



DR MARYAM NOORZADEH
Tehran university of medical school
MD
PRENATOLOGIST

Challenges in Delivery

epidural analgesia

Failure to progress

Shoulder dystocia

Perinatal asphyxia

viability age

legal
issues

maternal
morbidity and
mortality

1. Navigating the healthcare system

2. Language

Main challenges and barriers

3. Psychosocial and structural factors

4. Expectations of care

Published June 17, 2020

A young girl with dark hair and a pink headband is looking up at a pregnant woman. The woman is wearing a dark blue, textured top. The background is a blurred indoor setting with wooden stairs.

TRENDS IN PREGNANCY AND CHILDBIRTH COMPLICATIONS IN THE U.S.

EXHIBIT 1: PREVALENCE OF PRE-EXISTING CONDITIONS PRIOR TO PREGNANCY, 2015-2018

PREVALENCE RATE PER 100

CONDITIONS	2015	2018	CHANGE 2015-2018
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PHYSICAL CONDITIONS

Hypertension

6.3

8.2

31%

Type II Diabetes

3.4

4.4

28%

Diagnosed Obesity

9.1

18.2

100%

BEHAVIORAL HEALTH CONDITIONS

Substance Use Disorder

1.4

1.7

24%

Anxiety

15.3

18.7

23%

Major Depression

4.1

5.5

35%

1. A GREATER NUMBER OF PREGNANCY WITH

2. THE NUMBER OF V PREGNANCY COMPLICATIONS I

↑ 16.4% PREGN COMPI

3. WOMEN WITH PRE TWICE AS LIKELY T

4. THE NUMBER OF W POSTPARTUM DEPI

KEY FINDINGS

EXHIBIT 3: PREGNANCY AND CHILDBIRTH COMPLICATIONS AMONG WOMEN 18-44, 2014-2018

PREVALENCE RATE PER 1,000

CONDITIONS	2014	2018	CHANGE 2014-2018
PREGNANCY COMPLICATIONS			
Gestational Diabetes	126.6	147.5	16.6%
Preeclampsia	54.2	64.5	19.0%
CHILDBIRTH COMPLICATIONS			
Eclampsia	1.1	1.7	57.9%
Cardiomyopathy	1.5	2.1	39.0%
Embolism	2.0	2.7	32.0%
Sepsis	1.7	2.5	45.1%
Transfusion	8.5	7.8	-7.8%
Respiratory Distress	0.7	1.0	46.4%

1. A **GREATER NUMBER OF WOMEN** ARE PREGNANT WITH PRE-EXISTING COMPLICATIONS

2. THE NUMBER OF WOMEN EXPERIENCING PREGNANCY COMPLICATIONS AND CHILDBIRTH COMPLICATIONS **INCREASED 31.5%**.

↑ **16.4%** PREGNANCY COMPLICATIONS ↑ **14.2%** CHILDBIRTH COMPLICATIONS

3. WOMEN WITH PREGNANCY COMPLICATIONS ARE **TWICE AS LIKELY** TO HAVE CHILDBIRTH COMPLICATIONS

4. THE NUMBER OF WOMEN DIAGNOSED WITH POSTPARTUM DEPRESSION **INCREASED 10.5%**

KEY FI

1. A **GREATER NUMBER OF PREGNANCY WITH PRE-**

2. THE NUMBER OF WOMEN WITH PREGNANCY COMPLICATIONS **INCREASED**

↑ 16.4% PREGNANCY COMPLICATION

3. WOMEN WITH PREGNANCY COMPLICATIONS ARE **TWICE AS LIKELY TO HAVE**

4. THE NUMBER OF WOMEN WITH **POSTPARTUM DEPRESSION**

EXHIBIT 4: RATES OF CHILDBIRTH COMPLICATIONS AMONG WOMEN WITH/WITHOUT PREGNANCY COMPLICATIONS IN 2018

CONDITIONS	CHILDBIRTH COMPLICATION RATE PER 1,000	
	NO PREGNANCY COMPLICATIONS	HAD PREGNANCY COMPLICATIONS
CHILDBIRTH COMPLICATIONS	13.3	29.1 (2.2X)
Eclampsia	0.4	6.3 (16.0X)
Cardiomyopathy	1.5	4.3 (2.9X)
Embolism	2.4	3.6 (1.5X)
Sepsis	2.3	3.0 (1.3X)
Transfusion	6.5	12.4 (1.9X)
Respiratory Distress	0.8	1.7 (2.2X)

FIGURE A: TIME WINDOW USED FOR EACH CHILDBIRTH COMPLICATION

CHILDBIRTH COMPLICATION	DAYS BEFORE DELIVERY	DAYS AFTER DELIVERY
Eclampsia	7	7
Cardiomyopathy	30	150
Embolism	3	3
Heart Attack	3	3
Respiratory Distress	3	3
Sepsis	3	42
Transfusions	7	7
Shock	7	7
Anesthesia Complications	3	3

EXHIBIT 5: RATE OF POSTPARTUM DEPRESSION (PPD) BY AGE, 2014-2018⁷

1. A **GREATER N**
PREGNANCY

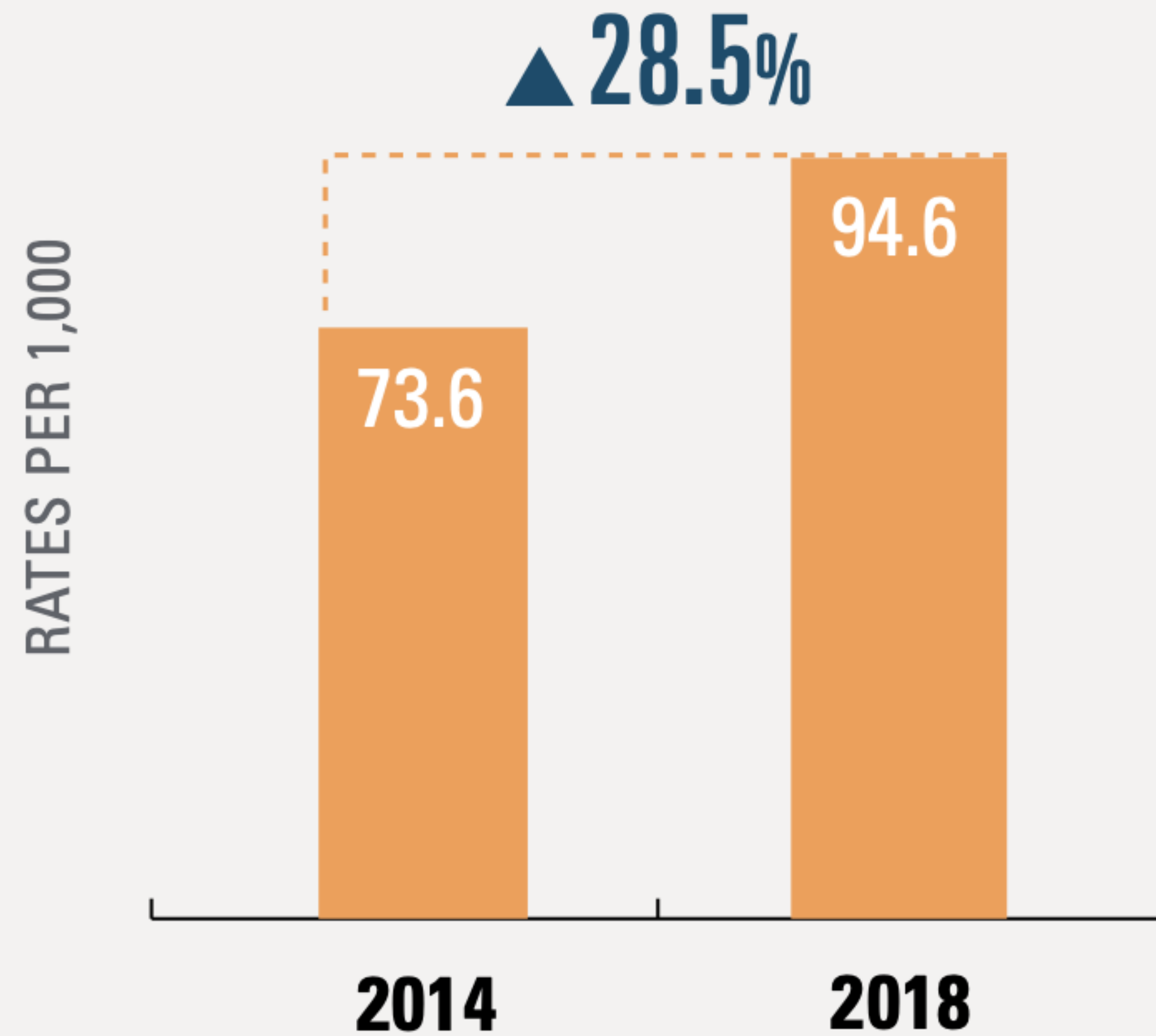
2. THE NUMBER
PREGNANCY
COMPLICATIO

↑ **16.4%**

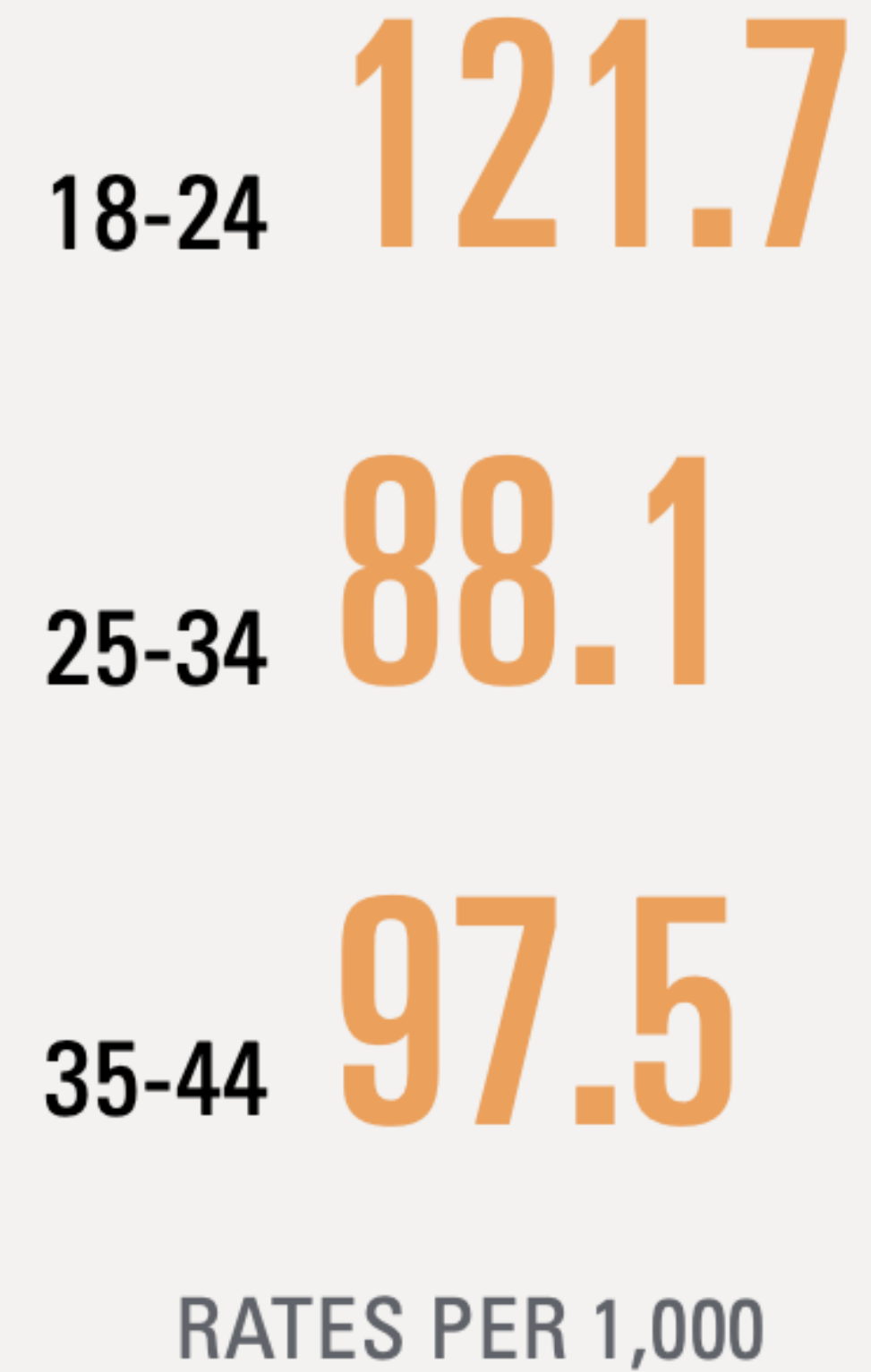
3. WOMEN WITH
TWICE AS LIK

4. THE NUMBER
POSTPARTUM

PPD DIAGNOSIS RATES, AGES 18-44



PPD RATES BY AGE IN 2018



TOP PRE-EXISTING BEHAVIORAL HEALTH CONDITIONS AMONG WOMEN DIAGNOSED WITH POSTPARTUM DEPRESSION:

64% ANXIETY

20% MAJOR DEPRESSION

5% SUBSTANCE USE DISORDER

SURVEY: PRENATAL CARE

Experts recommend early and routine prenatal and postnatal care to ensure a safe pregnancy, childbirth and healthy postpartum period. However, a BCBSA survey found that some commercially insured women are not receiving this recommended care. Our survey⁴ found:

14% DID NOT RECEIVE
PRENATAL CARE
WITHIN THE FIRST
TRIMESTER OF THEIR
PREGNANCY.

46% of these women
did not receive this care due to
social barriers such as availability
of appointments, lack of
transportation or nearby providers.

1/3 REPORTED RECEIVING
FEWER THAN THE
RECOMMENDED
10 PRENATAL VISITS.

Nearly a quarter of these
women reported having
complications during childbirth.

SURVEY: POSTNATAL CARE⁴

- **MOST WOMEN REPORTED RECEIVING THE RECOMMENDED POSTPARTUM CARE AT SIX WEEKS.**

However, **4% of women received no postpartum care at all.**

- **A MAJORITY OF WOMEN REPORTED BEING SCREENED FOR POSTPARTUM DEPRESSION.**

However, **26% said they were not screened** or did not know if they were screened.

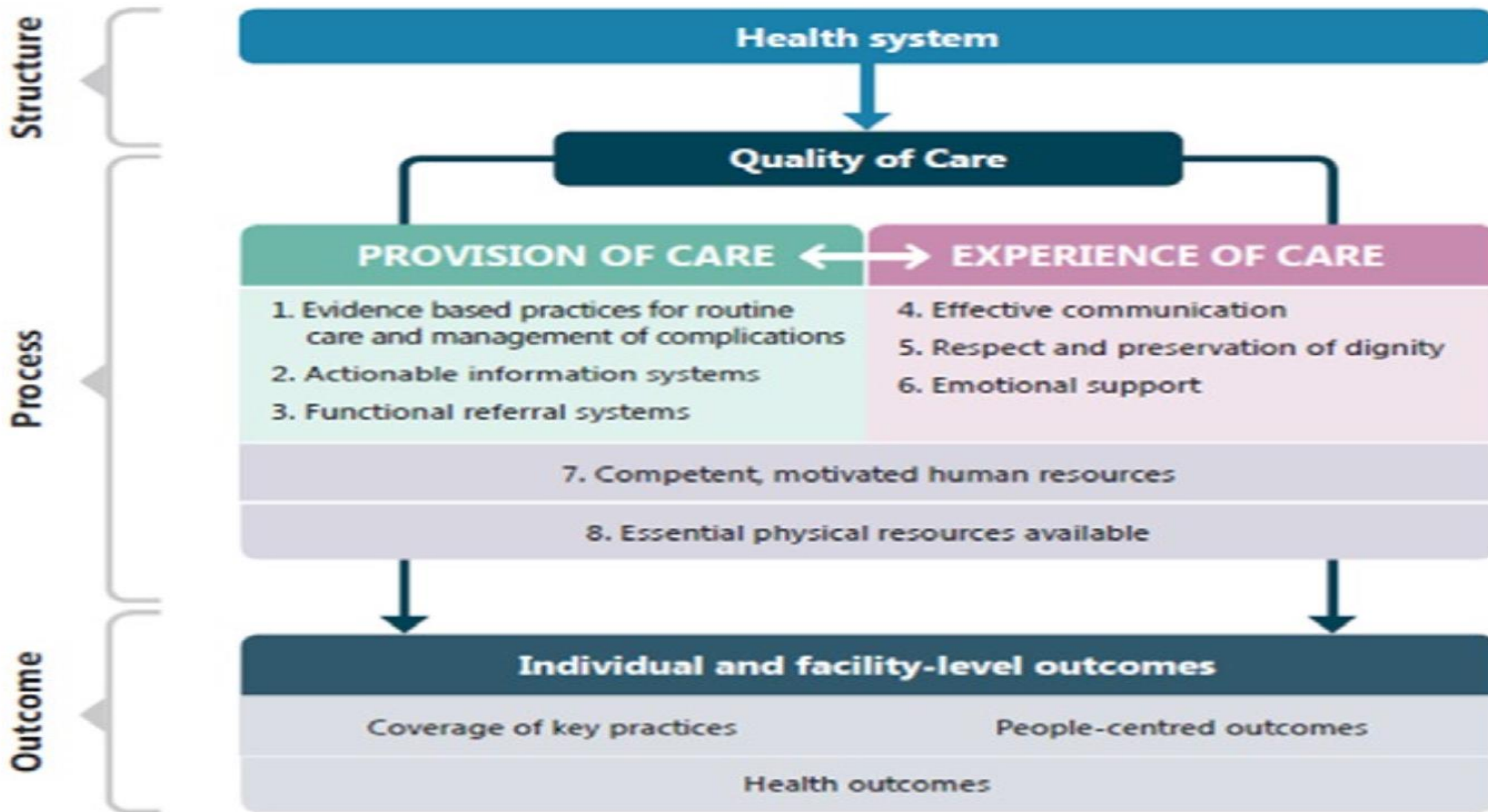


FIGURE 1 WHO quality of care framework for maternal and newborn health. Reproduced from Tuncalp et al.⁹

woman's experience of care

five key domains

woman's experience of care into five key domains
woman's experience of care into five key domains
woman's experience of care into five key domains
woman's experience of care into five key domains

- (1) effective communication that is responsive to her needs and preferences;
- (2) care provided with respect and dignity for privacy, confidentiality, and informed choice
- (3) emotional support to strengthen her own capabilities
- (4) consistent availability of competent and motivated human resources
- (5) availability of physical resources for essential care and management of complications.

Effective communication	Using clear, concise, and positive language	Providing updates on labor progress
Respect and dignity	Protecting privacy	Emotional support
Encouraging mobility and oral fluid intake	Competent and motivated human resources	Training and qualifications
Essential physical resources	Encouraging reasonable workloads	Improving availability of supplies and medicines



AOGS

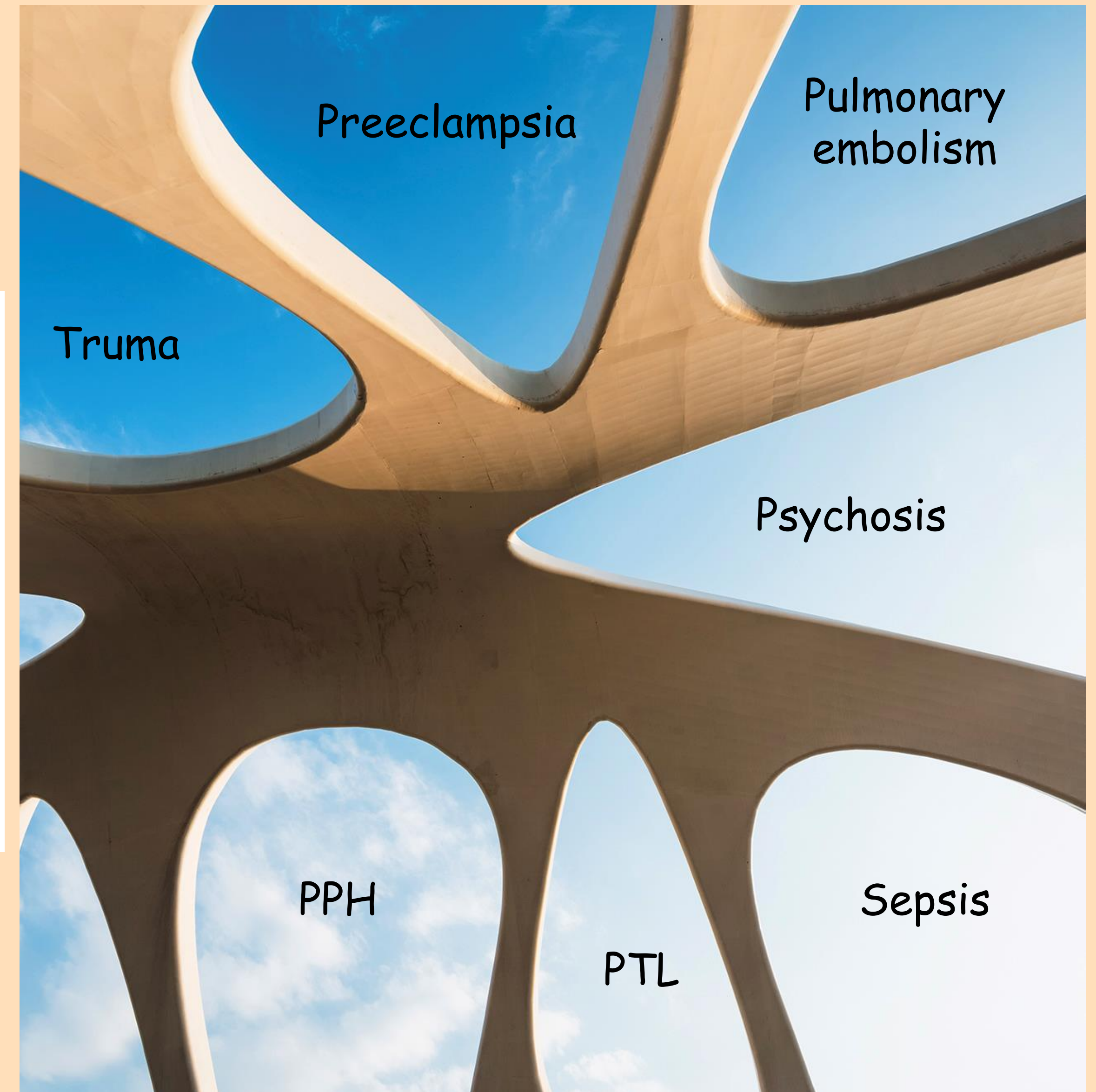
Acta Obstetrica et Gynecologica
Scandinavica

AOGS EDITORS MESSAGE

Seven dangerous *Ps* of pregnancy and challenges of caring for pregnant women with complex needs

GANESH ACHARYA 

Department of Clinical Science, Intervention and Technology, Karolinska Institute and Centre for Fetal Medicine, Karolinska University Hospital, Stockholm, Sweden



Preidentification of high-risk pregnancies to improve triaging at the time of admission and management of complications in labour room: a quality improvement initiative

Pra
Sur

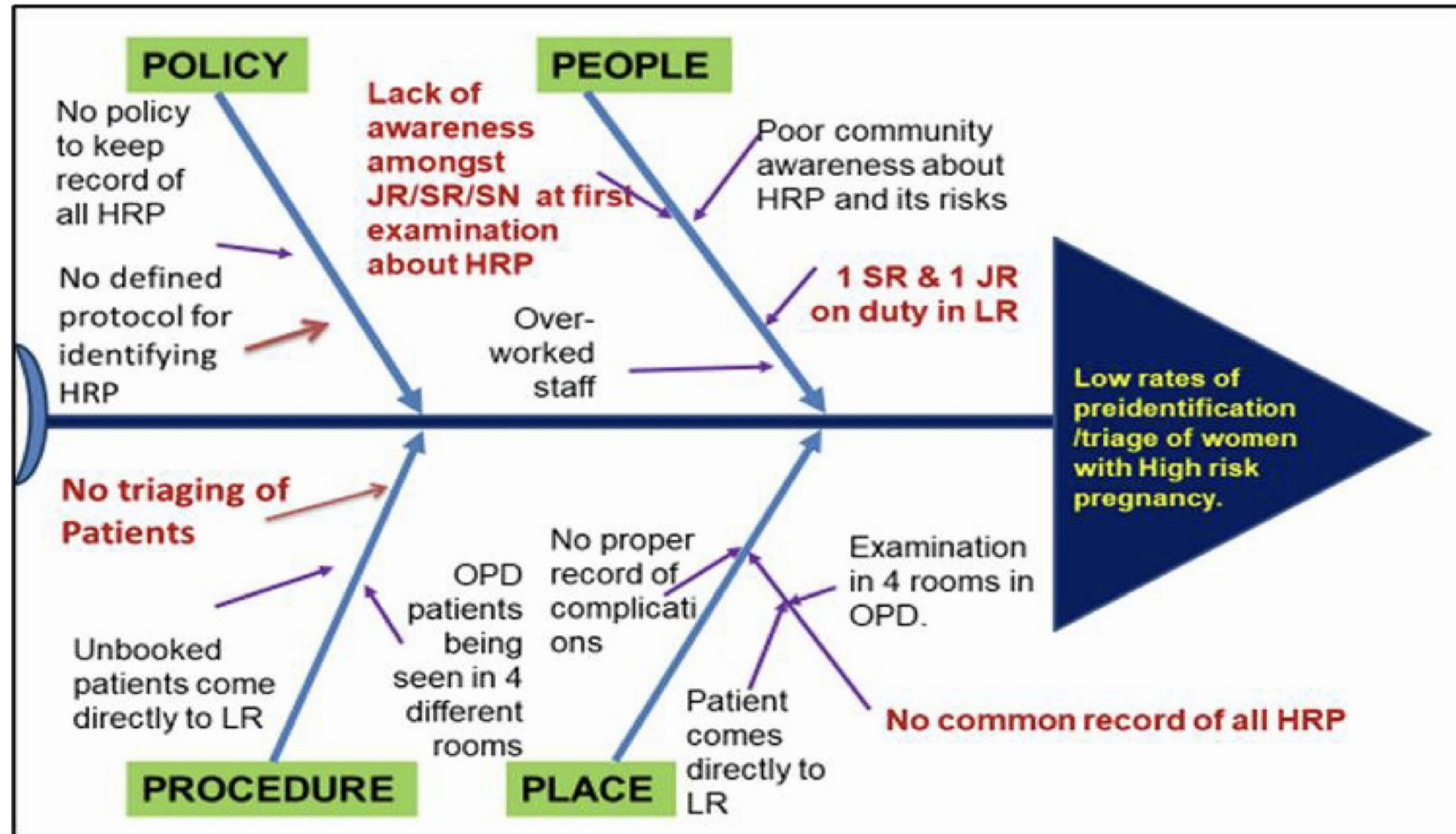


Figure 1 Fishbone analysis of the problem. HRP, high-risk pregnancy; JR, junior resident; LR, labour room; OPD, outpatient department; SN, staff nurse.

REVIEW

Open Access

A global view of severe maternal morbidity: moving beyond maternal mortality



Stacie E. Geller^{1,2*}, Abigail R. Koch², Caitlin E. Garland², E. Jane MacDonald³, Francesca Storey³
and Beverley Lawton³

From 2nd International Conference on Maternal and Newborn Health: Translating Research Evidence to Practice
Belagavi, India. 26-27 March 2018

Table 1 Estimates of the Prevalence of Severe Maternal Morbidity in High-Income Countries

Author (Year)	Country	Definition of SMM	Estimated Prevalence ^a	Leading Causes
Bouvier-Colle (2012) [13]	17 EU Countries	Eclampsia	0.2–1.6	
	3 EU Countries	ICU Admission	0.5–3.1	
	10 EU Countries	Blood Transfusion	0.1–11.5	
	15 EU Countries	Hysterectomy	0.2–1.0	
	7 EU Countries	Embolisation	0.0–0.3	
Colmorn (2015) [71]	Denmark, Finland, Iceland, Norway, and Sweden	Complete uterine rupture	5.6	
Deneux-Tharaux (2017) [16]	France	Obstetric hemorrhage, hypertensive complications, Psychiatric disorder, decompensation of preexisting condition, pulmonary embolism, sepsis, stroke, amniotic fluid embolism, other	13.9	Obstetric hemorrhage (65.2%), hypertensive conditions (21.6%)
Jayaratham (2016) [45]	Australia	WHO criteria	4.8	Hemorrhage
Jayaratham (2011) [72]	Australia	Antepartum hemorrhage requiring emergency surgery, PPH requiring surgery, any postnatal patient requiring surgery, severe pre-eclampsia/eclampsia/HELLP, ICU admission, shock, acute ruptured ectopic, pulmonary embolism, other conditions requiring immediate medical assessment	6.0	
Kilpatrick (2016) [43]	United States	CDC method with chart review to confirm condition was truly life-threatening	7.3	Hemorrhage, hypertensive disorders
Lawton (2016) [personal communication]	New Zealand	ICU/HDU admission	6.2	Major blood loss, pre-eclampsia, sepsis
Lyndon (2012) [73]	United States	CDC method supplemented with birth certificate data	5.8	
Main (2016) [74]	United States	“Gold standard” clinical guidelines	7.3	
Marr (2014) [40]	Scotland	Major obstetric hemorrhage, eclampsia, renal or liver dysfunction, pulmonary edema, acute respiratory distress, coma, cerebrovascular event, status epilepticus, anaphylactic shock, septicemic shock, anesthetic problem, massive pulmonary embolism, ICU/coronary care unit admission	6.1	Major obstetric hemorrhage, ICU/coronary care admission

Table 1 Estimates of the Prevalence of Severe Maternal Morbidity in High-Income Countries (*Continued*)

Author (Year)	Country	Definition of SMM	Estimated Prevalence ^a	Leading Causes
		Assisted ventilation including tracheostomy	0.15	
		Curettage with general anesthesia	0.01	
		Dialysis	0.01	
		Evacuation of hematoma	0.50	
		Hysterectomy	0.24	
		Procedures to reduce blood flow to uterus	0.06	
		Re-closure of disrupted cesarean section wound	0.31	
		Repair of bladder or cystostomy	0.31	
		Repair of intestine	0.008	
O'Malley (2016) [75]	Ireland	WHO criteria	3.6	Hemorrhage
		Scottish Audit of SMM criteria	18.4	Hypertension
Ozimek (2016) [37]	United States	"Gold standard" clinical guidelines from Main (2016)	9.2	Hemorrhage, preeclampsia/eclampsia
Zanconato (2012) [44]	Italy	ICU admission, transfusion ≥ 4 units, emergency peripartum hysterectomy, arterial embolization	8.5	Hypertensive disorders, hemorrhage, sepsis
Zwart (2010) [76]	The Netherlands	ICU admission, eclampsia/HELLP syndrome, uterine rupture, major hemorrhage, miscellaneous	7.1 overall 6.3 Western ethn 8.4 non-Western ethn	
		Peripartum hysterectomy	3.5	
		Abnormally invasive placenta	4.6	
		Severe hemorrhage at delivery	11.6	

Table 3 Estimates of the Prevalence of Severe Maternal Morbidity in North Africa and Middle East

Article	Country	Setting	Definition of SMM	Estimated Prevalence ^a	Leading Causes
Akrawi 2017 [91]	Iraq	Public tertiary hospital, Erbil City	Modified WHO	8.2	Hypertensive disorders, hemorrhage
Assarag 2015 [92]	Morocco	3 public referral hospital, Marrakech	Sahel et al. 2011	12	Hemorrhage
Bashour 2015 [93]	Egypt	Public tertiary hospital, Cairo	WHO	12.1	Hemorrhage
Bashour 2015	Lebanon	Public hospital, Beirut	WHO	4.3	Hemorrhage
Bashour 2015	Palestine	Public referral hospital, Ramallah	WHO	12.9	Hemorrhage
Bashour 2015	Syria	University hospital, Damascus	WHO	4.5	Hemorrhage
Ghardallou 2016 [94]	Tunisia	Public tertiary hospital, Sousse	WHO	5.86	Hemorrhage, hypertensive disorders
Ghazivakili 2016 [95]	Iran	13 public and private hospital, Alborz province	WHO	4.97	Hypertensive disorders, hemorrhage
Jabir 2013 [63]	Iraq	6 public hospital, Baghdad	WHO	5.06	Hemorrhage, hypertensive disorders

^aper 1000 live births



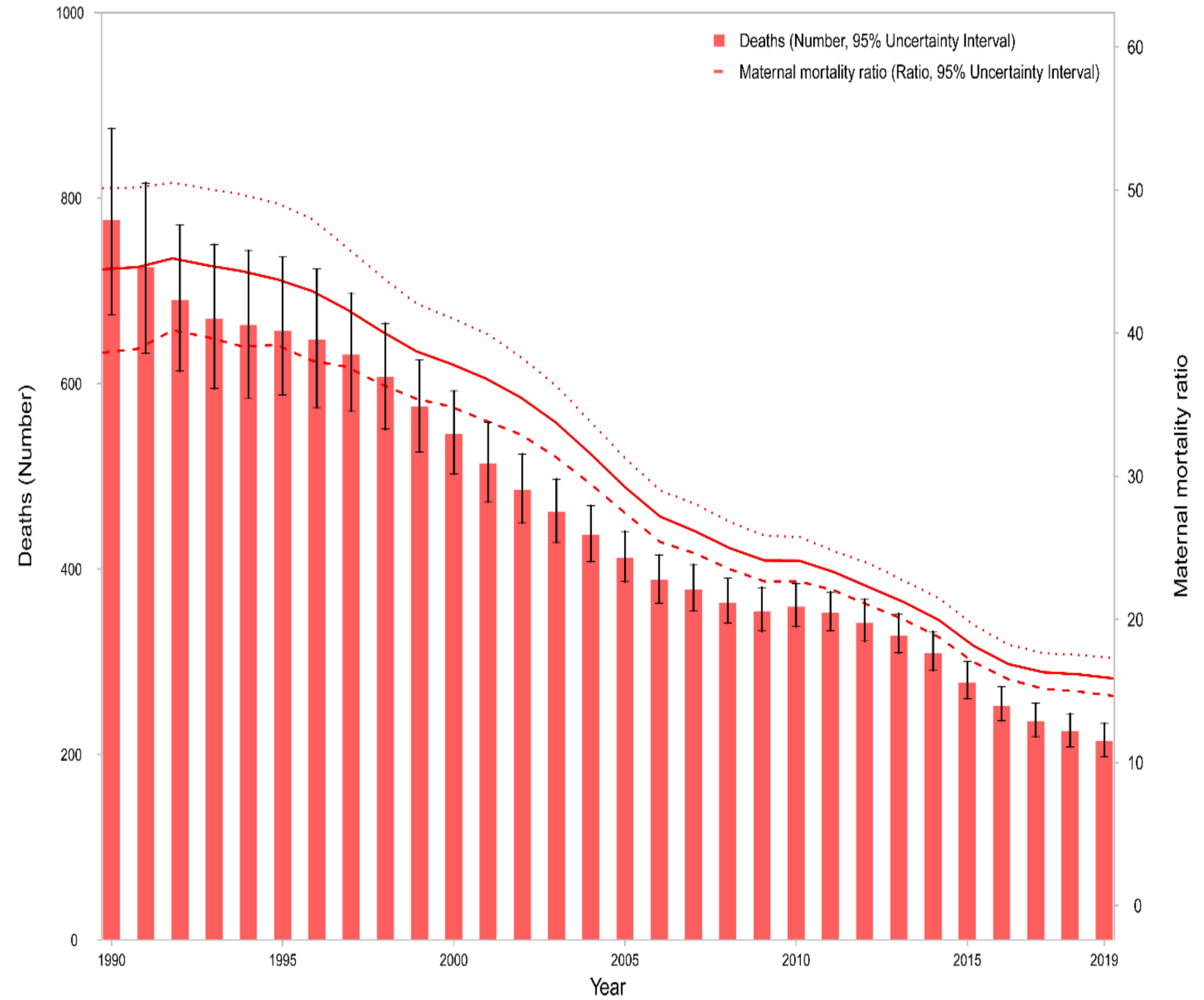
Maternal Mortality and Morbidity by Cause in Provinces of Iran, 1990 to 2019: An Analysis for the Global Burden of Disease Study 2019

Sadaf G. Sepanlou, MD, MPH, PhD¹; Hossein Rezaei Aliabadi, MSc²; Reza Malekzadeh, MD^{1*}; Mohsen Naghavi, MD^{3*}; GBD 2019 Iran Maternal Collaborators[†]

¹Digestive Disease Research Institute, Tehran University of Medical Sciences, Tehran, Iran

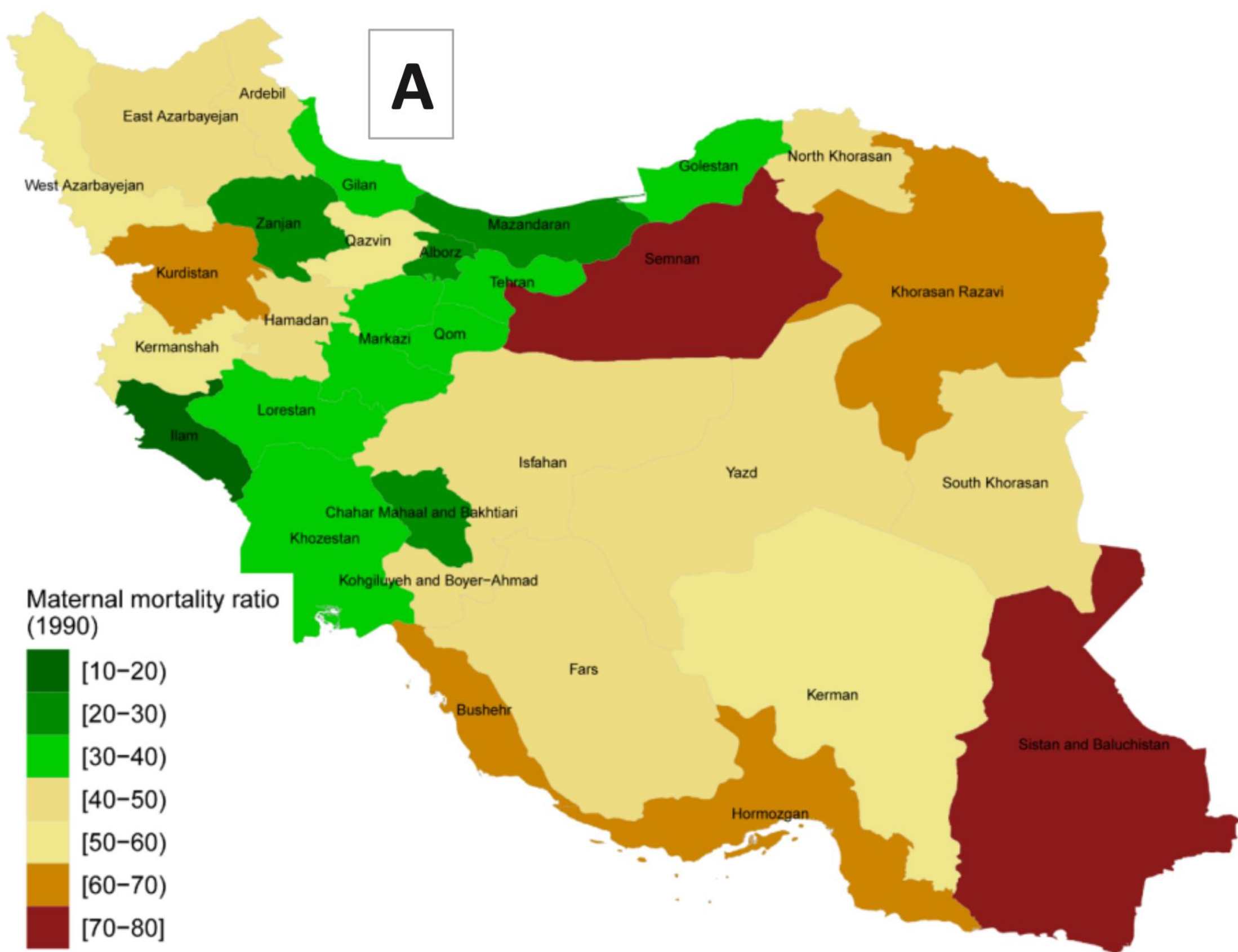
²Bam University of Medical Sciences, Bam, Iran

³Institute for Health Metrics and Evaluation, School of Medicine, University of Washington, Seattle, USA



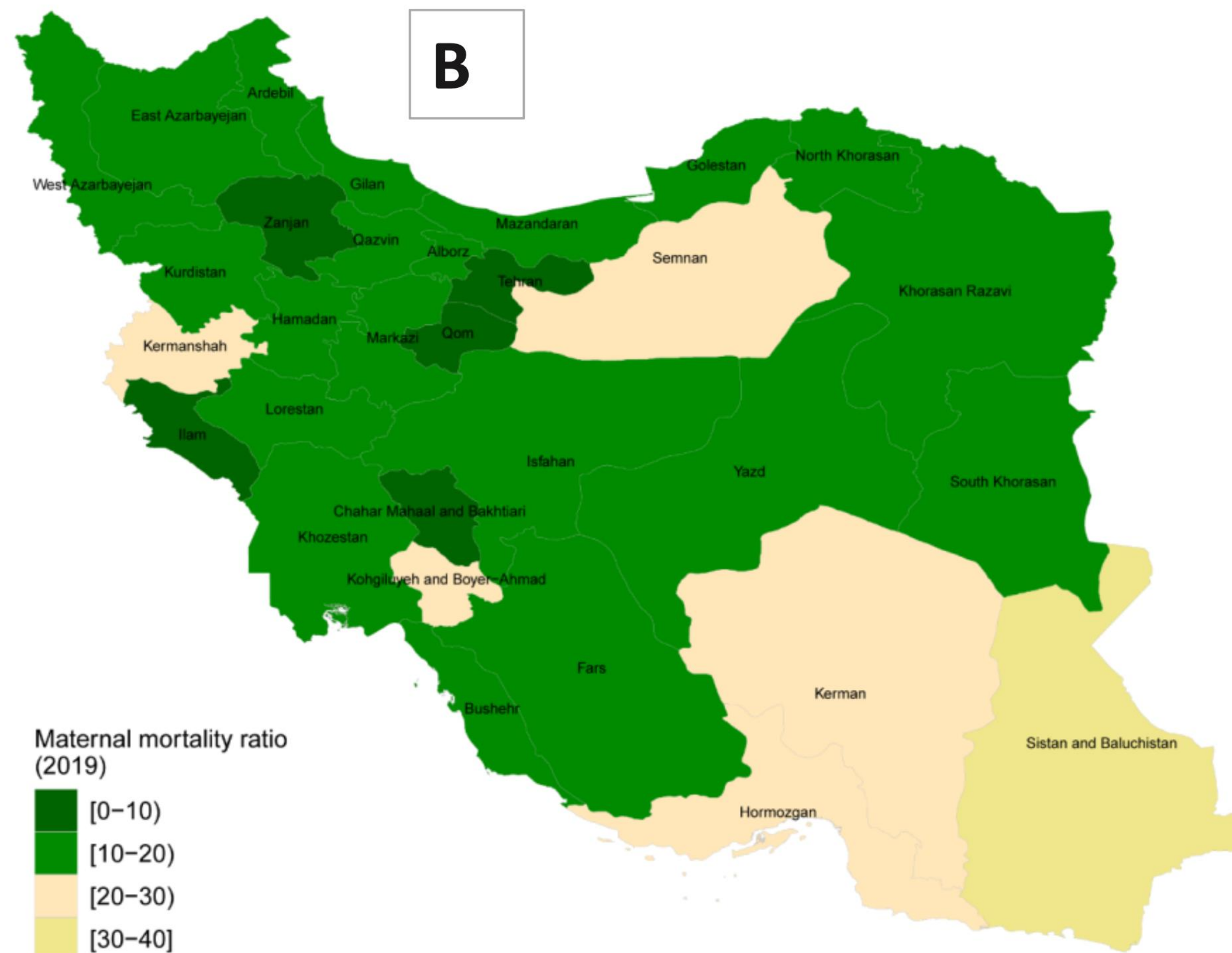
Mortality ratio
1990

A



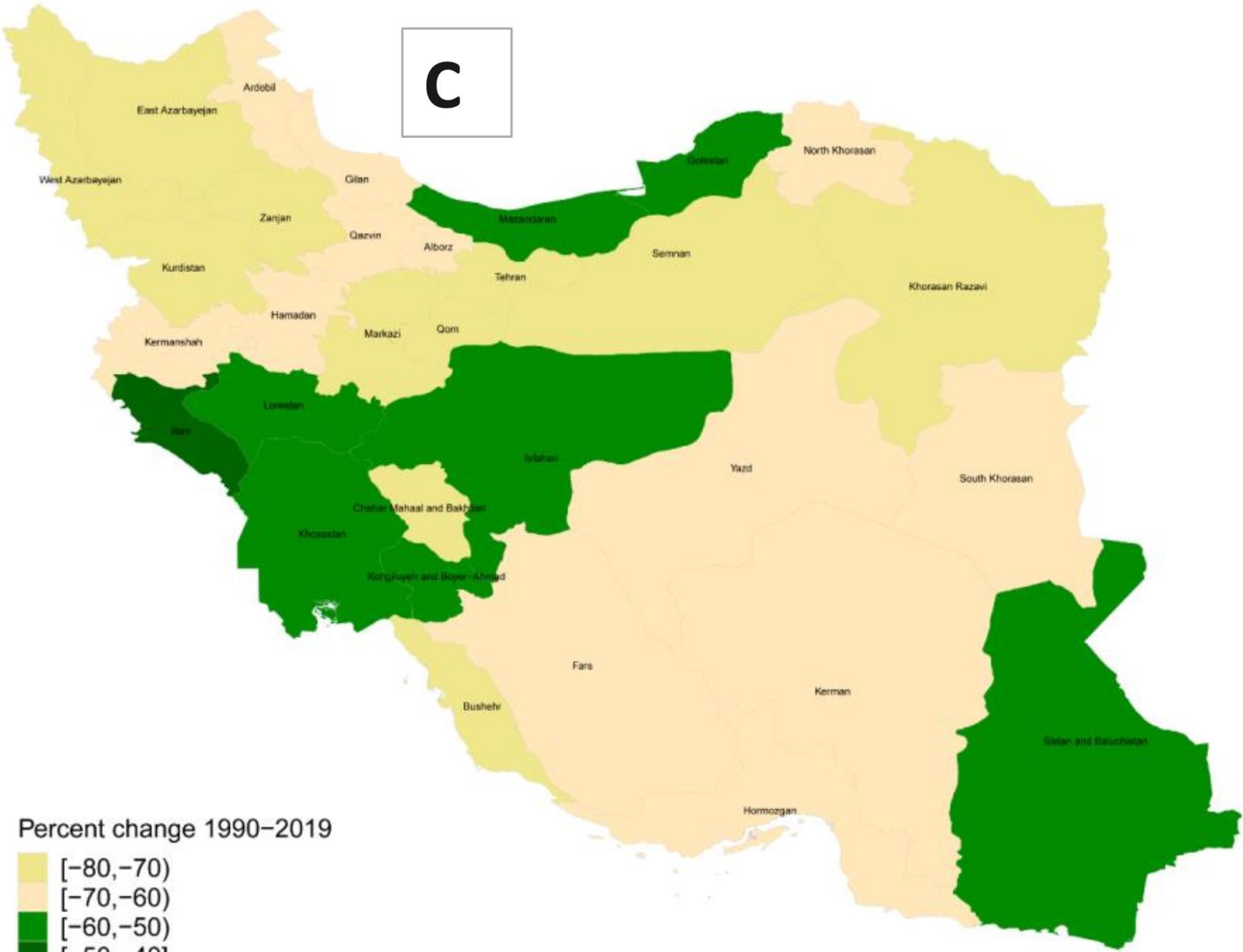
Mortality ratio
2019

B



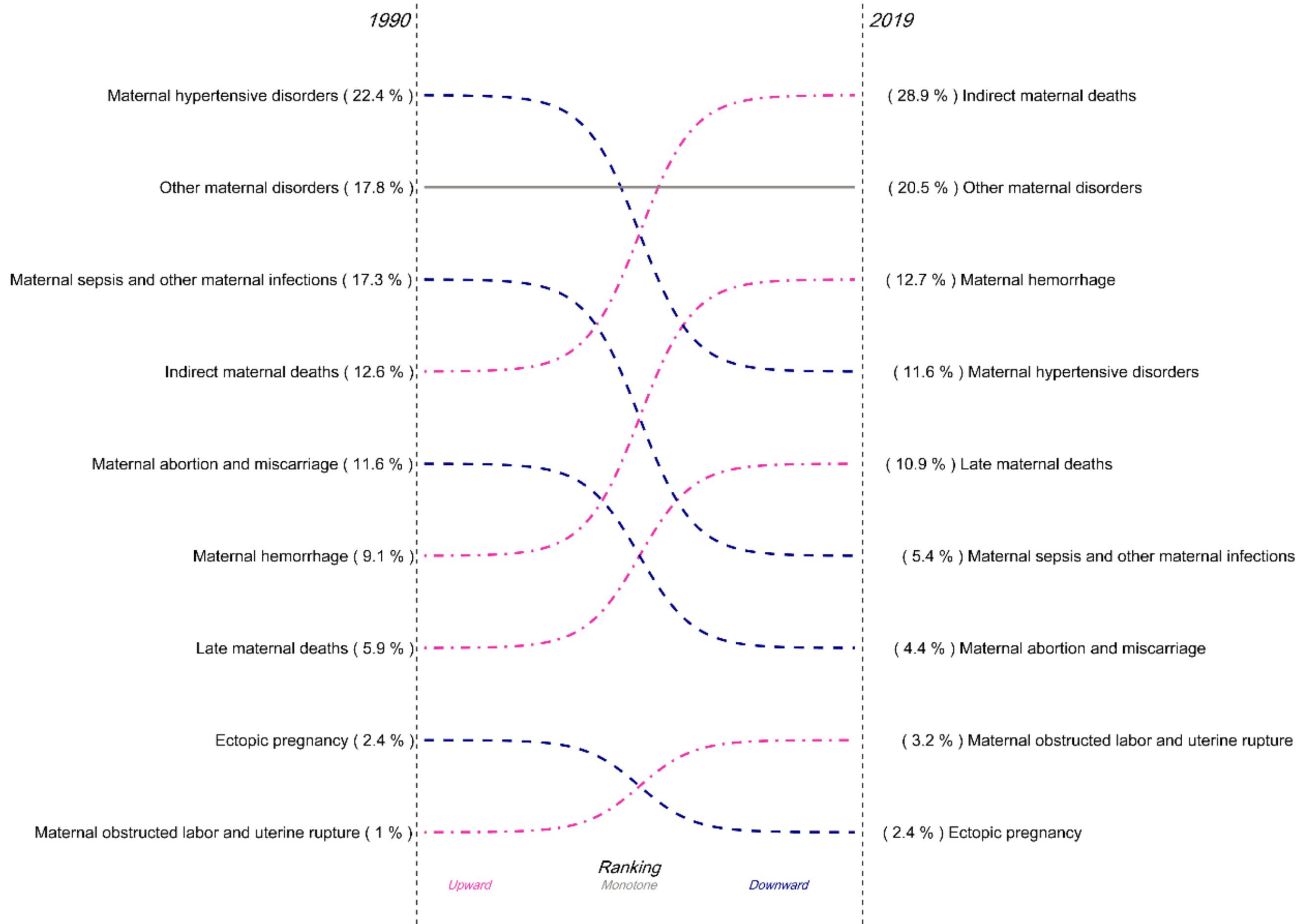
Percent change in maternal mortality ratio, 1990–2019

C



Percent change 1990–2019

- [-80, -70)
- [-70, -60)
- [-60, -50)
- [-50, -40)



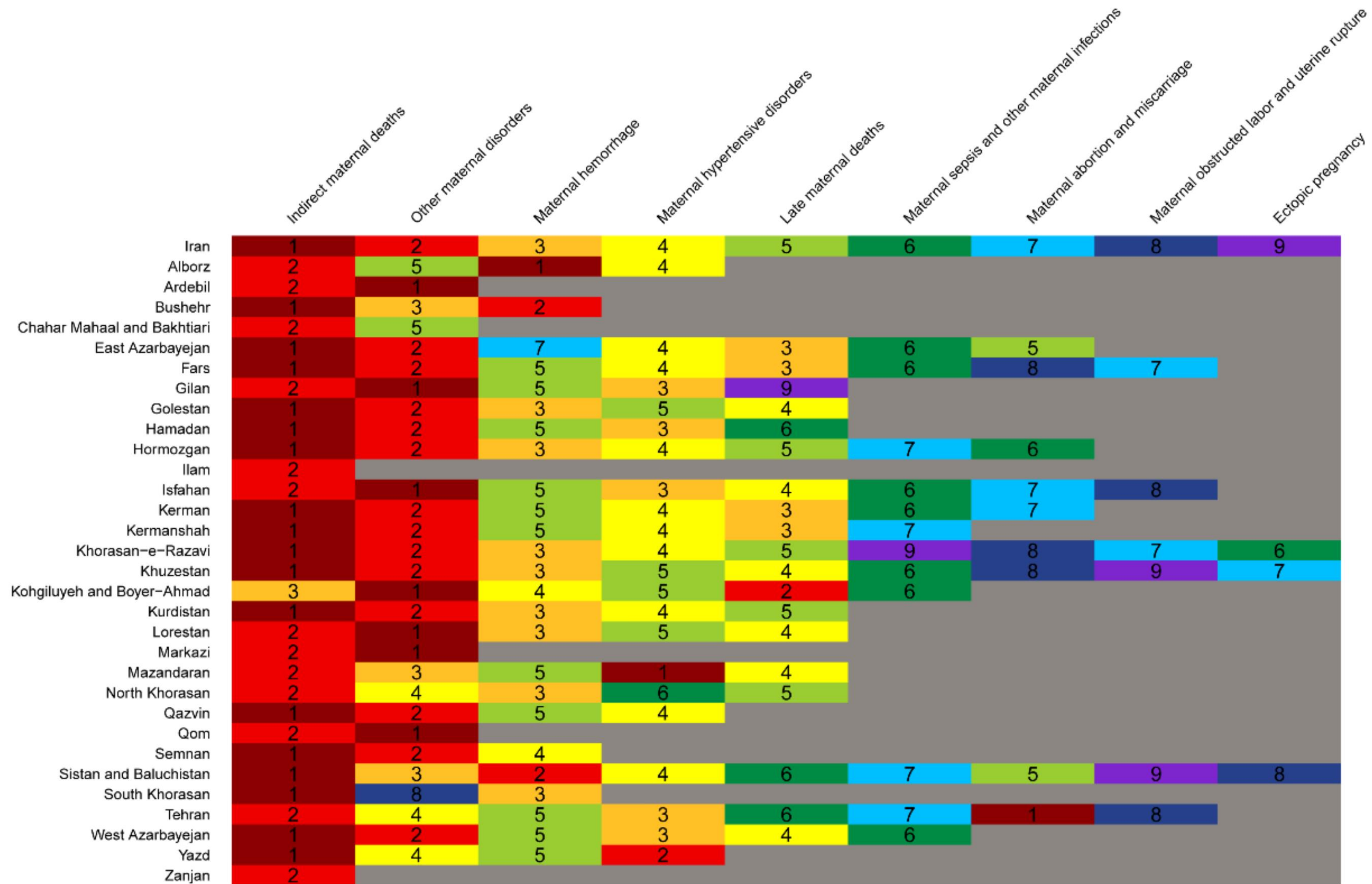


Figure 7. The Heatmap Showing the Ranks of Maternal Mortality by Cause Across Provinces of Iran in 2019. The gray shaded areas show no deaths. Each color in the first row shows the rank of each maternal cause at national level, which is compared to their ranks in provincial level in the following rows.

Commentary

Ways Forward in Preventing Severe Maternal Morbidity and Maternal Health Inequities: Conceptual Frameworks, Definitions, and Data, from a Population Health Perspective



Suzan L. Carmichael, PhD, MS^{a,b,*}
Alison El Ayadi, ScD, MPH^{d,e}, Her
Deirdre J. Lyell, MD^b, Audrey Lyn
Mahasin Mujahid, PhD, MS^c, Lu T

^a Department of Pediatrics, Stanford University School of

^b Department of Obstetrics and Gynecology, Stanford Univ

^c Division of Epidemiology, School of Public Health, Unive

^d Department of Obstetrics, Gynecology, and Reproductive

^e Department of Epidemiology and Biostatistics, Universit

^f Clinical Epidemiology Division, Department of Medicine,

^g Rory Meyers College of Nursing, New York University, N

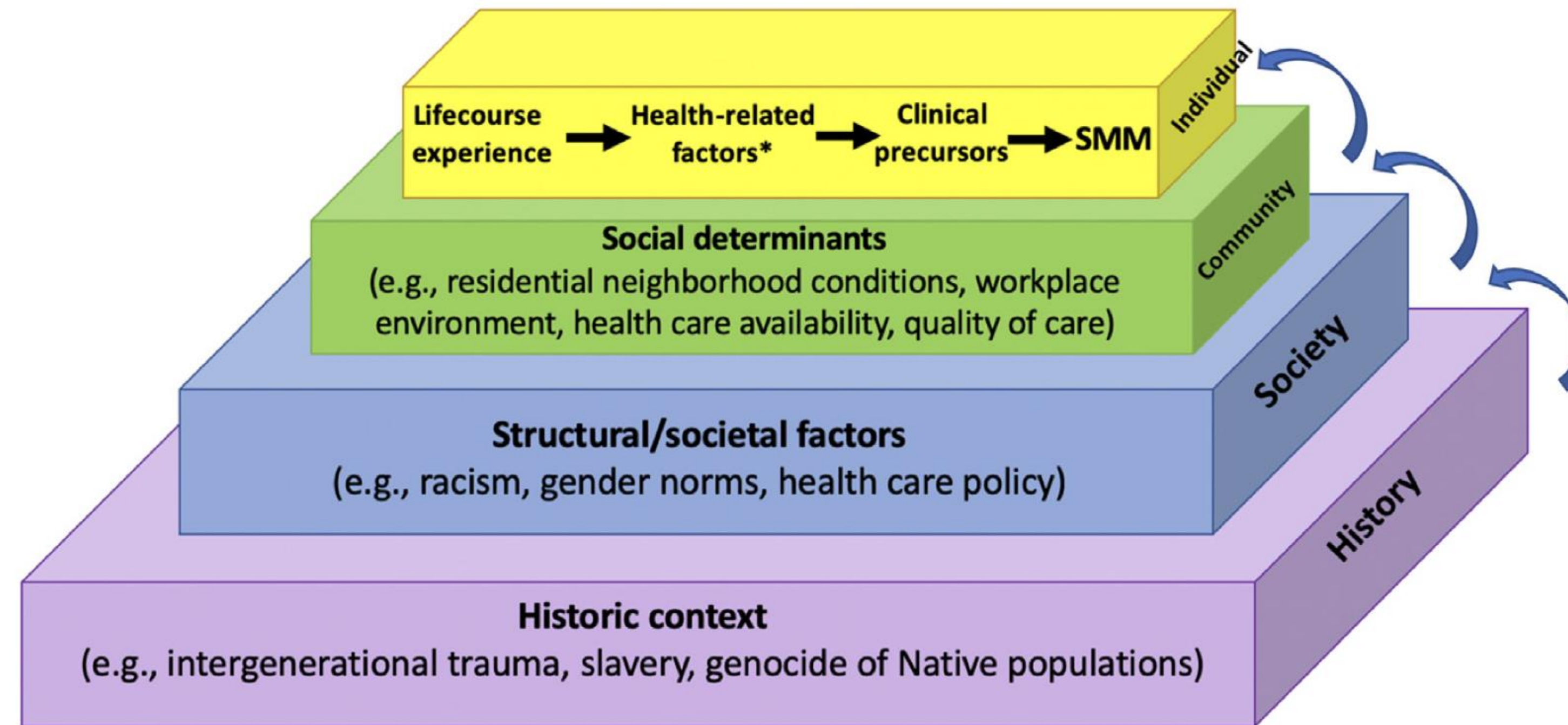
^h California Maternal Quality Care Collaborative, Stanford

ⁱ Department of Biomedical Data Science, Stanford Univer

^j School of Public Health, Oregon Health & Science Univer

^k Department of Obstetrics and Gynecology, Oregon Healt

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* e.g., age, parity, stress, behaviors, health conditions

Figure 2. Conceptual framework for describing multilevel pathways to severe maternal morbidity (SMM) and its inequities.

Review

Challenges in Maternal and Access during Pandemics of Low-and Middle-Income C

Krushna Chandra Sahoo [†], Sapna Negi [†], Krip and Sanghamitra Pati ^{*}

Table 2. Major challenges in maternal and child health services during pandemic or disaster.

Maternal Health Services	Emergency Situation	
	Pandemic	Disaster
Antenatal check-up	<ul style="list-style-type: none"> ● Poor access to specialists ● Unavailability of diagnostic services ● Out of pocket payment to healthcare providers ● Inadequate scientific information ● Hastened health services ● Virtual care ● Hesitant to visit ● Long waiting time 	<ul style="list-style-type: none"> ● Poor transportation services ● Unavailability of specialists ● No satellite clinics ● Closed health facilities ● Unbalanced nutrition practices ● Post-disaster services by male health workers
Delivery and Post Natal Care	<ul style="list-style-type: none"> ● Unavailability of personal protective equipment ● No training of staff on infection prevention ● Rumors—staff injecting infection ● Unfavorable working attitudes of staffs ● Lack of basic facilities at hospital ● Shortages of drugs, instruments or other supplies ● Understaffed facilities ● Ban on support companion ● Increased home deliveries ● Inclination to private clinics ● Reduced follow-ups ● Payment for free care 	<ul style="list-style-type: none"> ● Traditional birth attendant only accessible option ● No ambulance services ● Indirect expenses in hospital ● No place for delivery ● Unavailability of specialists ● Unsafe delivery practices ● No planning for post disaster services ● Difficulty obtaining baby formula ● Lack of follow-ups

Table 3. Magnitude of the perceived challenges for maternal and child health services during pandemic or disasters.

MCH Services	Pandemic (<i>n</i> = 14)				Disaster (<i>n</i> = 6)			
	Accessibility	Availability	Affordability	Acceptability	Accessibility	Availability	Affordability	Acceptability
Maternal Health services								
Diagnostic services	SC	SC	SC	VC	VC	SC	NR	NR
Doctor consultation	SC	SC	SC	VC	VC	SC	VC	NC
Transportation	SC	SC	SC	VC	VC	VC	SC	NR
Drugs and consumables	SC	SC	SC	VC	SC	SC	SC	NC
Labor room/intra-natal	NR	NC	SC	VC	SC	SC	NR	NR
Hospital stay	NR	NC	SC	VC	SC	SC	SC	NR
Child health services								
Immunization	NR	SC	SC	VC	SC	NR	NR	NR
Doctor consultation	NR	NR	SC	VC	SC	VC	NR	NR
Transportation	NR	NR	NR	SC	SC	VC	NR	NR
Drugs and consumables	NR	SC	SC	SC	SC	VC	NR	NC
Diagnostic services	NR	NR	NR	SC	SC	SC	SC	NR
Hospital stay	NR	NR	NR	VC	SC	SC	NR	NR

Not Reported (NR), No Challenge (NC), Somewhat Challenge (SC), Very much Challenges (VC).

- 1.Promoting good practice for safer care
- 2.Improving access to perinatal mental health services
- 3.Improving prevention
- 4.Transforming neonatal critical care



Ten national programme work streams are supporting the implementation of Better Births locally:

