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The Level of Maternal and Neonatal Care at New Mexico and Border Area Hospitals in 2016

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Infants born too early are at higher risk of developing disabilities and dying than infants who are born at full term (39-40 weeks of gestation). One strategy to improve both maternal and infant health outcomes including infant mortality is called perinatal regionalization, or the designation of regional systems that assist providers in identifying hospitals which can best meet the health care needs of pregnant women and their infants. This study helps create a common standard to assess what levels of care exist and the quality of transfer care that pregnant women and their infants receive in New Mexico.

Methods

This study used the Centers for Disease Control and Prevention's Levels of Care Assessment Tool (LOCATe).[1] The survey is designed around published guidelines of the American Academy of Pediatrics, American College of Obstetricians and Gynecologists, and the Society for Maternal-Fetal Medicine. The survey assesses the level of maternal and neonatal care by asking hospitals a series of questions around the institution's policies and capabilities, including equipment and specialist availability. This survey is not meant to be comprehensive. The survey was endorsed by the New Mexico Hospital Association and the New Mexico Perinatal Collaborative.

Hospitals included in this study were any birthing hospitals that had 50 or more New Mexico (NM) births. In total, 28 birthing hospitals in New Mexico and 12 border hospitals in Texas, Colorado, and Arizona that had large numbers of New Mexico births were sent an electronic version of the survey between November 2016 and May 2017. Non-respondent hospitals were contacted via phone or email up to four times with New Mexico Hospital Association assisting with the follow-up on the third and fourth attempts. All hospitals contacted completed the survey.

Self-reported statistics such as deaths were supplemented with facility level birth counts and transfer information for NM residents as indicated on the birth certificate supplied by the NM Department of Health for 2016.[2]

Results

More pregnant women in 2016 were admitted to birthing hospitals that had written policies and procedures for obstetric hemorrhages (97%) than for hypertensive emergencies (83%) or thromboembolism prophylaxis (82%). Likewise, more pregnant women were admitted to a hospital in 2016 that had a stage-based emergency management plan with checklists that were reviewed within the last 3 years for obstetric hemorrhages (91%) than for hypertensive emergencies (80%) and thromboembolism prophylaxis (69%). Most pregnant women were admitted to a hospital in 2016 that had conducted a drill within the past three months for obstetric hemorrhages (77%), hypertensive emergencies (60%) or thromboembolism prophylaxis (57%). Twenty-eight percent of women who had severe maternal complications (women who received 4 or more units of whole blood or packed cells, or were admitted to an Intensive Care Unit) received care in a birthing hospital where staff were prepared for complications, which was defined as having 1) policies in place for obstetric hemorrhages, hypertensive emergencies, and thromboembolism prophylaxis; 2) updated stage-base emergency management plans for these conditions; and 3) drills within the past three months for these conditions.

Correctly identifying and transporting at-risk pregnant women remains the safest way of transferring potentially unstable newborns.[3,4] Ninety-five percent of pregnant women who were admitted to a birthing hospital in 2016 had access to onsite services for laborato-

ry, general radiology, and obstetric ultrasounds. However, only 82% of the pregnant women who had an interhospital transfer prior to their delivery in 2016 had access to these same onsite services prior to their transfer.

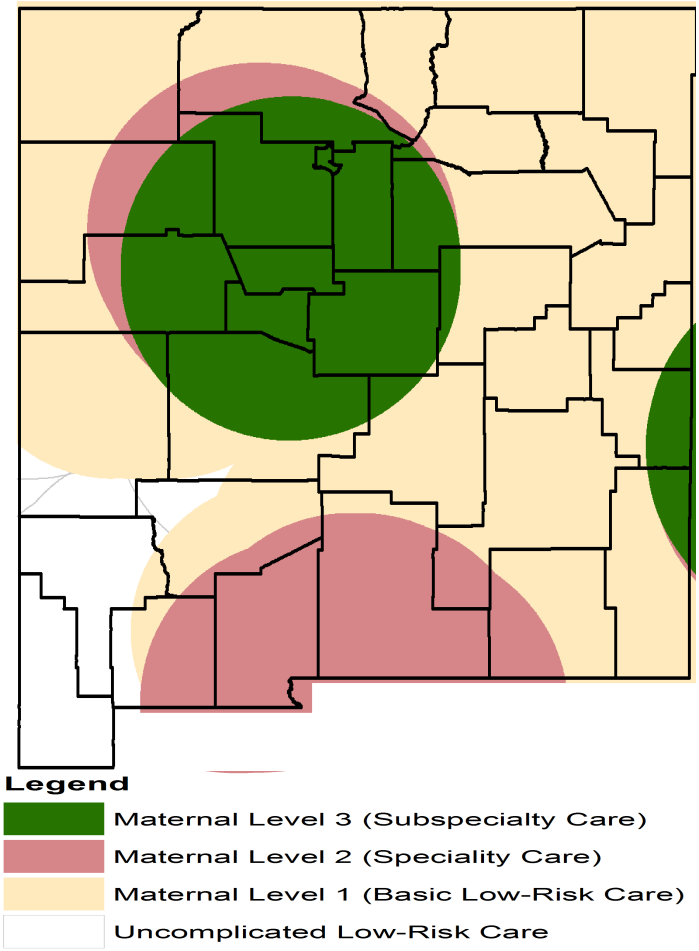
Nearly all pregnant women (98%) were admitted to a birthing hospital that had a formal written plan for transport of complicated obstetric/maternal patients. However, only 92% of pregnant women who had an interhospital transfer prior to their delivery in 2016 were transferred from a hospital that had a formal written plan in place for emergency transport. Eighty-eight percent of pregnant women who had an interhospital transfer prior to their delivery in 2016 were admitted to a receiving hospital that had an onsite intensive care unit that could accept obstetric/maternal care patients and had both an obstetrician and an anesthesiologist physician available 24 hours a day, 7 days a week. The rate of severe maternal complications was lower at a level 3 facility (4% of all deliveries) than in a level 2 or lower facility (6% of all deliveries). Figure 1 shows NM populations that are within reasonable driving distances from a hospital that is maternal level 3 or higher.

Seventy-five percent of the infants transferred in 2016 had an individual at the hospital help coordinate their emergency transport. Eighty-one percent of infants who were transferred in 2016 were received in a hospital that had a neonatologist, pediatric hospitalist, or neonatal nurse practitioner available. More infants were transferred to a hospital that had onsite complex imaging (88%) or complex ventilation (85%) than onsite cardiac surgery (34%) or other pediatric subspecialty surgeries (51%). Sixty-four percent of infants born very preterm (which are infants born less the 32 weeks gestation) or very low birthweight (which are infants weighing less than 1,500 grams) were delivered in a LOCATe assessed neonatal level 3 or higher facility which can best support the medical needs of these infants. The death rate of very preterm or very low birthweight infants was lower at a level 3 facility (4% of all preterm/low birthweight deliveries) than at a level 2 or lower facility (8% of all preterm/low birthweight deliveries). Figure 2 on page 4 shows NM populations that are within reasonable driving distances from a hospital that is neonatal level 3 or higher.

Discussion

Most pregnant women had access to laboratory, general radiology, and obstetric ultrasounds that could help stabilize their condition prior to an interhospital transfer. Most infants received care coordination around their transfer and were delivered in birthing hospitals that had a neonatal professional available. However, there is the potential to further reduce complications of delivering mothers and their infants by transferring patients to facilities that can best meet their needs. The results of this study could have been affected by the recall of survey respondents and it is possible that more facilities have services available to pregnant women and their infants than indicated on the hospital's survey.

Figure 1. Populations within 85 miles of the Highest Maternal Level of Care, New Mexico, 2016



How New Mexico Compares, 2018

This table lists New Mexico's ranking on 38 state health measures, where 1 is the best ranking and 50 is the worst among the 50 U.S. states. Rankings 1-17 are in the best third of states (yellow), 18-33 are in the middle third (turquoise), and rankings 34-50 are in the worst third (blue) of U.S. states.

		2008 Rank	2015 Rank	2016 Rank
BEST THIRD (2016 Rank 1-17)	Cancer Death	6	7	5
	Episodic heavy (binge) drinking (Adults Age 18+)	6	6	10
	Chronic Heavy Drinking	12	5	10
	Safety Belt Use (Adults Age 18+)	9	11	10
	Alzheimer's Disease Death	8	7	12
	Youth Alcohol Use (High School Students)	35	15	13
	Physical Inactivity	19	15	14
	Heart Disease Death	9	8	16
MIDDLE THIRD (2016 Rank 18-33)	Adult Obesity	20	19	18
	Stroke Death	13	11	19
	Adult Smoking	29	25	21
	Health Insurance Coverage (Adults Age 18-64)	48	28	24
	Tuberculosis Incidence Rate	26	28	25
	Influenza Immunization (Adults Age 65+)	12	46	26
	Adult Depression	38	34	27
	HIV Death	24	28	28
	Infant (age 0 to 364 days) Mortality	13	13	30
	All-cause Death Rate	29	27	31
	Youth Smoking	49	32	32
	Pneumonia Immunization (Adults Age 65+)	34	26	33
WORST THIRD (2016 Rank 34-50)	Pneumonia and Influenza Death	25	13	34
	GINI Index (Income Inequality)	32	40	34
	Diabetes Prevalence (Adults Age 18+)	34	38	38
	Drug Overdose Death	50	43	39
	Infant Low Birth Weight	33	39	41
	Firearm-related Death	41	44	43
	Teen Births (Girls Age 15-19)	49	46	44
	Self-rated Good or Better Health (Adults Age 18+)	40	42	44
	Homicide	42	43	45
	High School Diploma (Adults Age 25+)	40	46	45
	Falls Death (Adults Age 65+)	50	47	45
	Motor Vehicle Traffic Crash Death	40	41	46
	Diabetes Death	47	41	46
	Mammogram in Last 2 Years (Women Age 50+)	44	44	46
	Suicide Death	48	47	47
	Children in Poverty (Under Age 18)	47	48	48
	Unintentional Injury Death	50	49	48
	Alcohol-induced Death	49	50	50

Rank is for all 50 U.S. states, where a rank of "1" is the best ranking and a rank of "50" is the worst.

Death rates have been age-adjusted to the U.S. 2000 standard population.

Where there were fewer than 50 states with valid data, rankings for states with valid data were normalized to range from 1 to 50. Where data were not available for the desired year, available data for the closest year were used.

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Figure 2. Populations within 85 miles of the Highest Neonatal Level of Care, New Mexico, 2016