Background: Randomized controlled trials provide high-level evidence, but the necessity to include selected patients may limit the generalisability of their results. Methods: Comparisons were made of baseline and outcome data between patients with acute ischemic stroke (AIS) recruited into the alteplase-dose arm of the international, multi-center, Enhanced Control of Hypertension and Thrombolysis Stroke study (ENCHANTED) in the United Kingdom (UK), and alteplase-treated AIS patients registered in the UK Sentinel Stroke National Audit Programme (SSNAP) registry, over the study period June 2012 to October 2015. Results: There were 770 AIS patients (41.2% female;
mean age 72 years) included in ENCHANTED at sites in England and Wales, which was 19.5% of alteplase-treated AIS patients registered in the SSNAP registry. Trial participants were significantly older, had lower baseline neurological severity, less likely Asian, and had more premorbid symptoms, hypertension and atrial fibrillation. Although ENCHANTED participants had higher rates of symptomatic intracerebral hemorrhage than those in SSNAP, there were no differences in onset-to-treatment time, levels of disability (assessed by the modified Rankin scale) at hospital discharge, and mortality over 90 days between groups. Conclusions: Despite the high level of participation, equipoise over the dose of alteplase among UK clinician investigators favored the inclusion of older, frailer, milder AIS patients in the ENCHANTED trial. Clinical trial registration: Clinical Trial Registration-URL: http://www.clinicaltrials.gov. Unique identifier: NCT01422616.