We use the 1998-2009 National Health Interview Survey to systematically investigate cohort differences in low birthweight among U.S.-born children of mothers arriving in the U.S. between 1955-2009 and giving birth between 1980-2009, cohort-adjusted patterns in low birthweight by maternal duration of residence in the U.S., and cohort-adjusted patterns in low birthweight by maternal duration of residence stratified by age at arrival and region of origin. These analyses are necessary for understanding immigrant women’s health trajectories, as proxied by their infants’ birthweight, and for understanding how living in the U.S. affects health more generally. We found a consistent deterioration in infant health with successive immigrant cohorts, a curvilinear association between duration and low birthweight controlling for cohort effects, that Asians benefit more than Hispanics from migrating to the U.S., and that low birthweight decreases with duration among women who came to the U.S. as adults but increases with duration among those who came as children.