

Dissemination and Implementation Grants Analysis

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Introduction

The following are the results of two content analyses examining the summary statements associated with grant applications to the Trans-NIH PARs for Dissemination and Implementation Research in Health. The first analysis examined the summary statements of all awarded R01s (n= 18), R03s (n= 3), and R21s (n= 9) from the January 2008 council to the May 2011 council. Applications from this group represent a variety of NIH institutes and centers. These summary statements compile the critiques of three (in some cases four) reviewers, and present a summary of the study section's discussion about the merits and weaknesses of proposals. These strengths and weaknesses were extracted by two analysts at the National Cancer Institute and compiled in a Microsoft Excel spreadsheet; common themes were then identified.

The second analysis examined the summary statements of triaged NCI R01 applications (n=10) from the councils of October 2010 through January 2012. Applications are considered "triaged" when they are not discussed at Scientific Review Group/Study Section meetings prior to the council meeting. Triaged applications are considered less meritorious based on their preliminary scores and initial reviewer comments. Summary statements for these applications include strengths and weaknesses indicated by the three or four reviewers. Two analysts extracted the weaknesses identified in each proposal to an Excel document, and then examined this larger document for common themes.

The results below may serve as a general guide to applicants by providing a wide view of the strengths of funded proposals and the weaknesses of triaged grant applications to the Trans-NIH PAR for Dissemination and Implementation Research in Health. However, these results should not be interpreted as prescriptions for successful proposals, as strengths and weaknesses listed in summary statements do not present a comprehensive explanation for why applications are funded. They merely list the strengths and weaknesses noted by designated reviewers, though disagreement among reviewers may exist. Other members of the study section assigned scores which impacted the ultimate fate of the application, but did not necessarily articulate publicly their justifications for these scores.

Characteristics of Strong D&I Research Studies: Funded R01s, R03s & R21s

The following chart presents, on the left, a list of broad characteristics found commonly among the examined studies. On the right are examples of the specific strengths and strategies noted in the summary statements. Not all proposals exemplified all characteristics or utilized all strategies. Additionally, though not presented here, all studies, even the highest scored (outstanding, exceptional, excellent), contain some weaknesses. These weaknesses are generally perceived as fixable, and as outweighed by the strengths of the proposal.

Broad Characteristic	Strategies Utilized by Proposals
<p>Significance: The proposal meets the goal of D&I PAR to improve practice through research.</p>	<ul style="list-style-type: none"> • The proposal tackles a significant health issue. • The proposal addresses a recognized practice problem or need, and presents the opportunity to fill a knowledge gap.
<p>Use of mixed methods: The proposal utilizes mixed methods (quantitative and qualitative), as encouraged by the PAR.</p>	<p>Plans for qualitative analysis are sufficiently detailed and conceptualized. For example, the proposals might:</p> <ul style="list-style-type: none"> • present sufficient justification for qualitative analysis • discuss plans for coding and analyzing collected data • present a potential interview guide • indicate a method for triangulating interpretation • consider inter-rater reliability and the role of the interviewer/interpreter • plan for pre-testing and revision of interview questions <p>In addition, qualitative and quantitative analyses are often integrated, informing each other to present a comprehensive picture.</p> <p>Methods are appropriate to the study settings and the research question at hand.</p>
<p>Sampling strategy and selection criteria: Regardless of the method, sampling strategies and selection criteria are well-articulated and justified.</p>	<ul style="list-style-type: none"> • Criteria are appropriate to and follow the study aims. They are presented with clear explanation and rationale. • When appropriate to the study aims and methodology, sample size should be determined to provide adequate statistical power. Detailed statistical considerations and power analysis are offered when appropriate.

<p>Sustainability: the proposal addresses the sustainability of the project or innovation</p>	<p>The proposal might address sustainability by:</p> <ul style="list-style-type: none"> ● Examining the factors leading to sustainability of an intervention or innovation ● Incorporating the existing resources (human, infrastructure, information technology systems, etc) of the implementing site (e.g. clinic, community-based organization, health care system) into the design of the study ● Conducting a cost analysis of the innovation, or comparing it to alternatives; this analysis provides insight in to the sustainability of the intervention/innovation ● Explicitly evaluating the sustainability of the disseminated/ implemented intervention over time
<p>Feasibility and Generalizability: D&I is concerned with real-world applicability of interventions and innovation. Strong proposals promote interventions that are feasible and practical for real-world settings.</p>	<p>Proposals might demonstrate feasibility and generalizability by:</p> <ul style="list-style-type: none"> ● Adequately considering barriers to implementation (with respect to social, cultural, organizational, policy factors) or directly investigating barriers and facilitators to implementation ● Explicitly assessing the feasibility or acceptability of an intervention in a given setting ● Presenting evidence (preliminary data, results from pilot work) that the project is feasible, particularly for R01s ● Presenting appropriate project planning to demonstrate the research is itself feasible in terms of budget, human resources, and timeline ● Showing potential relevance to other systems, settings or populations ● Demonstrating that findings will not be limited to one field but are broadly applicable and relevant to D&I, helping to advance the field as a whole.
<p>Targeting diverse, underserved and understudied populations and settings</p>	<p>The proposal might:</p> <ul style="list-style-type: none"> ● Address health disparities ● Target minority populations ● Incorporate approaches that are flexible and consider cultural and social contexts ● Consider the social and cultural characteristics of the community in the design and conduct of the study

<p>Potential for advancing the methods for dissemination and implementation</p>	<p>To advance the field, a proposal might:</p> <ul style="list-style-type: none"> ● Investigate the process of adaptation ● Compare adaptation vs. fidelity approaches ● Experimentally compare different methods of dissemination ● Introduce novel / innovative methods that reach underserved populations with new tools
<p>Community Collaboration: To be relevant to real-world settings, D&I research must foster collaboration with communities and community-based organizations.</p>	<p>Studies commended for strong community collaboration:</p> <ul style="list-style-type: none"> ● Included participatory methods, perhaps forming a community advisory board to participate in decision making. ● Demonstrated that the needs and characteristics of the community informed the proposal. ● Included well-delineated plans for stakeholder involvement ● Sought to experimentally test the effects of bottom-up, participatory approaches ● Demonstrated strong partnerships with communities and community-based organizations (often through letters of support, completion of prior projects together, community members or organizations taking responsibility for parts of the implementation)
<p>Strong Study Teams: Proposals feature strong, experienced, inter-disciplinary study teams.</p>	<p>Strong study teams often:</p> <ul style="list-style-type: none"> ● Reflect multidisciplinary expertise in terms of skills and disciplines. ● Fill any gaps in knowledge or expertise by hiring or collaborating with relevant consultants or colleagues ● Assure the teams members are sufficiently involved to adequately perform study tasks
<p>Conceptual frameworks: proposals present relevant and specific frameworks, theories or models to guide their work</p>	<p>Conceptual frameworks can be:</p> <ul style="list-style-type: none"> ● Clear, appropriate and proven ● Integrated or multidisciplinary ● Multilevel, reflecting ecological or system approaches (for a comprehensive approach to complex issues)

Characteristics of D&I Research Studies in need of further development: Triaged NCI R01s

The chart below provides, on the left, are commonly-discussed weaknesses noted by reviewers in the summary statements. On the right are examples of the specific types of criticisms noted by reviewers.

General areas of weaknesses highlighted by reviewers.	Specific weaknesses noted by reviewers
<p>The proposal fails to clearly articulate its overall significance, aims, relevance to the field of D&I, or generalizability to broader settings and populations.</p> <p>Since D&I is concerned with real-world applicability of interventions and innovations, interventions must be feasible and practical for real-world settings.</p> <p>D&I is concerned with putting research in to practice.</p> <p>Disseminated and implemented innovations should be evidence-based.</p>	<ul style="list-style-type: none"> ● Absent, unclear or inappropriately applied conceptual / theoretical framework resulting in limited contribution to the D&I field ● Little preliminary evidence justifying implementation or dissemination of the intervention; the application proposes to test an innovative intervention rather than implement a proven one to improve health ● Narrow focus on scale-up or replication without indicating how it can advance D&I more broadly ● Poor generalizability to other real-world settings because of the cost of the intervention, the utilization of tools/procedures which are burdensome or not commonly available, inappropriate recruitment procedures, and unreasonably excluding minorities or specific population segments for whom the implementation would be significant. As a result, potential replication and fidelity of implementation might be compromised. ● Lack of cost or comparative-effectiveness analyses which could support generalizability and broader implementation ● Non-existent or fragmented evidence and support for the main study question. ● Inconsistent aims, unclear hypothesis, or poorly articulated central question. ● Project does not fit within the scope of the designated grant mechanism (e.g. R01, R21, R03) ● Cost analyses are premature, inappropriate or irrelevant to the future implementation of the study.

<p>The proposal fails to adequately articulate its framework, theoretical background and conceptual models. These elements may be lacking or insufficiently detailed. As a result, there may be design, methodological or conceptualization problems that could inhibit the ability of the proposals to answer the stated research questions.</p>	<ul style="list-style-type: none"> ● Unexplained inclusion/exclusion criteria of organizations, clinics, or respondents leave the door open for selection bias or numerous, unexamined confounding factors. For example, some studies do not explain why they chose to include specific population demographics or implementation sites, and how these choices are related to the overall research question. ● Sample size may be inappropriate. ● Missing justifications or details on important study design questions such as time frame and organizational design ● Insufficient description of study design including approach and methods. In particular, the approach, plan and resources for qualitative analysis may be insufficient or vague. ● Study is not founded on a solid conceptual or theoretical framework. The conceptual framework may be unclear, unproven and lacking an evidence base, or unsophisticated and lacking a comprehensive ecological/multi-level perspective. ● Mismatch between study aims, main question and the design of the study. ● The intervention or innovation to be disseminated/implemented is not sufficiently described ● Variables and their associated measures are insufficiently described, insufficiently specified, un-validated, inappropriate to the overall aims, or collected at time points that make them less useful or difficult to compare to the relevant literature; measures of fidelity are not comprehensive ● Plans for Community Based Participatory Research are vague
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Conclusion

This analysis provides a general view of the characteristics of both funded and triaged D&I grant applications. This review should not be taken as a manual for grant writers, but as an additional resource to provide examples of commonly noted strengths and weaknesses of D&I proposals. In general successful grants provide sufficient and comprehensive details to explain their significance, relevance to D&I, and applicability to other settings. Conceptual frameworks, methods and measures are clear and appropriate. Overall, reviewers find that successful applications have the resources and infrastructure available to complete the project.

Triaged applications, on the other hand, often fail to articulate the significance of the proposal, its relevance to D&I, and its potential to advance the field. In addition, reviewers may doubt the potential of the project to be completed. Finally, poorly detailed conceptual models, frameworks, methodologies and measures may negatively impact the potential of the study to achieve its aims and advance the field.