

eagle-i: making invisible resources visible

Steven Fiering

Dartmouth Medical School

Dartmouth eagle-I co-PI

eagle-I

Why, Who, What, How

Future plans

Why? Reveal hidden resources so they get used

The NIH investment in research and research resources is limited and needs to be optimized

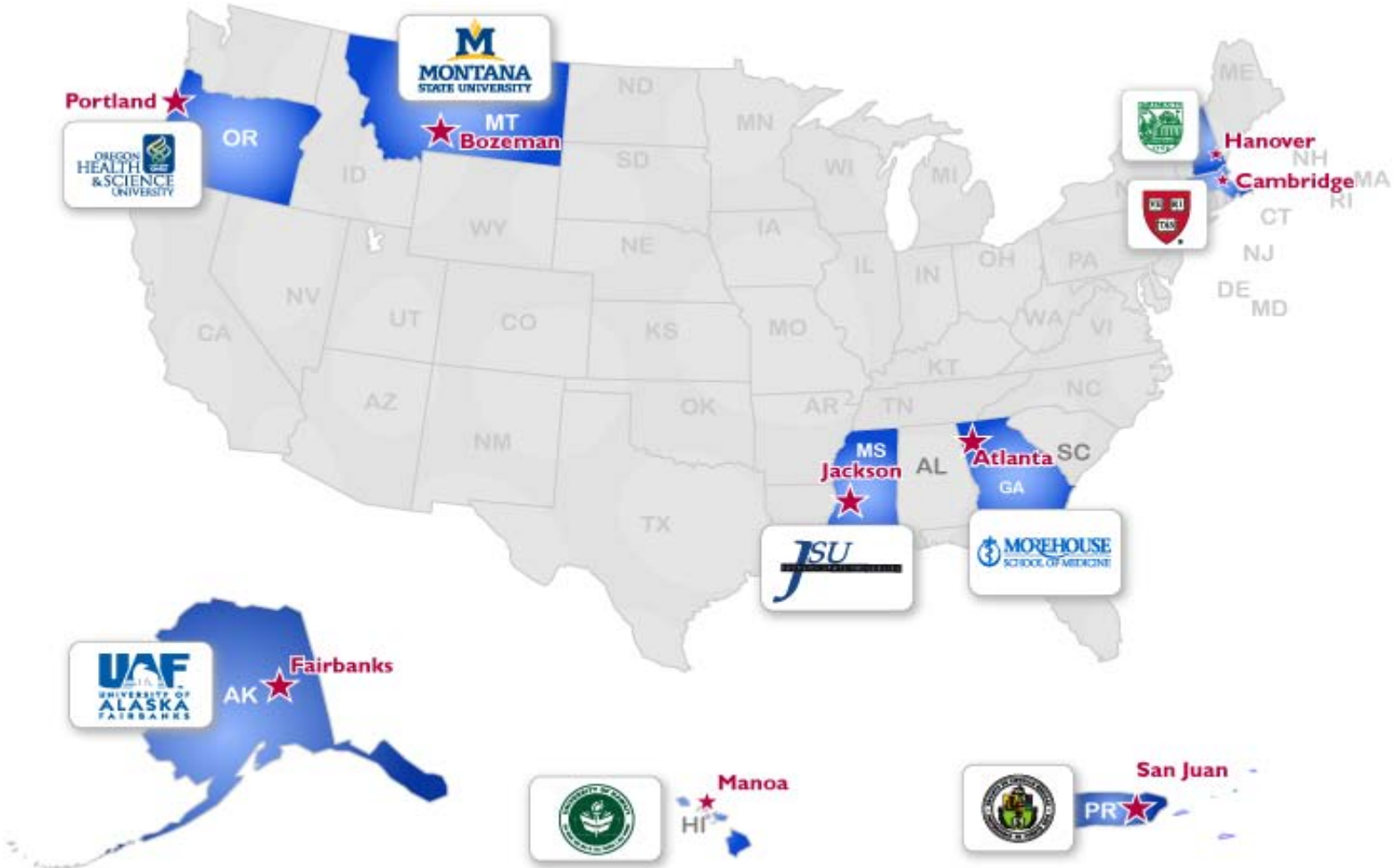
There are many resources that have been generated but are not visible and so are being unnecessarily replicated or not optimally used

A system to permit easy identification of research resources in different labs, cores and institutions would improve research efficiency

eagle-I was developed to find hidden research resources
VIVO was developed to find hidden researchers

9 members of the eagle-I consortium, many from IDEA states

Funded 2 years ago by ARRA grant through NCRR



Note: AK, HI, and PR not to scale

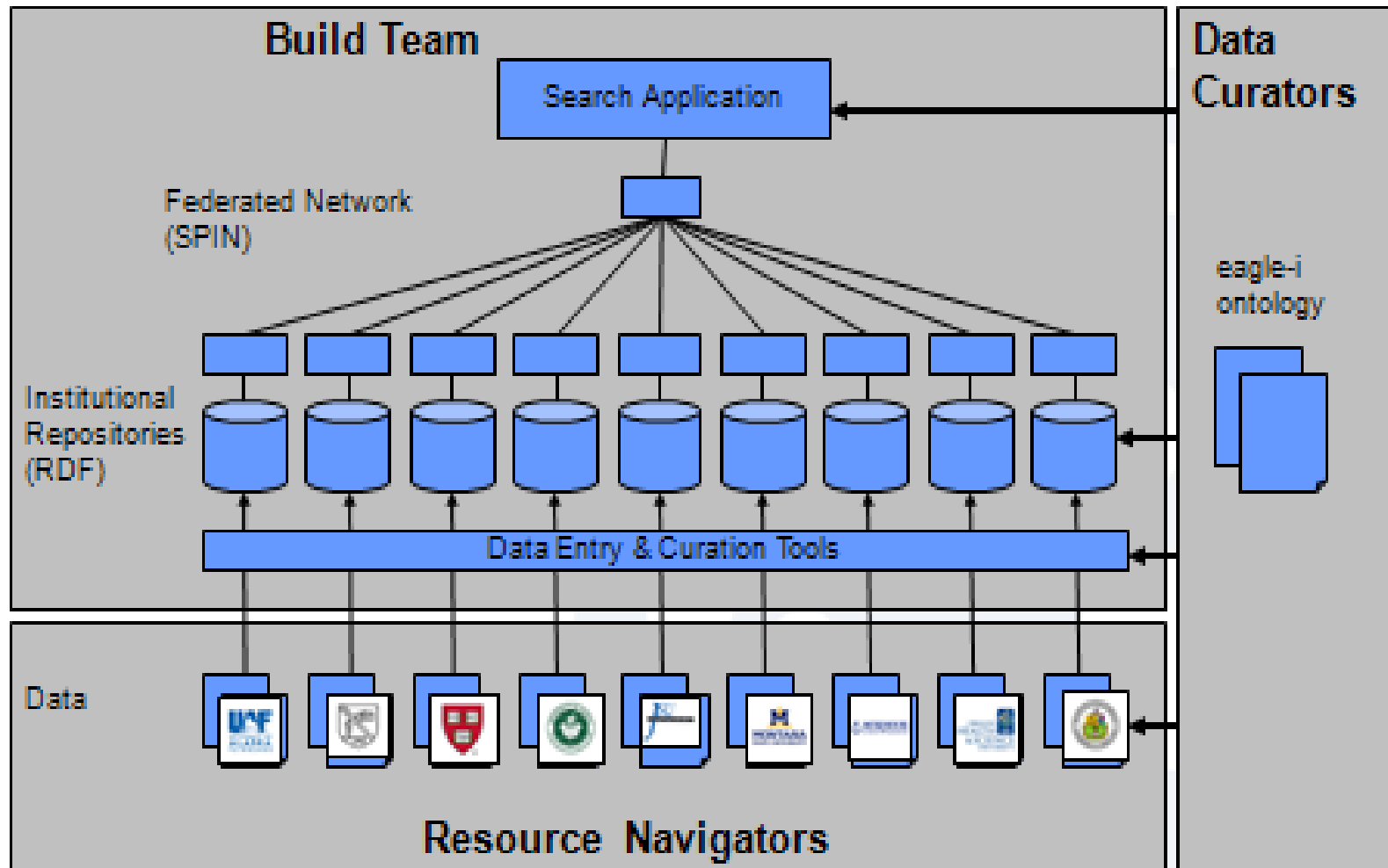
3 teams to build the airplane while learning to fly it

Research navigators; collect the resource information in each Institution

Ontology and curation;
develop the system for classifying and searching the information

Build team; write the software and make it work

eagle-i Architecture



What eagle-i is:

- **A repository that collects information about biomedical research resources**
- **A data entry/import tool that is intuitive, user-friendly and lab-based**
- **A search application that helps you find what you need, quickly**
- **An easy way to contact resource managers**
- **A network that can be incrementally expanded**
- **An open system that connects to existing resource repositories and the web**

An Ontologist's view of the world.....

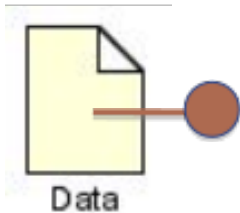


“Now! *That* should clear up a few things around here!”

Before eagle-I I thought an ontologist was a cancer doctor

What makes eagle-i system different than other tools?

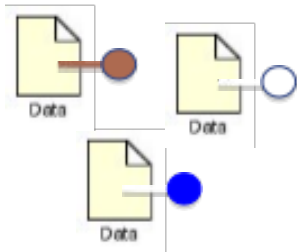
1. We annotate the data.



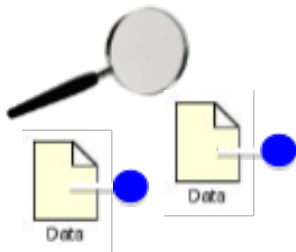
- An annotation is extra information attached to a piece of data

- The goal of annotation is to add value by enabling:

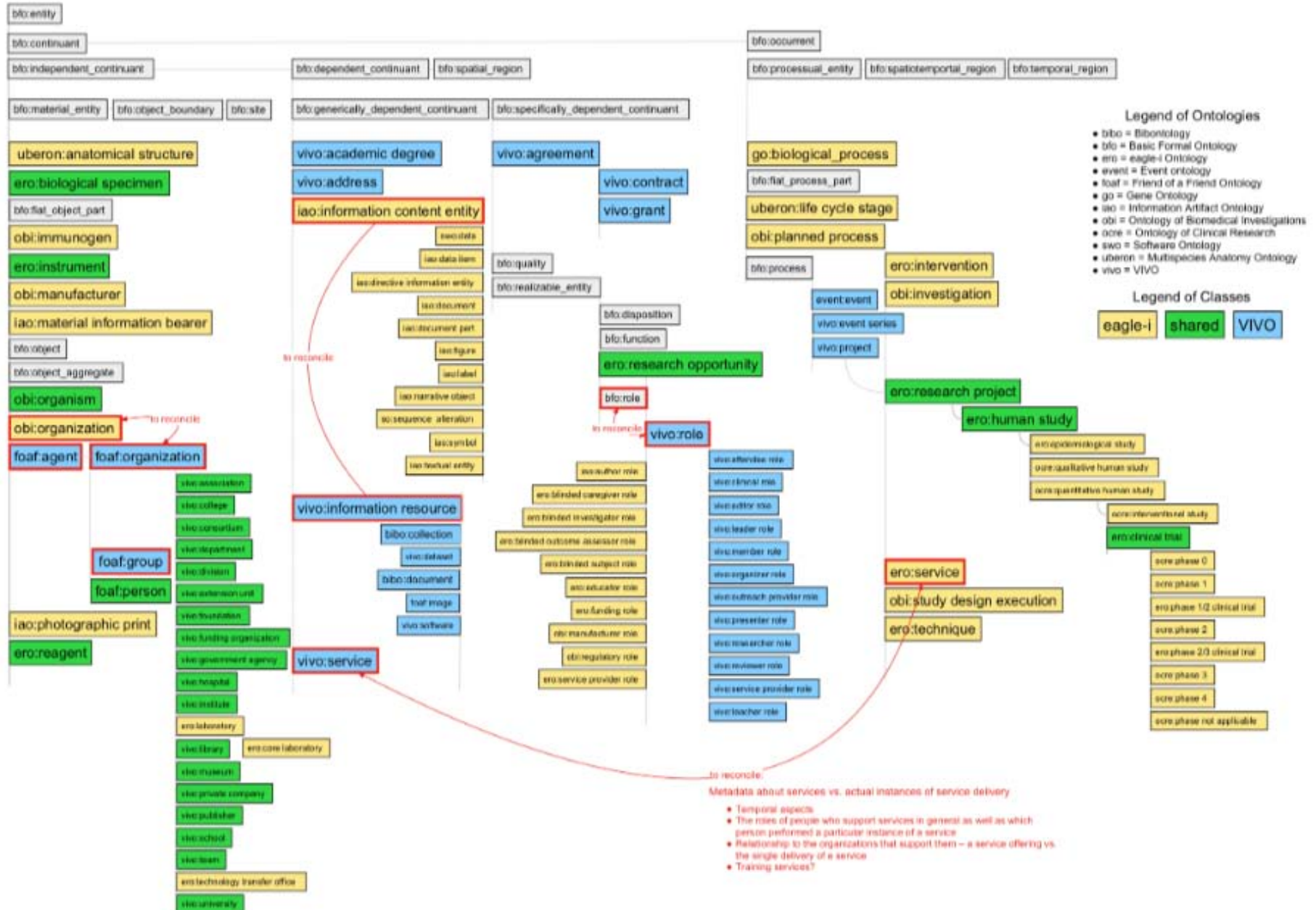
- Indexing data
- Linking data



- Annotation of data makes it easier to find and group data via semantic search



Alignment with VIVO



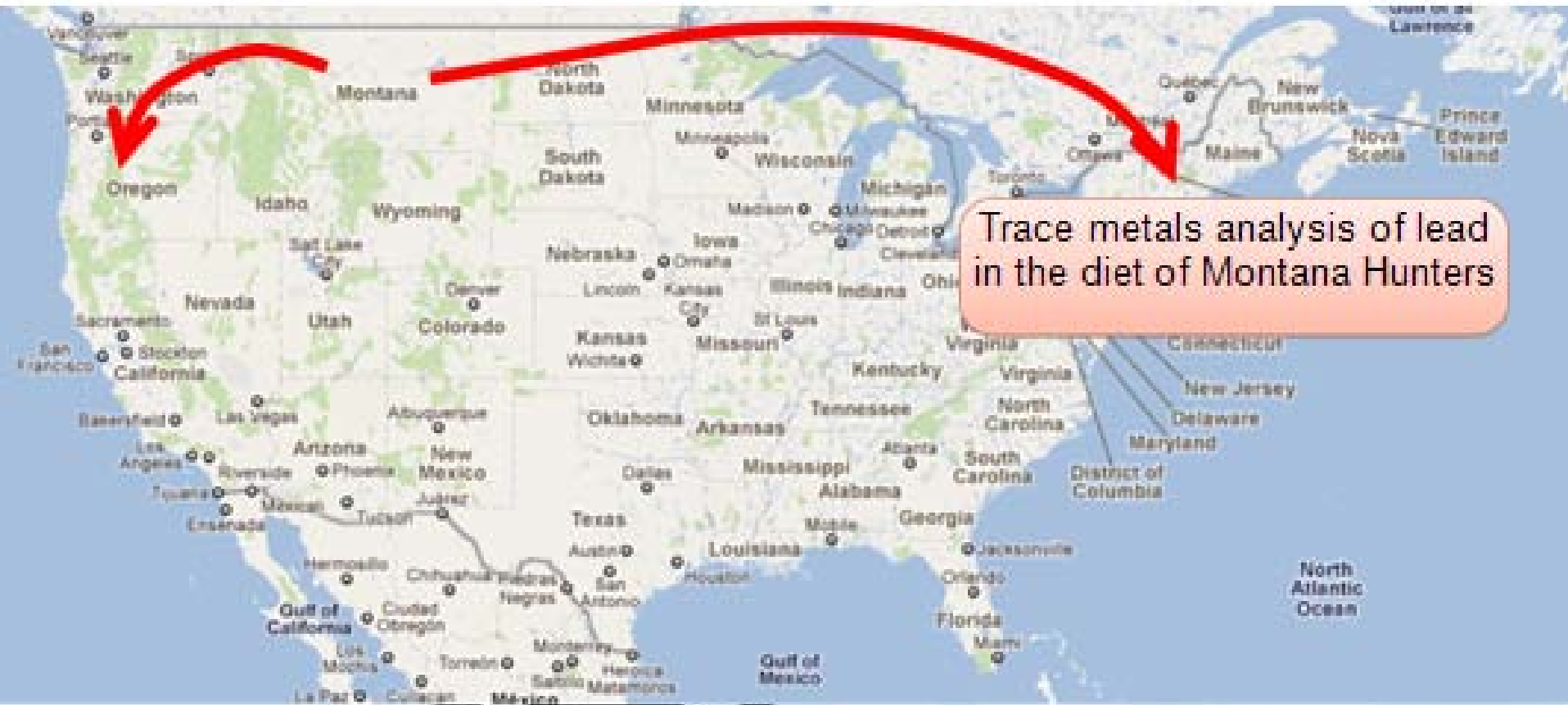
Resource curation

More than 45,000 resources have been published at the 9 sites

	Alaska	Dartmouth	Harvard	Hawaii	Jackson State	Montana State	Morehouse	OHSU	Puerto Rico	Total
Organisms and Viruses	14	14,240	1,067	12,780		63	8	133	16	28,321
Instruments	225	116	1,022	685	85	181	63	212	585	3,174
Reagents		114	5,763	160	4	25	65	226	161	6,518
Services	66	98	922	257	42	65	52	463	106	2,071
Software	38	47	218	65	50	43	6	146	65	678
Protocols	67	34	137	47	12	72	7	118	86	580
Core Laboratories	8	20	190	35	14	14	12	35	33	361
Research Opportunities		2	2		3		1	6		14
Biological Specimens				2,835	2			39	22	2,898
Human Studies	13			23	42			2		80
Total	431	14,671	9,321	16,887	254	463	214	1,380	1,074	44,695

<http://vimeo.com/24586787>

Value Created - User Vignettes from CoreBucks



Luminex based
Cytokine panel analysis
to study resistance to
ischemic injury in
hibernating animals



How can INBREs benefit? How participate?

eagle-I us now open to anyone to search

IDEA states and INBREs, are resource poor
eagle-I can be used to find resources you need

The more institutions that are part of it, the more
resources catalogued and the more useful it is

Participating institutions need to invest to catalogue resources and maintain the catalogue

Adding more institutions will require investment

Where will the funding for that come from?

eagle-I weakness

It takes effort to identify and enter the resources.

Many resources are fluid and go out of date and new ones are developed

No direct incentive for most labs to enter their resources in eagle-i, only “community good” or potential collaboration. Possibly integrate with Lab Information Management System

Cores have a direct interest in advertising.

One solution: NIH mandate, if NIH funding generated the resource, it must be entered in eagle-I as part of the standard resource sharing agreement. NIH decision

Eagle-I strength

Need and value is obvious, save effort and funding,
more research with less duplication of resources

This project was very successful, unique capabilities
cutting edge ontology and searchability, optimal
structure with flexibility and distributed network

Integrated with other data/resource repositories

Has all it needs to become a standard platform for
the purpose

Future of eagle-i

Open source to improve the software, Openmed.net

Open to searching from other institutions (available now)

Searchable from Google

Adding additional institutions

Continue to update and maintain data

Challenge: expanding and maintaining the system will take funding and organization, even for a decentralized network

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Build team leader
Daniela Burgess
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Ontology Leader
Melissa Haendel
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