Appendix Table 1. **Major Review Issues in National Institutes of Health Grant Proposals (*n* = 66)**

Area*	Grants, *n* (%)
Specific aims/hypothesis	30 (45)
Goals overstated, overly ambitious or unrealistic	12 (18)
Poorly focused or inadequately conceptualized	10 (15)
Hypotheses not clearly articulated	8 (12)
Background/significance	24 (36)
Need for study not well justified	19 (29)
Too much background, insufficient room for methods, extraneous information	3 (5)
Overstatement of significance of study	2 (3)
Preliminary/pilot studies	33 (50)
More pilot work needed	27 (41)
Studies cited with no clear link to proposed study	4 (6)
Inadequate description of preliminary studies	2 (3)
General issues	24 (36)
Layout poor (editing/typographical/grammatical errors, inconsistencies, too-small font, omitted lines or tables, poor photocopy, difficult to read)	13 (20)
Use of jargon, abbreviations, undefined terms	3 (5)
Information presented in wrong sections	3 (5)
Limitations not adequately discussed	2 (3)
(For revision) Inadequately responsive to previous reviewers' comments	5 (8)
Methods	66 (100)
Generally underdeveloped	10 (15)
Study sample	46 (70)
Inclusion criteria	36 (54)
Flawed sample (nonrepresentative, potential bias)	24 (36)
Poorly described	12 (18)
Exclusion criteria	23 (35)
Reasons for exclusion not well justified	12 (18)
Important exclusions overlooked	7 (11)
Postenrollment exclusions (potential bias)	4 (6)
Availability of study participants not assured	4 (6)
Data collection/procedures	18 (27)
Inadequate description of study instruments or variables	9 (14)
Concerns about validity or reliability of data collection methods	5 (8)
Important variables omitted	2 (3)
Many study variables not used in analyses	2 (3)
Outcome	40 (66)
Concerns about adequate blinding of outcome assessment	24 (36)
Outcome measure inadequately described, defined, or specified	15 (23)
Concerns about validity or reliability of outcome measure	9 (14)
Intervention	16 (24)
Inadequate description of how adherence will be monitored or analyzed	9 (14)
Method of randomization not described or potential bias in selection process	5 (8)
Concerns about potency of intervention	5 (8)
Poorly described or unstandardized protocol	4 (6)
Unblinded administration of intervention	2 (3)
Concerns about unaddressed safety issues	2 (3)
Controls	7 (11)
Issue of contamination or co-intervention	4 (6)
Lack of or inadequate description of control group	3 (5)
Data analysis	42 (66)
Inadequate control for important confounders	21 (32)
Insufficient description of analytic approach	16 (24)
Intention-to-treat analytic strategy needed	7 (11)
Inadequate description of handling missing data or nonresponses	7 (11)
Sample size/power	28 (42)
Lack of or inadequate description of sample size or power calculations	17 (26)
Estimates of attrition rates not provided, too low, or require justification	13 (20)
Anticipated attrition or losses to follow-up that threaten validity of study	2 (3)