

Obstetric near miss events among women with a history of mental illness: a data linkage study

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Maternal Mortality

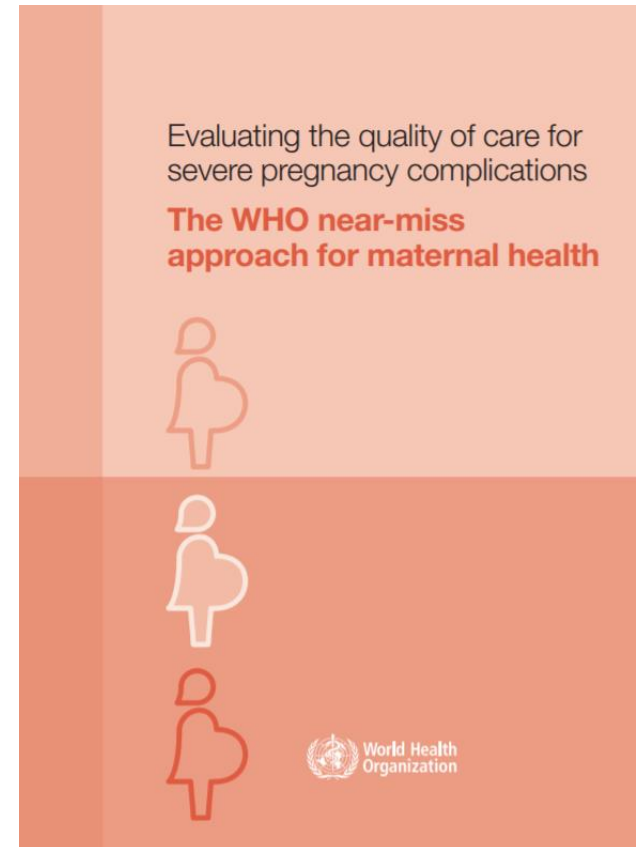
- ❑ Maternal mental illness affects 1 in 4 women during pregnancy, which may increase the risk of pregnancy & birth complications
- ❑ Between 2014-16, the UK maternal mortality rate was 9.8 per 100,000 maternities
- ❑ Almost a quarter (24%) of the women who died during pregnancy or childbirth had a mental illness
- ❑ Maternal mortality is increasing among women with multiple vulnerabilities
- ❑ Consistent evidence of ‘diagnostic overshadowing’

Near Miss Approach

- As maternal deaths become rarer, monitoring maternal near misses has become an important tool improving healthcare

“A woman who nearly died but survived a complication that occurred during pregnancy or childbirth”

- Six near miss occur per maternal death
- Although, globally rates vary widely from 0.14% to 14.98%



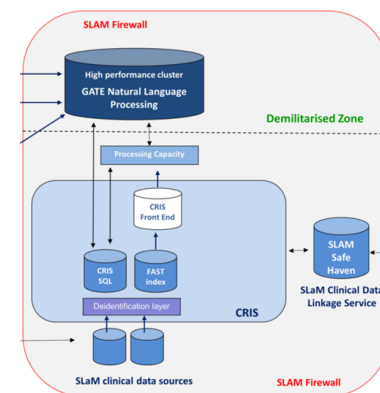
Study Aims

- ❑ No previous studies have investigated the obstetric near miss events among women with mental illness
- ❑ The overall aims of this study were to investigate:
 - The rate of obstetric near miss events in South London among women with and without a history of mental health service use
 - The characteristics and factors associated with obstetric near miss events among women with a history of mental health service use

Cohort Generation

- ❑ Data from CRIS & HES were linked to identify all women:
 - Childbirth (type 2) episode recorded in HES (2007-16)
 - SLaM service use recorded in CRIS prior to the childbirth episode

- ❑ A comparison group was generated, consisting of:
 - All women with a recorded childbirth episode (2007-16)
 - No history of SLaM service use
 - Resident within a local London borough



Outcomes

The English Maternal Morbidity Outcome Indicator (EMMOI)

- ❑ The EMMOI was used to identify obstetric near miss events occurring during the childbirth episode
- ❑ Consists of 26 morbid events: 17 diagnoses and 9 procedures, previously validated in HES
- ❑ Diagnostic (ICD-10) & intervention (OPC-4) codes in the childbirth episode were searched in HES
- ❑ Mental health data was extracted from CRIS using structured fields and NLP applications
- ❑ Sociodemographic and maternity data was extracted from HES

Maternal Morbidity Outcome Indicator Items

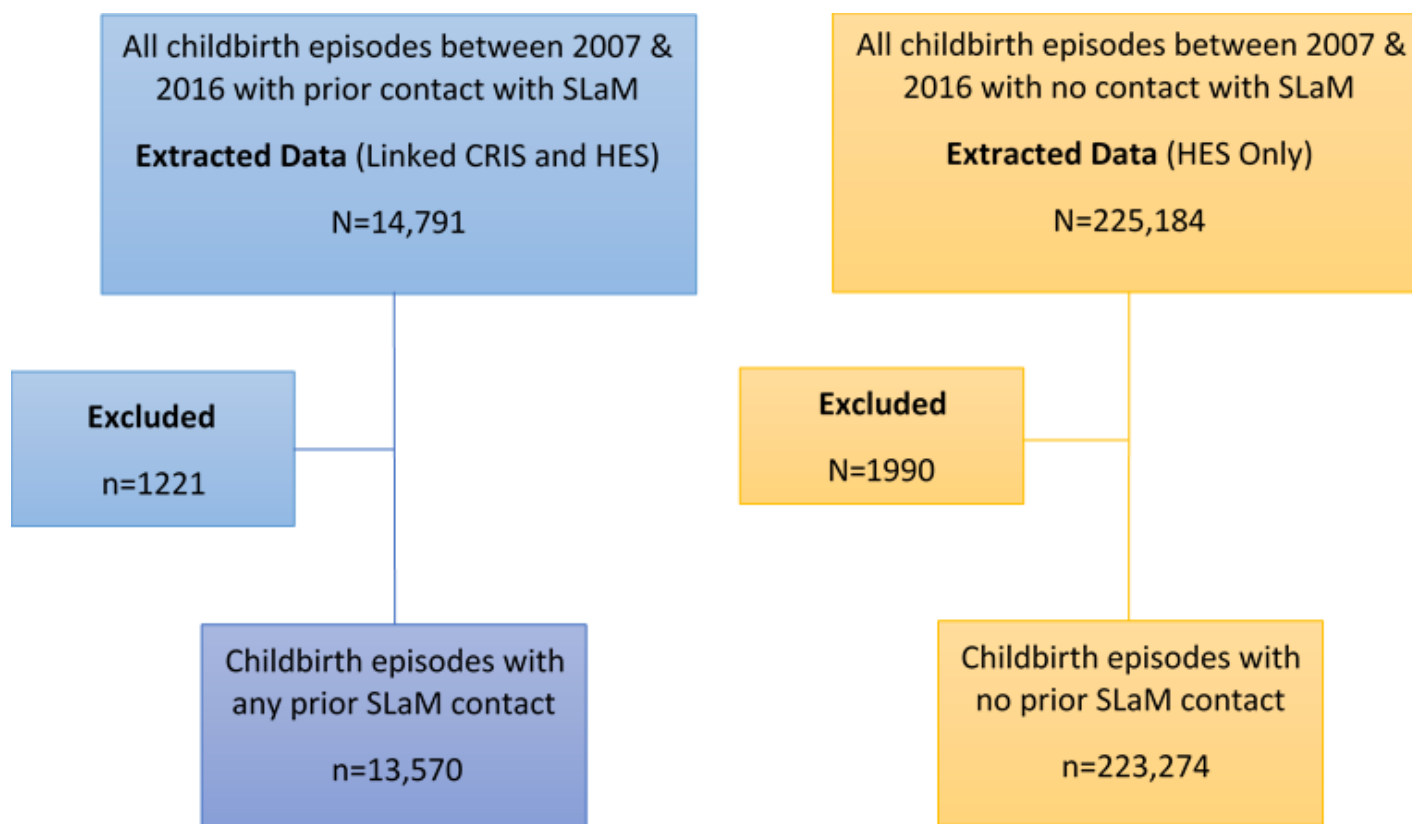
DIAGNOSES

- Acute abdomen
- Acute renal failure
- Cardiac arrest, failure or infarction
- Cerebral oedema or coma
- Disseminated intravascular coagulopathy
- Cerebrovascular accident
- Major complications of anaesthesia
- Obstetric embolism
- Shock
- Sickle cell anaemia with crisis
- Status asthmaticus
- Status epilepticus
- Uterine rupture
- Eclampsia
- Sepsis
- Cerebral venous thrombosis

INTERVENTIONS

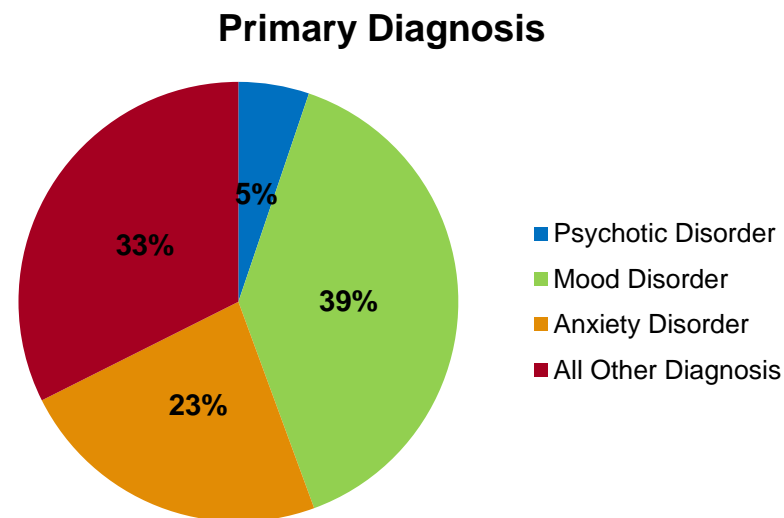
- Assisted ventilation
- Curettage in combination with general anaesthetic
- Dialysis
- Evacuation of haematoma
- Hysterectomy
- Procedures to reduce blood flow to uterus
- Re-closure of disrupted caesarean section wound
- Repair of bladder or cystostomy
- Repair of intestine

Study Sample



Mental Health Service Use

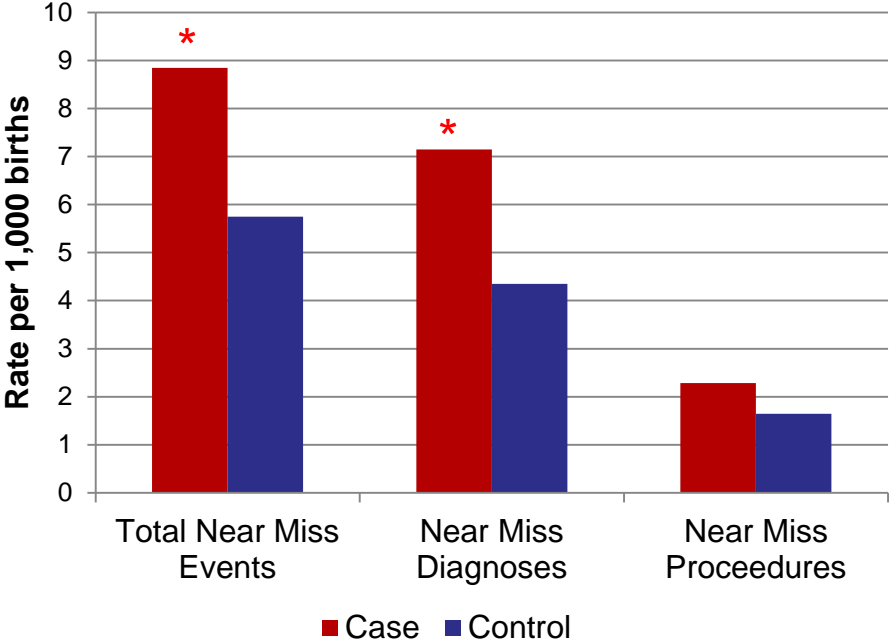
- Among the 13,570 women with a history of SLaM service use:
 - 42% of women had been seen in the year prior to pregnancy
 - Mean of 26 (s.d. 69) contacts
 - First contact on average 3.9 (s.d. 2.8) years prior to the childbirth episode



Sample Characteristics

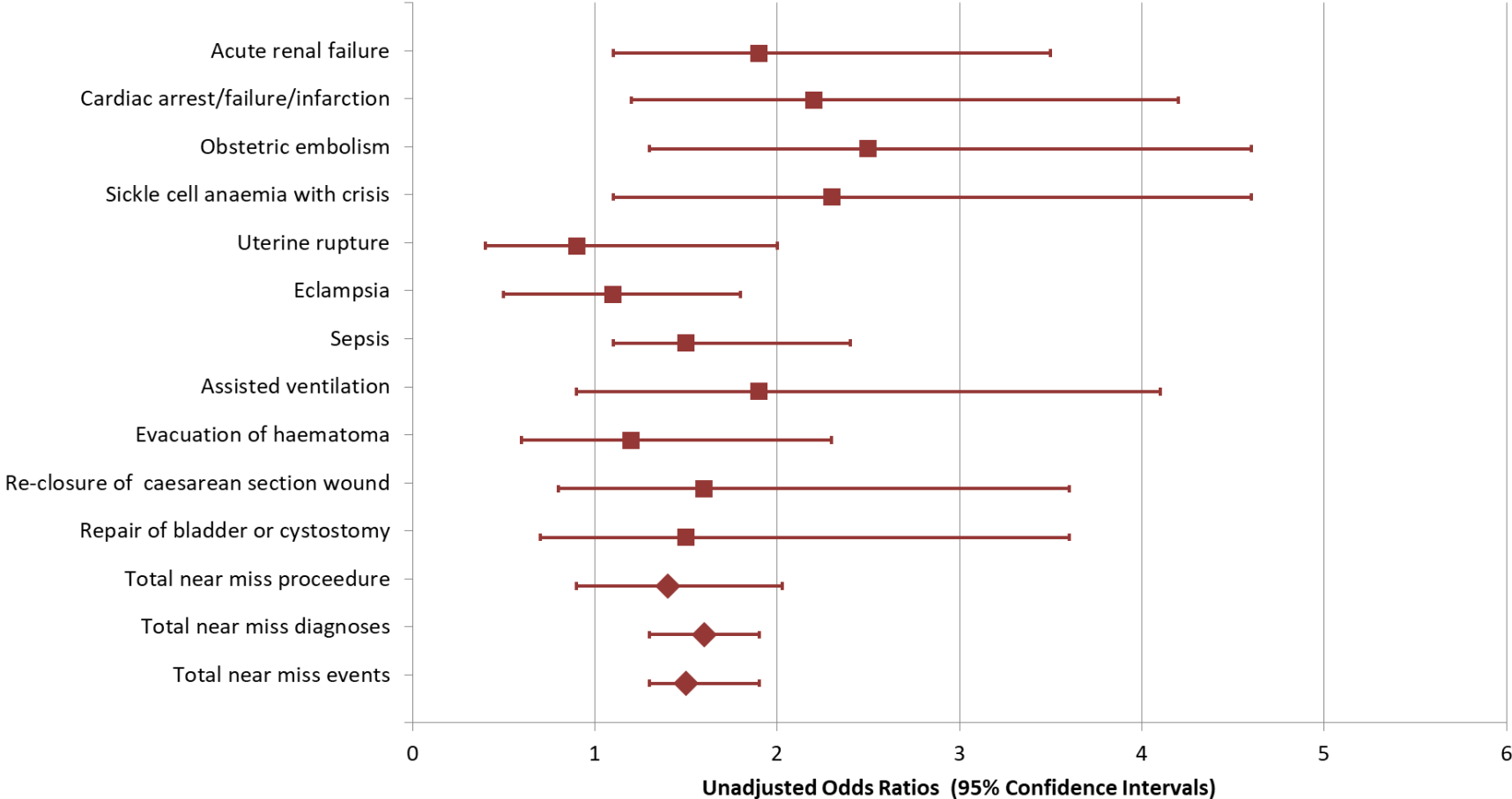
	Cases N=13,570	Controls N=223,274	P value
Age Mean Years: (sd)	28.9 (6.4)	31.1 (5.5)	<0.0001
Ethnicity: n(%)			
<i>White</i>	6,759 (42.8)	100,508 (51.7)	0.014
<i>Other Ethnic Group</i>	6,040 (47.2)	93,954 (48.3)	
Smoking Status/Nicotine Dependence: n(%)			
<i>Never</i>	8,326 (61.4)	219,072 (98.1)	<0.0001
<i>Past/Current</i>	5,244 (38.7)	4,202 (1.9)	
Gestational age: Mean weeks (s.d.)	38.3 (4.3)	38.9 (3.5)	<0.0001
Birth weight: Mean grams (s.d.)	3218.5 (631.8)	3340.1 (580.2)	<0.0001

Rate of Obstetric Near Miss Events

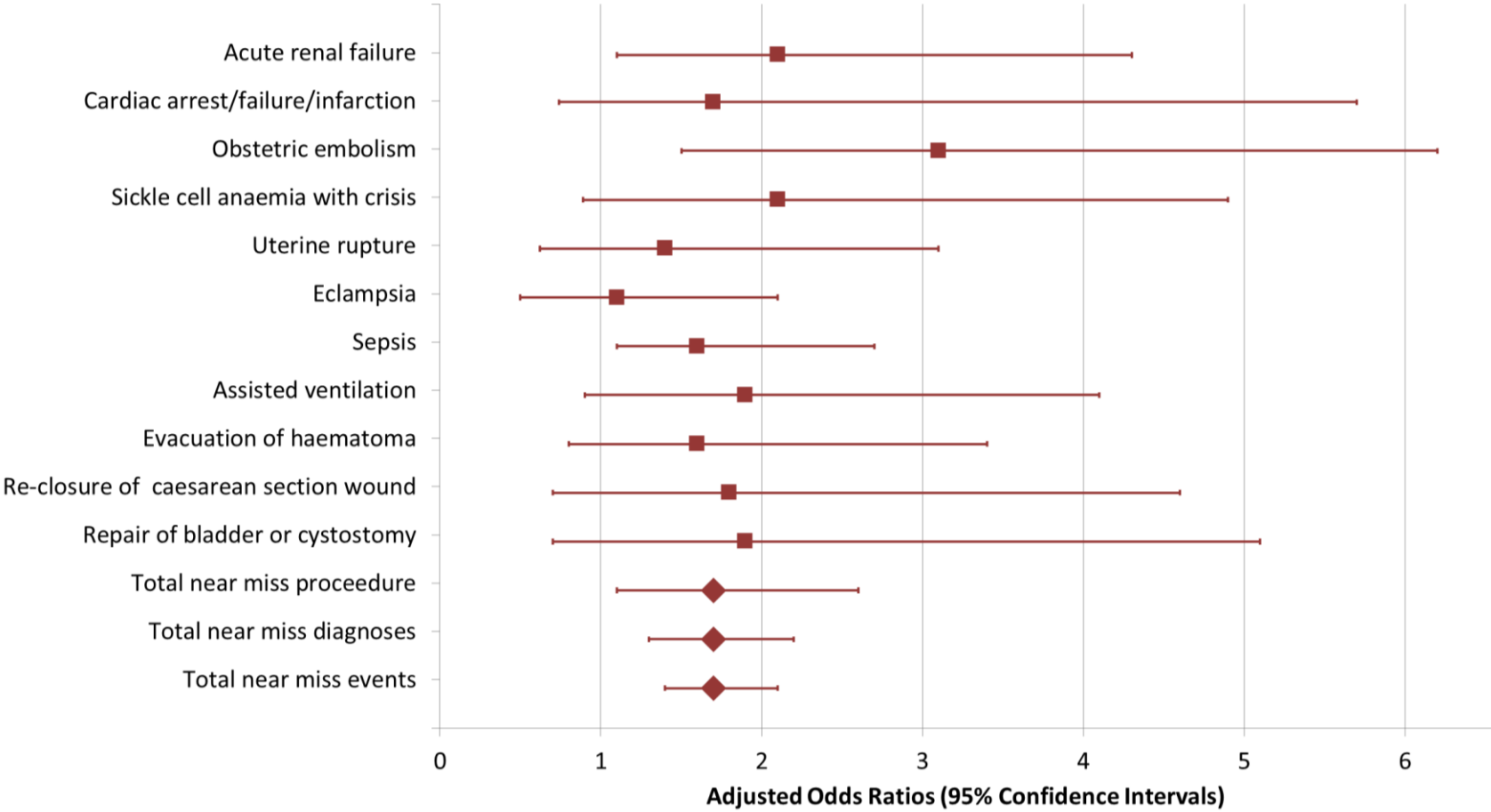


8.8 per 1,000 births among women with a history of mental illness vs. 5.8 per 1,000 births among controls

Results



Results



Adjusted for: Ethnicity, maternal age, multiple birth & smoking status

Conclusions

- ❑ Women with a history of mental illness have an increased risk of life-threatening complications during childbirth
- ❑ In part driven by socio-economical differences and smoking status
- ❑ But, overall risk persists, particularly for complications with vague or sudden symptom onset
- ❑ Smoking cessation support for women with mental illness should be prioritised to prevent cardiac failure during labour
- ❑ Joint care management during pregnancy may help reduce the risk of diagnostic uncertainty among women with multiple morbidities

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