

Appendix 1. Patient Demographics

	Preeclampsia		Postpartum hemorrhage	
	Asthma (n,%)	No asthma (n,%)	Asthma (n,%)	No asthma (n,%)
All patients	12,486 (100.0%)	227,429 (100.0%)	5,633 (100.0%)	134,208 (100.0%)
Year				
2006	855 (6.9%)	19,663 (8.2%)	449 (8%)	14013 (10.4%)
2007	974 (7.8%)	20,456 (8.5%)	408 (7.2%)	12514 (9.3%)
2008	1,043 (8.4%)	20,456 (9.0%)	390 (6.9%)	11687 (8.7%)
2009	1,199 (9.6%)	22,490 (9.9%)	494 (8.8%)	12809 (9.5%)
2010	1,247 (10.0%)	23,991 (10.6%)	501 (8.9%)	12950 (9.6%)
2011	1,521 (12.2%)	26,640 (11.7%)	708 (12.6%)	15537 (11.6%)
2012	1,804 (14.5%)	29,360 (12.9%)	857 (15.2%)	17402 (13%)
2013	1,699 (13.6%)	29,912 (13.2%)	808 (14.3%)	17272 (12.9%)
2014	1,720 (13.8%)	28,119 (12.4%)	808 (14.3%)	16457 (12.3%)
2015 (1Q)	424 (3.4%)	6,256 (2.8%)	210 (3.7%)	3567 (2.7%)
Hospital bed size				
<400	5,356 (42.9%)	114,141 (50.2%)	2578 (45.8%)	71224 (53.1%)
400-600	3,980 (32.9%)	64,967 (28.6%)	1822 (32.3%)	38227 (28.5%)
>600	3,150 (25.2%)	48,321 (21.3%)	1233 (21.9%)	24757 (18.4%)
Maternal age (years)				
15-17	500 (4.0%)	7,853 (3.4%)	248 (4.4%)	4069 (3.0%)
18-24	4,127 (33.1%)	68,795 (30.3%)	1990 (35.3%)	40913 (30.5%)
25-34	5,752 (46.1%)	112,028 (49.3%)	2680 (47.6%)	69200 (51.6%)
≥35	2,107 (16.9%)	38,753 (17.0%)	715 (12.7%)	20026 (14.9%)
Insurance status				
Medicare	261 (2.1%)	2,193 (1.0%)	118 (2.1%)	1086 (0.8%)
Medicaid	6,081 (48.7%)	96,563 (42.5%)	2816 (50.0%)	57756 (43.0%)
Private	5,605 (44.9%)	116,053 (51.0%)	2446 (43.4%)	67487 (50.3%)
Other	406 (3.3%)	8,187 (3.6%)	86 (1.5%)	3424 (2.6%)
Uninsured	133 (1.1%)	4,433 (2.0%)	167 (3.0%)	4455 (3.3%)
Race				
White	5,954 (47.7%)	115,832 (50.9%)	2698 (47.9%)	68939 (51.4%)
Black	3,458 (27.7%)	44,217 (19.4%)	1289 (22.9%)	17975 (13.4%)
Other/unknown	3,074 (24.6%)	67,380 (29.6%)	1646 (29.3%)	47294 (35.3%)
Unknown	*	104 (0.0%)	*	98 (0.1%)
Hospital Location				
Rural	756 (6.1%)	20,859 (9.2%)	403 (7.2%)	13534 (10.1%)
Urban	11,730 (93.9%)	206,570 (90.8%)	5230 (92.8%)	120674 (89.9%)
Marital Status				
Married	4,546 (36.4%)	102,033 (44.9%)	2044 (36.3%)	65190 (48.6%)
Unmarried	6,489 (52.0%)	98,273 (43.2%)	2901 (51.5%)	54207 (40.4%)
Unknown	1,451 (11.6%)	27,123 (11.9%)	688 (12.2%)	14811 (11%)
Hospital Region				
Northeast	2,729 (21.9%)	33,498 (14.7%)	1317 (23.4%)	20825 (15.5%)
Midwest	2,694 (21.6%)	38,312 (16.9%)	1351 (24%)	27471 (20.5%)
South	5,128 (41.1%)	114,130 (50.2%)	1916 (34%)	53290 (39.7%)
West	1,935 (15.5%)	41,489 (18.2%)	1049 (18.6%)	32622 (24.3%)
Teaching				
Non-teaching	4,697 (37.6%)	120,030 (52.5%)	2141 (38.0%)	71724 (53.4%)
Teaching	7,789 (62.4%)	107,399 (47.2%)	3492 (62.0%)	62484 (46.6%)
Preeclampsia				
Severe	4,417 (35.4%)	76,987 (33.9%)	NA	NA
Mild	5,690 (45.6%)	121,181 (53.3%)	NA	NA

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Superimposed	2,379 (19.1%)	29,261 (12.9%)	NA	NA
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* number omitted given cell size <10. P <0.01 for all comparisons. *NA*, not applicable

Appendix 2. Unadjusted and Adjusted Models for Receipt of Intravenous Labetalol Restricted to Patients Receiving Antihypertensive Agents

	Unadjusted model	Adjusted model
	Risk ratio (95% confidence interval)	Adjusted risk ratio (95% confidence interval)
Asthma		
No	1.00 (Reference)	1.00 (Reference)
Yes	1.04 (1.00, 1.08)	0.95 (0.92, 0.98)
Year		
2006	1.00 (Reference)	1.00 (Reference)
2007	1.00 (0.95, 1.06)	1.01 (0.95, 1.07)
2008	1.02 (0.97, 1.08)	1.02 (0.96, 1.09)
2009	1.02 (0.97, 1.07)	1.04 (0.97, 1.11)
2010	1.03 (0.98, 1.08)	1.06 (0.98, 1.14)
2011	1.02 (0.97, 1.07)	1.04 (0.96, 1.12)
2012	1.09 (1.04, 1.14)	1.14 (1.04, 1.25)
2013	1.14 (1.09, 1.20)	1.20 (1.11, 1.31)
2014	1.25 (1.20, 1.31)	1.31 (1.20, 1.43)
2015 (1Q)	1.38 (1.29, 1.46)	1.39 (1.25, 1.54)
Hospital bed size		
<400	1.00 (Reference)	1.00 (Reference)
400-600	1.06 (1.03, 1.08)	0.98 (0.84, 1.14)
>600	1.14 (1.12, 1.18)	1.03 (0.87, 1.22)
Age		
15-17	0.98 (0.92, 1.04)	0.97 (0.92, 1.02)
18-24	1.00 (Reference)	1.00 (Reference)
25-34	0.96 (0.93, 0.98)	0.98 (0.96, 1.00)
≥35	0.99 (0.96, 1.02)	1.00 (0.98, 1.03)
Insurance status		
Medicare	1.21 (1.11, 1.31)	1.11 (1.04, 1.08)
Medicaid	1.14 (1.12, 1.17)	1.06 (1.04, 1.09)
Private	1.00 (Reference)	1.00 (Reference)
Other	1.09 (1.04, 1.16)	1.03 (0.98, 1.09)
Uninsured	1.12 (1.05, 1.20)	1.14 (1.08, 1.22)
Race		
White	1.00 (Reference)	1.00 (Reference)
Black	1.17 (1.15, 1.20)	1.20 (1.17, 1.24)
Other	1.10 (1.07, 1.12)	1.10 (1.07, 1.13)
Unknown	1.32 (0.87, 2.01)	1.12 (0.86-1.46)
Hospital Location		
Rural	0.75 (0.72, 0.79)	0.95 (0.85-1.07)
Urban	1.00 (Reference)	1.00 (Reference)
Marital Status		
Married	1.00 (Reference)	1.00 (Reference)
Unmarried	1.11 (1.09, 1.13)	1.03 (1.01-1.06)
Unknown	0.89 (0.86, 0.92)	0.99 (0.91-1.08)
Hospital Region		
Northeast	1.00 (Reference)	1.00 (Reference)
Midwest	1.08 (1.04, 1.12)	0.95 (0.79-1.14)
South	1.03 (1.00, 1.06)	0.86 (0.73-1.02)
West	1.17 (1.13, 1.21)	1.02 (0.84-1.25)
Teaching		

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Non-teaching	1.00 (Reference)	1.00 (Reference)
Teaching	1.32 (1.30, 1.35)	1.09 (0.97-1.23)
<i>Preeclampsia</i>		
Severe	1.69 (1.65, 1.73)	1.58 (1.53-1.64)
Mild	1.00 (Reference)	1.00 (Reference)
Superimposed	1.55 (1.50, 1.60)	1.42 (1.37-1.48)

The adjusted model includes all the variables in the table.

Appendix 3. Unadjusted and Adjusted Models for Receipt of Carboprost Restricted to Patients Receiving Uterotonic Agents

	Unadjusted model	Adjusted model
	Risk ratio (95% confidence interval)	Adjusted risk ratio (95% confidence interval)
Asthma		
No	1.00 (Reference)	1.00 (Reference)
Yes	0.71 (0.65, 0.78)	0.73 (0.67, 0.79)
Year		
2006	1.00 (Reference)	1.00 (Reference)
2007	0.88 (0.82, 0.95)	0.90 (0.86, 0.95)
2008	0.85 (0.79, 0.91)	0.86 (0.82, 0.91)
2009	0.80 (0.75, 0.86)	0.79 (0.75, 0.84)
2010	0.79 (0.74, 0.84)	0.77 (0.73, 0.82)
2011	0.81 (0.76, 0.86)	0.76 (0.72, 0.81)
2012	0.76 (0.71, 0.81)	0.74 (0.69, 0.78)
2013	0.78 (0.73, 0.83)	0.73 (0.69, 0.78)
2014	0.78 (0.73, 0.83)	0.71 (0.67, 0.76)
2015 (1Q)	0.79 (0.72, 0.87)	0.71 (0.65, 0.77)
Hospital bed size		
<400	1.00 (Reference)	1.00 (Reference)
400-600	0.93 (0.90, 0.96)	0.92 (0.83, 1.01)
>600	1.05 (1.01, 1.09)	0.94 (0.83, 1.05)
Age		
15-17	1.04 (0.96, 1.13)	0.98 (0.93, 1.04)
18-24	1.00 (Reference)	1.00 (Reference)
25-34	0.98 (0.95, 1.01)	0.98 (0.93, 1.03)
≥35	1.06 (1.01, 1.11)	1.04 (0.98, 1.10)
Insurance status		
Medicare	0.92 (0.78, 1.09)	0.93 (0.82, 1.05)
Medicaid	1.00 (0.97, 1.03)	0.95 (0.93, 0.98)
Private	1.00 (Reference)	1.00 (Reference)
Other	1.06 (0.99, 1.15)	0.99 (0.95, 1.04)
Uninsured	1.03 (0.94, 1.12)	0.96 (0.91, 1.02)
Race		
White	1.00 (Reference)	1.00 (Reference)
Black	1.04 (0.99, 1.08)	1.02 (0.99, 1.06)
Other	0.98 (0.95, 1.01)	1.01 (0.98, 1.04)
Unknown	0.65 (0.32, 1.29)	0.74 (0.43, 1.26)
Hospital Location		
Rural	1.03 (0.98, 1.08)	1.09 (1.00, 1.20)
Urban	1.00 (Reference)	1.00 (Reference)
Marital Status		
Married	1.00 (Reference)	1.00 (Reference)
Unmarried	0.98 (0.95, 1.01)	1.01 (0.98, 1.03)
Unknown	1.05 (1.00, 1.10)	1.01 (0.95, 1.07)
Hospital Region		
Northeast	1.00 (Reference)	1.00 (Reference)
Midwest	0.97 (0.91, 1.02)	0.98 (0.86, 1.11)
South	1.04 (0.99, 1.08)	1.02 (0.91, 1.15)
West	0.81 (0.77, 0.86)	0.81 (0.71, 0.94)*
Teaching		

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Non-teaching	1.00 (Reference)	1.00 (Reference)
Teaching	1.02 (0.99, 1.05)	1.05 (0.96, 1.14)

The adjusted model includes all the variables in the table.

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Appendix 4. Risk for Status Asthmaticus With Nifedipine, Oral Labetalol, and Hydralazine

	Status asthmaticus		P value
	Present n, (rate)	Absent n	
<i>Nifedipine</i>			
≥1 antihypertensive (received nifedipine)	8 (3.4)	2338	0.85
≥1 antihypertensive (no nifedipine)	13 (3.7)	3487	
<i>Hydralazine</i>			
≥1 antihypertensive (received hydralazine)	9 (4.3)	2067	0.48
≥1 antihypertensive (no hydralazine)	12 (3.2)	3758	
<i>Oral labetalol</i>			
≥1 antihypertensive (received oral labetalol)	9 (2.5)	3556	0.09
≥1 antihypertensive (no oral labetalol)	12 (5.3)	2269	

The table demonstrates risk for status asthmaticus among asthmatic patients receiving antihypertensive medications. * rate per 1,000 deliveries.