

# Overcoming bottlenecks to improve access to Magnesium Sulphate in Nigeria

Saumya Rama Rao, PCNY

Charlotte Warren, PCDC

Salisu Ishaku, PC-Nigeria

# THE ISSUE

- PE/E accounts for between 31 – 40% of maternal deaths in northern Nigeria and currently is the leading cause of maternal mortality in Nigeria
- While maternal and fetal benefits of magnesium sulphate ( $\text{MgSO}_4$ ) not in doubt, use was limited
- Providers bias, fears and myths were a problem
- Availability and lack of understanding of when to administer the drug and to whom were other issues

# Progress made

- Feasibility of including  $\text{MgSO}_4$  in PE/E management demonstrated
- Management of PE/E with  $\text{MgSO}_4$  has been integrated into training curricula of nurses, midwives and CHWs
- Widespread policy and program support
  - A loading dose at primary care level
  - National training curriculum developed
  - $\text{MgSO}_4$  now on essential medicines list at both federal and state levels

# Progress made

- Effective partnerships between FMoH, national and international stakeholders working in unison
- Steady uptake of  $\text{MgSO}_4$  in both public and private facilities
- Supply of  $\text{MgSO}_4$  strengthened
  - Engaging an international manufacturer (e.g. FIDSON) through a volume guarantee arrangement has also resulted in increasing the commodity supply in some northern states
  - Involvement of the National Agency for Food, and Drugs Administration and Control (NAFDAC)

# Persisting challenges

- Working with lower-cadre providers needs to be brought to scale
- Discoveries from recent landscaping in 7 states :
  - Facilities lack guidelines, consistent  $\text{MgSO}_4$  supply or essential equipment
  - Providers can diagnose PE/E and know of  $\text{MgSO}_4$  but are unsure of when to treat and what dosage to give
  - Knowledge of severity of PE was very low among providers
  - Providers do not give women and families information
  - Women, families and communities have incomplete understanding

# Way ahead: Ensuring access with quality

- Sustaining the momentum and building on gains made
- Ensuring availability of  $\text{MgSO}_4$  at all points of care
- Create demand within communities for drug and treatment, by increasing community understanding of PE/E
- Increase focus on primary care facilities where majority of women receive care



For most women, including women who want to have children, contraception is not an option; it is a basic health care necessity.

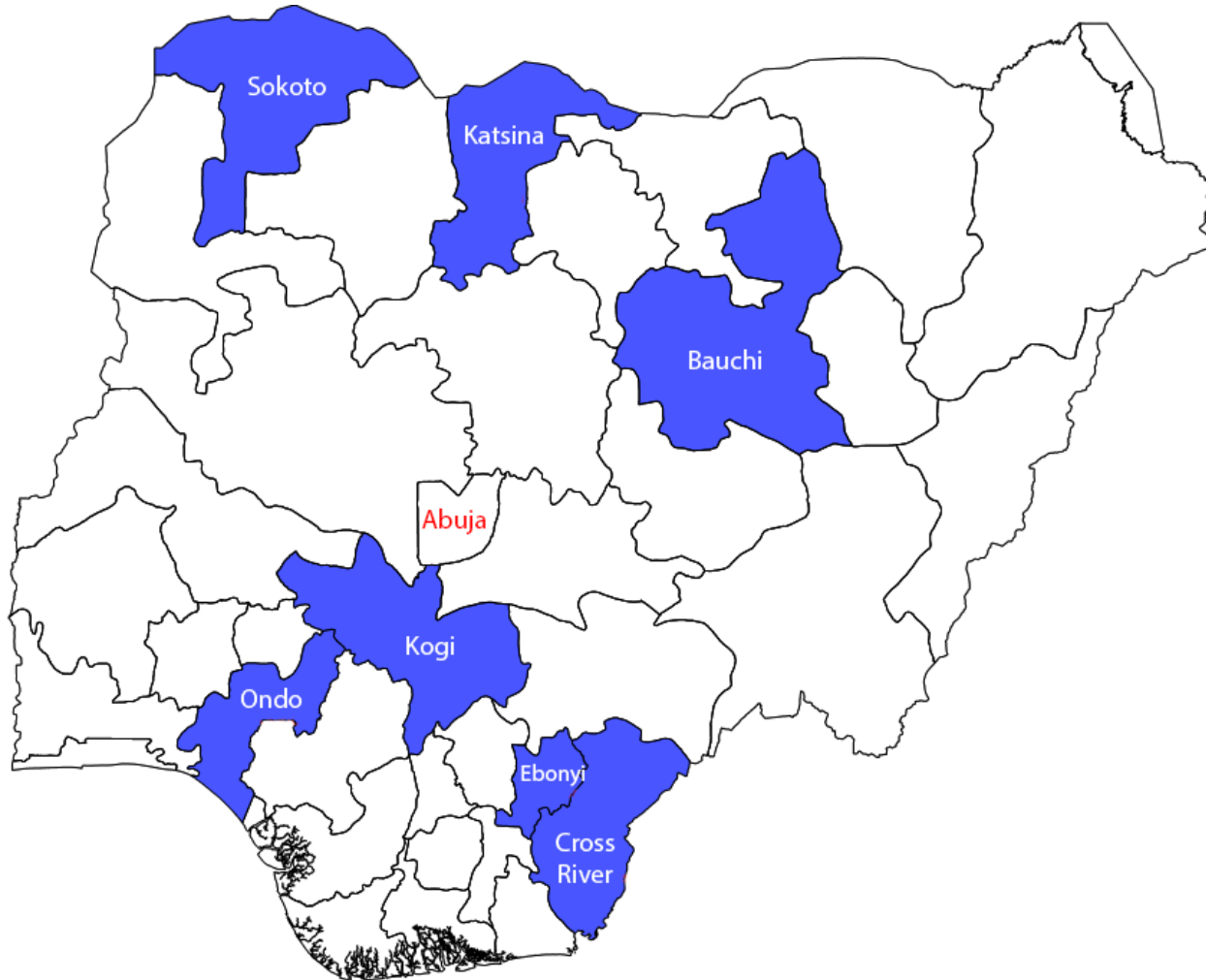
-- Louise Slaughter

# LANDSCAPE ANALYSIS OF PREVENTION ON PRE-ECLAMPSIA AND ECLAMPSIA IN NIGERIA

Salisu Ishaku, Ayodeji B Oginni Gloria  
Adoyi, Amy Dempsey, Karen Kirk,  
Charlotte Warren



# States visited during the landscape analysis



# Summary of quantitative data

States	Health provider Interview	Facility inventory	ANC Client-Provider interaction	ANC Client Exit Interview
Cross River	59	11	15	15
Ebonyi	46	20	10	10
Ondo	59	11	22	22
Kogi	44	8	15	15
Sokoto	61	11	37	37
Bauchi	55	14	28	28
Katsina	55	21	9	9
Total	379	96	136	136

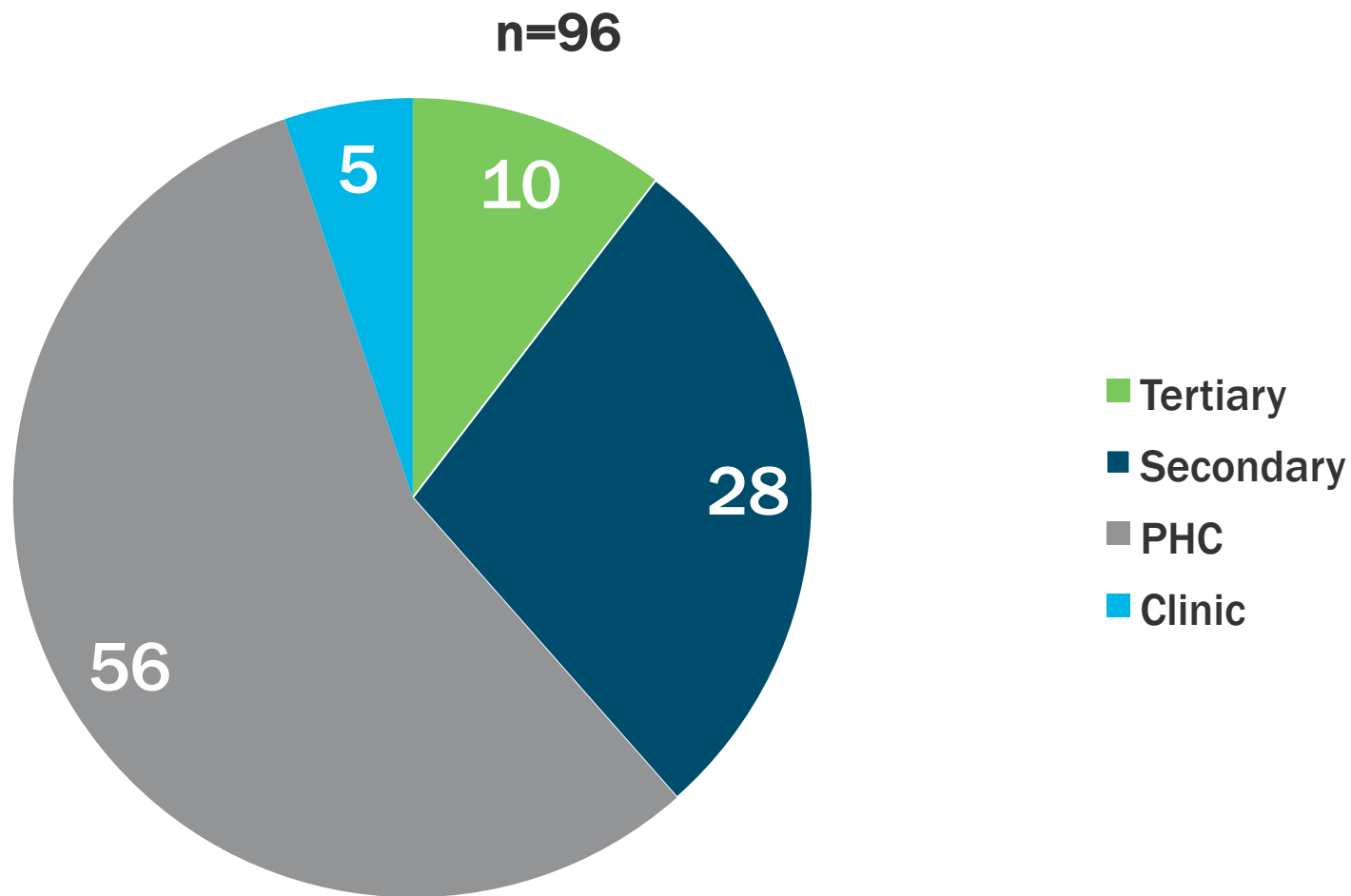
# Qualitative interviews

State	State IDIs	FGDs community	IDIs women	Case studies with families
Cross River	10	4	5	2
Ebonyi	10	4	5	2
Ondo	10	4	5	2
Kogi	9	4	5	2
Sokoto	10	4	5	2
Bauchi	10	4	5	2
Katsina	10	4	5	2
Total	69	28	35	14

National level: IDIs 3

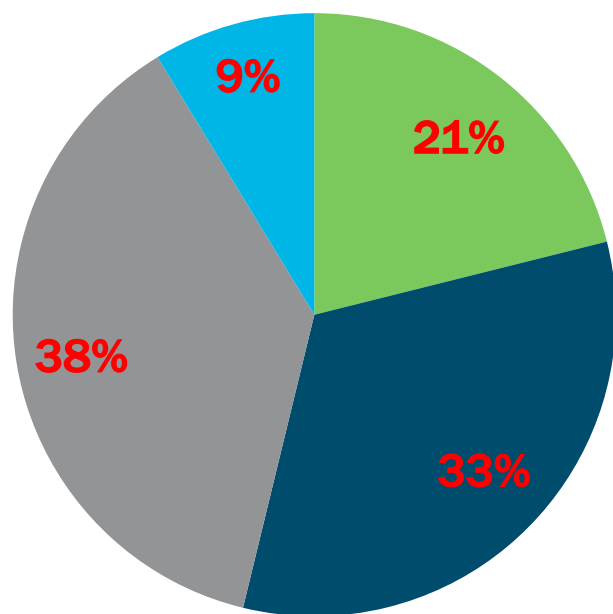
# Characteristics of facilities and respondents

# Type of facility (inventory)

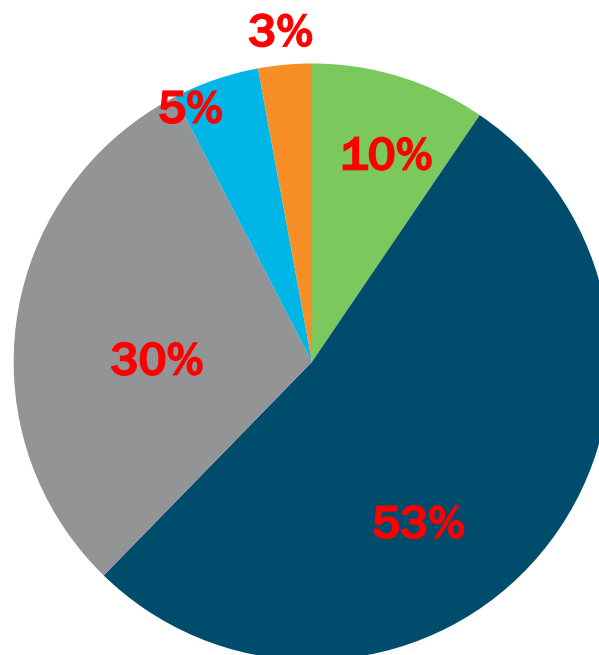


# Distribution of health provider respondents by: (n=376)

## Level of health facility



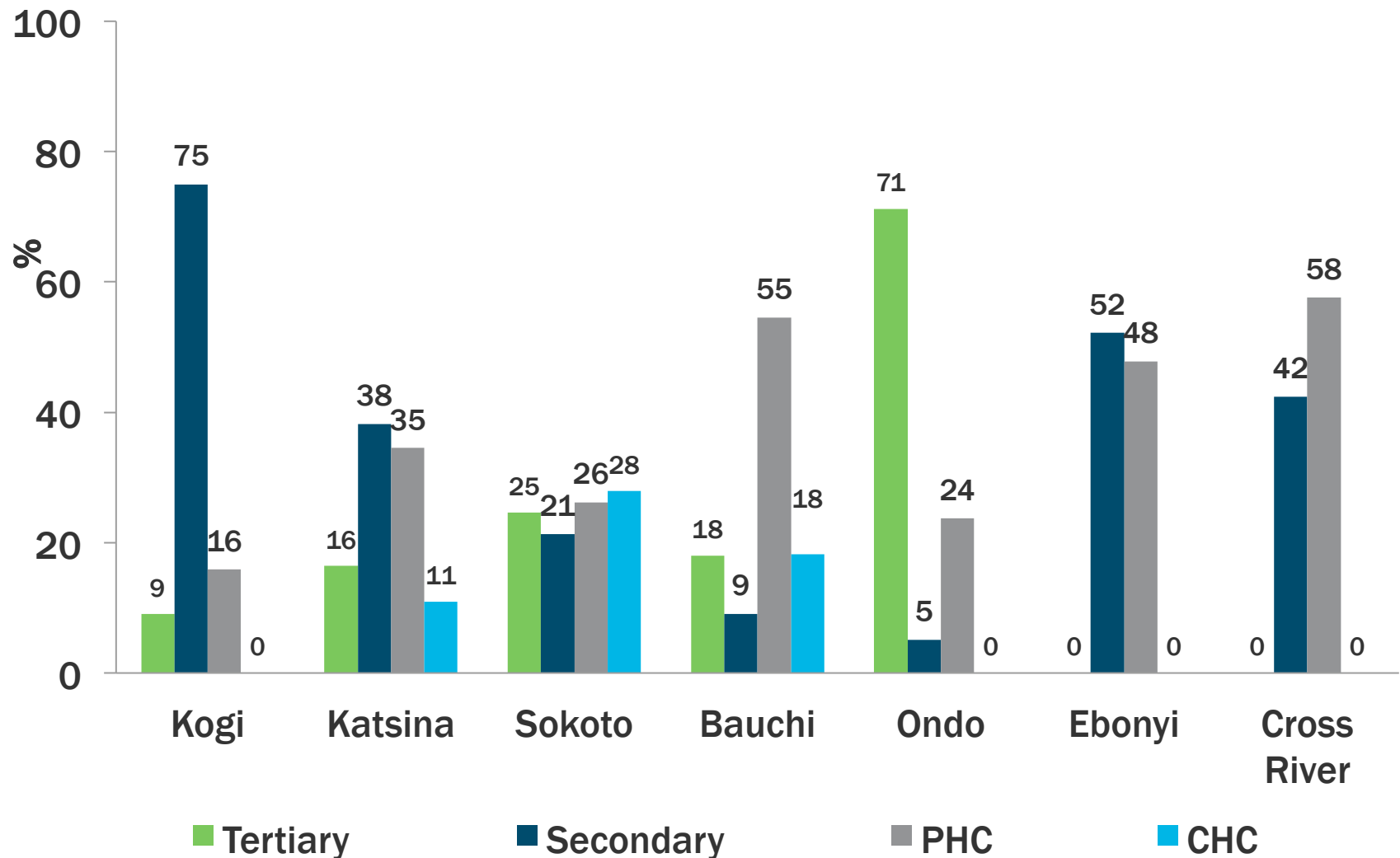
## Type of provider



■ Tertiary ■ General Hosp ■ PHC ■ Clinic

■ Dr ■ N/MW ■ CHEW ■ CHO ■ Others

# Distribution of provider respondents by level of health facilities in each state



# ANC Client Profiles

	N=136
<b>Age</b>	
<i>15-19</i>	4.4%
<i>20-24</i>	25.7%
<i>≥25</i>	68.4%
<b>Education</b>	
<i>Never attended school</i>	21.3%
<i>Primary and less</i>	8.8%
<i>Secondary</i>	30.1%
<i>Tertiary</i>	39.0%

	N=136
<b>Marital status</b>	
<i>Married/Living together</i>	95.6%
<b>Parity</b>	
<i>1</i>	33.8%
<i>2-5</i>	53.7%
<i>≥6</i>	9.6%
<b>Socio-economic status*</b>	
<i>Low</i>	36.8%
<i>Middle</i>	46.3%
<i>High</i>	16.2%

\*PCA; Filmer and Pritchett 2001



---

## **PRELIMINARY FINDINGS:**

**Facility inventory**

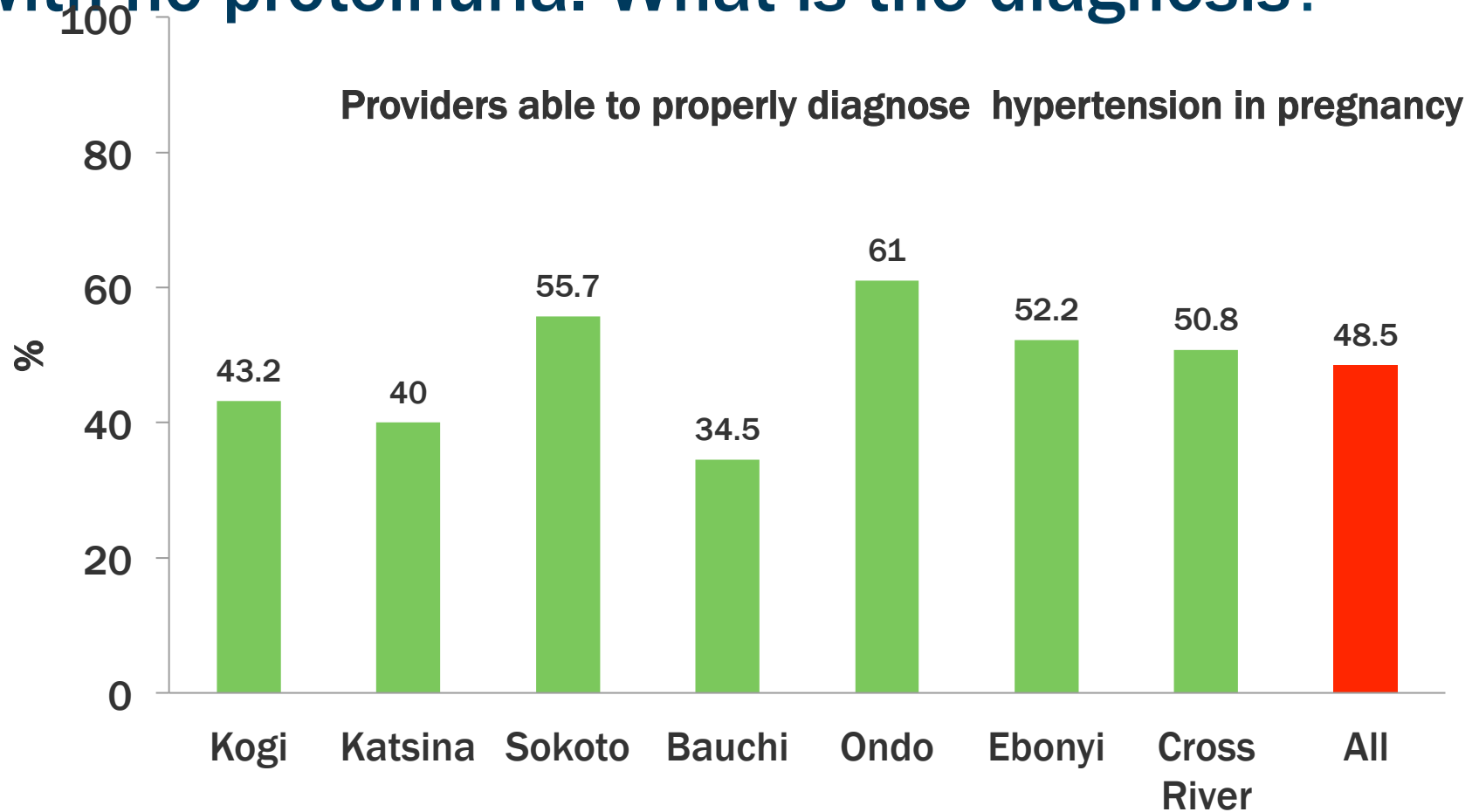
**Provider interviews**

**Client provider interactions**

**Client interviews**

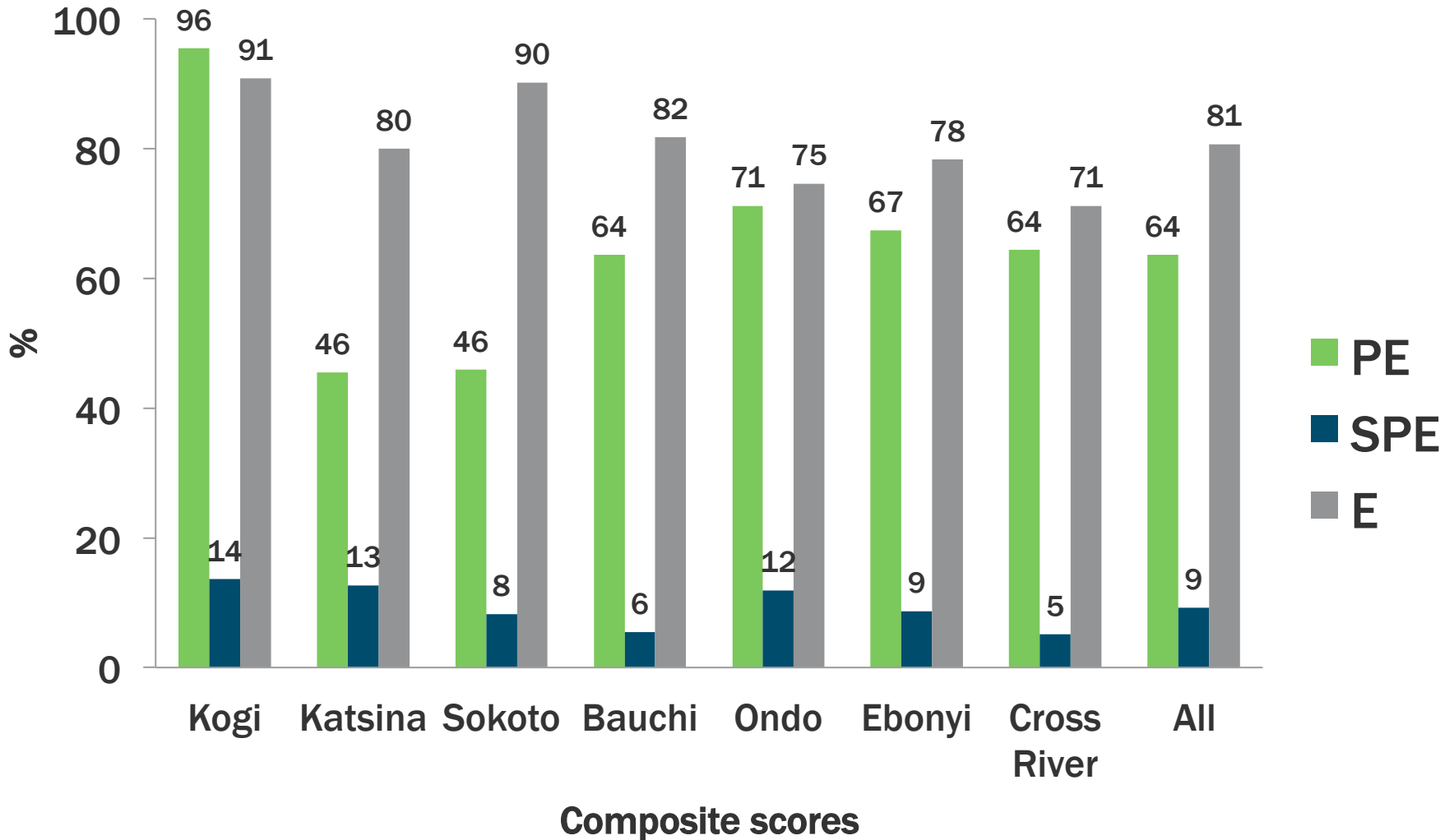
## PROVIDER KNOWLEDGE:

A pregnant woman was seen in the ANC at 12 weeks gestation with BP of 160/100 mmHg with no proteinuria. What is the diagnosis?

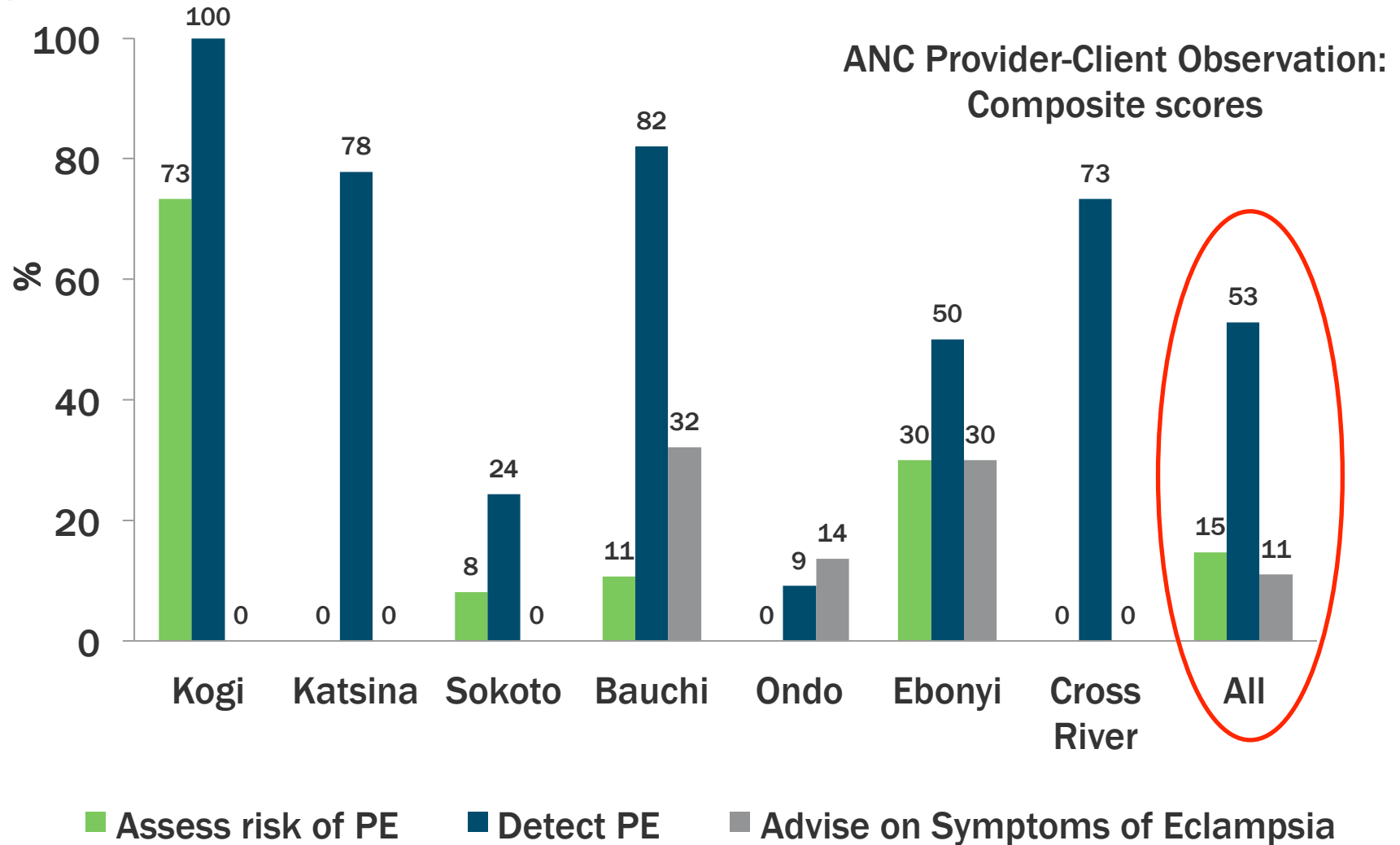


# PROVIDER KNOWLEDGE:

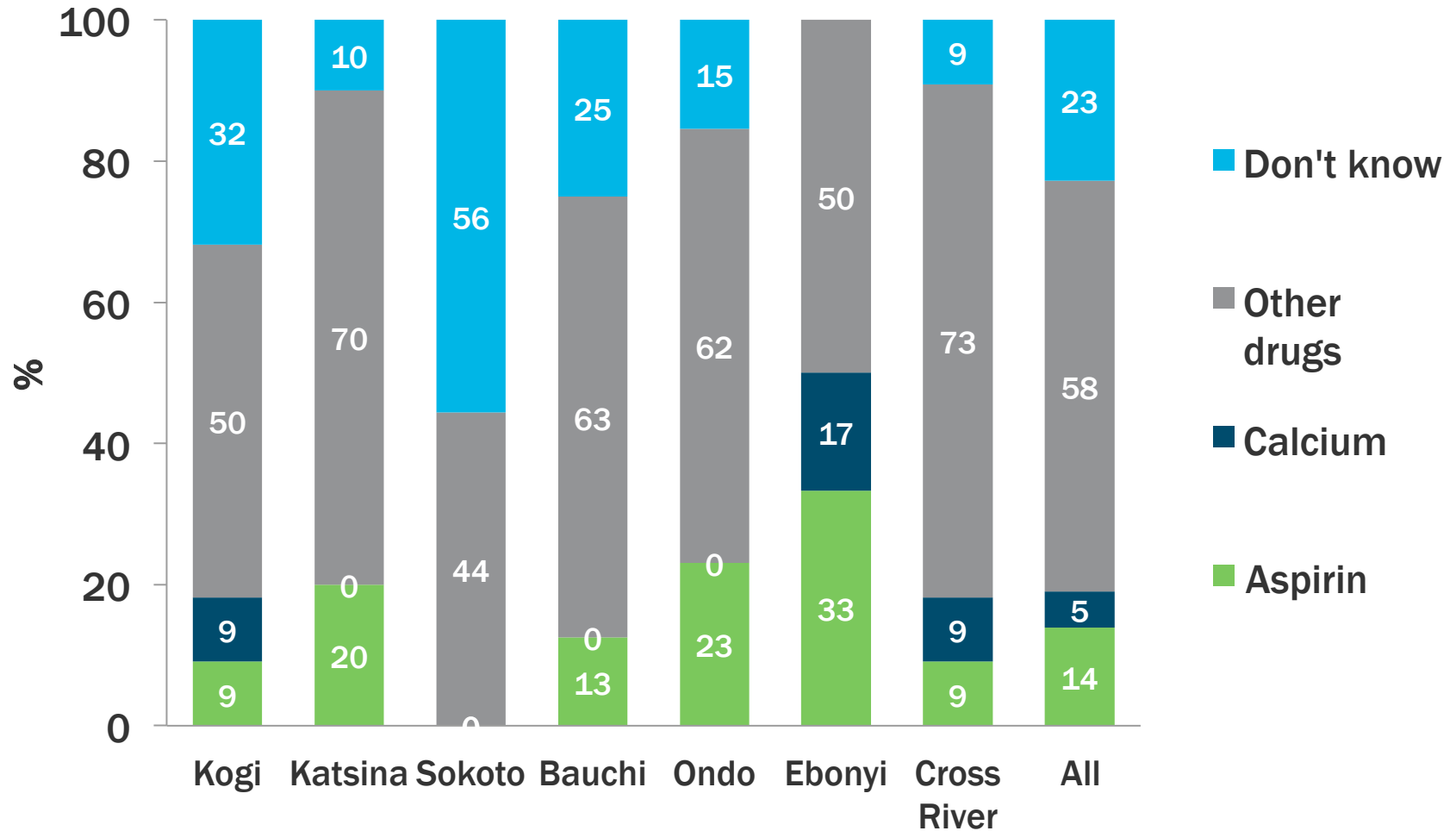
## What are the signs/symptoms of PE, SPE & E?



# PROVIDER PRACTICE: Assessing the risk of PE, screening for PE and advising client of danger signs of PE/E



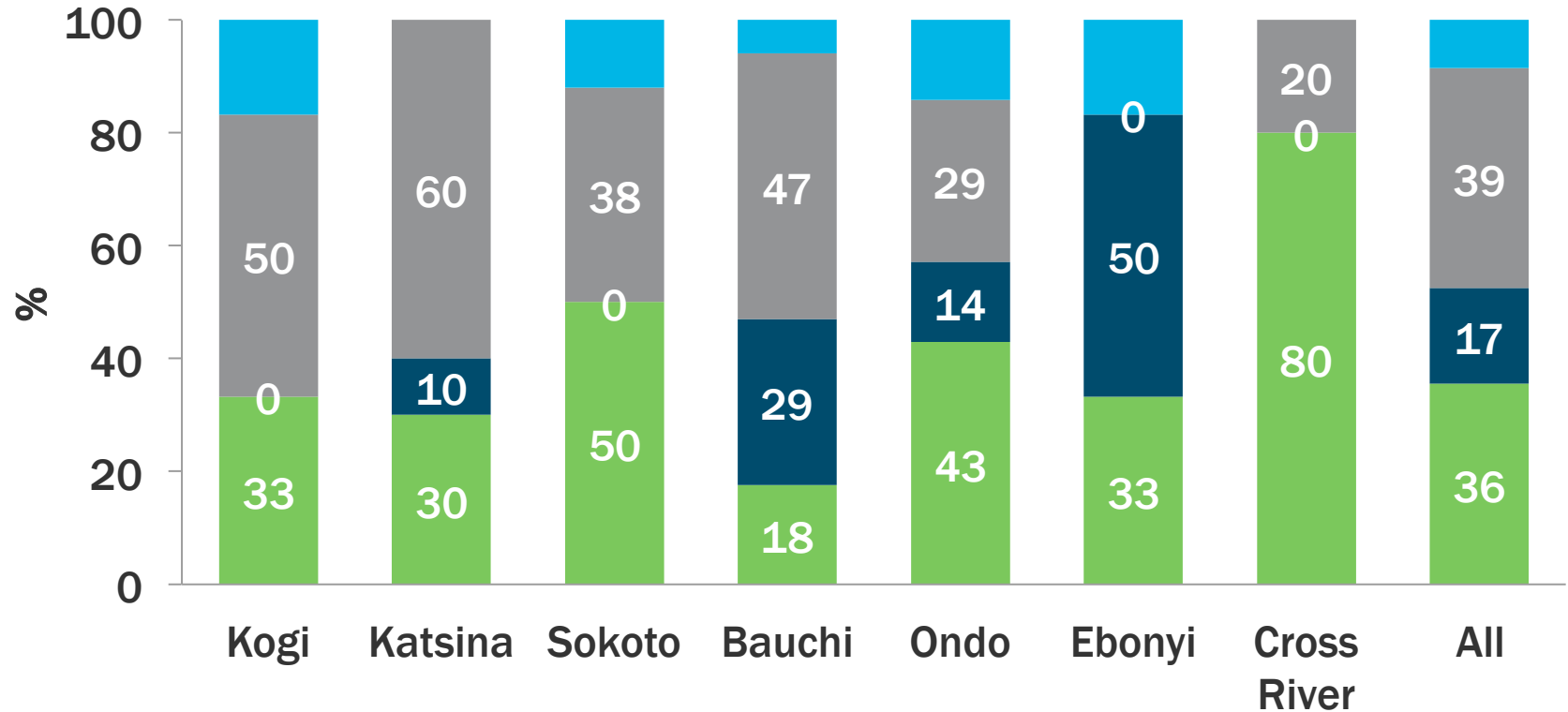
# PROVIDER KNOWLEDGE: Less than 21% were aware of prophylactic drugs for prevention of PE



## Provider knowledge

- Only 12% providers knew correct loading dose of MgSO<sub>4</sub> (Pritchard regime)
- 10% knew the correct maintenance dose
- 7% knew which drug used to manage MgSO<sub>4</sub> toxicity
- <11% providers could list 3 ways to monitor MgSO<sub>4</sub> toxicity

# FACILITY INVENTORY: How do facilities obtain MgSO<sub>4</sub>?



■ Others e.g. NGOs

■ Client purchases it from the market when needed

■ Purchase from the market/local purchase

# Client exit interviews

- <16% women were asked about their medical history, gave urine sample, told about signs of pregnancy complications and where to go for pregnancy complications
- <33% women said provider explained what high BP means
- <20% women said provider explained what protein in urine means



# Women's knowledge of danger signs during pregnancy (multiple responses)

- Bleeding
- Headache
- Dizziness
- Blurred vision
- Swelling of face, legs
- High fever
- High BP, protein, swollen legs
- Baby not moving

# Summary

Providers know:

- Signs and symptoms of PE/E
- That  $\text{MgSO}_4$  is treatment of PE/E

But:

- They are not sure of dosage or when to treat
- They do not give women information
- Facilities do not have guidelines, consistent  $\text{MgSO}_4$  or essential equipment

# QUALITATIVE DATA– PRELIMINARY FINDINGS

Karen Kirk, Salisu Ishaku, Ayodeji B  
Oginni Gloria Adoyi, Amy Dempsey,  
Charlotte Warren  
August 24, 2015

# Policy awareness

“For the past few years, government has even brought in MgSO<sub>4</sub> and has given baseline training to health providers on how to use it.” (Director of medical services and training)

“Primary health care board has midwives in all hospitals. Nurses are trained to refer cases to nearest secondary facility before they become complicated. Delivery and CS are free in all government and MCH hospitals; reducing all delays.” (Director of nursing)

# Task shifting

“At the primary level where, if a case like this is detected, the loading dose of  $\text{MgSO}_4$  should be administered and a quick referral to a tertiary institution should be done. **But some of the primary facilities we have around here are not well equipped, and the people working there are not well trained.** So, they might not diagnose and refer immediately and sometimes the women presents in a bad state. By the time they run around and do one or two things, the patient might deteriorate.” (Labour ward nurse)

# Accessibility of essential drugs

“I will say that  $MgSO_4$  is readily available. It's available everywhere, it's in the hospital, it's in the pharmacy, it's everywhere and it's very accessible. But the affordability, I would say, it's not really very affordable for a poor man. Because for a loading dose, you need to administer three doses and it's quite expensive for a patient that doesn't really have much.” (Labour ward nurse)

# Procurement

“There are two sources. Open market purchases and ... the state MOH medical stores.” (Director of medical services and training)

“Pharmacy department [at the hospital] buys from the MOH. MCH hospitals get drugs from the MOH. It is procured by pharmacy.” (Director of nursing)

# Provider perceptions

“It will save the lives of many people out there who do not know what is really wrong with them. So, I feel the government, as we said should improve this and help women. **It is very important because when one life is saved, many lives are saved also.**” (Labour ward nurse)



# Community perceptions

“In our community, people think doctors can’t solve the problem, so they prefer the herbalist.” (FGD)

“Or you are seeking for a particular sex, every time, day and night, you will be thinking ‘I am going to have male child or female child,’ such a thing can lead to high blood pressure.” (Survivor)

# Survivor experiences

“I am 17 years old, and I was married 2 years ago. This is my first pregnancy and it is 9 months. I never attend ANC before, but I came to the hospital when I had severe headache for over two weeks, I became dizzy and fell down. I was taken to a hospital...I did not know what happened, but later the doctor told me that my BP was 250/150 ... I am OK now, but I lost my baby ”

## Survivor perceptions (cont'd)

“I only come to the hospital when am critically ill. I delivered twins, but I lost the first one. Drugs are very expensive, and my husband cannot afford to buy them and my relatives don't have anything. They said I need more blood but I did not get it yet, I am very weak, and have no food and no money to buy food.” (Survivor)

# Ideas. Evidence. Impact.



The Population Council conducts research and delivers solutions that improve lives around the world. Big ideas supported by evidence: It's our model for global change.