FORECASTING SCIENCE

INTERVIEWS & FOCUS GROUPS
EMERGING THEMES

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BACKGROUND
KEY QUESTIONS TO BE ADDRESSED

For NIH intramural researchers (IRP):

- What resource and service needs are currently unmet?
- What resources and services will be needed in 5 years?

FORECASTING SCIENCE STUDY GOALS

- Foster collaboration among US NIH Office of Research Services's (ORS) Scientific Resources divisions (SR)
- Align with IRP long-range plan
- Identify current service and resource needs
- Raise awareness of current services and resources
- Anticipate changes in biomedical research and respond
- Enlist external expertise (Outsell, Inc.) to ensure confidentiality, objectivity and forthrightness

NIH IRP LONG RANGE PLAN SHAPES STUDY

Emerging research topics identified in IRP long-range plan:

1. Inflammatory diseases
2. Genotyping & phenotyping
3. Cell-based therapies
4. Neuroscience and compulsive disorders
5. RNA biology and therapeutics
6. Microbiome

STUDY PARTICIPANTS

- **ORS Scientific Resources Divisions**
  - Division of Library Services (NIH Library)
  - Division of Occupational Health and Safety
  - Division of Radiation Safety
  - Division of Scientific Equipment & Instrumentation Services
  - Division of Veterinary Resources
  - Medical Arts Branch
- **ORS Division-Specific Advisory Groups**
- **IRP Leadership: Drs. Wyatt and Gottesman**

FORECASTING SCIENCE TARGET POPULATIONS

NIH INTRAMURAL SCIENTISTS

Early Career Scientists			
Trainees			
Research Fellow (RF) /Senior RF	536		
Clinical Fellow (CF)/Senior CF	269		
Postdoc IRTA/CRTA	889		
Postdoc Visiting Fellow	1,396		
Trainee subtotal		3,090	
Tenure Track			
Investigator	218		
Assistant Clinical Investigator	30		
Tenure-track subtotal		248	
Early Career Total			**3,338**
Senior, Tenured Scientists			
Senior Investigator	835		
Senior, Tenured total			**835**
Total Target Population			**4,173**

STUDY DESIGN

Qualitative

- Interviews (8 Senior Scientists)
- 6 Focus Groups (39 Early Career Scientists)

Quantitative (Survey of 4,173 Senior and Early-Career Scientists**)**

- Informed by focus groups & interviews
- Collect demographic data, including IC affiliation
- Assess current value of ORS SR key services/resources
- Identify current unmet and future research needs
- Responses needed to achieve a 95% confidence level:
  - 385 early-career scientists
  - 278 senior scientists

INTERVIEW FINDINGS

- **Theme 1: Collaboration**
  - Science is increasingly interdisciplinary ("Microbiome research affects cancer, cardiovascular diseases, metabolism.")
  - Important to facilitate collaboration on many levels
- **Theme 2: Centralization**
  - Centralized programs (institute-based core services) can be problematic
  - Often better to do independently ("My experience is if you want it done right, you do it yourself. Unfortunately.")
- **Theme 3: Awareness**
  - General lack of awareness of ORS divisions, with the exception of the library and veterinary resources

FOCUS GROUP FINDINGS

Theme 1: Awareness

General lack of awareness of services available at NIH, suggesting a service catalog might be of value

Theme 2: Bioinformatics support

Clear need for bioinformatics and computational support services. Three tiers of support needed:

- Tools available across NIH enterprise (Biowulf, applications licensed by NIH Library)
- Capacity building (training, consultation)
- Primary computational analysis of research data (lab-based assistance)

Theme 3: Sequencing infrastructure

- Rapid advances in technology
- Currency of software/equipment essential to research (enhancements every six months)

FOCUS GROUP FINDINGS

Other Broad Themes:

- Organizational structure and policy implementation
  - Complicates collaboration
  - Impedes research
  - Reflects risk aversion
- Capital investments required for emerging research

SURVEY

- **Development Phase: July 20 – November 30, 2017**
  - Survey questions to be developed
    - Build in branching for specific services if used. For example; animal models, use of radioactive material, genomics
  - IRP collaboration (late October 2017)
    - Confirm use of listservs of targeted groups: post-doc, tenure-track, and senior scientists
    - Interview/focus group findings – Identify issues for which the IRP would like additional quantitative data from survey
    - Pre-test survey (early November)
    - US OMB fast-track approval for post-docs (Late November)
- **Deployment: Early 2018**

FORECASTING SCIENCE

Limitations:

- Scientists work in the moment; views of future needs defined by present.

Bottom Line:

- Study In Progress
- Qualitative findings are suggestive
- Strong interest in quantitative results – Will they tell us more about the future?
- Scientific leadership input on project development critical