

## Labor Force Transitions in the Childhood Cancer Survivor Study

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Childhood cancer survivors report higher levels of unemployment due to health problems than unaffected comparisons. Yet, no studies have examined whether survivors increasingly leave the labor force over time due to health limitations. We investigated unemployment at two cross-sectional questionnaire time-points, T1 and T2, among survivors from the Childhood Cancer Survivor Study.

Survivors ages  $\geq 25$  years at T1 (2003-2005; N=7223) or T2 (2007-2010; N=7400) were eligible. We created an outcome variable to indicate unemployment due to illness or disability in either year. Multivariable generalized linear models generated relative risks (RR) and 95% confidence intervals (95% CI) for this outcome. Models incorporated correlation structures for repeated measures with robust standard errors and were adjusted for gender, age and race as relevant, and treatment era.

Average age at T1 was 34.0 years (SD=6.2) and 49% were female. Most common diagnoses were leukemia (31%), Hodgkin lymphoma (HL; 16%) and central nervous system (CNS) tumors (12%). A total of 10.1% were unemployed at T1 compared to 10.3% at T2 ( $p=0.68$ ). In multivariable models, female survivors were more likely to be unemployed at T2 (RR 1.09, 95% CI 1.01-1.86) than T1, as were male survivors (RR 1.17, 95% CI 1.07-1.29). Models stratified by age group (ages 25-34 and ages 35-58) did not differ in unemployment risk. Within cancers, only HL survivors were at higher risk for unemployment at T2 (RR 1.46, 95% CI 1.18-1.82) than T1.

Childhood cancer survivors' risk of health-related unemployment may moderately increase over time. While the economic downturn of 2007 may explain some of this increase, by examining health-related unemployment, we focused on survivors experiencing job loss due to health problems. Programs to assist survivors at risk for exiting the labor force due to health problems are needed.