**ACING YOUR AIMS FOR OBSERVATIONAL STUDIES**

**A. List your aims**.

**B. Complete the grid below**. The goal for using the grid is to fully capture, in the context of the literature, the ways in which proposed aims and the related analysis will fill gaps in scientific knowledge by asking novel questions or by improving on prior methods. As you complete the grid, add aims columns if needed, and indicate to which aim the claim applies.

**C. Annotate the grid**. For each case in which you indicated a superior approach (“Yes”), explain why it is better.

CLAIMS FOR POWERFUL AIMS GRID

|  |  |  |  |
| --- | --- | --- | --- |
| **I have conducted a literature review and can document this aim:** | **AIM 1** | **AIM 2** | **AIM 3** |
| *Example:* Makes substantive advances in study design (separate from population, measurement approaches, length of follow-up, and setting) | Yes | No | No |
| 1. Is entirely novel; the association of the exposure with the outcome have never been studied but is plausible. |  |  |  |
| 2. Makes substantive advances in study design (separate from population, measurement approaches, length of follow-up, and setting). |  |  |  |
| 3. Addresses an association that has not previously been studied in this population and there are substantive reasons for research focused on this population. |  |  |  |
| 4. Advances the approach for measurement of key exposure(s). |  |  |  |
| 5. Advances the approach for measurement of outcome(s). |  |  |  |
| 6. Advances the approach for measurement of key covariates, confounders, or effect modifiers. |  |  |  |
| 7. Applies a more appropriate or advanced approach to data analysis and modeling. |  |  |  |
| 8. Will achieve superior power (compared to prior studies) for assessing a primary association (exposure to outcome). |  |  |  |
| 9. Will achieve superior power/precision for assessing other associations (effect modification, prediction, etc.). |  |  |  |
| 10. Makes other meaningful improvements to the current state of knowledge (please explain in annotation, e.g. longer follow-up, more complete retention of subjects, important novel setting, etc.). |  |  |  |

**Grid Annotation Example:** No prospective studies of the outcomes of first dates have ever been conducted that relate whether seeing a movie in a commercial theater is associated with a higher or lower probability of a long term relationship (defined as still dating after 3 months). Prior studies may be subject to recall bias; Aim 1 which will be conducted within a prospective longitudinal cohort will overcome this weakness.

**D. Check that all aims are rigorous.** Be very suspect of aims that do not have one or more “Yes” - this weakness will not go unnoticed and will indicate to readers that the proposed science is incremental or duplicative. When all aims are strong, systematically use the grid and your annotation to guide your discussion in text of the significance and innovation of the work you are porposing.