

Reference #48098

Data Analysis Plan

Aim 2a Data Analysis. Both implementation outcomes (adoption and sustainment) are provider-level binary outcomes. Rates of adoption will be estimated and compared between study conditions via a generalized linear model with binomial link function. Clustering by facility will be accounted for by fitting the model with generalized estimating equations (GEE) using the appropriate variance estimator correction due to the smaller number of clusters ($n=12$). We will assume a compound symmetry structure for the within-cluster correlation, as is common in cluster-randomized designs.

Aim 2b Data Analysis. The qualitative team will analyze interview data using Hamilton's approach to rapid qualitative analysis.^{86–88} Structured interviewer notes will be reviewed, edited for clarity, and summarized. Automated transcripts,¹⁰ and audio recordings as necessary, will be reviewed for accuracy of findings and to extract quotations. Summaries will be transferred into a matrix; further analyses will consist of iterative thematic memo development and matrix analyses⁸⁹ to elucidate variation of experiences, gaps of information, and to develop summaries of domains and themes across participants. At each step, the qualitative team will meet regularly to review subsets of the analyses, and any analytic disagreements will be resolved through discussion and consensus.

Aim 2 Mixed Method Analysis. We will engage in parallel convergent mixed method analysis. The initial quantitative analysis (2a) will provide insight into the extent to which the Enhanced Implementation Package is associated with differences in implementation outcomes. Our subsequent qualitative analysis (2b) will then provide contextual information regarding the elements of power-sharing that influenced implementation as well as health equity-related barriers and facilitators to implementation. We will use integrating through narrative and integrating through joint displays approaches with strategies including matrix analysis and memoing to integrate quantitative and qualitative findings.^{89–92}

Aim 3 Data Analysis. For this aim, both reach and effectiveness are Veteran-level binary outcomes (i.e., whether or not the Veteran received at least one session over the measurement period; whether or not the Veteran had a documented clinically significant decrease in depression symptoms over the measurement period; whether or not the

Veteran had documented self-injurious thoughts or behaviors). Similar to the Aim 2a analysis, rates of reach and effectiveness will be estimated and compared between study arms via a generalized linear model with binomial link function. Clustering by facility will be accounted for by fitting the model with GEE assuming a compound symmetry correlation and using the appropriate variance estimator correction due to the smaller number of clusters.⁸⁵ The secondary outcome of number of sessions per Veteran will be analyzed with a generalized linear model with appropriate count data link outcome (e.g., Poisson or Negative Binomial), fit via GEE and small-sample variance estimator correction.