Statistical Analysis Plan for Electronic-health Application To Measure Outcomes REmotely (EAT MORE)

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Statistical Analysis Plan for EAT MORE

Efficacy will be estimated from an intent-to-treat (ITT) sample, consisting of all randomized participants and analyzed according to their originally assigned treatment group regardless of adherence to that treatment.

The primary and secondary efficacy outcomes of change in weight and caloric intake will be compared within each disease group and among the treatment groups using a shared-baseline linear mixed model for correlated, longitudinal assessments of weight with fixed effects of time and the treatment x time interaction and baseline weight, calorie intake, age, gender, months from onset to randomization and their interactions with time included as covariates and random participant specific intercepts and slopes. Pairwise comparisons between treatment groups will be analyzed using linear contrasts from the full mode, with correction for multiple comparisons vs. standard of care using Dunnett's method. Significant benefit from the eHealth or RD intervention will be declared if less weight is lost and the two-tailed p-value for comparison to standard of care is less than 0.027 for each intervention separately.

Tertiary outcomes:

1) Disease progression as measured using the ALSFRS-R will be compared between the treatment groups using a shared-baseline linear mixed model for correlated, longitudinal assessments of ALSFRS-R with fixed effects of time and the treatment x time interaction adjusted for the following covariates (if there is a significant imbalance between randomization groups): baseline age, gender, BMI, months from onset to randomization, bulbar onset, and their interactions with time included as covariates and random participant specific intercepts and slopes.
2) Mortality during the study intervention (7 months) will be compared between the three groups in the ITT sample using Kruskal-Wallis survival analysis. Mortality after the end of the intervention will be analyzed separately as an exploratory analysis.
3) Quality of life as measured using the PROMIS SF v1.1 will be compared between the treatment groups using a shared-baseline linear mixed model for correlated, longitudinal assessments of PROMIS with fixed effects of time and the treatment x time interaction and age, gender, duration of disease and their interactions with time included as covariates and random participant specific intercepts and slopes.

Safety data will be summarized by treatment group. Total numbers of adverse events, categorized by organ system, will be compared between groups using negative binomial regression and the proportion of participants experiencing each type of event by Fisher's exact test.

Tolerability will be measured in two ways:

1) The amount of engagement that participants exhibited as measured by the number of interactions they had with a dietitian and the number of times that they interacted with the app,
2) The length of trial involvement as measured by the time to the last interaction with a dietitian (in-person or by App). Many participants were lost to follow-up (need to make sure documented). Participants who came to clinic visits only (seeing RD) but

did not engage otherwise, their last date of engagement is recorded in the Final Disposition form under “loss to follow-up”