

In-hospital and post-acute mortality for adult patients with an opioid-involved hospitalization

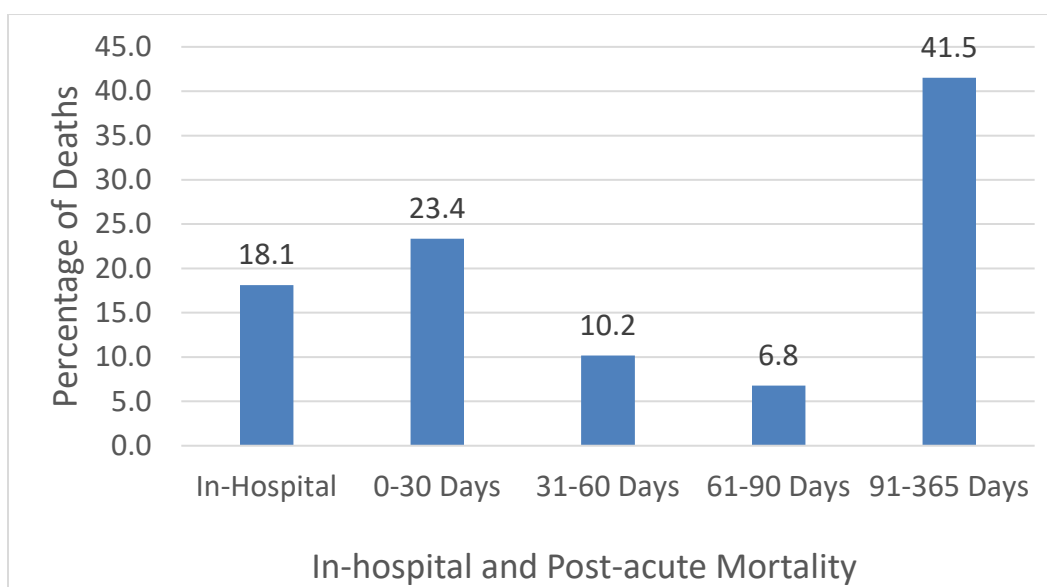
Background

When fully implemented, the National Hospital Care Survey (NHCS) will provide nationally representative data on health care utilization across hospital-based settings. The 2014 NHCS includes encounters from inpatient hospital stays, as well as visits to the emergency and outpatient departments. NHCS collects patient identifiers, including patient name, Social Security Number, and date of birth, which allow linkage to external data sources. This analysis uses inpatient data from the NHCS linked to the 2014 and 2015 National Death Index (NDI), which provides information on in-hospital and post-hospital discharge (1-30, 31-60, 61-90, and 91-365 days post discharge) mortality. Deaths were included in this analysis if adult patients with an opioid-involved hospitalization died in the hospital or within one year, post-acute discharge. Deaths were due to any cause and not just drug-related. The 2014 NHCS is not nationally representative because of low hospital participation (Of a targeted frame of 581 hospitals, 94 provided inpatient data), but the information collected can provide insights into the scope of post-acute mortality associated with diseases, procedures and transfers within hospital settings. The 2013, 2014, and 2016 NHCS data files as well as the linked 2014-2015 and 2016-2017 NDI files are available through the National Center for Health Statistics Research Data Center (<https://www.cdc.gov/rdc/b1datatype/dt1224h.htm>).

Results

There were 1,004,166 patients aged 18 or older who were hospitalized at one of the 94 NHCS hospitals providing inpatient data for 2014, and had data eligible for linkage to the NDI. The hospitalizations were determined to be opioid-involved ([1], and see Notes below) for 24,340 patients (2.4% of all patients). Mortality from any cause occurred within one year of hospital discharge for 2,295 of the 24,340 patients with an opioid-involved hospitalization (9.4%). The figure below shows the distribution of in-hospital and post-acute mortality for adults who had a prior opioid-involved hospitalization. Among the patients who died, approximately 18.1% of patients died in the hospital, and another 23.4% died within 30 days of leaving the hospital. The remaining 58.5% died throughout the remainder of the one-year post-acute follow-up period.

Distribution of in-hospital and post-acute mortality for adult patients with an opioid-involved hospitalization: 2014 National Hospital Care Survey data linked to the 2014-2015 National Death Index



NOTES: NHCS is not nationally representative. Patients' hospitalization was determined to be opioid-involved using an opioid-specific version of the general algorithm in (1) based on ICD-9 CM diagnosis and external cause codes for abuse, dependence, overdose or adverse event involving opiates and opioids, including heroin: 304.00-304.02, 304.70-304.72, 305.50-305.52, 760.72, 965.00-965.02, 965.09, 970.1*, E85.00-E85.02, E94.01, and E93.50-E93.52. Patients aged 18 or older who died in the hospital or within one year of discharge from their last hospitalization in 2014 were included. Mortality was due to any cause of death. SOURCE: NCHS, 2014 National Hospital Care Survey data linked to the 2014-2015 National Death Index.

(1) Brown, A. et al. (2018). Identification of Substance-involved Emergency Department Visits Using Data from the National Hospital Care Survey. *National Health Statistics Reports* 114:1-14.

Reported by: Jill J. Ashman, PhD, JAshman@cdc.gov, 301-458-4439, Linda Hermer, PhD., Carol J. DeFrances, PhD., and Alexander Schwartzman, B.S.