

Table. Literature review of U.S. out-of-hospital births, 2012-2017

Authors	Purpose/setting	Design/theory	Sampling/participants	Findings/conclusions
Cheng et al, 2013 ⁸	To examine outcomes associated with planned home births versus hospital births	Retrospective cohort study	2,081,753 births, of which 12,039 were planned home births	More planned home births had 5-minute Apgar scores <4 and neonatal seizures. Planned home births were associated with increased neonatal complications but fewer obstetric interventions.
Cheyney et al, 2014 ⁶	To examine outcomes of planned home births in U.S. between 2004 and 2009	Calculation of descriptive statistics for maternal demographics, antenatal risk profiles, procedures, and outcomes of planned home births	16,924 women who planned home births at the onset of labor	Data supplied by 432 midwives with difficulty delineating collaborative care. 89.1% delivered at home. Most transfers were for failure to progress. Low Apgar scores (<7) in 1.5% of newborns. Excluding lethal anomalies, the intrapartum, early neonatal, and late neonatal mortality rates were 1.30, 0.41, and 0.35 per 1,000, respectively.
Cox et al, 2015 ⁵	To describe the maternal and neonatal outcomes for women who planned a VBAC at home with midwives during 2004–2009	Calculation of descriptive statistics	12,092 multiparous women without a prior cesarean, and 1,052 women with a prior cesarean	Women with a prior cesarean had a VBAC rate of 87%, with higher rates of transfer, and higher proportions of blood loss, maternal postpartum infections, uterine rupture, and NICU admissions compared with women without a prior cesarean.
Grunebaum et al, 2013 ¹⁷	To examine occurrence of 5-minute Apgar scores of 0 and seizures or serious neurologic dysfunction based on birth setting and birth attendant	Population-based retrospective cohort study from birth certificate data. U.S. CDC National Center for Health Statistics	Birth certificate data files used for 2007–2010 for singleton term (>37 weeks' gestation) births. Each year consists of ~4 million U.S. births.	Home births and births in free-standing birth centers attended by midwives had a significantly higher risk of a 5-min Apgar score of 0 and neonatal seizures compared with hospital births attended by physicians or midwives.
Grunebaum et al, 2014 ¹⁴	To examine neonatal mortality in relation to birth setting and birth attendants in U.S. from 2006 through 2009	Population-based retrospective cohort study. Analysis of data from U.S. CDC	Singleton, vertex, and term births without congenital malformations delivered by midwives and physicians in the hospital and midwives and others out of the hospital. Each year's data consisted of ~4 million U.S. births.	There was a significant increase in total and early neonatal mortality for home births, an increase that was even greater in those who were at ≥41 weeks' gestation or who were primiparas.

Table (continued). Literature review of U.S. out-of-hospital births, 2012-2017

Authors	Purpose/setting	Design/theory	Sampling/participants	Findings/conclusions
Grunebaum et al, 2015 ¹⁶	To analyze the perinatal risks of midwife-attended planned home births in U.S. from 2010-2012 and compare them with deliveries performed in the hospital by certified nurse-midwives	Population-based retrospective cohort study from birth certificate data. Data from U.S. CDC National Center for Health Statistics	Birth certificate data files from 2010-2012 with planned home births attended by midwives (hospital deliveries attended by certified midwives served as the reference). Each year consists of ~4 million U.S. births.	Midwife-attended planned home births in U.S. had these risk factors: breech presentation, prior cesarean delivery, twins, and gestational age ≥ 41 weeks. At least 30% of midwife-attended planned home births were not low risk and were not within clinical criteria set by ACOG and AAP, and 65% of planned home births in the U.S. were attended by non-AMCB certified midwives, even though AAP and ACOG state that only AMCB-certified midwives should attend home births.
Grunebaum et al, 2016 ³	To determine whether the professional certification status of midwives or the home birth setting was more closely associated with the increased neonatal mortality of planned midwife-attended home births in the U.S.	Population-based retrospective cohort study from birth certificate data	Total neonatal deaths in term singleton births from 2006-2009 in U.S. without documented congenital malformations by certification status of the midwife. Each year consists of ~4 million U.S. births.	Neonatal mortality rates in hospital births attended by certified midwives were significantly lower than those in home births attended by certified and uncertified midwives. The difference in neonatal mortality between certified and uncertified midwives at home births did not reach statistical levels.
Grunebaum et al, 2017 ¹⁸	To determine risk factors associated with neonatal mortality rates of planned home births	Population-based retrospective cohort study from birth certificate data	13 million singleton, non-anomalous, term, normal-weight births	Neonatal mortality rates per 1,000 live births of 12.7 for breech, 2.5 for nulliparous births, and 1.7 for gestation >41 weeks indicated greatest risk for neonatal death in planned home birth of those in nulliparous mothers >35 years, longer gestations, VBAC and breech
Lundeen, 2016 ⁴	To describe the reasons for and outcomes of maternal transfers from private homes and freestanding birthing suites to a large academic hospital to better understand and meet the needs of transferring women and their families	Convenience sample with descriptive data	All adult women (n = 51) who planned to give birth out of hospital but were admitted to the labor and birth unit or emergency department at a single facility within a 5-year period	Four transfers were considered urgent. Only 25% of medical records documented that the referring provider accompanied the woman to the hospital during care transition. On average, one transfer per year included neonatal morbidity. Describes need for interconnectedness between hospitals and planned OHBs.