Background Frailty, a clinical syndrome of weight loss, weakness, slowness, exhaustion, and inactivity, has been examined primarily in geriatric populations, and is associated with poor health outcomes, including mortality. Components of the frailty syndrome are relevant to lupus, but frailty has not been examined in lupus.

Materials and methods Subjects participated in a research visit in 2008–2009. Frailty was measured according to five components defined by Fried (2001): unintentional weight loss, slow gait (based on 4-metre walk using sex and height criteria), weakness (based on grip strength using gender and BMI criteria), exhaustion (2 specific questions), and inactivity (based on physical activity questionnaire). Accumulation of 3+ components classifies an individual as “frail,” one or two components as “at risk,” and none as “robust.” Outcomes examined were physical function, cognitive function, and mortality. Physical function was measured with the SF-36 Physical Functioning subscale (scored 0–100) and the Valued Life Activities (VLA) disability scale (scored 0–3). Cognitive functioning was measured with a 12-test battery. Each test was classified as “impaired” if the score was below −1.0 SD of age-adjusted population norms. Subjects were classified as cognitively impaired if they were impaired on ≥one third of indices completed. Mortality was determined as of December 2015. Differences in function and two-year changes in function were examined using multiple regression analyses controlling for age, lupus duration, race/ethnicity, glucocorticoid use, obesity, self-reported disease activity and damage, and, for longitudinal analyses, baseline function. Mortality analyses controlled for age, lupus duration, and baseline disease damage scores. Analyses include women (n = 138).

Results Mean age was 48 (± 12) years, mean lupus duration was 16 (± 9) years. 65% were white, non-Hispanic. 24% of the sample was classified as frail, and 48% as pre-frail. Frail women had significantly worse physical functioning than both robust and pre-frail women and were more likely to have cognitive impairment (Table 1). Frail women were also more likely to experience declines in functioning and onset of cognitive impairment. Ten women died during the follow-up period. Mortality rates were significantly higher in the frail group (frail 16.7%; pre-frail 4.1%; robust 2.3%). Odds (95% CI) of death for frail women were elevated, even after adjusting for age, lupus duration, and baseline disease damage (5.1 [0.5, 51.3]).

Conclusions Prevalence of frailty in this sample of women with lupus was more than double that reported in older adults. Frailty was associated with poor physical and cognitive function, functional declines, and mortality.