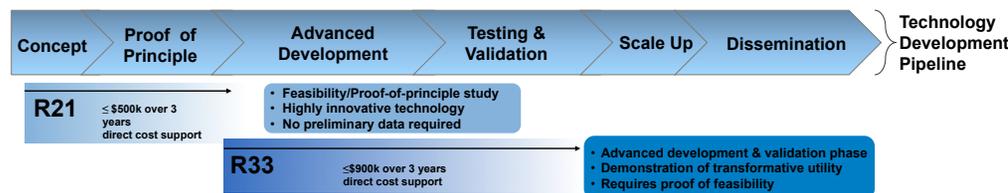


Abstract

Use of the Request for Applications (RFA) mechanism is critical for appropriately targeting and supporting unique areas of research. The policy across many institutes and centers (ICs) of the NIH requires a reasonable assessment of the NIH and specific IC portfolio to justify setting aside resources from increasingly restricted budgets. The rigor of the assessment increases significantly if seeking to *renew* that program and continue setting aside funds. The long-standing NCI Innovative Molecular Analysis Technologies (IMAT) program is one such initiative that relies on the unique advantages of the RFA mechanism. The IMAT program was initially launched in 1998 as a broad solicitation for the development of highly innovative cancer-relevant technologies. The NCI has periodically modified the structure of the IMAT program to meet the changing technology needs and landscape of cancer-relevant research, especially in developing new funding mechanisms more appropriate to support such research. In order to properly monitor the effectiveness of the IMAT program, and maximize its utility for the continuum of cancer researchers, clinicians and ultimately patients, a strategy for on-going evaluation of the IMAT portfolio has been pursued, assessing progress on the intended mission and goals of the program. This poster will describe aspects of this on-going evaluation strategy, along with results from the most recent report used to support reissuance of the program in Fall 2013.

Program Overview



Some numbers

Launched in 1998...70 FOAs issued...3719 applications received...533 funded...60-90 active projects at any given time.

Evaluation Overview

Evaluation Objectives

1. Are submissions to and awards from the IMAT program unique within the NCI portfolio?
2. Does the program work to support technology development appropriately?
3. Does the program support technologies useful to the cancer research community?

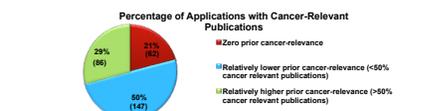
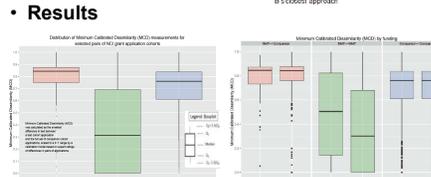
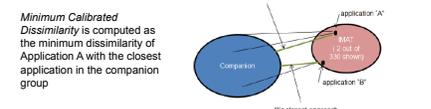
Evaluation Tasks

1. Develop and execute text-mining approach to compare **responsive** IMAT applications with comparable applications reviewed by other study sections [Q-1].
 - IMAT Program Team to assist with identification of appropriate comparisons
2. Screen each **responsive** applicant for evidence of past NCI support, or publication of prior cancer research. [Q-1]
3. Determine progress against each milestone for each award [Q-2]
 - Using a scale of milestones "exceeded," "completed," "mostly completed," "partially completed", or "no progress."
4. Develop a comprehensive record of all patent applications and patents awarded for all awards [Q-2].
5. Perform bibliometric analyses to identify and characterize quality of publications, including "Impact Factor Quartile," "1-Year" and "2-Year" citation benchmarks, and citation counts [Q-2 & 3].
6. Screen NIH database (IMPAC II) for subsequent NIH applications for technology development support by any of the IMAT principal investigators. [Q-2]
7. Screen NIH database (QVR) for subsequent NIH applications utilizing the IMAT-supported technology. [Q-3]
8. Perform case-study interviews using past interview protocol with 9 awarded IMAT investigators, randomly selected. [Q-3]

Tasks 1, 2, 4 & 5 executed by contractor

Q1: Uniqueness of Applications

- **Scope:** Submissions to FY2013 solicitations alone as most recent record with evidence
 - 432 applications [320 R21, 112 R33]
 - 316 responsive [222 R21, 94 R33]
 - 36 awards [22 R21, 14 R33]
- **Metrics**
 - Text mining of IMAT applications in comparison to other relevant NCI & NIH applications
 - Breakdown of "cancer research" vs "non-cancer research" applicants
 - Interviews with investigators (different group from above)
- **Novel methods**



Q 2&3: Successful development (Q2) and usefulness (Q3) of technology

- **Scope:** FY2010 IMAT awards
 - 25 R21 and 5 R33 awards
- **Metrics:**
 - Q2: Milestones met for R21; Patents submitted/awarded; Peer-reviewed publications; Transition from R21→R33.
 - Q3: Bibliometrics; Subsequent applications for NIH supported research (with and without the PI); Commercialization activity (licensing, patent awards).
- **Results**
 - 25 R21 projects with *quantitative milestones* proposed
 - 8 Fully completed or exceeded all proposed milestones
 - 11 Mostly completed proposed milestones
 - 4 Some progress on proposed milestones, progress still expected
 - 2 Unsuccessful altogether

— 116 publications (see table) →

	2-yr R21 (15 projects)	3-yr R21 (10 projects)	R33 (5 projects)	Total (30 projects)
All Publications*	53	43	12	116
Average Publications per Project (Max)	3.5 (17)	4.3 (14)	2.4 (5)	3.6 (17)
Average Total # of Citations per Project (Max)	28 (123)	40 (216)	9 (24)	29 (216)
Average Cancer-Relevant Citing Publications (Max)	4 (21)	3 (11)	1 (5)	3 (21)
Average Prestige Ratio (Max)	29% (69%)	40% (77%)	18% (50%)	31% (77%)
Median Impact Factor Quartile (Min)	1 (1)	1 (1)	2 (1)	1 (1)

- 16 applications for R33 support
 - 3 successfully awarded, 2 pending review
 - 6 still eligible for revision and resubmission
 - Several PIs indicating they still intend to submit an R33 application
- 37 US patent applications reported (+32 international)
 - 4 patents granted (applications filed before IMAT award)
 - 6 licensing agreements in place or in negotiation on unique platforms
 - 1 commercially available platform (Oris ProTM migration kit from Platypus Technologies)
- 60 applications submitted to NIH leveraging IMAT-supported technology for hypothesis-driven research (51 with focus on advancing cancer research, 32 of which referred to NCI)
 - Of these 60
 - 24 were R01 applications, 22 of which focused on cancer research (10 referred to NCI)
 - 6 were successful (3 supported by NCI)
 - 75% of all applications drew specific enthusiasm from primary reviewers for the IMAT-supported technology component