Supplemental Materials: Soldiers Health Outcomes Study (SHOS - B) Study Procedures

# Method

## *Sample*

**Cases**. Cases were soldiers in the US Army who died by suicide while on active duty between 1 August 2011–1 November 2013. Soldiers who died by suicide in theater, as well as those serving in the Army Reserve and National Guard were excluded given that such soldiers were excluded from the pool of control soldiers by the design of Army STARRS. We interviewed a next-of-kin (e.g. close family member) and/or first line Army Supervisor for 135 of the 290 eligible suicides during this period (46.6%). The 135 cases did not differ from the 155 excluded suicides on age, sex, race/ethnicity, marital status, number of dependents, rank, education, or age of entry into the Army.

**Controls.** Living control soldiers were selected in two different manners. First, given that the purpose of psychological autopsy studies is to identify psychological and contextual risk factors beyond those easily identified via administrative/health records, a first set of controls was selected to match Army suicide decedents on a wide range of known sociodemographic and Army history variables using propensity score matching (Rosenbaum & Rubin, 1983). These controls were drawn from participants in the Army STARRS All Army Study (AAS) (Ursano et al. 2014), a large (N = 5428) and representative sample of soldiers.

## *Recruitment Procedures.*

**Cases.** Between January 2012 and March 2014, the Army Casualty and Mortuary Affairs Operation Center (CAMAOC) contacted next-of-kin (NOK) of soldiers who died by suicide in the past 2-3 months to describe the study and inquire interest in participation in the study. A total of 101 NOK were identified by CAMAOC, and of the 99 eligible NOK, 61 (61.6%) completed

an interview, 13 (13.1%) refused to participate, and 25 (25.3%) could not be reached. The Office of the Deputy Under Secretary of the Army (ODUSA) identified supervisors of the suicide decedents. Of the 154 eligible supervisors identified, 107 agreed to participate for a consent rate of 69.5%, seven (4.5%) refused to participate and 40 (26.0%) could not reached.

**Controls.** A total of 738 Regular Army Soldiers were identified and invited to participate in this study via email or telephone. Of those soldiers 293 (39.7%) completed a screener and identified a NOK and SUP, 110 (14.9%) refused to participate, and 335 (45.4%) did not respond and could not be reached/contacted. Of those 236 (80.5%) control NOK completed interviews, 17 (5.8%) refused to participate, and 40 (13.7%) could not be reached/contacted or not complete an interview. Of the 293 SUP identified, 30 said they did not know the identified control and were deemed ineligible. Of the eligible 263 SUP, 153 (58.2%) completed interviews; 25 (9.5%) refused to participate and 92 (35.0%) could not be reached/located or did not complete an interview. Response rates and survey completion rates were similar for ideator and propensity score matched controls.

**Measures.**

We developed a structured psychological autopsy interview using a measure-development procedure that involved: (a) extensive literature reviews of prior autopsy studies, (b) review of measures used in these prior studies, (c) following recent consensus statements regarding interview content and procedures for autopsy studies (Conner et al. 2011, 2012), (d) to the extent possible, mirroring the assessment of constructs in other components of the Army STARRS study in order to facilitate comparison across study components, and (e) to the extent possible, mirroring the questions asked of family members and supervisors to facilitate comparisons across informants.

References

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 41-55.

Ursano, R. J., Colpe, L. J., Heeringa, S. G., Kessler, R. C., Schoenbaum, M., Stein, M. B., & Army STARRS Collaborators. (2014). The Army study to assess risk and resilience in servicemembers (Army STARRS). *Psychiatry: Interpersonal and Biological Processes*, *77*(2), 107-119.

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