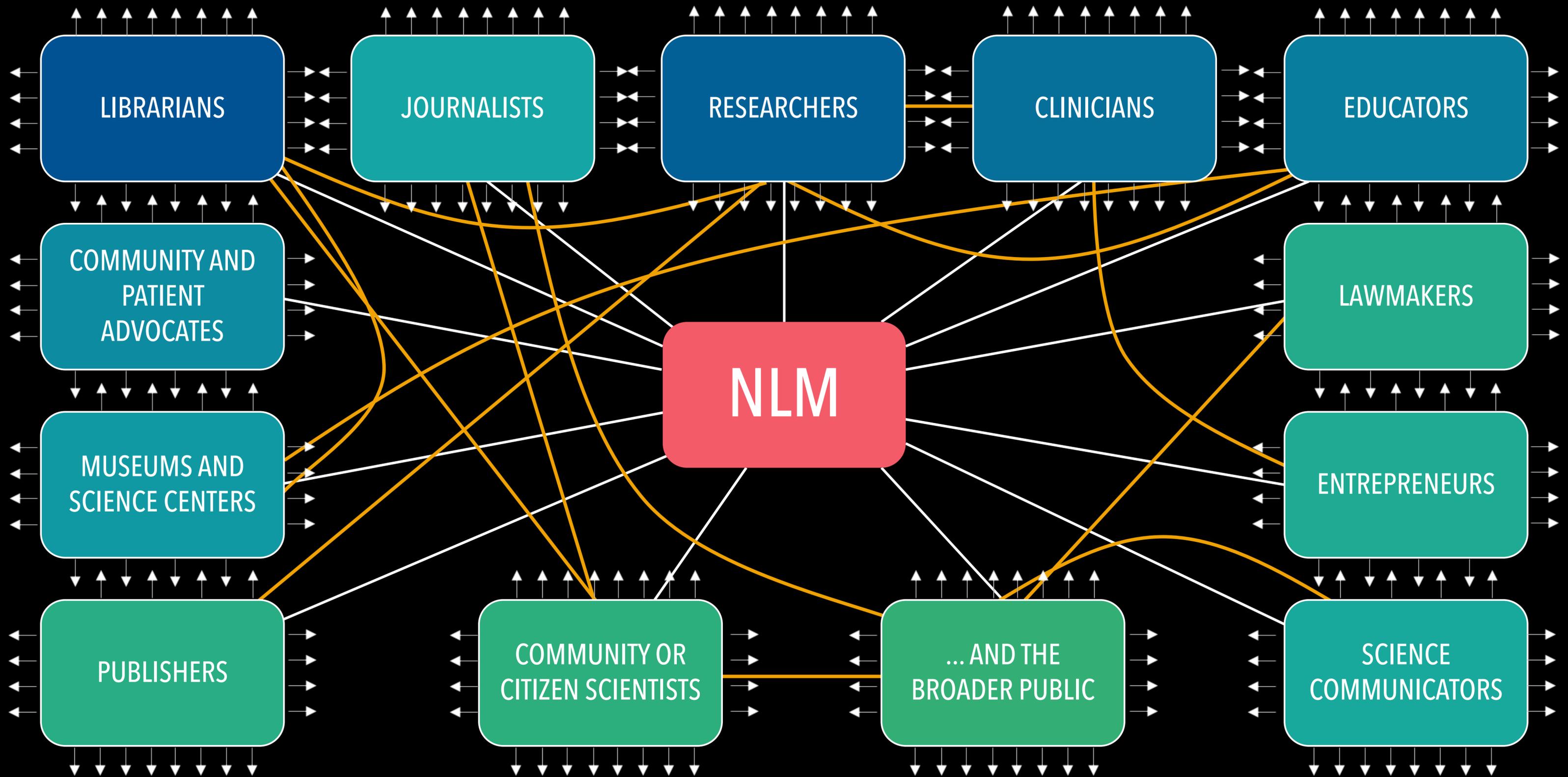
legitimizing **engagement** as a **critical tool** in  
equitable open science.



MODELS FOR **OPEN CO-CREATION** OF  
KNOWLEDGE

A wooden suspension bridge with metal railings and mesh sides extends into a dense forest of tall trees. The bridge is made of wooden planks and is supported by cables. The forest is lush with green foliage, and the sky is overcast. Two horizontal orange lines are positioned above and below the text.

WHERE DO WE GO FROM HERE?



# GET IN TOUCH



[maryam.zaringhahalam@nih.gov](mailto:maryam.zaringhahalam@nih.gov)