

(MrOS) study. Eligible participants provided a stool sample and completed a food frequency questionnaire at the MrOS Visit 4 in 2014-2016. Dietary patterns were derived by factor analysis. 16S rRNA target gene sequencing was performed. Linear regression and PERMANOVA considered variation in alpha and beta-diversity by dietary pattern, and metagenomeSeq assessed taxonomic variation by dietary pattern. In multivariable-adjusted models, greater adherence to the Western pattern was positively associated certain taxa, including *Alistipes*, *Desulfovibrio*, *Dorea*, *Eubacterium*, and *Ruminococcus*, while greater adherence to the prudent pattern was positively associated with certain taxa, including *Faecalibacterium*, *Lachnospira*, and *Paraprevotella*. Dietary patterns were not associated with measures of alpha diversity; beta diversity measures were significantly associated with both Western and prudent patterns.

#### VITAMIN D METABOLITES AND THE GUT MICROBIOME IN OLDER MEN

Deborah Kado,<sup>1</sup> Robert Thomas,<sup>1</sup> Lingjing Jiang,<sup>1</sup> John Adams,<sup>2</sup> Rob Knight,<sup>1</sup> and Eric Orwoll,<sup>3</sup> 1. *University of California, San Diego, La Jolla, California, United States*, 2. *UCLA, Los Angeles, California, United States*, 3. *Oregon Health & Science University, Portland, Oregon, United States*

We examined the bidirectional impact of vitamin D on the composition and diversity of the gut microbiome in 567 MrOS men. Vitamin D metabolites were measured using LC-MSMS and stool sub-operational taxonomic units defined from 16S ribosomal RNA sequencing data using Deblur and Greengenes 13.8. Men's mean serum level of 25(OH)D was in the sufficient range. Faith's Phylogenetic Diversity and non-redundant covariate analyses revealed that 1,25(OH)2D explained 5% of variance in  $\alpha$ -diversity; the other non-redundant covariates of site, race, recent antibiotic and antidepressant use explained another 6%. In  $\beta$ -diversity analyses using unweighted UniFrac, 1,25(OH)2D was the strongest factor assessed, explaining 2%. Random forest plot analyses identified 12 taxa, 6 in the phylum Firmicutes, positively associated with either 1,25(OH)2D and/or [1,25(OH)2D/25(OH)D] activation ratio. Higher levels of the active 1,25(OH)2D, but not 25(OH)D, were associated with butyrate producing bacteria. Men with favorable vitamin D activation profiles also had greater gut microbial diversity.

#### SESSION 7645 (SYMPOSIUM)

##### MULTIDIMENSIONAL BENEFITS OF WEIGHT MANAGEMENT IN OLD AGE: THE MOBILITY AND VITALITY LIFESTYLE PROGRAM

Chair: Steven Albert

Co-Chair: Elizabeth Venditti

Discussant: Barbara Nicklas

The high prevalence of overweight or obesity in older adults is a public health concern because obesity is associated with risk of mobility disability. The benefits of brief community-based lifestyle interventions that promote modest weight loss and increased physical activity are

unclear. We assessed the impact of a 13-month lifestyle intervention, the Mobility and Vitality Lifestyle Program (MOVE UP), delivered by community health workers (CHW), on a variety of outcomes, including weight loss, performance-based lower extremity function (Short Physical Performance Battery, SPPB), activity, diet, and health-related quality of life (CDC U48 DP005001). The 32-session behavioral weight management intervention enrolled 303 community-dwelling adults (90.4% of those eligible), who were followed for 12 months (2015-19). Participants completed the program at 26 sites led by 22 CHWs. Participants were age (sd) 67.7 (4.1) and were mostly female (87%). 22.7% were racial minorities. The mean (sd) BMI at baseline was 34.7 (4.7). Median weight loss in the sample was 5% of baseline body weight. SPPB total scores improved by +0.31 units ( $p < .006$ ), gait speed by +0.04 m/sec ( $p < .0001$ ), and time to complete chair stands by -0.95 sec ( $p < .0001$ ). Presenters will assess the effect of MOVE UP on activity, diet, fatigue, and health-related quality of life. A final paper examines implementation of MOVE UP and how site and CHW factors affected outcomes. Findings suggest that promoting healthier eating, weight loss, and physical activity in a community setting is an effective strategy for reducing risk of disability in older adults.

##### WEIGHT LOSS IMPROVES HRQOL PHYSICAL FUNCTION AND VITALITY MORE IN BLACKS THAN WHITES

Robert Boudreau, Elizabeth Venditti, Michelle Danielson, Nancy Glynn, John Jakicic, Anne Newman, and Steven Albert, *University of Pittsburgh, Pittsburgh, Pennsylvania, United States*

Participant-reported outcomes are important. Prior MOVE UP reports show  $\geq 5\%$  weight loss was not significantly associated with depressive symptoms but was associated with positive SPPB physical function and the Physical Component Score of the SF-36 HRQOL scale. We examined the SF-36 subscales that showed, a priori, clinically meaningful +5.0-point increases over 13 months, the change in subscales per 5% weight loss, and variability by race. Among all participants ( $n = 240$ ) several subscales show significant pre-post changes [mean (SD)] but only Vitality [+5.6 (15.4)] and Physical Function [+5.0 (16.7)] meet the criterion. Blacks ( $n = 60$ ) compared to Whites ( $n = 172$ ) had higher baseline scores on these subscales, were less likely to lose  $\geq 5\%$  (31.7% vs. 59.9%), but mixed regression models indicate that those who did demonstrated a larger change on Vitality (+5.2;  $p < 0.048$ ) than Whites (+3.1;  $p < 0.0003$ ). Studying weight loss and HRQOL associations in larger minority samples is needed.

##### PERCEIVED PHYSICAL FATIGABILITY IMPROVES AFTER A WEIGHT MANAGEMENT INTERVENTION

Jessica Graves, Theresa Gmelin, Robert Boudreau, Steven Albert, Anne Newman, Elizabeth Venditti, and Nancy Glynn, *University of Pittsburgh, Pittsburgh, Pennsylvania, United States*

The effects of a weight loss and physical activity (PA) intervention on improving perceived physical fatigability are unknown. We examined this question in a subset ( $n = 79$ ) of