**Supplemental Digital Content 4. Figures illustrating score development**

**Figure 1: Fitted values from SCAR before scaling in the NIH-AARP Diet and Health Study Cohort, 2004-2011**.

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Footnote: Shape constrained additive regression (SCAR) returns 8 sets of predicted values, one for each function that is fit to describe the relationship between physical activity and mortality. The values on the x-axis are MET’s expended during a particular physical behavior or hours spent in a particular physical behavior. The values on the y-axis show the additive effect of each physical behavior on the logits (log-odds) of survival. These are the fitted values described in A3. Technical Description of Score Development.

**Figure 2: Distribution of physical behavior scores in the NIH-AARP Diet and Health Study Cohort, 2004-2006.**

