**Supplemental Methods**

**Study design and variables**

According to U.S. National Center for Health Statistics, the majority of births occurred in hospital, with a slightly downward trend from 99.1% in 2004 to 98.6% in 2012.1 Therefore, we decided to focus only on births that occurred in hospitals. All eligible discharges with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes of 650 (*Normal delivery),*V27 (*Outcome of delivery)*, selected delivery related procedures and diagnosis-related group (DRG) delivery codes were used to identify the study population. As each pregnancy will result in only one delivery hospitalisation per year, the discharge record is linked to each pregnancy. However, many women have more than one pregnancy, and therefore one woman can have multiple delivery hospitalisation episodes over the study period.

Patient demographics that were extracted include: age, race/ethnicity, median household income according to ZIP code, admission type (elective or emergency), admission day (weekday or weekend), hospital region, hospital location and teaching status, hospital bed size, and expected primary payer and patient comorbidity conditions. As each discharge record included information on up to 30 diagnoses that the patient had (15 between 2004 and 2008, 25 between 2009 and 2013 and 30 in 2014), we used these diagnosis codes to identify the comorbidity conditions recorded during the delivery hospitalisation.

There has been a change in sampling strategy over time to generate more generalizable estimates by reducing sampling bias. Before 2012 the NIS retained all discharges from a sample of hospitals, but since then the NIS samples discharges from all hospitals participating in HUCP, which approximates a 20% stratified sample of all discharges from U.S. hospitals. In order to ensure the data were comparable across all years of the study period, two sets of weights (pre-2012 and 2012 onwards) were used as there was a redesign of the NIS dataset in 2012.

For the length of stay and the total charge of hospitalization outcomes, as the total charge recorded in the NIS database is the amount of the hospital bill and not representative of the actual cost of hospital services, a charge to cost conversion ratio provided by AHRQ was used to convert the reported charge into the actual cost for the payer. To account for the effect of inflation, these costs were then adjusted to reflect 2017 U.S. dollars using the consumer price index.2

**Statistical analysis**

As recommended by AHRQ, to account for the complex survey design of the NIS database, the survey estimation commands were used (*svy* prefix in Stata) for all analyses. According to U.S. National Center for Health Statistics, the majority of births occurred in hospital, with a slightly downward trend from 99.1% in 2004 to 98.6% in 2012.11 Therefore, we decided to focus only on births that occurred in hospitals. As the discharge records were not sampled individually but by hospitals, the survey estimation accounted for the clustering of records within hospitals by defining each hospital to be the primary sampling unit. In order to calculate national estimates and variances, we used sampling weights for each individual discharge provided by the AHRQ. The sampling weights are needed because of the study design where different observations may have different probabilities of selection.

We adjusted for potential confounders in multivariable analyses. Demographic factors at individual and hospital levels included: year of admission, age, weekday/weekend admission, elective or emergency admission, primary payer, race/ethnicity, median ZIP code income quartile, hospital region and hospital location / teaching status, and hospital size. Comorbidities conditions included: smoking, congenital heart disease, dyslipidaemia, previous stroke, and selected Elixhauser comorbidity measures (heart failure, valvular disease, pulmonary circulation disorders, peripheral vascular disease, other neurological disorders, chronic pulmonary disease, diabetes, hypothyroidism, renal failure, liver disease, lymphoma, HIV and AIDS, metastatic cancer, solid tumour without metastasis, rheumatoid arthritis/collagen vascular diseases, obesity, fluid and electrolyte disorders, deficiency anaemias, alcohol abuse, drug abuse and depression) which were treated as individual comorbidities. Obstetric factors included: gestational diabetes, fetal growth restriction, placenta previa, and multiple pregnancy.

**References**

1. MacDorman MF, Mathews TJ and Declercq E. Trends in out-of-hospital births in the United States, 1990–2012. NCHS data brief, no 144. Hyattsville, MD: National Center for Health Statistics. 2014. *NCHS data brief, no 144*. 2014.

2. Consumer Price Index, 1913-. Available at: https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator. Accessed on 3rd February 2020.

Supplemental Table S1. ICD-9-CM or DXCCS codes of conditions studied.

A. For hypertensive disorders of pregnancy.

|  |  |
| --- | --- |
| Hypertensive disorders of pregnancy | ICD-9-CM codes |
| Preeclampsia/eclampsia | 6424x, 6425x, 6426x |
| Gestational hypertension | 6423x |
| Chronic hypertension | 6420x, 6421x, 6422x, 6429x or Elixhauser comorbidity hypertension variable =1 in NIS dataset |
| Superimposed preeclampsia on chronic hypertension | 6427x or a combination of chronic hypertension and preeclampsia as defined above |

B. For adverse cardiovascular and obstetric outcomes.

|  |  |
| --- | --- |
| Adverse outcomes | ICD-9-CM or DXCCS codes |
| Mortality | 7616 or DIED variable =1 in NIS dataset |
| Myocardial infarction | 410x |
| Stroke | 430, 431, 432x, 433x, 434x, 436, 6740x, DXCCS 109, 111 |
| Peripartum cardiomyopathy | 425x, 6745x |
| Arrhythmia | 4270, 42731, 4271, 42732, 42741, 42742 |
| Preterm birth | 644x |
| Placental abruption | 6412x |
| Stillbirth | 6564x, v271x, v273x, v274x, v276x, v277x, 7680, 7681 |
| Postpartum hemorrhage | 666x |

C. For cardiovascular risk factors and other comorbidities.

|  |  |
| --- | --- |
| Comorbidities | ICD-9-CM or DXCCS codes |
| Congenital heart disease | 6485, 745x, 746x, 747x, DXCCS 213 |
| Previous stroke | V1254 |
| Smoker | V1582, 3051x, 6490x, 98984 |
| Dyslipidaemia | DXCCS 53 |
| Gestational diabetes | 6488x |
| Fetal growth restriction | 6565x |
| Placenta previa | 6410x, 6411x |
| Multiple pregnancy | V272x, v273x, v274x, v275x, v276x, v277x, 651x |
| Elixhauser comorbidities (Heart failure, Valvular disease, Pulmonary circulation disorders, Peripheral vascular disorders, Other neurological disorders, Chronic pulmonary disease, Diabetes (uncomplicated and with chronic complications), Hypothyroidism, Renal failure, Liver disease, Acquired immune deficiency syndrome, Rheumatoid arthritis/collagen vascular diseases, Obesity, Fluid and electrolyte disorders, Deficiency anaemia, Alcohol abuse, Drug abuse, Depression) | List of comorbidities and associated ICD-9-CM code can be found (Quan 2005 et al.) at: http://czresearch.com/dropbox/Quan\_MedCare\_2005v43p1130.pdf |

Supplemental Table S2. The RECORD statement – checklist of items, extended from the STROBE statement, that should be reported in observational studies using routinely collected health data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Item No.** | **STROBE items** | **Location in manuscript where items are reported** (page) | **RECORD items** | **Location in manuscript where items are reported** (page) |
| **Title and abstract** | | | | | |
|  | 1 | (a) Indicate the study’s design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found | 3 | RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included.  RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract.  RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract. | 3 |
| **Introduction** | | | | | |
| Background rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 4 |  |  |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 4 |  |  |
| **Methods** | | | | | |
| Study Design | 4 | Present key elements of study design early in the paper | 5 |  |  |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 4 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable. | 5  Supplemental table 1 | RECORD 7.1: A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided. If these cannot be reported, an explanation should be provided. | 5  Supplemental table 1 |
| Data sources/ measurement | 8 | For each variable of interest, give sources of data and details of methods of assessment (measurement).  Describe comparability of assessment methods if there is more than one group | 5  Supplemental methods |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bias | 9 | Describe any efforts to address potential sources of bias | 5 |  |  |
| Study size | 10 | Explain how the study size was arrived at | 4 |  |  |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why | NA |  |  |
| Statistical methods | 12 | 1. Describe all statistical methods, including those used to control for confounding 2. Describe any methods used to examine subgroups and interactions 3. Explain how missing data were addressed 4. *Cohort study* - If applicable, explain how loss to follow-up was addressed   *Case-control study* - If applicable, explain how matching of cases and controls was addressed  *Cross-sectional study* - If applicable, describe analytical methods taking account of sampling strategy   1. Describe any sensitivity analyses | 5 |  |  |
| Data access and cleaning methods |  | .. |  | RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population. | 5  Supplemental methods |
|  |  |  |  | RECORD 12.2: Authors should provide information on the data cleaning methods used in the study. | 5  Supplemental methods |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Linkage |  | .. |  | RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided. | NA |
| **Results** | | | | | |
| Participants | 13 | 1. Report the numbers of individuals at each stage of the study (*e.g.*, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed) 2. Give reasons for non- participation at each stage. 3. Consider use of a flow diagram | Figure 1 | RECORD 13.1: Describe in detail the selection of the persons included in the study (*i.e.,* study population selection) including filtering based on data quality, data availability and linkage. The selection of included persons can be described in the text and/or by means of the study flow diagram. | Figure 1 |
| Descriptive data | 14 | 1. Give characteristics of study participants (*e.g.*, demographic, clinical, social) and information on exposures and potential confounders 2. Indicate the number of participants with missing data for each variable of interest 3. *Cohort study* - summarise follow-up time (*e.g.*, average and total amount) | Table 1  Figure 1  4 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome data | 15 | *Cohort study* - Report numbers of outcome events or summary measures over time  *Case-control study* - Report numbers in each exposure category, or summary measures of exposure  *Cross-sectional study* - Report numbers of outcome events or summary measures | Supplemental Table S5 |  |  |
| Main results | 16 | 1. Give unadjusted estimates and, if applicable, confounder- adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included 2. Report category boundaries when continuous variables were categorized 3. If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period | Table 2  NA  NA |  |  |
| Other analyses | 17 | Report other analyses done— e.g., analyses of subgroups and interactions, and sensitivity analyses | Supplemental Table S8 |  |  |
| **Discussion** | | | | | |
| Key results | 18 | Summarise key results with reference to study objectives | 8 |  |  |
| Limitations | 19 | Discuss limitations of the study, taking into account sources of potential bias or imprecision.  Discuss both direction and magnitude of any potential bias | 10 | RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported. | 10 |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives,  limitations, multiplicity of analyses, results from similar studies, and other relevant evidence | 8-9 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 10 |  |  |
| **Other Information** | | | | | |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based | 11 |  |  |
| Accessibility of protocol, raw data, and programming code |  | .. |  | RECORD 22.1: Authors should provide information on how to access any supplemental information such as the study protocol, raw data, or programming code. | Supplemental  materials |

Reference: Benchimol EI, Smeeth L, Guttmann A, Harron K, Moher D, Petersen I, Sørensen HT, von Elm E, Langan SM, the RECORD Working Committee. The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement. *PLoS Medicine* 2015; in press.

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Supplemental Table S3. Percentage of hospital episodes stratified by subgroups of hypertensive disorders of pregnancy and non-hypertensive disorders of pregnancy from 2004 – 2014.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| No HDP | 91.59% | 91.50% | 91.38% | 91.33% | 90.97% | 90.62% | 90.09% | 89.86% | 89.76% | 89.36% | 89.07% |
| Superimposed preeclampsia | 0.44% | 0.43% | 0.45% | 0.49% | 0.50% | 0.58% | 0.65% | 0.64% | 0.70% | 0.72% | 0.76% |
| Preeclampsia | 3.44% | 3.40% | 3.43% | 3.43% | 3.48% | 3.59% | 3.76% | 3.71% | 3.76% | 3.81% | 3.90% |
| Gestational SH | 2.86% | 2.95% | 2.96% | 2.85% | 3.09% | 3.17% | 3.25% | 3.50% | 3.45% | 3.68% | 3.84% |
| Chronic SH | 1.67% | 1.72% | 1.78% | 1.90% | 1.96% | 2.04% | 2.25% | 2.29% | 2.33% | 2.42% | 2.44% |

HDP, hypertensive disorders of pregnancy. SH, systemic hypertension.

Supplemental Table S4. Prevalence of cardiovascular risk factors and comorbidities in overall delivery hospitalization stratified by year groups.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2004-2007 | 2008-2011 | 2012-2014 |
| Previous stroke | 0.002% | 0.042% | 0.063% |
| Dyslipidemia | 0.04% | 0.10% | 0.17% |
| Renal failure | 0.028% | 0.044% | 0.065% |
| Congenital heart disease | 0.09% | 0.11% | 0.14% |
| Diabetes | 0.93% | 1.04% | 1.15% |
| Obesity | 1.67% | 3.94% | 6.30% |
| Smoking | 4.60% | 6.30% | 8.08% |
| Alcohol abuse | 0.11% | 0.11% | 0.12% |
| Peripheral vascular disease | 0.006% | 0.010% | 0.015% |
| Heart failure | 0.045% | 0.047% | 0.046% |
| Pulmonary circulation disorders | 0.019% | 0.030% | 0.030% |
| Valvular disease | 0.65% | 0.36% | 0.23% |
| Chronic pulmonary disease | 2.55% | 3.43% | 4.02% |
| Hypothyroidism | 1.45% | 2.04% | 2.85% |
| Liver disease | 0.10% | 0.13% | 0.18% |
| Deficiency anemia | 5.42% | 7.58% | 9.11% |
| Rheumatoid arthritis/collagen vascular diseases | 0.18% | 0.24% | 0.29% |
| Other neurological disorders | 0.45% | 0.51% | 0.61% |
| Fluid and electrolyte disorders | 0.44% | 0.52% | 0.58% |
| HIV and AIDS | 0.025% | 0.027% | 0.021% |
| Drug abuse | 1.24% | 1.35% | 1.90% |
| Depression | 1.40% | 1.96% | 2.32% |
| Gestational diabetes | 5.10% | 5.84% | 6.82% |
| Fetal growth restriction | 1.85% | 2.22% | 2.74% |
| Placenta previa | 0.59% | 0.62% | 0.65% |
| Multiple pregnancy | 2.22% | 2.26% | 2.22% |

Supplemental Table S5. Adverse cardiovascular and obstetric outcomes (per 10,000 hospitalizations) stratified by subgroups of hypertensive disorders of pregnancy and non-hypertensive disorders of pregnancy.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Adverse outcomes (per 10,000 hospitalizations) | Superimposed preeclampsia | Preeclampsia | Gestational SH | Chronic SH | No HDP |
| Cardiovascular outcomes | | | | | |
| Mortality | 8.3 | 3.4 | 0.7 | 3.2 | 0.6 |
| Myocardial infarction | 6.4 | 1.2 | 0.2 | 2.5 | 0.2 |
| Stroke | 27 | 12 | 2 | 10 | 2 |
| Peripartum cardiomyopathy | 82 | 24 | 7 | 44 | 3 |
| Arrhythmia | 17 | 6 | 5 | 22 | 5 |
| Obstetric outcomes | | | | | |
| Preterm birth | 3136 | 2207 | 707 | 1060 | 714 |
| Placental abruption | 273 | 243 | 112 | 161 | 100 |
| Stillbirth | 170 | 96 | 36 | 135 | 60 |
| Postpartum hemorrhage | 482 | 654 | 393 | 346 | 275 |

HDP, hypertensive disorders of pregnancy. SH, systemic hypertension.

Supplemental Table S6. Patient characteristics, risk factors, comorbidities and adverse outcomes from 2004 – 2014.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | Superimposed preeclampsia | | | Preeclampsia | | | Gestational SH | | | Chronic SH | | | No HDP | | |
|  | 2004-2007 | 2008-2011 | 2012-2014 | 2004-2007 | 2008-2011 | 2012-2014 | 2004-2007 | 2008-2011 | 2012-2014 | 2004-2007 | 2008-2011 | 2012-2014 | 2004-2007 | 2008-2011 | 2012-2014 |
| Age (year),  median (IQR) | 31  (26-36) | 31  (26-36) | 31  (27-36) | 27  (22-32) | 27  (22-32) | 27  (22-32) | 27 (22-32) | 27 (22-32) | 28  (23-32) | 31 (26-36) | 31  (27-36) | 32  (27-36) | 27  (22-32) | 27  (23-32) | 28  (23-32) |
| White | 0.4% | 0.5% | 0.6% | 3.2% | 3.5% | 3.7% | 3.3% | 3.7% | 4.2% | 1.7% | 2.0% | 2.3% | 91.5% | 90.3% | 89.4% |
| Black | 1.1% | 1.4% | 1.6% | 4.7% | 4.8% | 5.1% | 3.2% | 3.9% | 4.2% | 3.6% | 4.3% | 4.8% | 87.5% | 85.6% | 84.3% |
| Hispanic | 0.3% | 0.5% | 0.6% | 3.5% | 3.6% | 3.9% | 2.1% | 2.4% | 2.7% | 1.0% | 1.4% | 1.6% | 93.1% | 92.2% | 91.2% |
| Asian / Pacific Islander | 0.4% | 0.5% | 0.5% | 2.2% | 2.3% | 2.4% | 1.7% | 1.8% | 2.1% | 1.0% | 1.4% | 1.3% | 94.7% | 94.1% | 93.7% |
| Native American | 0.8% | 0.7% | 0.9% | 4.7% | 4.4% | 5.1% | 2.6% | 3.1% | 3.5% | 1.9% | 2.1% | 2.4% | 90.0% | 89.7% | 88.1% |
| Other | 0.4% | 0.4% | 0.6% | 3.2% | 3.5% | 3.6% | 2.2% | 2.4% | 2.8% | 1.3% | 1.4% | 1.7% | 92.9% | 92.2% | 91.3% |
| Missing Race | 0.4% | 0.6% | 0.5% | 3.4% | 3.6% | 3.4% | 3.1% | 3.2% | 3.5% | 1.9% | 2.1% | 2.0% | 91.1% | 90.5% | 90.5% |
| Median ZIP code income (quartile):  1st | 0.6% | 0.8% | 0.9% | 3.9% | 4.1% | 4.2% | 2.9% | 3.4% | 3.8% | 2.1% | 2.5% | 2.9% | 90.6% | 89.2% | 88.1% |
| 2nd | 0.5% | 0.6% | 0.7% | 3.4% | 3.7% | 3.9% | 2.9% | 3.3% | 3.7% | 1.8% | 2.1% | 2.4% | 91.4% | 90.3% | 89.3% |
| 3rd | 0.4% | 0.5% | 0.7% | 3.3% | 3.5% | 3.7% | 3.1% | 3.3% | 3.7% | 1.8% | 2.0% | 2.2% | 91.4% | 90.6% | 89.7% |
| 4th | 0.4% | 0.5% | 0.5% | 3.0% | 3.1% | 3.3% | 2.7% | 2.9% | 3.4% | 1.6% | 1.8% | 1.9% | 92.3% | 91.7% | 90.9% |
| Missing income | 0.4% | 0.7% | 0.9% | 3.4% | 4.4% | 4.7% | 2.9% | 3.1% | 3.3% | 1.7% | 2.2% | 2.5% | 91.5% | 89.6% | 88.7% |
| Admission type: elective admission | 0.4% | 0.5% | 0.6% | 3.0% | 3.3% | 3.4% | 3.1% | 3.4% | 3.7% | 1.8% | 2.2% | 2.4% | 91.8% | 90.7% | 89.8% |
| Admission day: weekday | 87.8% | 88.0% | 86.9% | 85.9% | 86.0  % | 84.9  % | 86.6% | 85.9% | 85.3% | 86.4% | 85.5% | 85.0% | 80.2% | 80.3% | 79.8% |
| Length of stay (days), median (IQR) | 4  (3-6) | 4  (3-6) | 4  (3-6) | 3  (3-5) | 3  (3-5) | 3  (3-5) | 3  (2-4) | 3  (2-3) | 3  (2-3) | 3  (2-4) | 3  (2-4) | 3  (2-3) | 2  (2-3) | 2  (2-3) | 2  (2-3) |
| Total charge, ($), median (IQR) | 15,431 (9,935-24,564) | 19,794 (12,665-32,038) | 23,960 (15,452-37,902) | 12,511 (8,373-19,113) | 16,378 (10,790-25,246) | 20,281 (13,338-31,108) | 9,249 (6,376-13,601) | 11,873 (8,152-17,724) | 14,806 (10,104-22,187) | 9,208 (6,247-13,814) | 12,119 (8,073-18,583) | 15,006 (10,001-22,806) | 7,592 (5,300-11,225) | 10,002 (6,801-15,049) | 12,456 (8,390-18,678) |
| Expected primary payer:  Medicare | 1.2% | 1.8% | 1.8% | 4.2% | 4.3% | 4.5% | 2.8% | 3.2% | 4.0% | 4.9% | 5.6% | 6.5% | 87.0% | 85.2% | 83.2% |
| Medicaid | 0.5% | 0.6% | 0.8% | 3.6% | 3.7% | 3.9% | 2.6% | 3.0% | 3.4% | 1.6% | 2.0% | 2.4% | 91.7% | 90.6% | 89.5% |
| Private insurance | 0.4% | 0.6% | 0.7% | 3.2% | 3.6% | 3.8% | 3.2% | 3.5% | 4.0% | 1.9% | 2.2% | 2.4% | 91.2% | 90.2% | 89.2% |
| Self-pay | 0.4% | 0.5% | 0.5% | 3.3% | 3.4% | 3.0% | 1.9% | 2.4% | 2.5% | 1.2% | 1.6% | 1.6% | 93.3% | 92.2% | 92.4% |
| No charge | 0.5% | 0.6% | 0.6% | 3.9% | 4.3% | 3.3% | 2.0% | 3.1% | 3.5% | 1.8% | 2.2% | 2.6% | 91.9% | 89.8% | 90.0% |
| Other | 0.4% | 0.6% | 0.6% | 3.8% | 3.7% | 3.7% | 3.1% | 3.2% | 3.5% | 1.8% | 2.0% | 2.1% | 90.8% | 90.6% | 90.1% |
| Hospital region:  Northeast | 15.0% | 14.9% | 15.1% | 15.7% | 15.7  % | 15.8  % | 14.5% | 13.2% | 14.2% | 15.9% | 14.4% | 14.3% | 17.4% | 16.2% | 16.4% |
| Midwest | 18.2% | 18.6% | 18.9% | 20.5% | 20.2  % | 20.0  % | 20.9% | 20.5% | 21.2% | 20.5% | 20.6% | 20.9% | 20.9% | 20.9% | 21.0% |
| South | 47.2% | 47.1% | 46.9% | 42.1% | 41.3  % | 41.8  % | 43.7% | 45.6% | 44.9% | 44.9% | 46.1% | 46.8% | 36.8% | 37.2% | 37.7% |
| West | 19.6% | 19.5% | 19.1% | 21.7% | 22.8  % | 22.4  % | 20.9% | 20.7% | 19.7% | 18.8% | 18.9% | 18.1% | 24.9% | 25.7% | 24.9% |
| Hospital location / teaching status:  Rural | 7.2% | 6.8% | 6.4% | 10.6% | 10.0  % | 9.0  % | 12.0% | 12.0% | 10.4% | 11.0% | 10.6% | 9.8% | 11.0% | 11.2% | 10.5% |
| Urban non-teaching | 30.2% | 27.9% | 23.6% | 36.1% | 34.9  % | 29.0  % | 45.3% | 41.2% | 31.2% | 37.4% | 35.0% | 28.9% | 43.9% | 42.2% | 34.6% |
| Urban teaching | 62.7% | 65.3% | 70.0% | 53.3% | 55.0  % | 62.0  % | 42.7% | 46.8% | 58.4% | 51.6% | 54.4% | 61.4% | 45.1% | 46.6% | 54.9% |
| Hospital bed size  Small | 0.3% | 0.4% | 0.5% | 2.9% | 3.1% | 3.3% | 3.1% | 3.1% | 3.6% | 1.6% | 1.9% | 2.1% | 92.1% | 91.6% | 90.5% |
| Medium | 0.4% | 0.6% | 0.7% | 3.3% | 3.4% | 3.8% | 2.9% | 3.3% | 3.6% | 1.7% | 2.1% | 2.3% | 91.7% | 90.6% | 89.6% |
| Large | 0.5% | 0.6% | 0.8% | 3.6% | 3.8% | 4.0% | 2.9% | 3.2% | 3.7% | 1.9% | 2.2% | 2.5% | 91.2% | 90.1% | 89.0% |
| Cardiovascular risk factors and other comorbidities | | | | | | | | | | | | | | | |
| Previous stroke | 0.012% | 0.240% | 0.435% | 0.001% | 0.060% | 0.089% | 0.002% | 0.043% | 0.070% | 0.010% | 0.239% | 0.347% | 0.001  % | 0.035  % | 0.051  % |
| Dyslipidemia | 0.44  % | 0.86  % | 1.26  % | 0.08  % | 0.17  % | 0.30  % | 0.05  % | 0.13  % | 0.23  % | 0.41  % | 0.90  % | 1.18  % | 0.03  % | 0.08  % | 0.13  % |
| Renal failure | 1.72% | 2.24% | 2.07% | 0.05% | 0.08  % | 0.10  % | 0.02% | 0.03% | 0.05% | 0.63% | 0.72% | 0.91% | 0.01% | 0.01% | 0.02% |
| Congenital heart disease | 0.20  % | 0.28  % | 0.35  % | 0.09  % | 0.15  % | 0.18  % | 0.08  % | 0.09  % | 0.16  % | 0.20  % | 0.24  % | 0.31  % | 0.08  % | 0.10  % | 0.13  % |
| Diabetes | 9.17  % | 10.22% | 10.78% | 2.49  % | 2.83  % | 3.25  % | 1.45  % | 1.43  % | 1.71  % | 7.01  % | 8.04  % | 8.31  % | 0.70  % | 0.73  % | 0.77  % |
| Obesity | 11.92% | 22.30% | 29.31% | 4.16  % | 8.51  % | 12.89% | 4.36  % | 8.79  % | 13.32% | 9.85  % | 17.92% | 24.52% | 1.27  % | 3.13  % | 5.05  % |
| Smoking | 5.3% | 8.8% | 10.9% | 4.1% | 5.9% | 7.7% | 4.5% | 6.4% | 8.5% | 5.8% | 8.9% | 11.7% | 4.6% | 6.2% | 8.0% |
| Alcohol abuse | 0.20% | 0.24% | 0.32% | 0.12% | 0.12  % | 0.14  % | 0.07% | 0.09% | 0.13% | 0.21% | 0.27% | 0.35% | 0.11% | 0.11% | 0.12% |
| Peripheral vascular disease | 0.09% | 0.15% | 0.22% | 0.01% | 0.02  % | 0.03  % | 0.01% | 0.01% | 0.02% | 0.07% | 0.09% | 0.10% | 0.004% | 0.007% | 0.011% |
| Heart failure | 1.09  % | 1.06  % | 0.86  % | 0.33  % | 0.27  % | 0.22  % | 0.09  % | 0.07  % | 0.05  % | 0.41  % | 0.49  % | 0.54  % | 0.02  % | 0.02  % | 0.02  % |
| Pulmonary circulation disorders | 0.31% | 0.53% | 0.37% | 0.06% | 0.09  % | 0.09  % | 0.01% | 0.03% | 0.02% | 0.18% | 0.31% | 0.26% | 0.01% | 0.02% | 0.02% |
| Valvular disease | 1.33% | 1.01% | 0.69% | 0.70% | 0.46  % | 0.30  % | 0.73% | 0.37% | 0.28% | 1.34% | 0.88% | 0.68% | 0.63% | 0.33% | 0.21% |
| Chronic pulmonary disease | 6.15% | 7.04% | 8.42% | 3.47% | 4.77  % | 5.41  % | 3.18% | 4.37% | 5.42% | 5.38% | 7.01% | 8.19% | 2.42% | 3.24% | 3.75% |
| Hypothyroidism | 3.34% | 4.22% | 5.20% | 1.80% | 2.61  % | 3.60  % | 1.87% | 2.55% | 3.61% | 3.33% | 4.46% | 5.35% | 1.38% | 1.93% | 2.71% |
| Liver disease | 0.24% | 0.33% | 0.45% | 0.20% | 0.21  % | 0.30  % | 0.08% | 0.10% | 0.17% | 0.20% | 0.32% | 0.43% | 0.10% | 0.12% | 0.17% |
| Deficiency anemia | 7.70  % | 11.67% | 13.45% | 7.71  % | 10.59% | 12.17% | 6.21  % | 8.78  % | 10.16% | 6.08  % | 9.37  % | 11.27% | 5.29  % | 7.35  % | 8.85  % |
| Rheumatoid arthritis / collagen vascular diseases | 1.02% | 1.21% | 1.29% | 0.34% | 0.42  % | 0.50  % | 0.22% | 0.27% | 0.33% | 0.60% | 0.83% | 0.85% | 0.16% | 0.21% | 0.26% |
| Other neurological disorders | 1.20% | 1.38% | 1.40% | 0.87% | 0.89  % | 0.97  % | 0.42% | 0.48% | 0.67% | 0.77% | 1.04% | 1.25% | 0.42% | 0.48% | 0.57% |
| Fluid and electrolyte disorders | 3.27% | 4.02% | 4.15% | 1.96% | 2.29  % | 2.61  % | 0.76% | 0.83% | 0.94% | 1.33% | 1.69% | 1.80% | 0.34% | 0.39% | 0.42% |
| HIV and AIDS | 0.07% | 0.11% | 0.06% | 0.03% | 0.03  % | 0.02  % | 0.02% | 0.02% | 0.03% | 0.06% | 0.09% | 0.07% | 0.02% | 0.03% | 0.02% |
| Drug abuse | 2.24% | 2.53% | 3.11% | 1.37% | 1.40  % | 2.00  % | 1.00% | 1.19% | 1.81% | 1.82% | 2.22% | 3.06% | 1.23% | 1.33% | 1.86% |
| Depression | 3.03% | 4.24% | 5.22% | 1.76% | 2.50  % | 2.95  % | 1.68% | 2.27% | 2.97% | 2.76% | 4.15% | 4.80% | 1.34% | 1.86% | 2.18% |
| Gestational diabetes | 13.42% | 15.35% | 16.38% | 7.90  % | 9.02  % | 10.59% | 7.87  % | 8.80  % | 10.01  % | 13.56% | 14.59% | 15.39% | 4.71  % | 5.34  % | 6.22  % |
| Fetal growth restriction | 7.82% | 8.58% | 9.69% | 5.70% | 6.32  % | 7.28  % | 2.78% | 3.15% | 3.60% | 3.65% | 4.20% | 4.91% | 1.62% | 1.93% | 2.40% |
| Placenta previa | 0.65% | 0.60% | 0.67% | 0.42% | 0.48  % | 0.46  % | 0.31% | 0.33% | 0.33% | 0.67% | 0.81% | 0.79% | 0.60% | 0.63% | 0.67% |
| Multiple pregnancy | 4.3% | 4.7% | 4.9% | 6.3% | 6.6% | 6.5% | 3.1% | 3.1% | 2.9% | 3.0% | 3.3% | 3.2% | 2.0% | 2.0% | 2.0% |
| Adverse outcomes (per 10,000 hospitalizations) | | | | | | | | | | | | | | | |
| Mortality | 9.1 | 10.2 | 5.4 | 3.8 | 3.8 | 2.6 | 0.8 | 0.6 | 0.6 | 2.5 | 4.6 | 2.2 | 0.6 | 0.6 | 0.4 |
| Myocardial infarction | 6.7 | 6.4 | 6.0 | 1.5 | 1.0 | 1.0 | 0.2 | 0.4 | 0.1 | 1.8 | 3.2 | 2.5 | 0.2 | 0.2 | 0.3 |
| Stroke | 32 | 26 | 24 | 14 | 10 | 11 | 2 | 2 | 3 | 9 | 10 | 11 | 1 | 2 | 2 |
| Peripartum cardiomyopathy | 75 | 87 | 82 | 23 | 25 | 23 | 8 | 7 | 6 | 36 | 47 | 50 | 3 | 3 | 3 |
| Arrhythmia | 14 | 19 | 17 | 6 | 7 | 7 | 3 | 5 | 7 | 20 | 19 | 28 | 4 | 5 | 5 |
| Preterm birth | 3570 | 3470 | 2366 | 2457 | 2342 | 1703 | 815 | 722 | 561 | 1162 | 1098 | 903 | 764 | 715 | 638 |
| Placental abruption | 297 | 269 | 254 | 255 | 241 | 231 | 116 | 115 | 105 | 155 | 168 | 161 | 102 | 100 | 99 |
| Stillbirth | 182 | 150 | 181 | 98 | 95 | 96 | 37 | 36 | 34 | 136 | 133 | 136 | 61 | 58 | 59 |
| Postpartum hemorrhage | 450 | 463 | 532 | 630 | 651 | 689 | 390 | 376 | 417 | 328 | 338 | 375 | 270 | 265 | 297 |

HDP, hypertensive disorders of pregnancy. SH, systemic hypertension.

Supplemental Table S7. Odds ratios and 95% confidence intervals for the individual comorbidity within the multivariate models for adverse maternal outcomes.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Comorbidity | Mortality | Myocardial infarction | Stroke | Peripartum cardiomyopathy | Arrhythmia | Preterm birth | Placental abruption | Stillbirth | Postpartum hemorrhage |
| Alcohol abuse | 1.36  (0.54, 3.42) | 0.96  (0.27, 3.43) | 0.73  (0.32, 1.67) | 1.45  (0.87, 2.42) | 0.59  (0.24, 1.44) | 1.18  (1.10, 1.26) | 1.04  (0.92, 1.16) | 1.43  (1.22, 1.67) | 1.06  (0.95, 1.18) |
| Chronic heart failure | 4.49  (2.54, 7.92) | 34.21  (18.48, 63.32) | 1.98  (1.22, 3.20) | 440.85  (382.33, 508.34) | 8.44  (6.30, 11.31) | 1.24  (1.13, 1.35) | 1.05  (0.85, 1.29) | 1.43  (1.15, 1.77) | 1.49  (1.33, 1.68) |
| Chronic pulmonary disease | 1.01  (0.71, 1.44) | 1.20  (0.70, 2.06) | 0.97  (0.79, 1.19) | 1.48  (1.28, 1.71) | 1.62  (1.41, 1.87) | 1.14  (1.12, 1.16) | 0.98  (0.94, 1.01) | 0.83  (0.79, 0.87) | 1.03  (1.00, 1.06) |
| Chronic renal failure | 2.03  (0.97, 4.22) | 1.79  (0.68, 4.74) | 1.33  (0.77, 2.32) | 0.53  (0.27, 1.06) | 0.64  (0.32, 1.25) | 1.66  (1.51, 1.83) | 1.13  (0.92, 1.38) | 2.18  (1.83, 2.61) | 0.89  (0.75, 1.05) |
| Congenital heart disease | 4.39  (2.03, 9.50) | 3.16  (1.14, 8.78) | 16.59  (12.17, 22.60) | 1.83  (1.02, 3.27) | 6.33  (4.75, 8.44) | 1.35  (1.26, 1.45) | 1.00  (0.83, 1.22) | 1.05  (0.82, 1.33) | 1.45  (1.32, 1.59) |
| Diabetes mellitus | 1.32  (0.90, 1.94) | 1.44  (0.81, 2.54) | 0.82  (0.61, 1.10) | 1.41  (1.15, 1.73) | 0.89  (0.69, 1.15) | 2.04  (1.99, 2.10) | 0.99  (0.93, 1.05) | 2.39  (2.27, 2.53) | 0.76  (0.73, 0.79) |
| Deficiency anaemia | 0.74  (0.56, 0.96) | 1.10  (0.72, 1.66) | 1.36  (1.18, 1.58) | 1.45  (1.29, 1.61) | 1.42  (1.26, 1.60) | 1.03  (1.00, 1.05) | 1.56  (1.51, 1.60) | 0.75  (0.72, 0.78) | 2.28  (2.21, 2.34) |
| Depression | 0.35  (0.17, 0.73) | 0.60  (0.27, 1.32) | 1.55  (1.24, 1.93) | 1.08  (0.86, 1.35) | 1.62  (1.35, 1.95) | 1.26  (1.23, 1.29) | 1.17  (1.12, 1.22) | 1.45  (1.38, 1.53) | 1.19  (1.16, 1.23) |
| Drug abuse | 1.35  (0.87, 2.08) | 2.16  (1.20, 3.89) | 1.44  (1.13, 1.84) | 1.55  (1.27, 1.89) | 1.08  (0.85, 1.38) | 1.87  (1.82, 1.92) | 2.47  (2.37, 2.57) | 1.75  (1.66, 1.84) | 1.04  (1.00, 1.07) |
| Dyslipidaemia | 0.61  (0.17, 2.22) | 4.38  (1.89, 10.11) | 3.54  (2.13, 5.89) | 1.36  (0.82, 2.24) | 2.20  (1.40, 3.47) | 0.98  (0.91, 1.06) | 0.96  (0.80, 1.16) | 1.10  (0.88, 1.38) | 1.01  (0.90, 1.14) |
| Fluid & electrolyte disorders | 49.50  (39.42, 62.15) | 11.22  (7.15, 17.62) | 7.20  (6.05, 8.55) | 5.22  (4.43, 6.16) | 8.27  (7.00, 9.77) | 1.57  (1.51, 1.63) | 1.83  (1.73, 1.93) | 2.20  (2.05, 2.35) | 3.00  (2.88, 3.13) |
| HIV/AIDS | 19.06  (9.45, 38.44) | 3.68  (0.45, 30.18) | 2.37  (0.66, 8.43) | 2.01  (0.70, 5.77) | 0.98  (0.19, 5.01) | 1.45  (1.26, 1.66) | 0.73  (0.51, 1.04) | 1.32  (0.91, 1.93) | 0.91  (0.67, 1.23) |
| Hypothyroidism | 0.99  (0.61, 1.59) | 1.63  (0.96, 2.78) | 1.02  (0.78, 1.35) | 1.51  (1.23, 1.84) | 1.60  (1.36, 1.88) | 1.09  (1.07, 1.11) | 1.04  (1.00, 1.09) | 0.97  (0.91, 1.03) | 0.99  (0.97, 1.02) |
| Liver disease | 2.22  (1.01, 4.87) | 1.69  (0.51, 5.67) | 1.11  (0.57, 2.17) | 1.13  (0.59, 2.17) | 1.29  (0.72, 2.31) | 1.27  (1.20, 1.35) | 1.10  (0.97, 1.26) | 1.02  (0.85, 1.23) | 1.49  (1.36, 1.63) |
| Neurological disorders | 11.33  (8.70, 14.76) | 3.18  (1.64, 6.16) | 22.21  (19.14, 25.76) | 2.08  (1.61, 2.69) | 1.74  (1.31, 2.32) | 1.25  (1.21, 1.29) | 1.16  (1.07, 1.24) | 1.09  (0.98, 1.20) | 1.13  (1.08, 1.19) |
| Obesity | 1.22  (0.89, 1.66) | 1.02  (0.63, 1.64) | 0.88  (0.71, 1.08) | 1.36  (1.19, 1.56) | 1.61  (1.40, 1.84) | 0.83  (0.81, 0.84) | 0.77  (0.74, 0.80) | 0.94  (0.90, 0.98) | 1.01  (0.98, 1.04) |
| Peripheral vascular disease | 27.75  (14.32, 53.78) | 13.77  (4.68, 40.53) | 15.76  (8.42, 29.51) | 1.18  (0.33, 4.26) | 1.16  (0.37, 3.64) | 1.32  (1.07, 1.62) | 1.17  (0.71, 1.91) | 1.99  (1.25, 3.16) | 3.22  (2.58, 4.02) |
| Previous stroke | 0.67  (0.08, 5.38) | 3.67  (0.90, 15.00) | 23.05  (16.43, 32.34) | 1.84  (0.70, 4.79) | 2.53  (1.40, 4.56) | 1.14  (1.00, 1.30) | 1.00  (0.74, 1.36) | 1.27  (0.89, 1.80) | 0.97  (0.79, 1.19) |
| Pulmonary circulation disorders | 6.65  (3.55, 12.45) | 0.85  (0.35, 2.10) | 1.00  (0.49, 2.06) | 1.26  (0.82, 1.94) | 2.03  (1.37, 3.02) | 1.40  (1.23, 1.58) | 0.99  (0.74, 1.32) | 1.18  (0.83, 1.70) | 1.57  (1.34, 1.84) |
| Rheumatoid arthritis | 1.91  (0.90, 4.02) | NA | 1.61  (1.03, 2.53) | 2.03  (1.33, 3.09) | 1.25  (0.79, 1.97) | 1.62  (1.55, 1.69) | 1.30  (1.17, 1.44) | 1.51  (1.32, 1.72) | 1.13  (1.05, 1.21) |
| Smoker | 0.54  (0.36, 0.80) | 1.42  (0.93, 2.16) | 1.06  (0.88, 1.28) | 1.32  (1.16, 1.50) | 1.18  (1.02, 1.36) | 1.26  (1.23, 1.28) | 1.47  (1.42, 1.51) | 1.09  (1.05, 1.13) | 0.96  (0.94, 0.98) |
| Valvular disease | 0.83  (0.43, 1.61) | 2.81  (1.49, 5.30) | 1.48  (0.99, 2.20) | 6.75  (5.49, 8.30) | 7.61  (6.25, 9.27) | 1.09  (1.05, 1.14) | 0.99  (0.89, 1.09) | 0.90  (0.79, 1.02) | 0.94  (0.89, 1.01) |

Supplemental Table S8. Sensitivity analysis of association between subgroups of hypertensive disorders of pregnancy and adverse cardiovascular and obstetric outcomes, comparing the fully adjusted model with complete case analysis which excluded delivery hospitalization episodes with missing information on race/ethnicity and median ZIP code income variables.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Superimposed preeclampsia | Preeclampsia | Gestational SH | Chronic SH |
| CARDIOVASCULAR OUTCOMES | | | | |
| Mortality | | | | |
| Fully adjusted model | 2.31  (1.49, 3.57) | 2.64  (2.07, 3.38) | 1.02  (0.66, 1.57) | 1.68  (1.20, 2.37) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 2.47  (1.51, 4.04) | 2.53  (1.86, 3.44) | 0.94  (0.54, 1.65) | 1.86  (1.25, 2.76) |
| Myocardial infarction | | | | |
| Fully adjusted model | 5.20  (3.11, 8.69) | 3.04  (2.02, 4.58) | 1.04  (0.49, 2.20) | 3.38  (2.22, 5.14) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 4.90  (2.64, 9.11) | 2.72  (1.64, 4.53) | 1.42  (0.66, 3.04) | 3.20  (1.90, 5.41) |
| Stroke | | | | |
| Fully adjusted model | 7.83  (6.25, 9.80) | 5.74  (5.04, 6.54) | 1.39  (1.08, 1.79) | 3.35  (2.76, 4.06) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 7.20  (5.51, 9.41) | 5.00  (4.25, 5.89) | 1.40  (1.04, 1.89) | 3.27  (2.61, 4.10) |
| Peripartum cardiomyopathy | | | | |
| Fully adjusted model | 4.37  (3.64, 5.26) | 3.28  (2.94, 3.65) | 1.74  (1.48, 2.05) | 3.77  (3.29, 4.32) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 4.38  (3.53, 5.43) | 3.36  (2.96, 3.83) | 1.74  (1.43, 2.12) | 3.70  (3.16, 4.33) |
| Arrhythmia | | | | |
| Fully adjusted model | 1.18  (0.92, 1.51) | 0.93  (0.80, 1.08) | 0.93  (0.79, 1.10) | 2.28  (2.01, 2.58) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 1.16  (0.88, 1.53) | 0.98  (0.83, 1.16) | 0.98  (0.81, 1.17) | 2.18  (1.87, 2.53) |
| OBSTETRIC OUTCOMES | | | | |
| Preterm birth | | | | |
| Fully adjusted model | 4.65  (4.48, 4.83) | 3.05  (2.98, 3.13) | 0.93  (0.91, 0.96) | 1.26  (1.23, 1.28) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 4.48  (4.30, 4.68) | 3.01  (2.93, 3.09) | 0.92  (0.90, 0.95) | 1.24  (1.21, 1.27) |
| Placental abruption | | | | |
| Fully adjusted model | 2.22  (2.09, 2.36) | 2.27  (2.21, 2.34) | 1.14  (1.10, 1.19) | 1.44  (1.38, 1.49) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 2.15  (2.01, 2.31) | 2.28  (2.20, 2.36) | 1.14  (1.09, 1.20) | 1.45  (1.38, 1.52) |
| Stillbirth | | | | |
| Fully adjusted model | 1.78  (1.66, 1.92) | 1.28  (1.23, 1.33) | 0.58  (0.54, 0.61) | 1.68  (1.60, 1.75) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 1.75  (1.61, 1.91) | 1.30  (1.24, 1.37) | 0.59  (0.55, 0.64) | 1.65  (1.56, 1.74) |
| Postpartum hemorrhage | | | | |
| Fully adjusted model | 1.65  (1.56, 1.74) | 2.31  (2.24, 2.39) | 1.47  (1.43, 1.50) | 1.27  (1.23, 1.30) |
| Excluded missing records on race/ethnicity and median ZIP code income variables | 1.68  (1.58, 1.79) | 2.31  (2.23, 2.39) | 1.47  (1.43, 1.50) | 1.28  (1.24, 1.32) |

Data expressed as odds ratios and 95% confidence intervals. SH, systemic hypertension.

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Supplemental Figure S1. Risk of adverse outcomes in hypertensive disorders of pregnancy between 2004 and 2014. PE, preeclampsia. SH, systemic hypertension.

A



B



Supplemental Figure S2. Association between subgroups of hypertensive disorders of pregnancy and length of stay. (A) Median and interquartile range of length of stay (B) Mean length of stay from 2004-2014. HDP, hypertensive disorders of pregnancy. PE, preeclampsia, SH, systemic hypertension.

A



B



Supplemental Figure S3. Association between subgroups of hypertensive disorders of pregnancy and total cost of hospitalization, (A) Median and interquartile range of total cost (B) Mean total cost from 2004-2014. All charges adjusted to 2017 values. HDP, hypertensive disorders of pregnancy. PE, preeclampsia. SH, systemic hypertension.