

Defining Success for the National Institute of Allergy and Infectious Diseases' Regional Centers of Excellence in Biodefense and Emerging Infectious Diseases Research program: A Co-Authored Evaluation Framework and Plan

Concept Systems, Inc.

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Project goals

- Develop an evaluation plan
- Engage stakeholders at multiple levels
- Provide several opportunities for stakeholders to participate
- Co-developed, highly relevant and meaningful framework to base evaluation
 - Regional Centers of Excellence
 - National Institute of Allergy and Infectious Diseases
 - Other experts



Concept mapping

- Seeks the variability in stakeholder knowledge and opinion
- Presents a process to manage the variability
- Develops results that synthesize a group's ideas
- Connects qualitative and quantitative approaches in a mixed-methods application



Defining the Issue and Developing the Focus



“In order to foster excellence in advancing the biodefense and infectious disease research enterprise, the RCE program and its Centers should...”



Key Informants and Knowledge Leaders



Brainstorming

- 279 Invited
- 117 Contributed

Sorting

- 33 Invited
- 24 Completed

Rating

- 279 Invited
- 74 Completed



Generating Ideas: Knowledge and Opinion



"In order to foster excellence in advancing the biodefense and infectious disease research enterprise, the RCE program and its Centers should..."

**348 brainstormed
and extracted
statements**

**94 final
statements**

...add chemistry resources to support screening activities and, ultimately, small molecule optimization programs.

...address the fact that the academic reward structure is largely incompatible with product development.

...allow studies on emerging diseases outside of the United States.

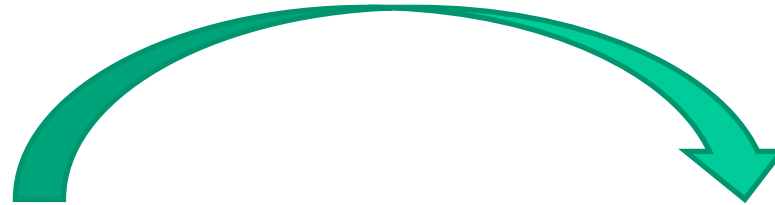
...avoid duplication of functions that are provided by other government programs or the private sector.

...be able to provide financial support to foreign institutes for resources and/or services linked to domestic projects.

...be centrally coordinated and monitored by a Management and Oversight Committee.



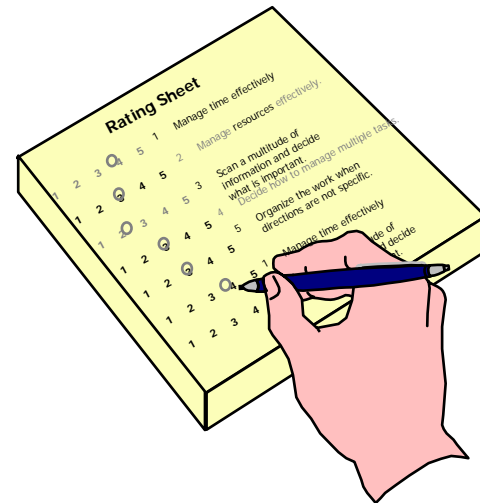
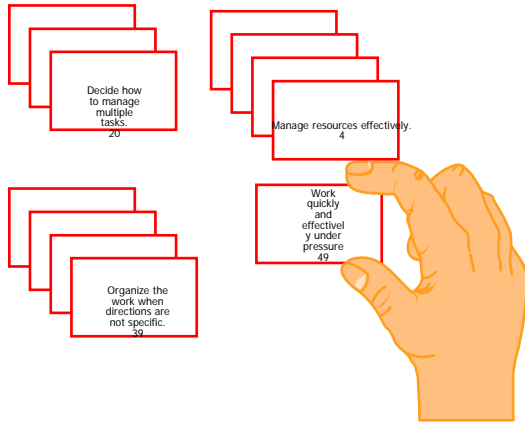
Organizing Knowledge and Opinion



94 statements were sorted into groups



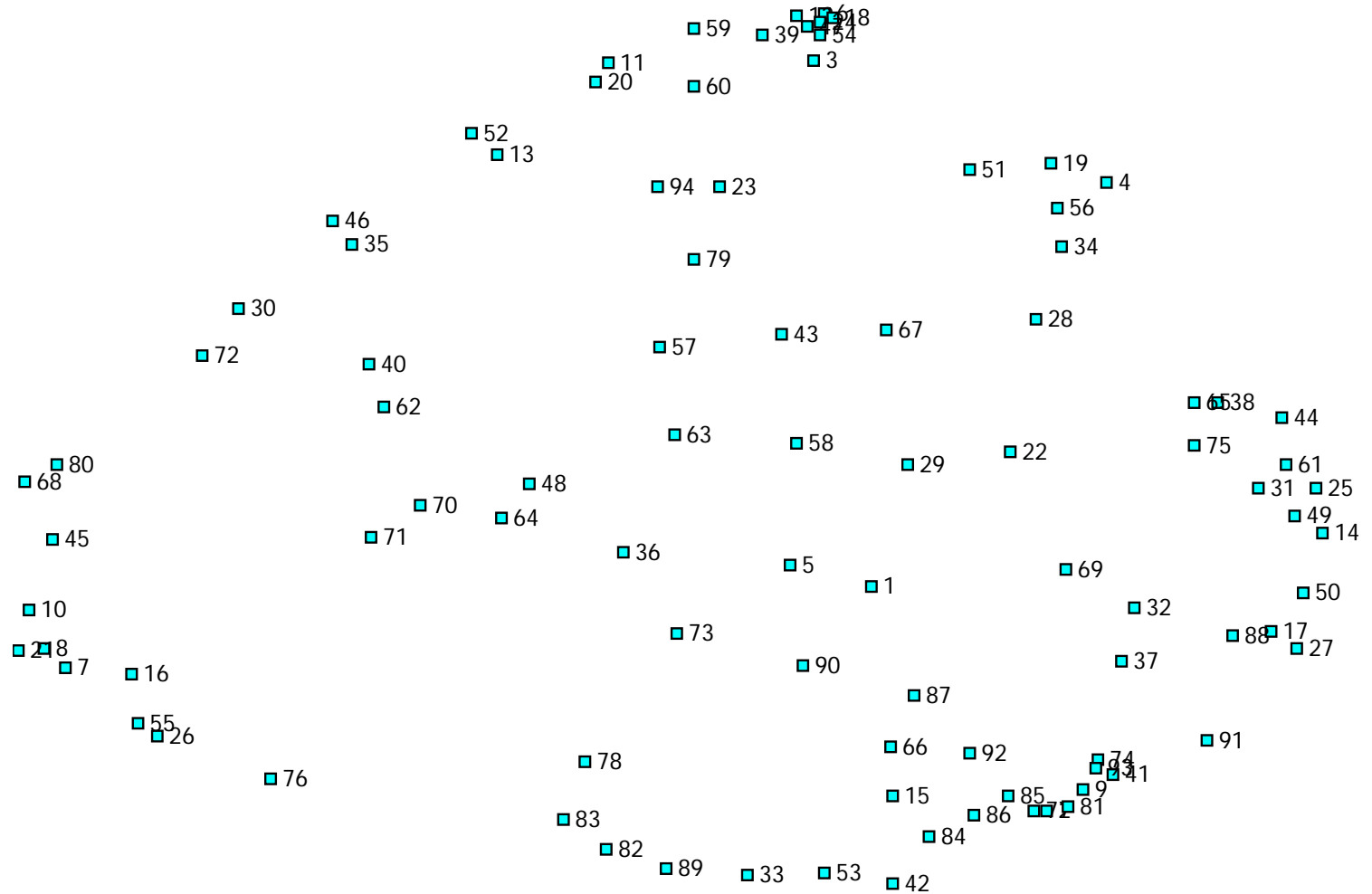
Each statement was rated twice (*Importance & Expected Progress*)



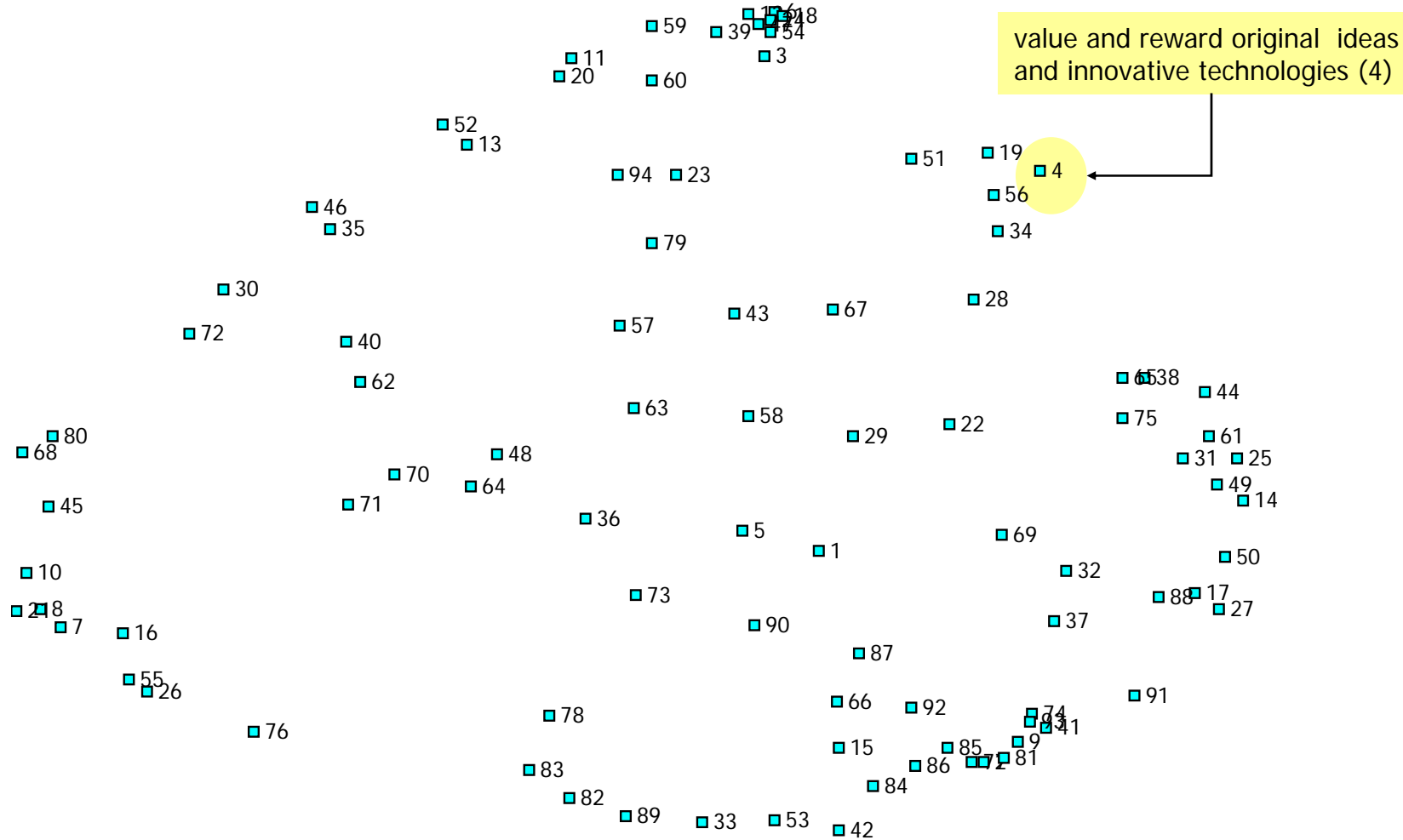
How Did We Build These Results?

- The Raw Materials
 - Statements
 - Sort Input from each participant
 - Rate Input from each participant
- The Tools
 - Aggregation of Sort Data
 - Similarity Matrix
 - Multidimensional Scaling
 - Cluster Analysis

This initial map shows all the elements in relation to one another.



Each point represents one of the brainstormed ideas.

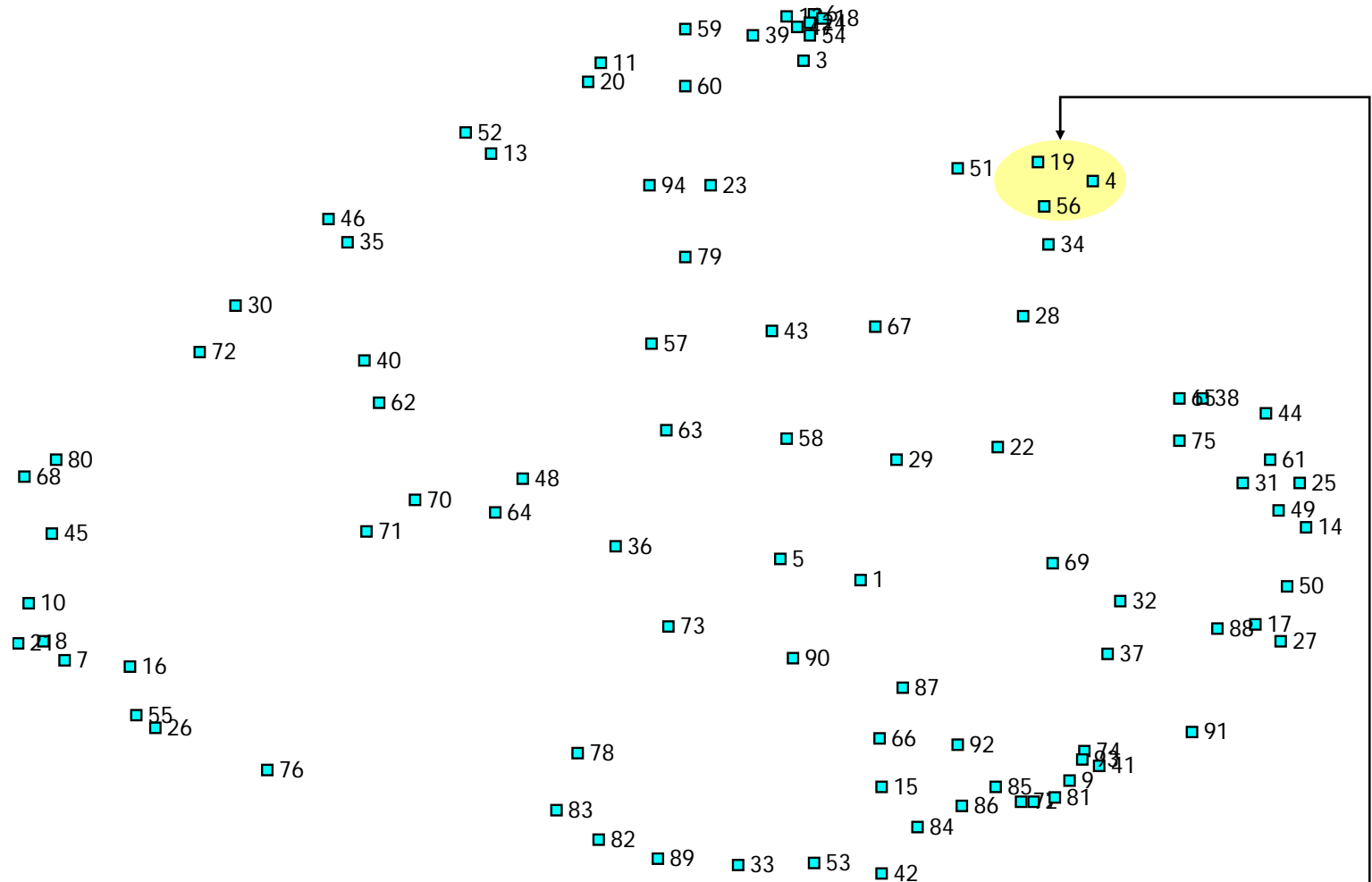


value and reward original ideas and innovative technologies (4)

"In order to foster excellence in advancing the biodefense and infectious disease research enterprise, the RCE program and its Centers should..."



Conceptually similar ideas are in close proximity



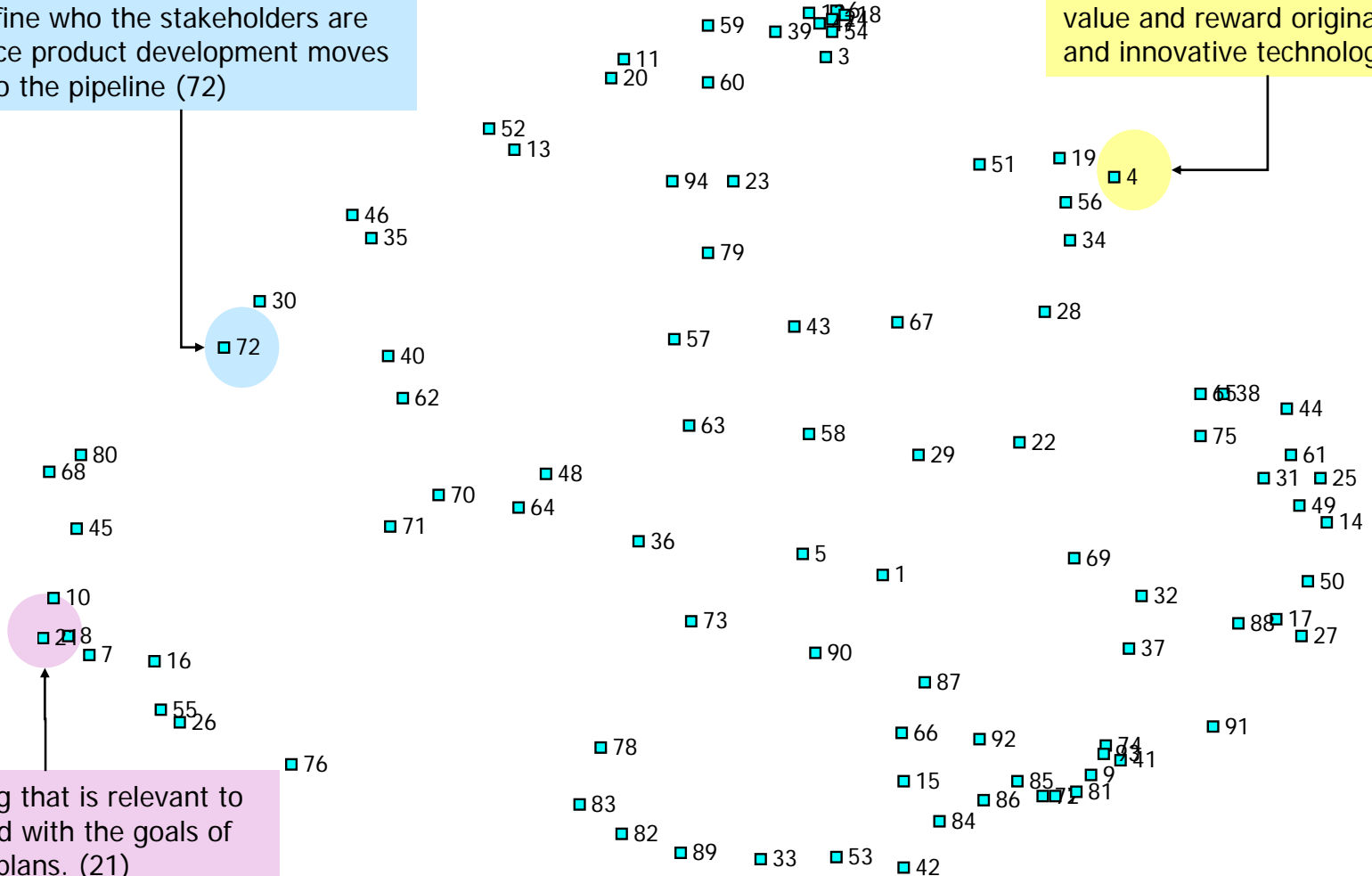
value and reward original ideas and innovative technologies (4)
demonstrate its flexibility in addressing emerging infectious disease research needs. (19)
have the capacity to rapidly move into areas of growing importance. (56)



Conceptually different ideas are further apart

define who the stakeholders are once product development moves into the pipeline (72)

value and reward original ideas and innovative technologies (4)

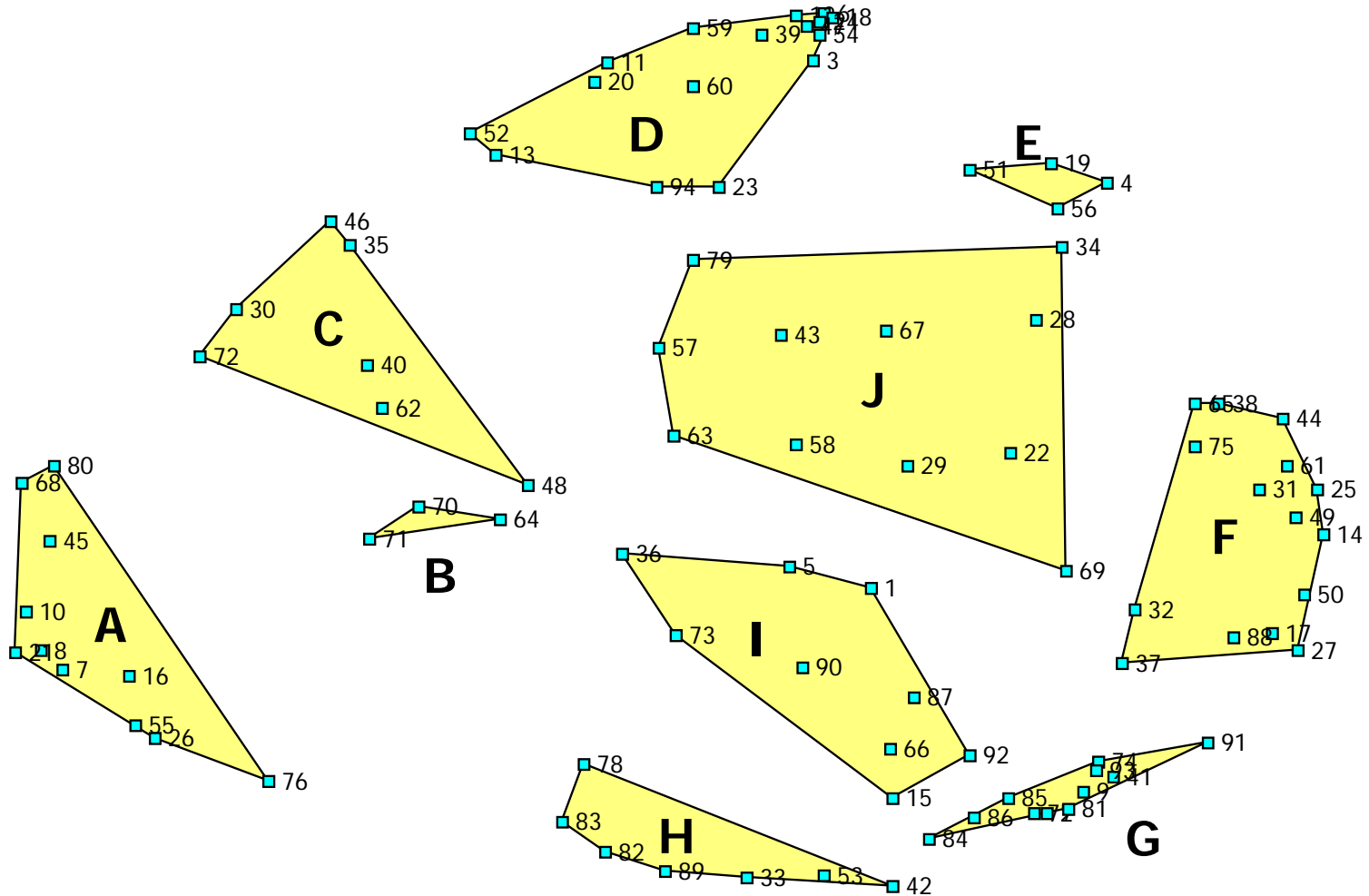


create training that is relevant to and integrated with the goals of the strategic plans. (21)

“In order to foster excellence in advancing the biodefense and infectious disease research enterprise, the RCE program and its Centers should...”



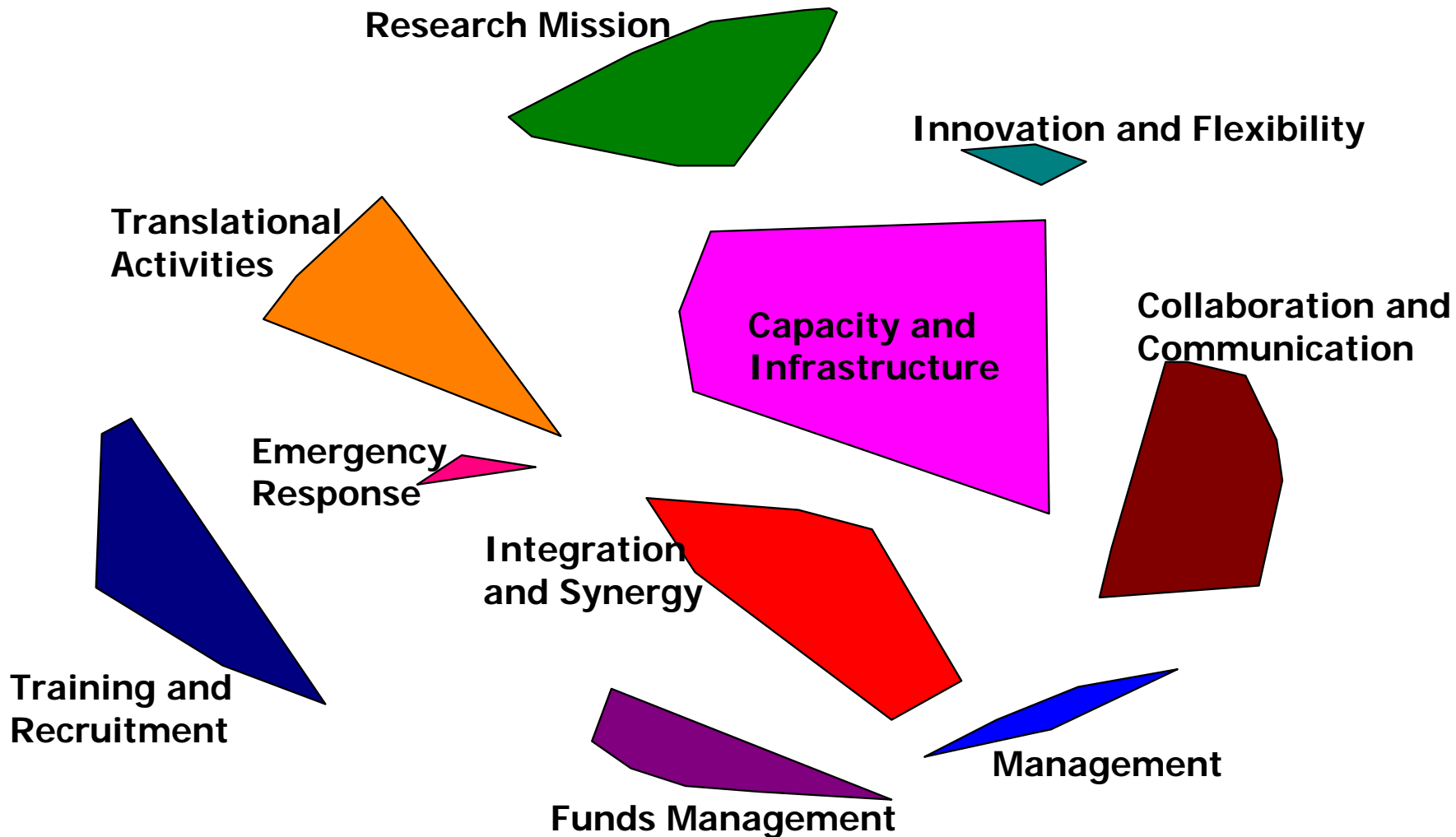
The detailed ideas are organized into groups



...so that many concepts can be considered in a shared structure



The Emerging Structure



...contains all the details and provides a conceptual framework.



Of those who responded.....

Organizational Affiliation:

- 66% identified with an RCE
- 20% identified with NIAID
- 11% identified as "other"

Role:

- 31% identified as a Research or Core PI
- 28% said they were not in an RCE
- 13% identified as an RCE staffer
- 5% identified as an RCE PI
- 18% identified as a career development awardee or a developmental project awardee



Importance Rating

Importance

Please rate each statement below on how **important** you think it is to the continued, long term success of the RCE Program and its Centers.

- 1 = relatively unimportant
- 2 = somewhat important
- 3 = important
- 4 = very important
- 5 = extremely important



Values of All Participants

Higher Importance

Importance

4.33

Innovation and Flexibility

Research Mission

Innovation and Flexibility

Translational Activities

Capacity and Infrastructure

Collaboration and Communication

Integration and Synergy

Funds Management

Capacity and Infrastructure

Research Mission

Emergency Response

Collaboration and Communication

Management

Integration and Synergy

Emergency Response

Training and Recruitment

Training and Recruitment

Funds Management

Management

Translational Activities

3.41

Lower Importance

Cluster Legend

Layer	Value
1	3.41 to 3.59
2	3.59 to 3.78
3	3.78 to 3.96
4	3.96 to 4.14
5	4.14 to 4.33



Expected Progress Rating

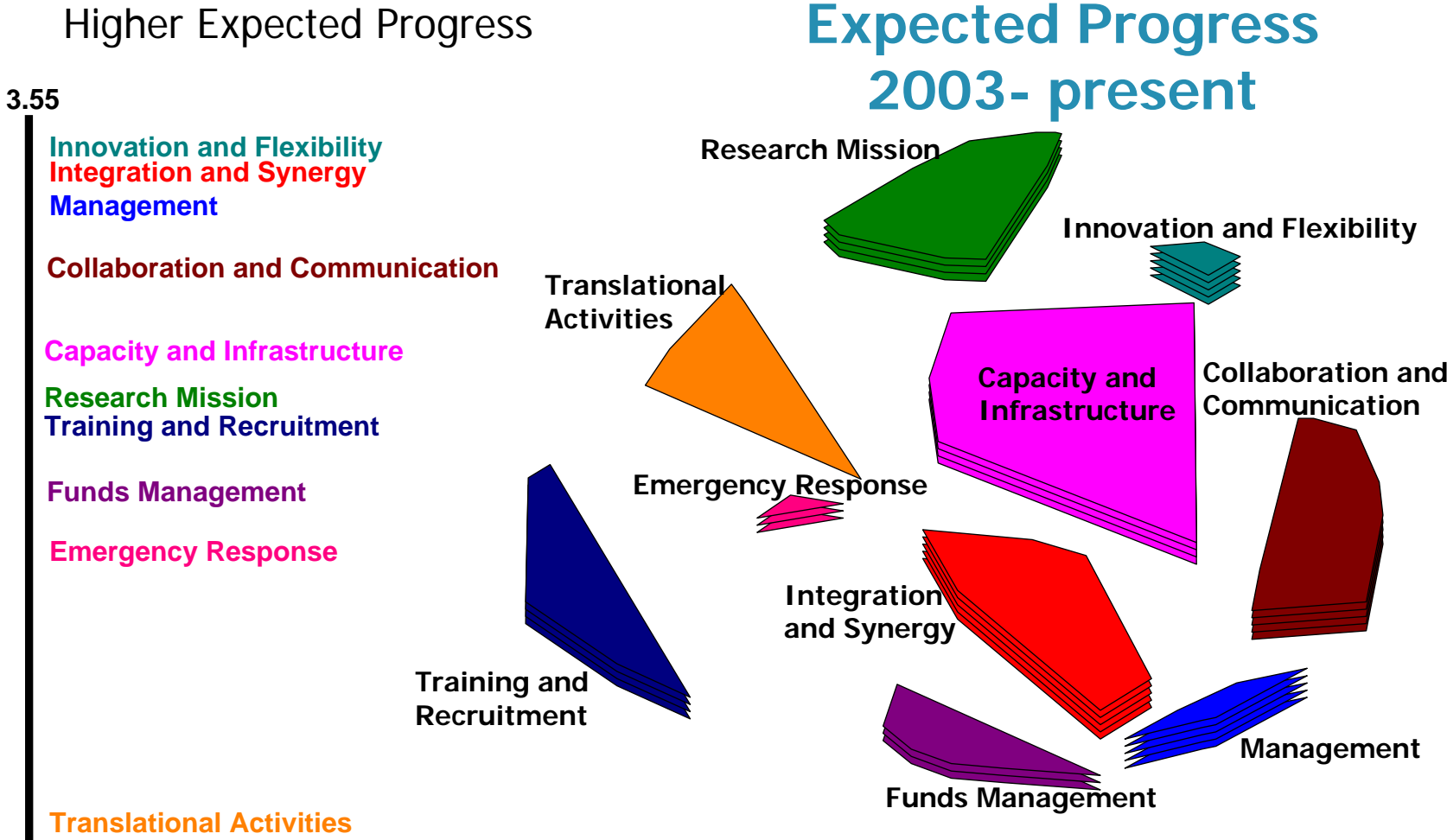
Expected Progress 2003-Present

Please rate each statement below on how much progress you would **expect** the RCE program and its Centers to make on it from 2003 to the present.

- 1 = no progress
- 2 = relatively little progress
- 3 = some progress
- 4 = a lot of progress
- 5 = completed



Values of All Participants



Cluster Legend

Layer	Value
1	2.61 to 2.80
2	2.80 to 2.99
3	2.99 to 3.18
4	3.18 to 3.36
5	3.36 to 3.55

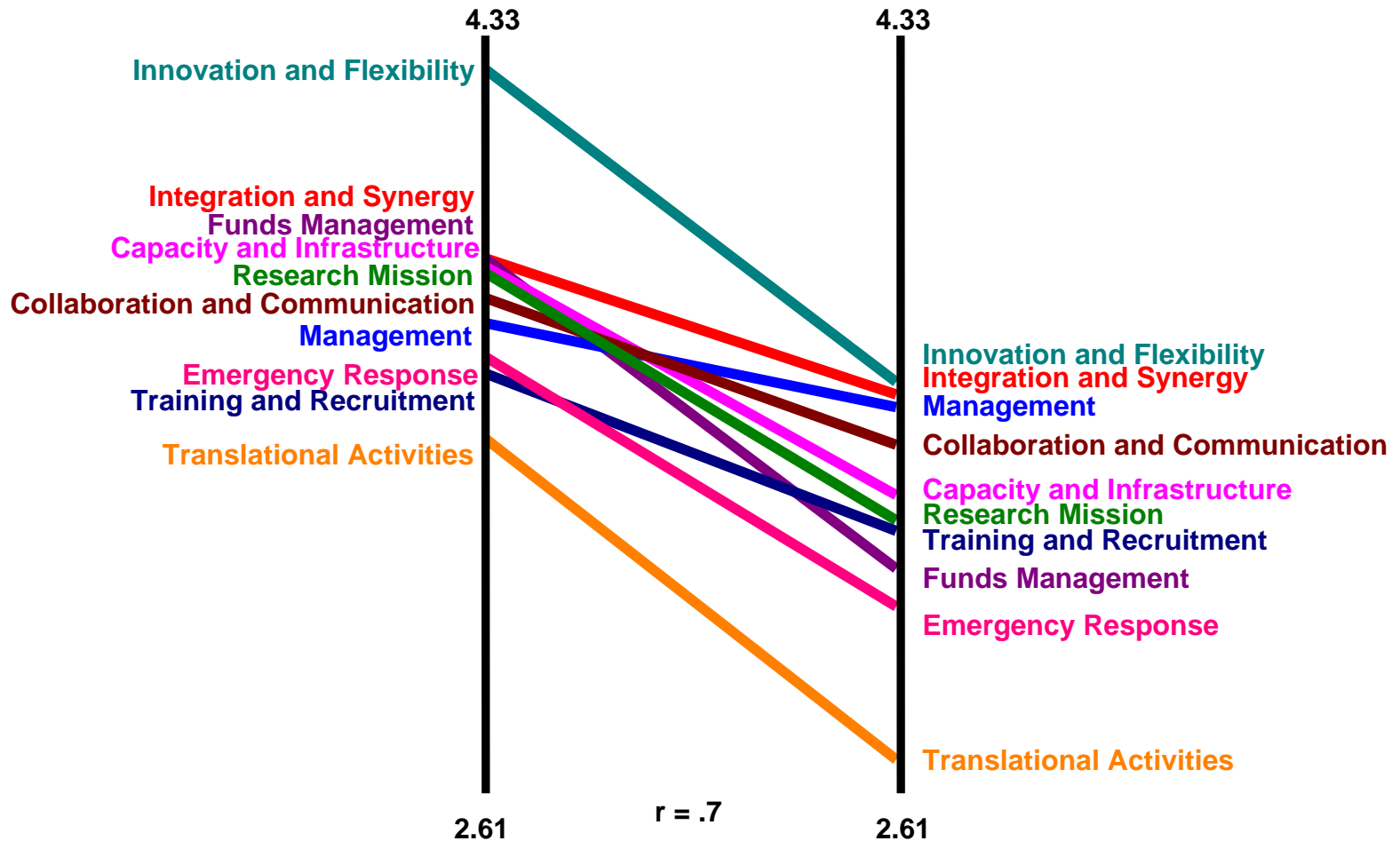
Lower Expected Progress



Importance by Expected Progress (absolute)

Importance n=74

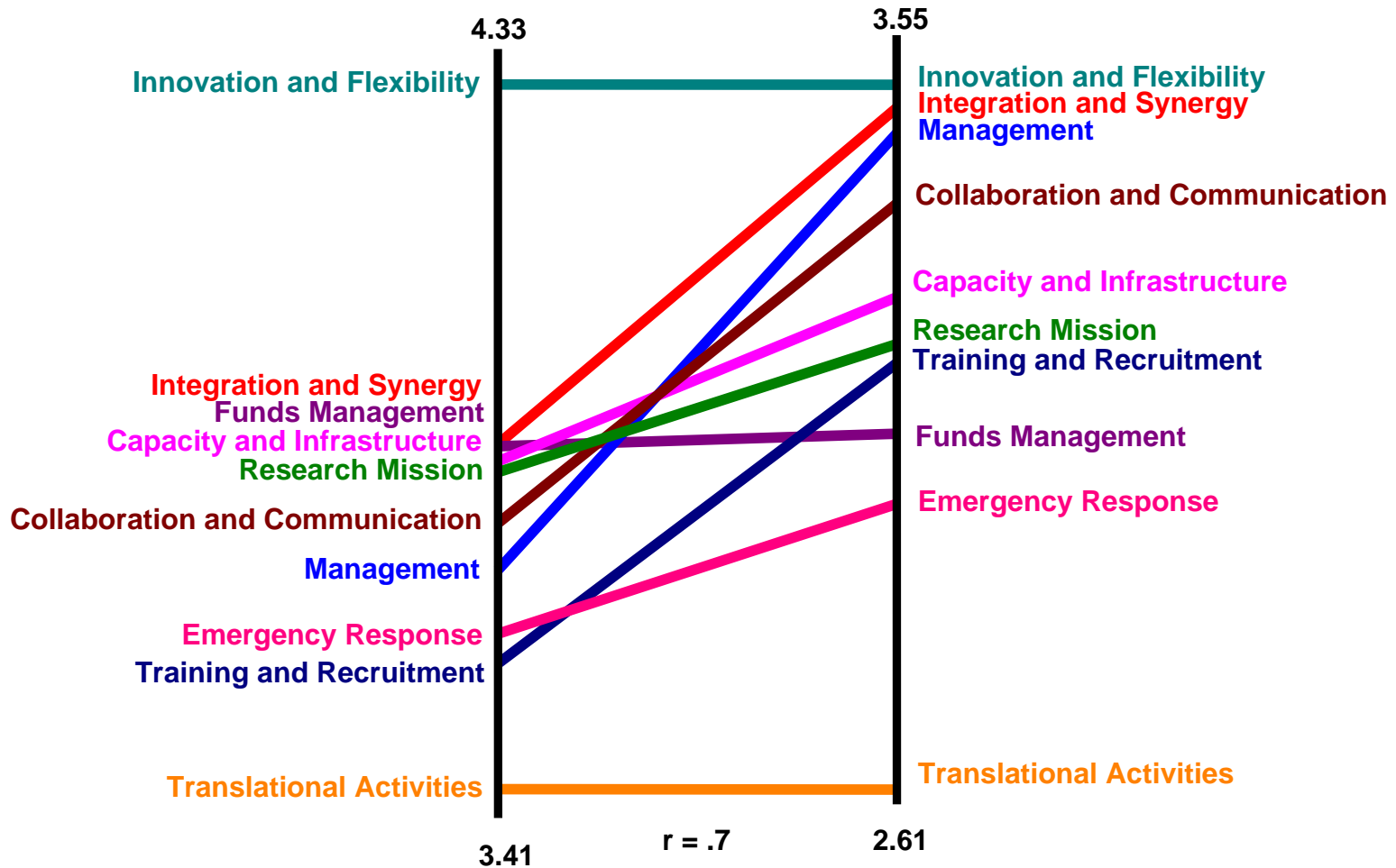
Expected progress n=58



Importance by Expected Progress (relative)

Importance n=74

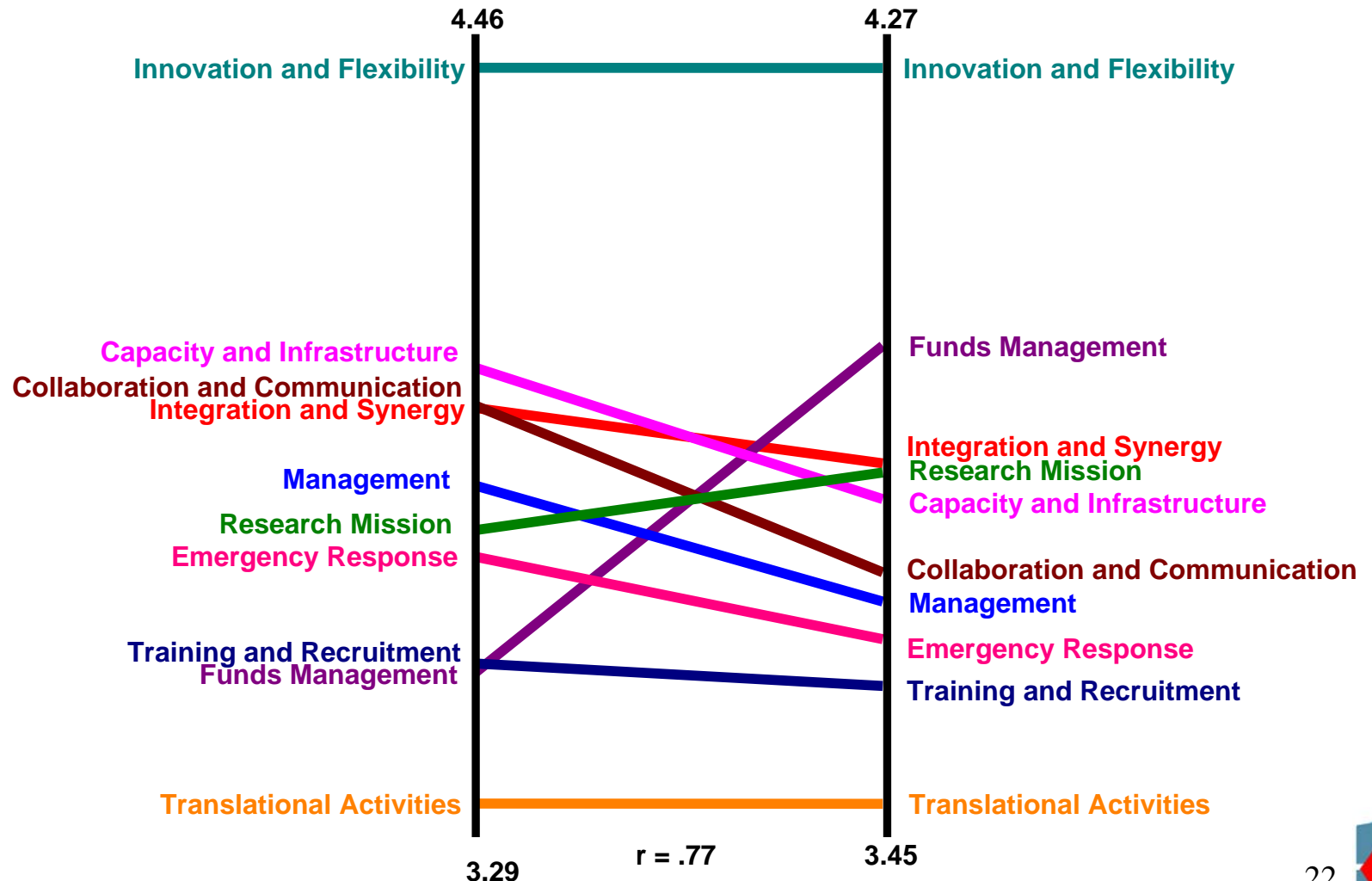
Expected progress n=58



Comparing Views on Importance

NIAID or other Gov't Agency n=13

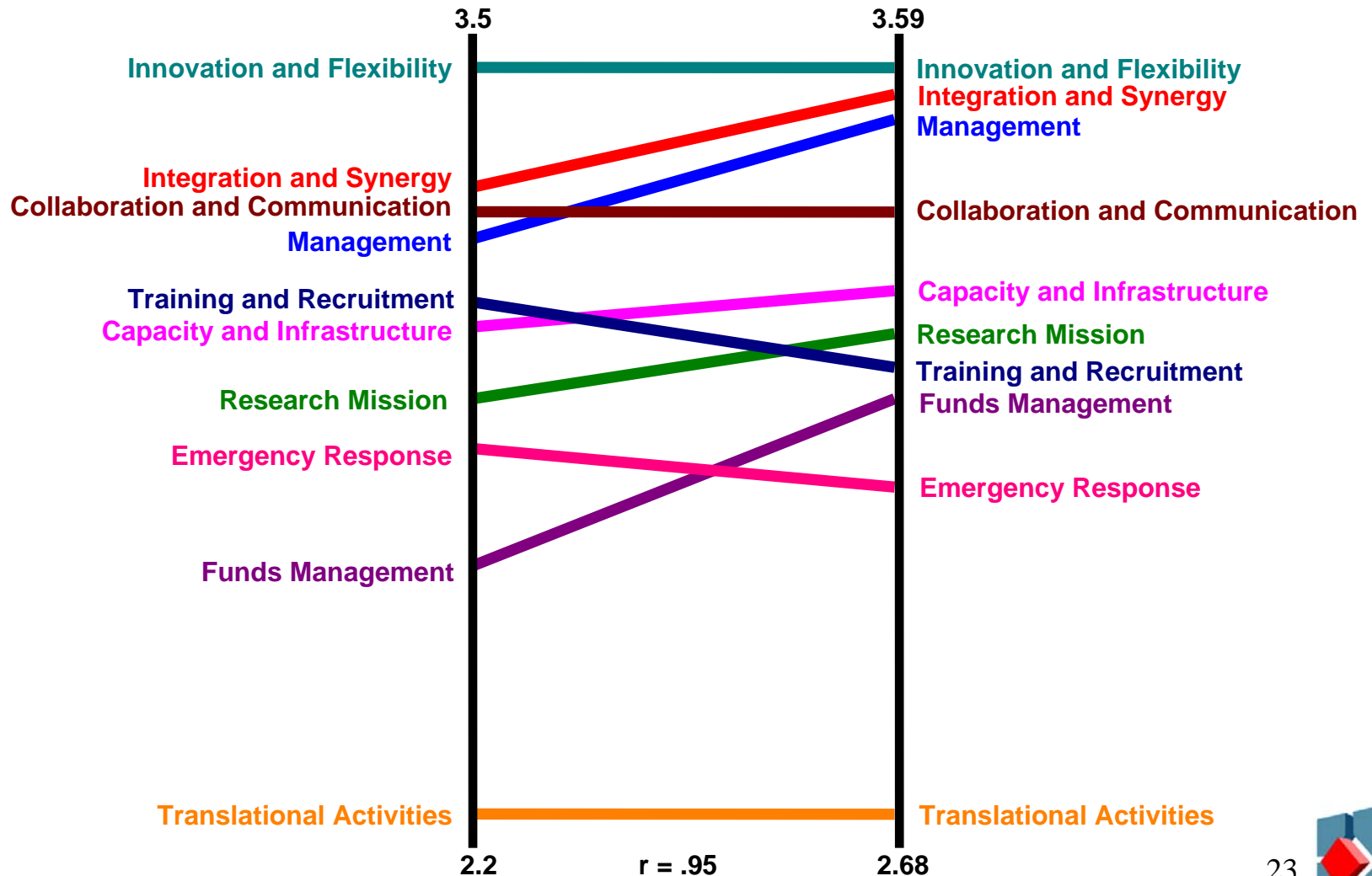
RCE n=51



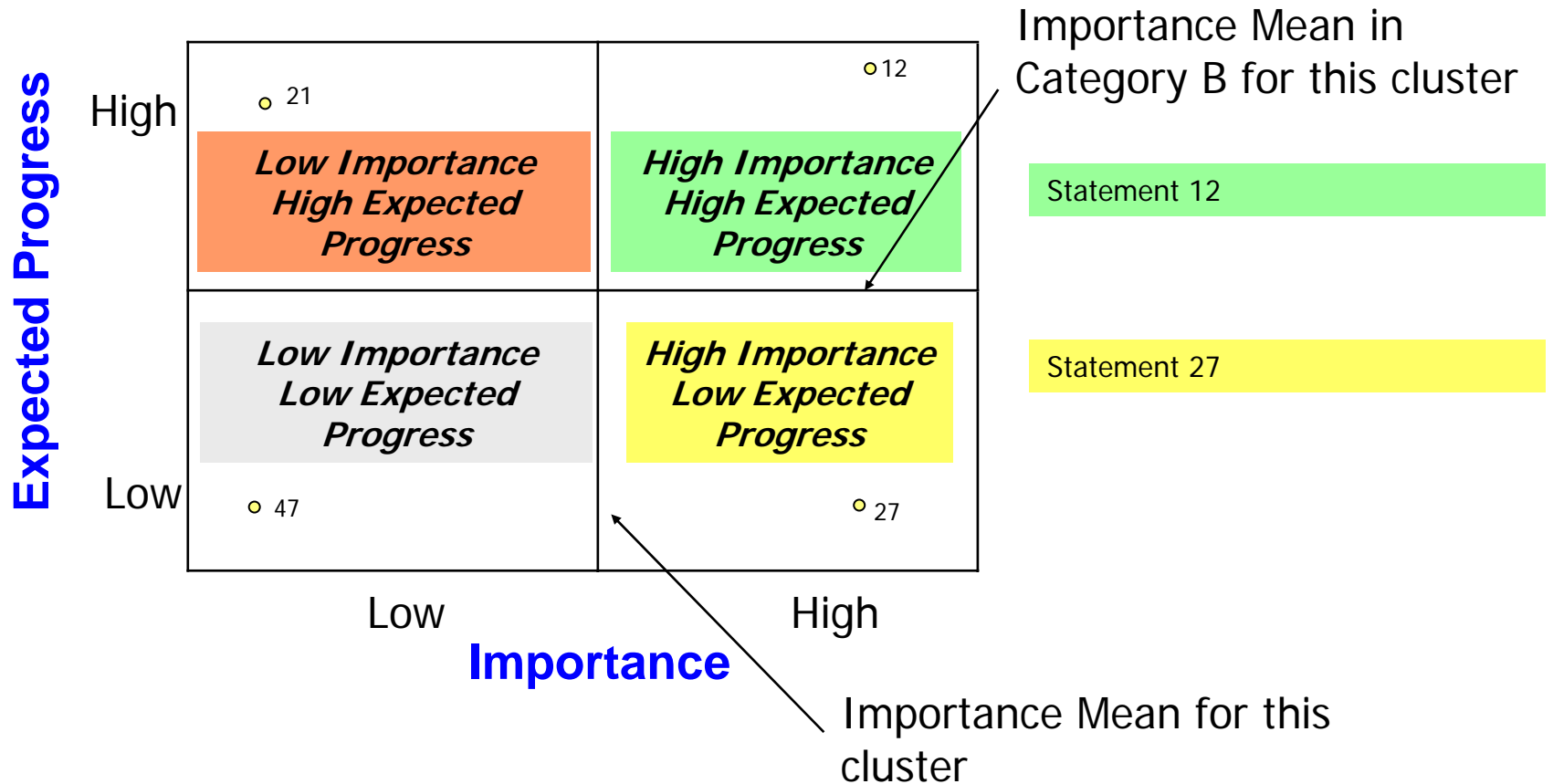
Comparing Views on Expected Progress

NIAID or other Gov't Agency n=11

RCE n=41



Go-Zone: Comparing Statements in a Cluster



Statement 21

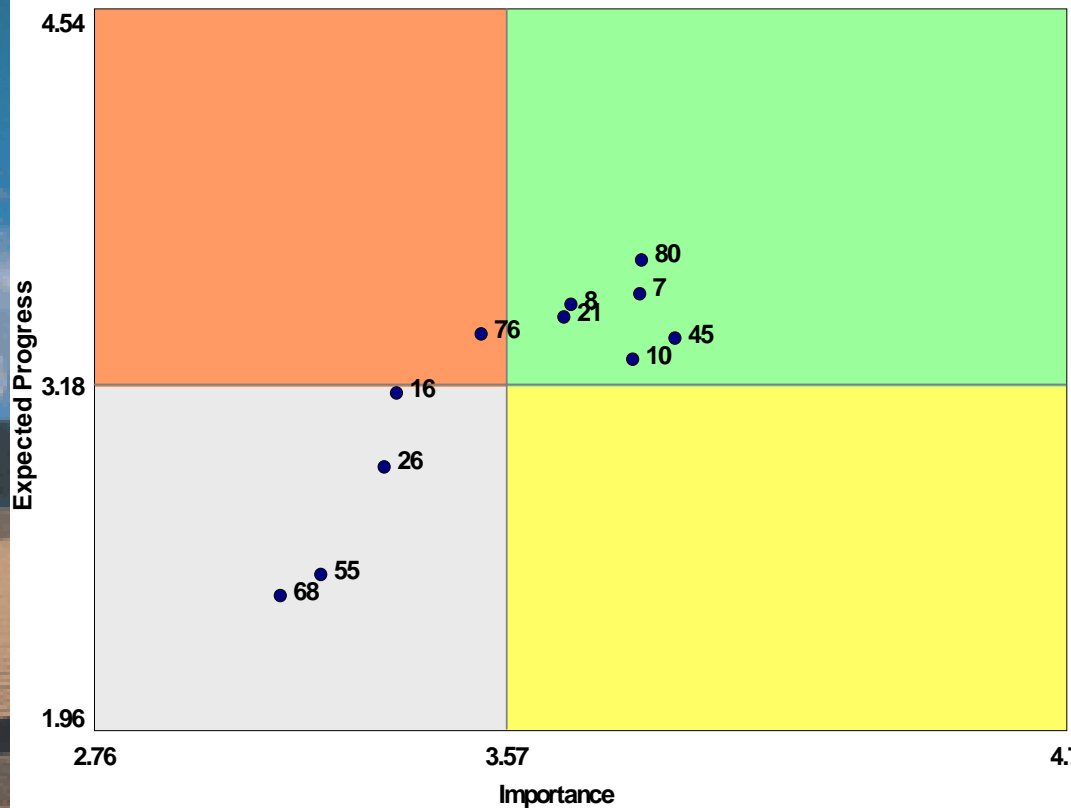
Statement 47



Training and Recruitment Go Zone by Importance and Expected Progress

Training and Recruitment

$r = .89$



promote and encourage opportunities for mentoring junior faculty/researchers in the field of biodefense and emerging infectious disease research. (7)

encourage the participation of post-docs, students, and other non-PI scientists at each RCE's regional meeting. (8)

recruit qualified students, trainees, women and minorities. (10)

create training that is relevant to and integrated with the goals of the strategic plans. (21)

develop an expanded cadre of new researchers, clinicians, and technical personnel who can help lead the national biodefense mission. (45)

bring new people into the area of biodefense and emerging infectious disease research. (80)

develop policies, criteria and processes for selecting career development candidates, including special efforts to recruit qualified women and minorities. (76)

help new investigators obtain funding. (16)

develop more standardized training programs across RCEs by looking at successful programs at each RCE and developing some best practices. (26)

supplement RCE activities by applying for direct training supports through T, K and F awards. (55)

establish training programs with pharmaceutical company partners to allow training of scientists in drug discovery and non-clinical development. (68)

Value to stakeholder participation

- Solicits input and facilitates feedback to participants.
- Equalizes input – a true co-authored framework
- Recognizes and reveals multiple perspectives and agendas.
- Defines success characteristics from multiple unique perspectives at the same time
- Increases buy-in and support for emerging and ongoing evaluation work
- Structured and systematic method for managing diverse stakeholder views at multiple levels

