

Maternal mortality in migrant women

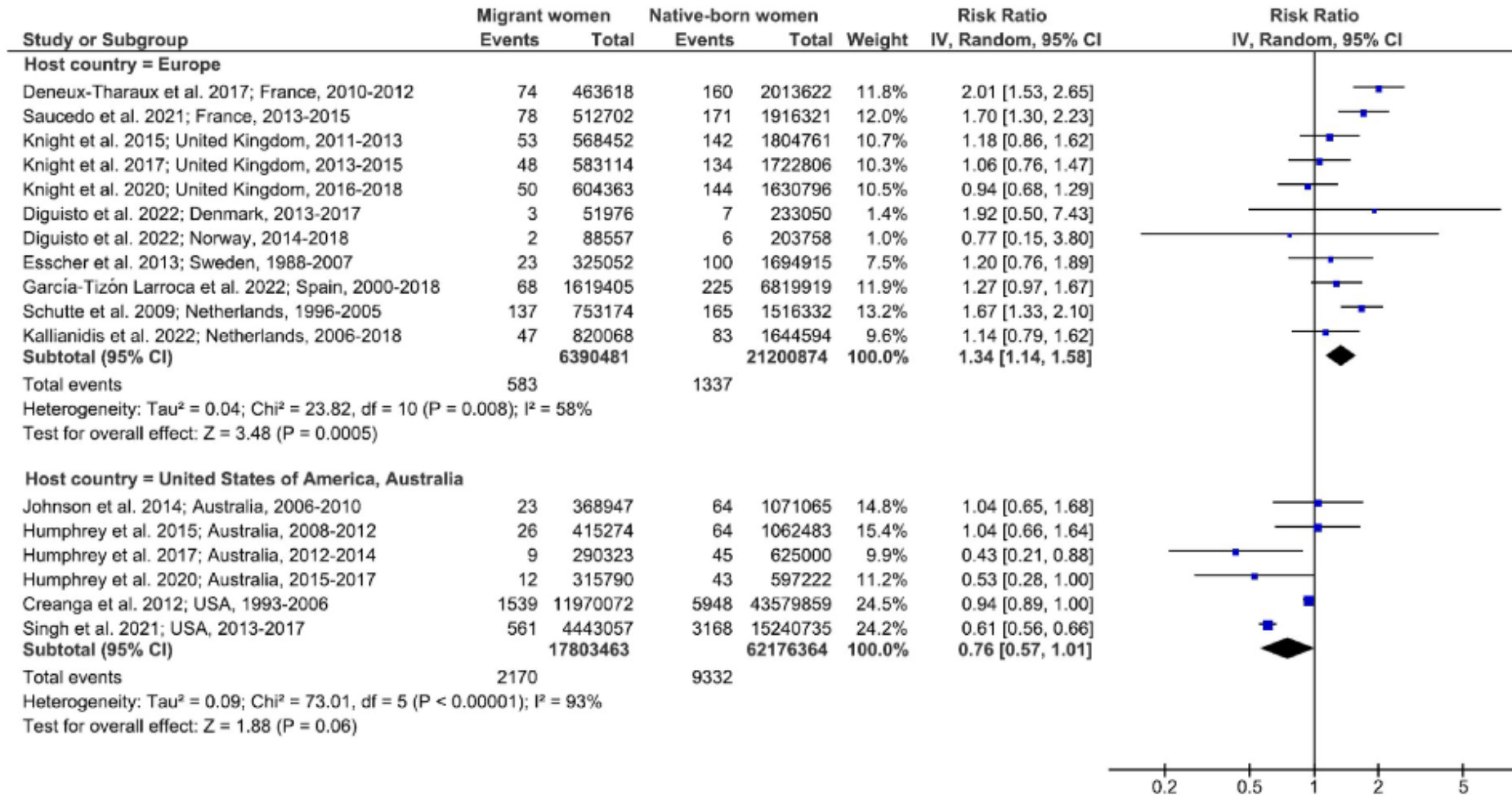
France 2013-19

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MM disparities between migrant and native women in HIC

Stratified by host countries



Historical analysis in France

Cases: Maternal deaths from 1996 to 2001

Controls: Enquête Nationale Périnatale 1998

Table 2. Crude and adjusted odds ratios for postpartum maternal death associated with nationality

Nationality	Cases, <i>n</i> (%)	Controls, <i>n</i> (%)	Crude OR (95% CI)	Adjusted OR (95% CI)
French	180 (78.3)	11 335 (90.1)	1	1*
Foreign	50 (21.7)	1243 (9.9)	2.53 (1.84–3.48)	2.00 (1.42–2.80)*
Other European	10 (4.3)	381 (3.0)	1.65 (0.87–3.15)	1.64 (0.86–3.14)**
North Africa	11 (4.8)	490 (3.9)	1.41 (0.76–2.62)	1.20 (0.65–2.23)**
Sub-Saharan Africa	19 (8.3)	200 (1.6)	5.98 (3.65–9.79)	5.45 (3.29–9.00)**
Other	10 (4.4)	172 (1.4)	3.66 (1.90–7.04)	3.34 (1.72–6.47)**

*Adjusted for maternal age, parity, work status, marital status and hospitalisation during pregnancy.

**Adjusted for maternal age.

Limits

- Exposition: nationality; birthplace not available
- Changes in care practices, in migration flows and policies
- Expanded CNEMM assessment criteria (preventability of death, adequacy of care)

Table 6. Expert judgement about the quality of care and preventability of postpartum maternal deaths according to nationality

	Nationality		
	French	Foreign	
General quality of care	212	55	<i>P</i> = 0.006
Optimal	28.8	9.1	
Not optimal	56.6	78.2	
Cannot judge	14.6	12.7	
Preventability of death according to the experts	212	55	<i>P</i> = 0.115
Not preventable	41.0	34.6	
Maybe preventable	12.7	25.5	
Certainly preventable	32.1	30.9	
Cannot judge	14.2	9.1	
Reasons for preventability (if death was preventable)	94	31	<i>P</i> = 0.089
Delayed diagnosis, only	10.6	6.5	
Diagnosis not made and other reasons	7.5	19.4	
Delayed diagnosis and inadequate treatment	24.5	19.6	
Inadequate treatment, only	22.3	38.7	
Treatment error and other reasons	20.2	12.9	
Negligence of the patient and other reason	14.9	3.2	

Objectives

1. To assess the association between migration status and maternal mortality in France
 - Overall
 - By region of birth
2. To quantify the contribution of social vulnerability and cardiometabolic comorbidities as intermediate factors
3. Among maternal deaths, to compare migrant and native-born women on
 - Optimality of care
 - Preventability of death and contributing factors

Using the most recent data available

Methods

Design: nationwide case-control study in France

Source populations

- **Cases: ENCMM** (French National Confidential Enquiry into Maternal Deaths) 2013-2019

- Restricted to mainland France
- Multi-source identification (exhaustive for childbirth-related deaths)
- Medical records and standardised questionnaires
- Expert assessment by the CNEMM (National Expert Committee on Maternal Mortality): preventability of death and optimality of care

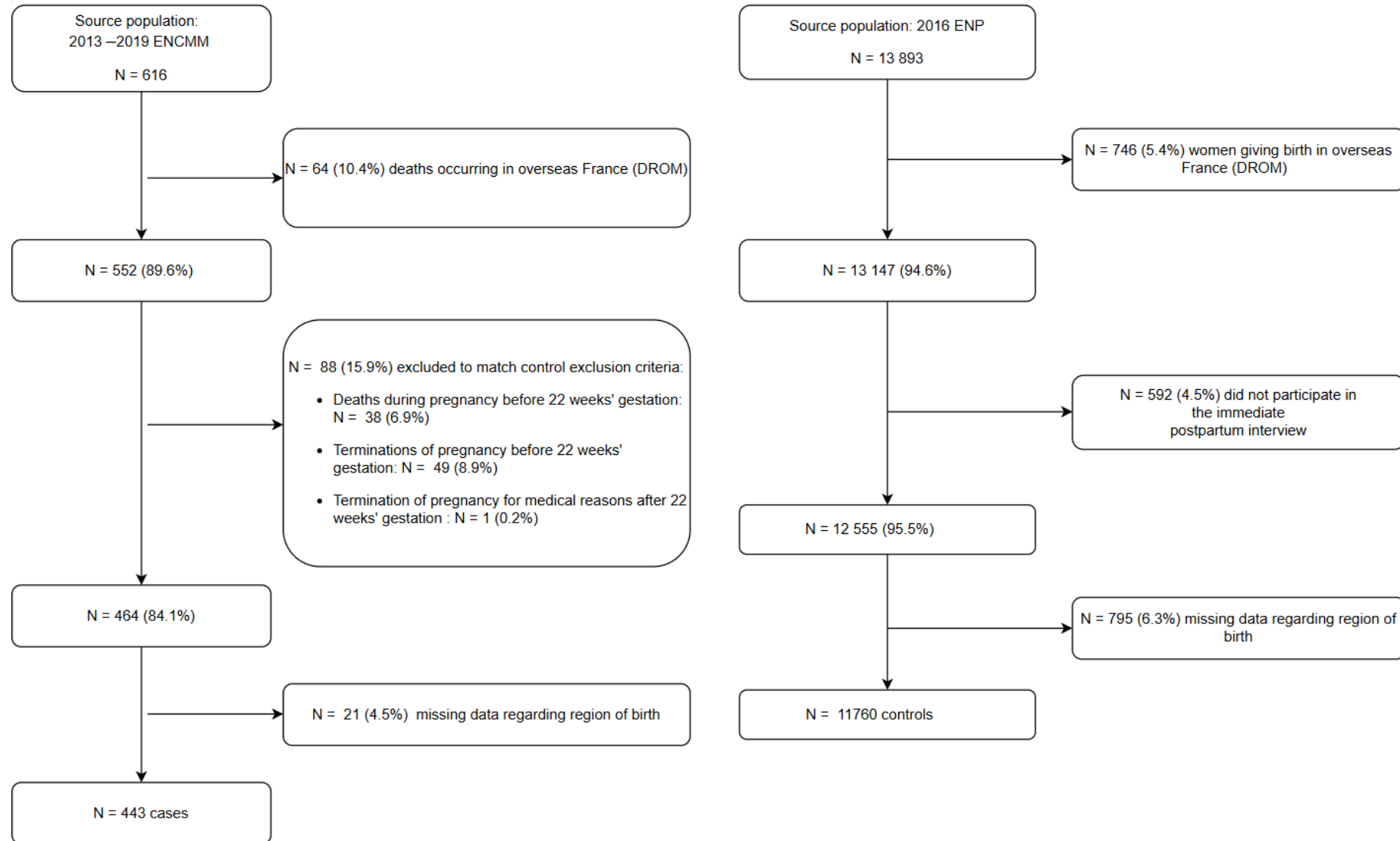


- **Controls: ENP** (French National Perinatal Survey) 2016

- Repeated cross-sectional surveys (every 5 years)
- Representative sample of births in France (1 week)
- Medical records and interviews in the immediate postpartum period



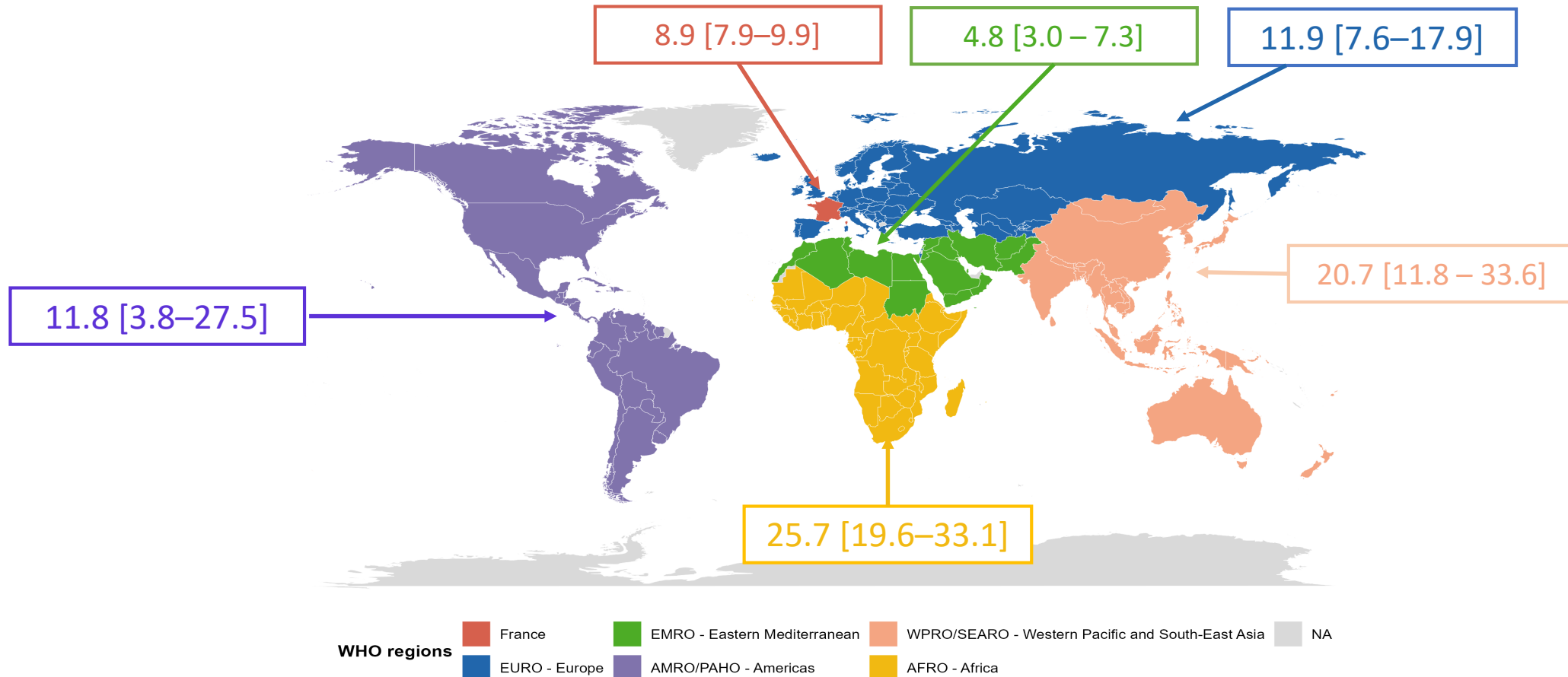
Study population



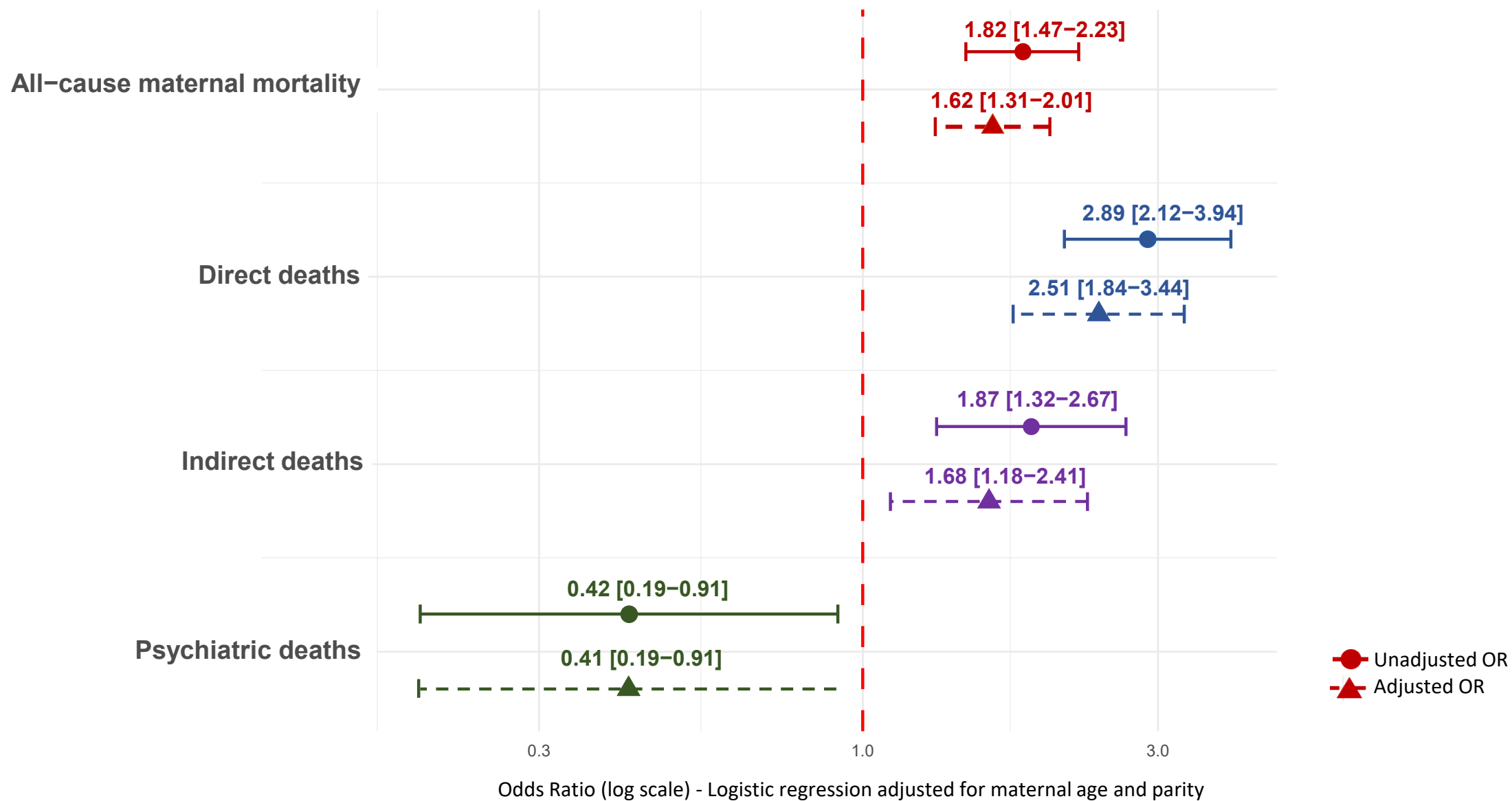
MMR from 22 wGA by maternal place of birth according to WHO region

Global MMR: 9.8/100 000 LB [8.9–10.8]

Migrant women: 13.2/100 000 LB [11–15.7]

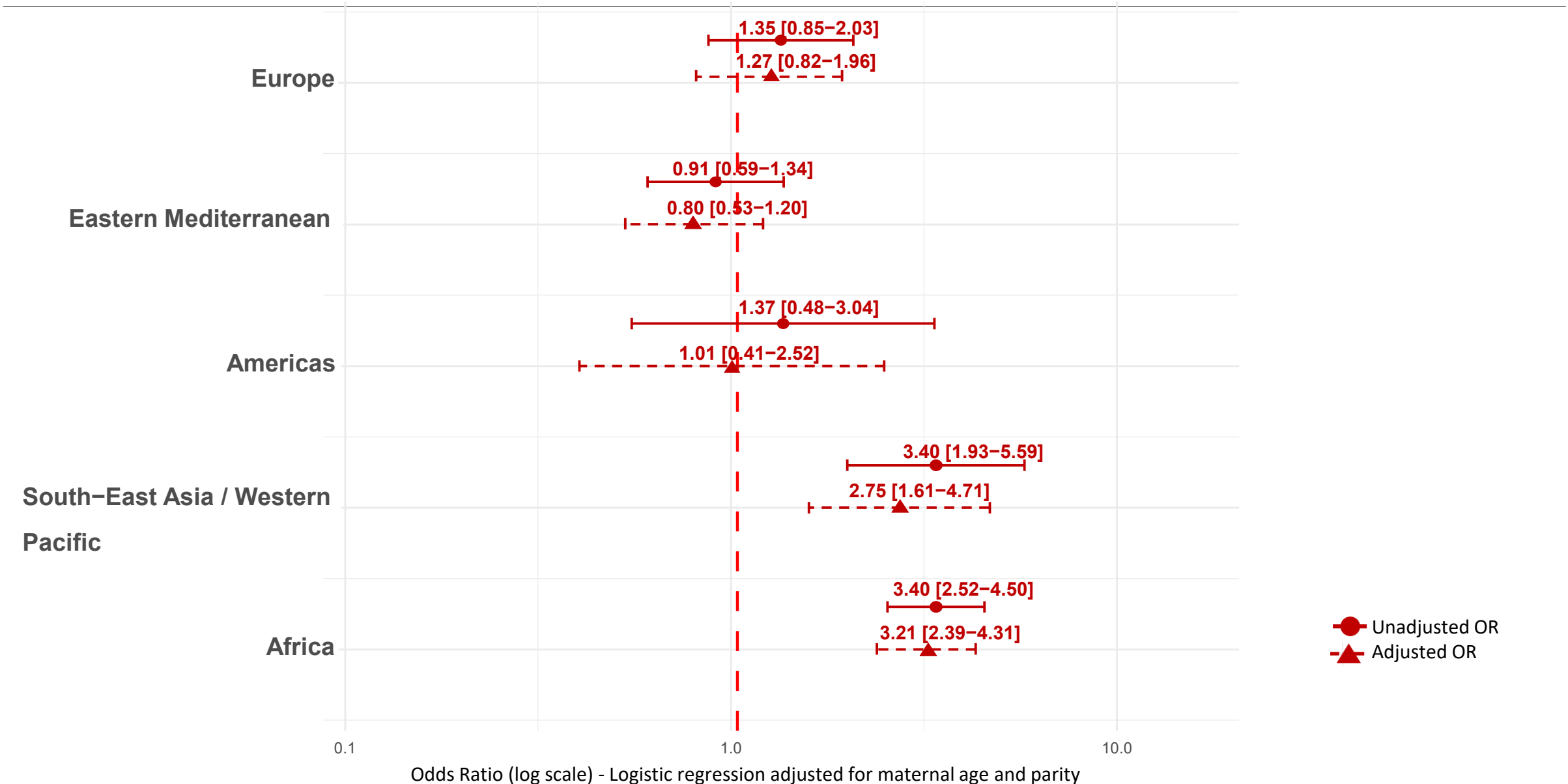


Association between migrant status and maternal mortality overall and by category of cause of death



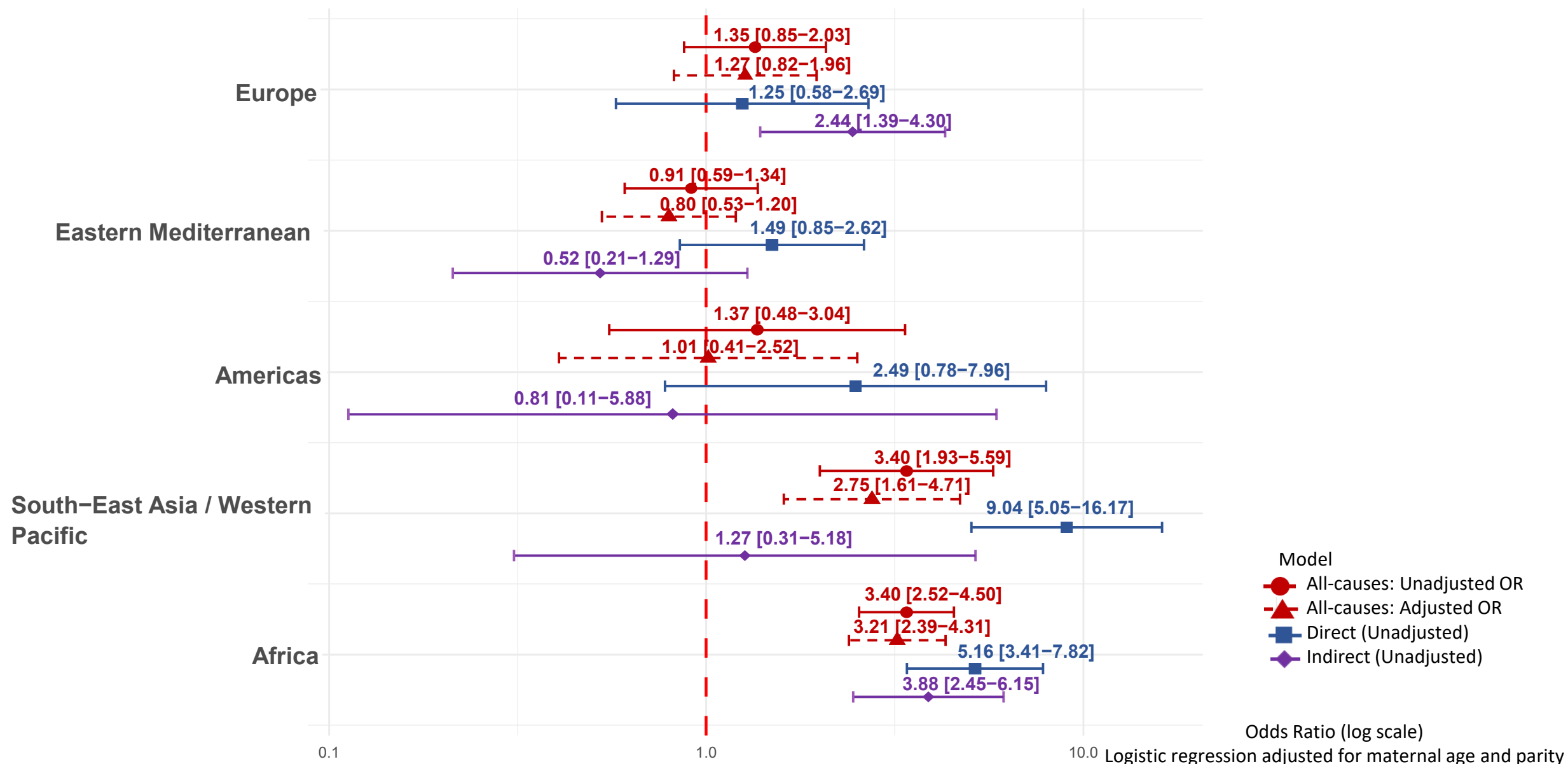
Association between maternal place of birth (WHO region) and risk of maternal mortality

All causes mortality

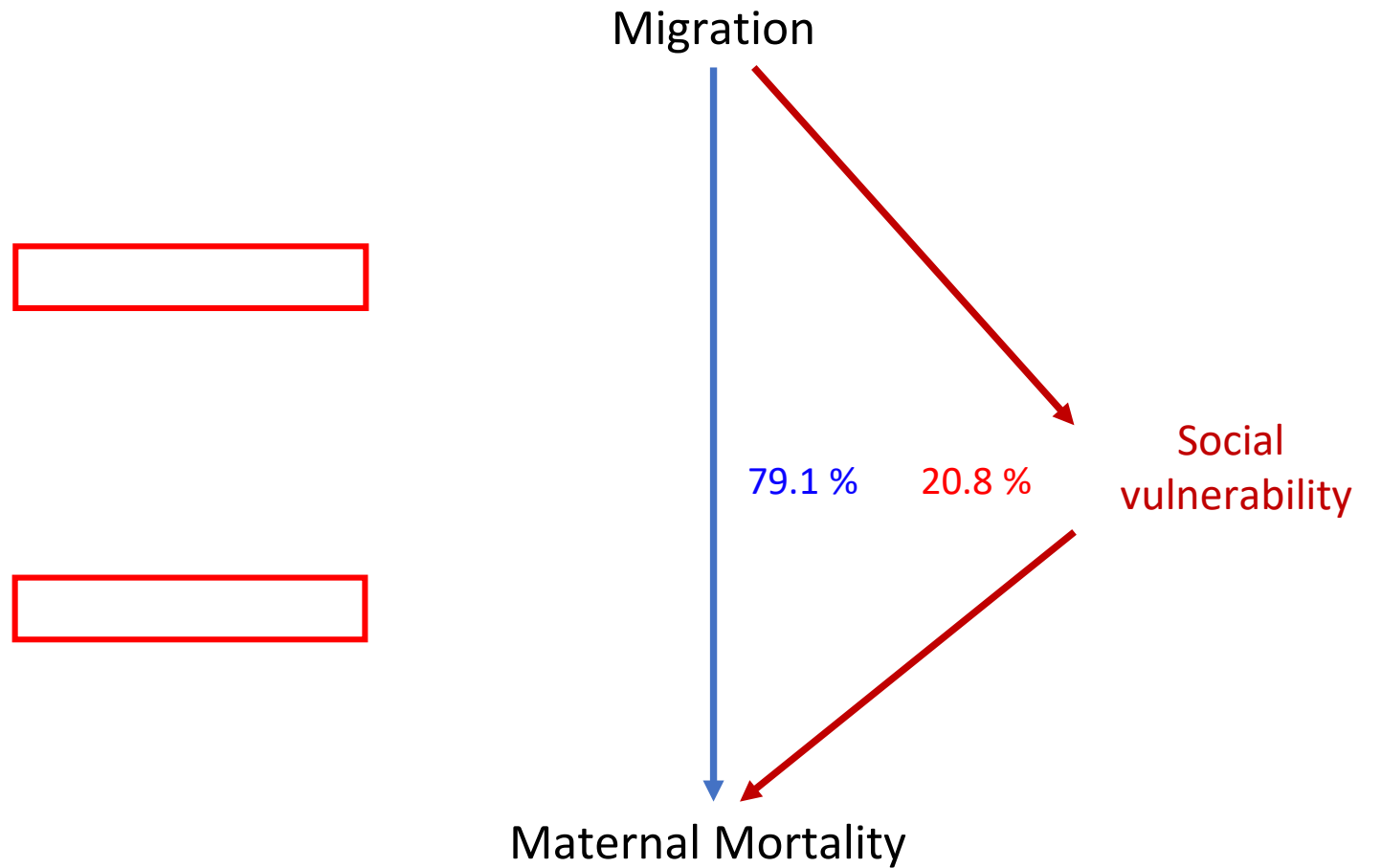


Association between maternal place of birth (WHO region) and risk of maternal mortality

All causes, direct and indirect causes



Mediating role of social vulnerability and cardiometabolic comorbidities



Mediating role of social vulnerability for women born in Africa: 11.2%

Adequacy of care and preventability of death by migration status among women who died

	Native women who died of maternal death N = 307 n (%)	Migrant women who died of maternal death N= 128 n (%)	P- Value	Women from AFRO region who died of maternal death N= 60 n (%)	P- Value
Inadequate care (at least one type of care)	193 (63.7)	89 (70.6)	0.21	41 (69.5)	0.48
Preventability of death (at least one factor)	150 (56.6)	67 (59.3)	0.71	31 (59.6)	0.71

Total N corresponding to women whose cases were assessed (8 cases not assessed: 6 among native-born women and 2 among migrant women) Percentage of inadequate care calculated for women to whom this category of care applied. P-values were calculated using the chi-squared test; P<0.05 was considered statistically significant.

Main findings and discussion

- **Increased risk of MM among migrant vs native-born women in France**
 - At-risk subgroups: women born in Africa, the Americas and Asia
- **20% of the association mediated by social vulnerability**
- Among maternal deaths, inadequate care not increased among migrant women
- Disparities in early-pregnancy mortality not studied
- Analyses restricted to the mainland France population : Specific migration flows and organisation of care in the overseas regions
- Rôle of host country setting to be studied within an INOSS transnational analysis

Grazie per l'attenzione
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