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Program on  
**Reproductive Health**  
and the **Environment**





# MIXED METHODS STUDY



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## Counseling Patients on Preventing Prenatal Environmental Exposures - A Mixed-Methods Study of Obstetricians

Naomi E. Stotland , Patrice Sutton, Jessica Trowbridge, Dylan S. Atchley, Jeanne Conry, Leonardo Trasande, Barbara Gerbert, Annemarie Charlesworth, Tracey J. Woodruff

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## **Objective**

Describe the attitudes, beliefs, and practices of U.S. obstetricians on the topic of prenatal environmental exposures.

## **Study Design**

A national online survey of American Congress of Obstetricians and Gynecologists (ACOG) fellows and 3 focus groups of obstetricians.

## **Results**

We received 2,514 eligible survey responses, for a response rate of 14%. The majority (78%) of obstetricians agreed that they can reduce patient exposures to environmental health hazards by counseling patients; but 50% reported that they rarely take an environmental health history; less than 20% reported routinely asking about environmental exposures commonly found in pregnant women in the U.S.; and only 1 in 15 reported any training on the topic. Barriers to counseling included: a lack of knowledge of and uncertainty about the evidence; concerns that patients lack the capacity to reduce harmful exposures; and fear of causing anxiety among patients.

## **Conclusion**

U.S. obstetricians in our study recognized the potential impact of the environment on reproductive health, and the role that physicians could play in prevention, but reported numerous barriers to counseling patients. Medical education and training, evidence-based guidelines, and tools for communicating risks to patients are needed to support the clinical role in preventing environmental exposures that threaten patient health.

# ACOG – quantitative survey

Over 24,000 ACOG fellows  
emailed

2,514 completed survey



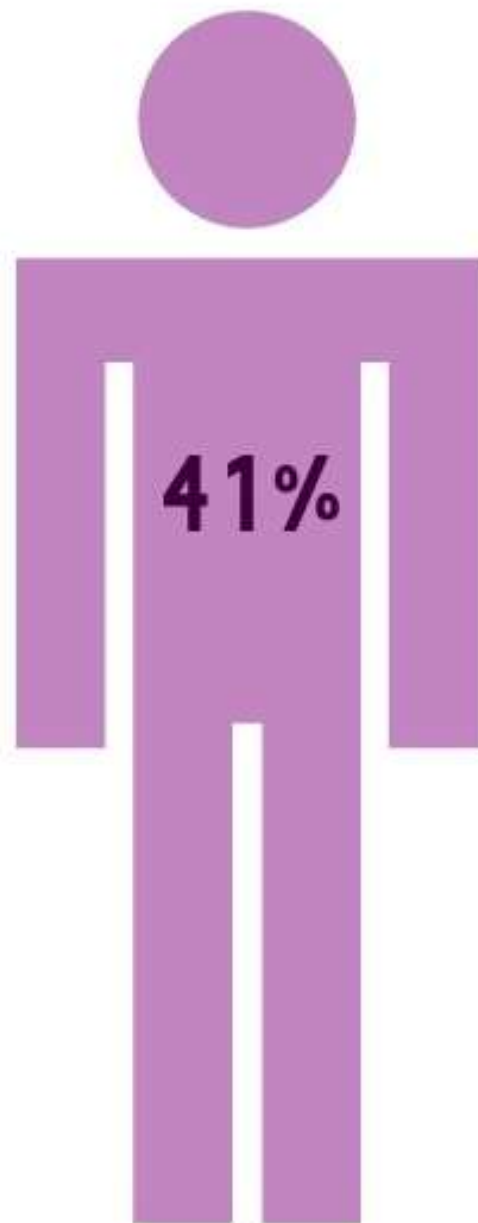
# Survey

\* 1. Please select one answer for each of the following questions

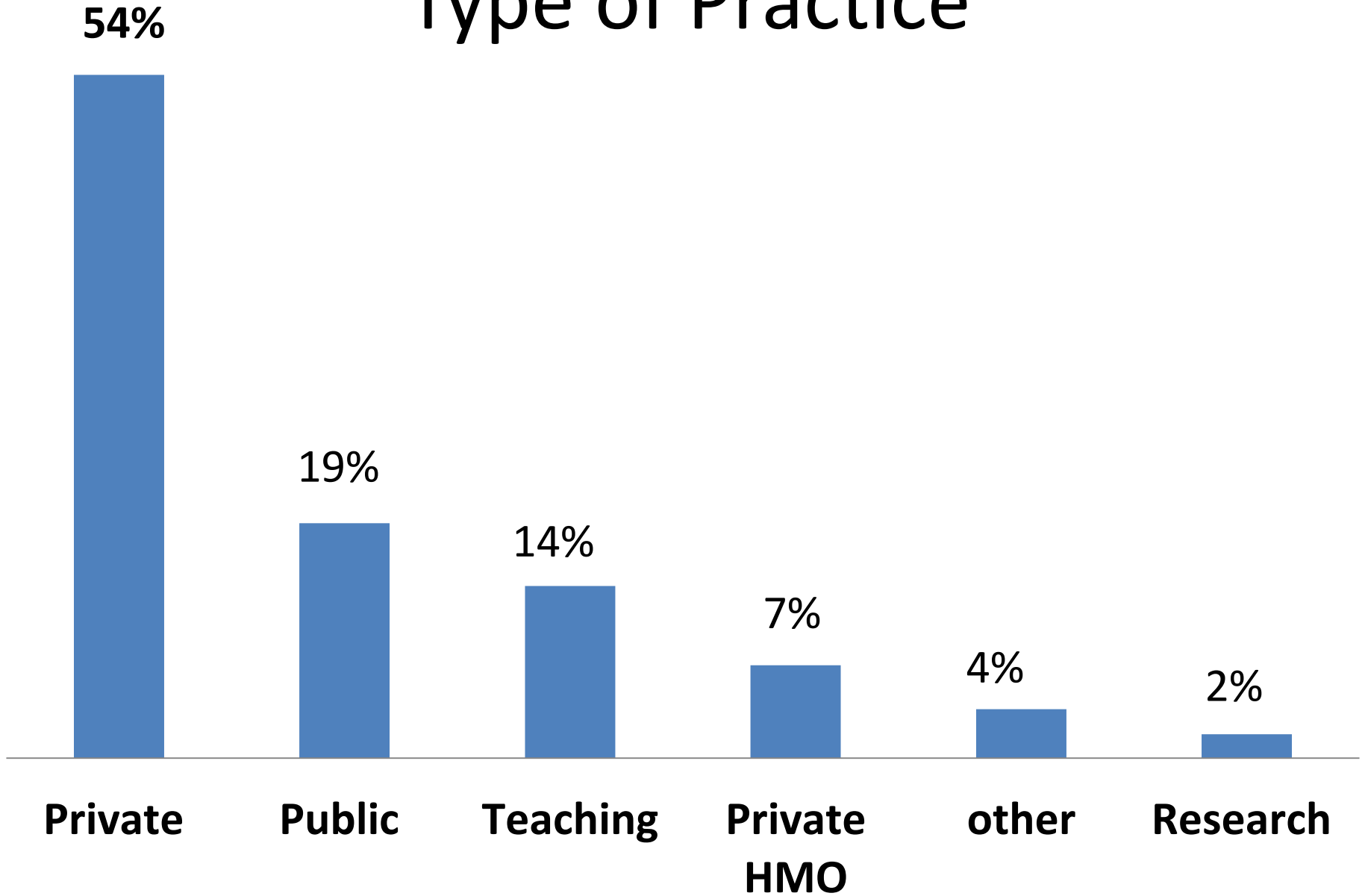
	of little importance				of great importance	I don't know
The role of environmental exposures during pregnancy is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The role of appropriate weight gain during pregnancy is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The role of cigarette smoking during pregnancy is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessing environmental exposures through history-taking in prenatal care is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



creasing I don't know



# Type of Practice





# Attitudes

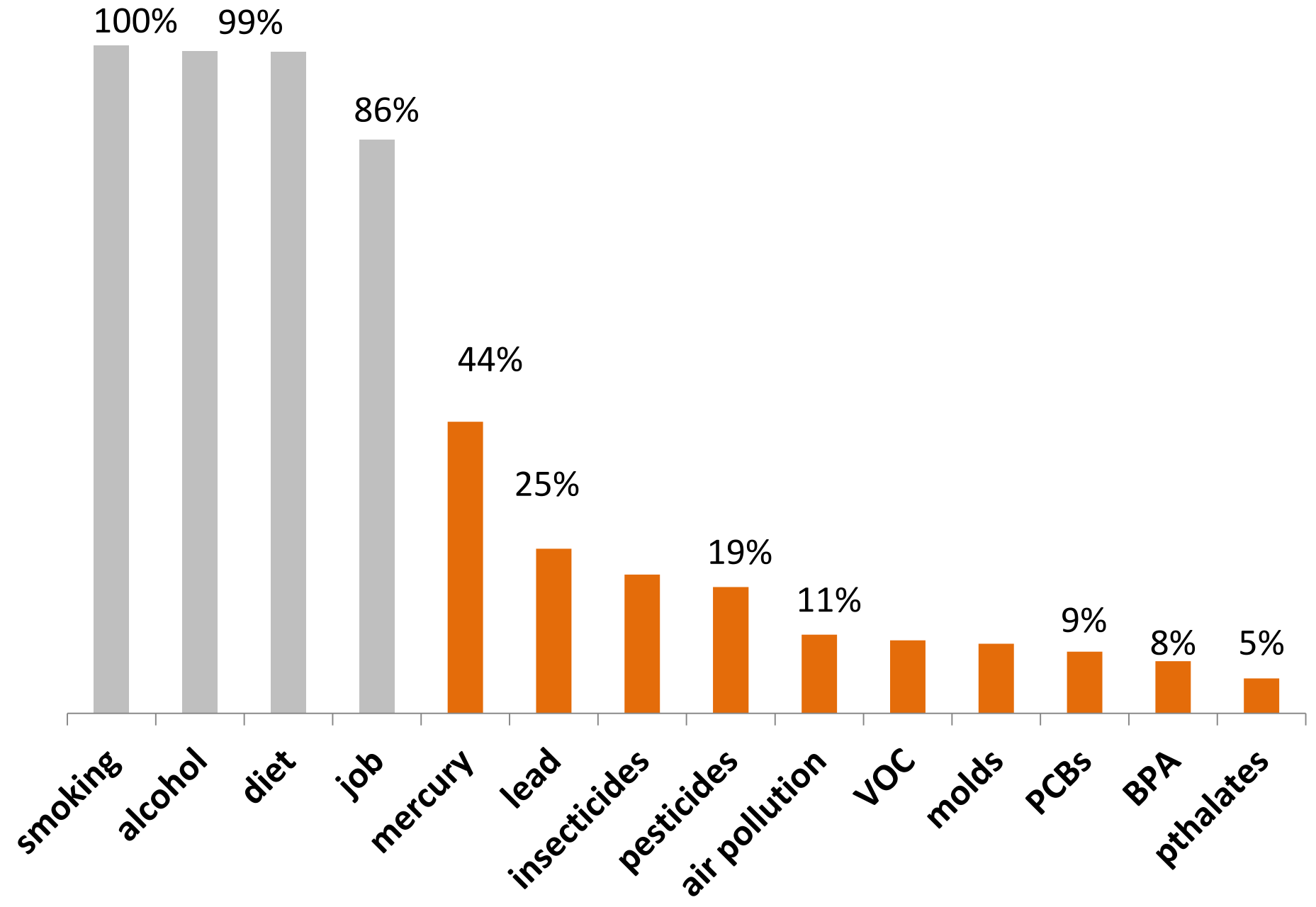
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**How confident you are in taking a history during prenatal care on:**

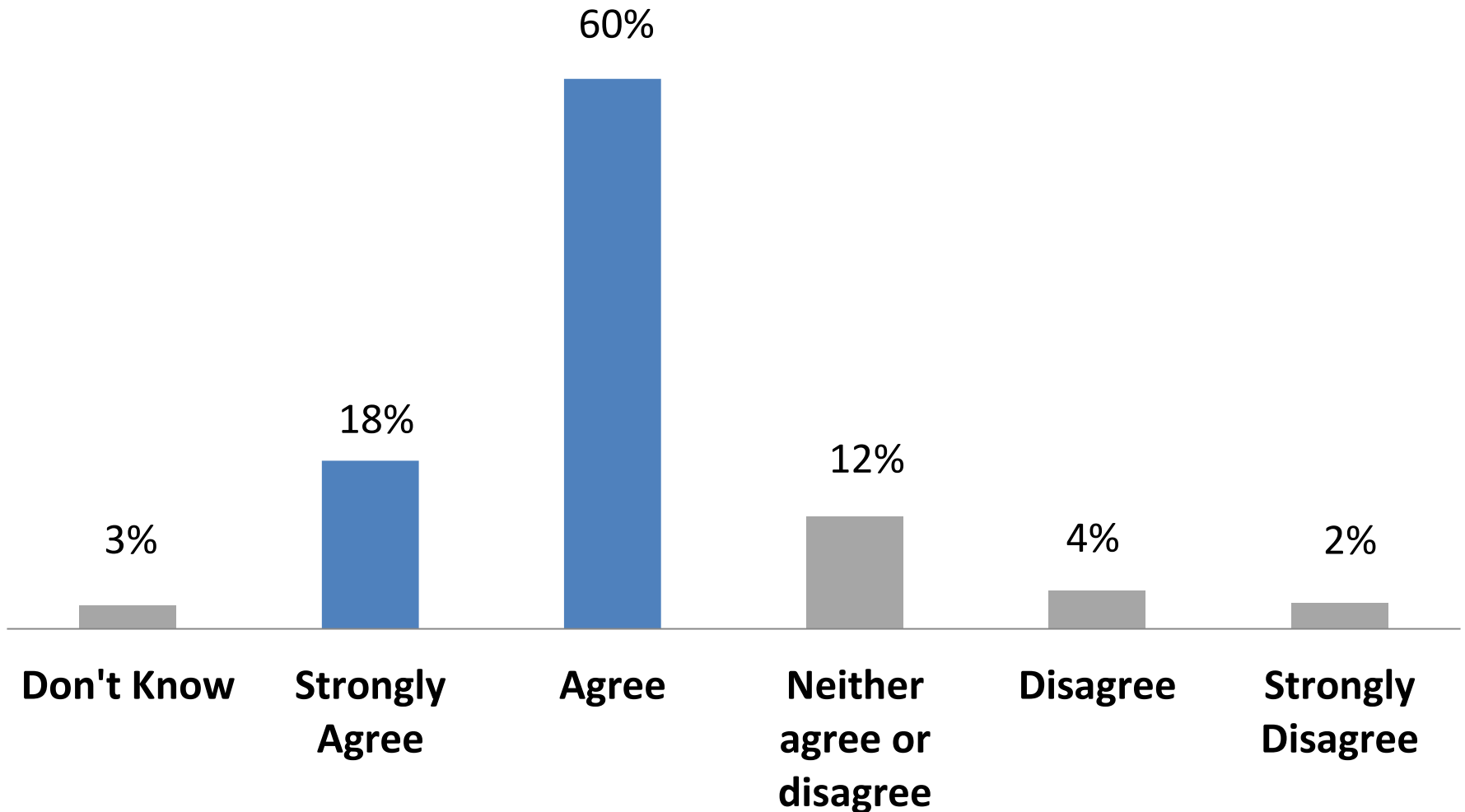
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	Mean
Cigarette Smoking	4.9 ( $\pm 0.4$ )
Lead exposure	3.1 ( $\pm 1.4$ )
Pesticide exposure	2.9 ( $\pm 1.4$ )
Mercury exposure	3.1 ( $\pm 1.4$ )
BPA exposure	2.1 ( $\pm 1.3$ )

# Do you routinely discuss as a part of prenatal care?

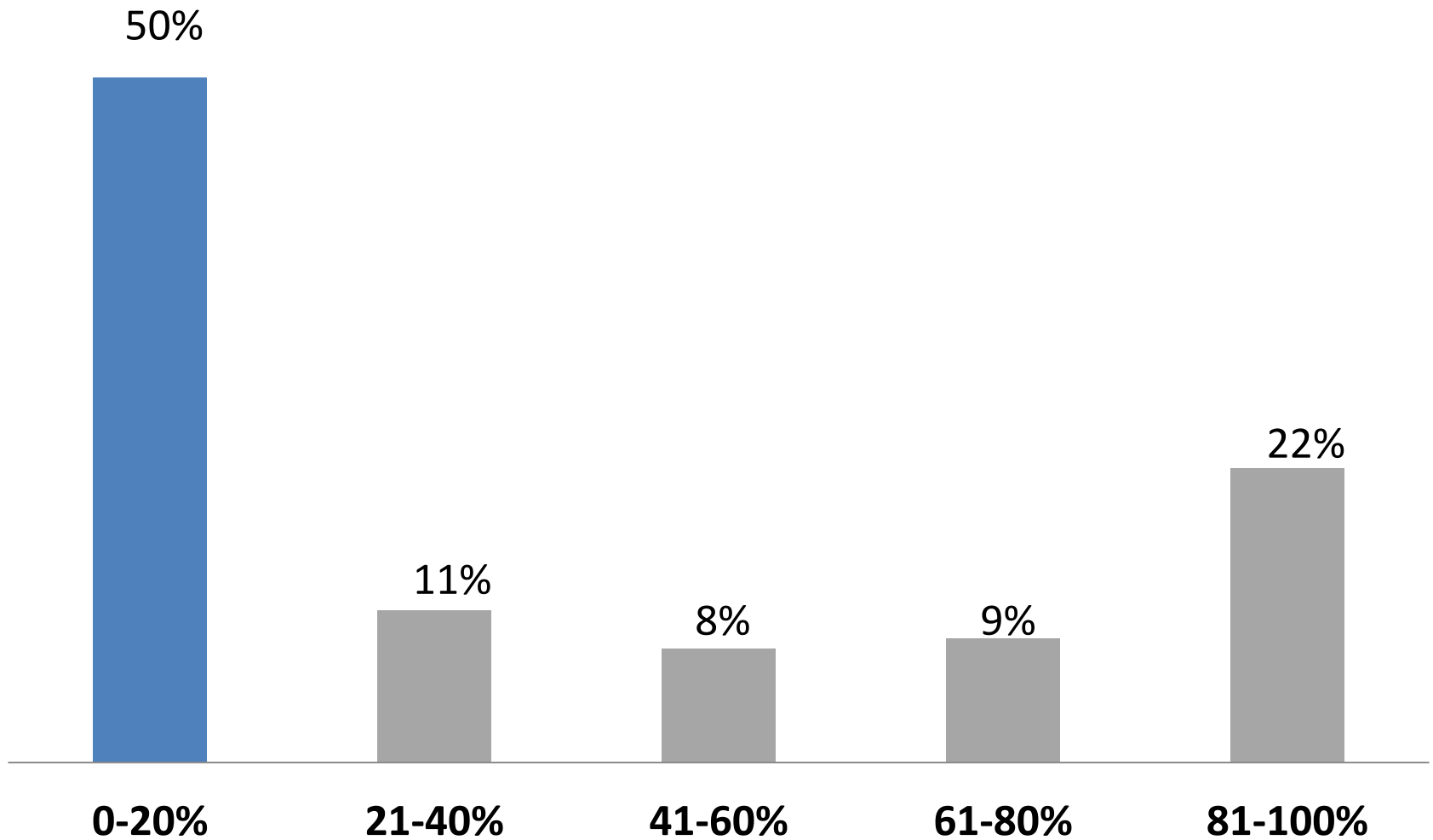


# Obstetricians can reduce patient exposure?

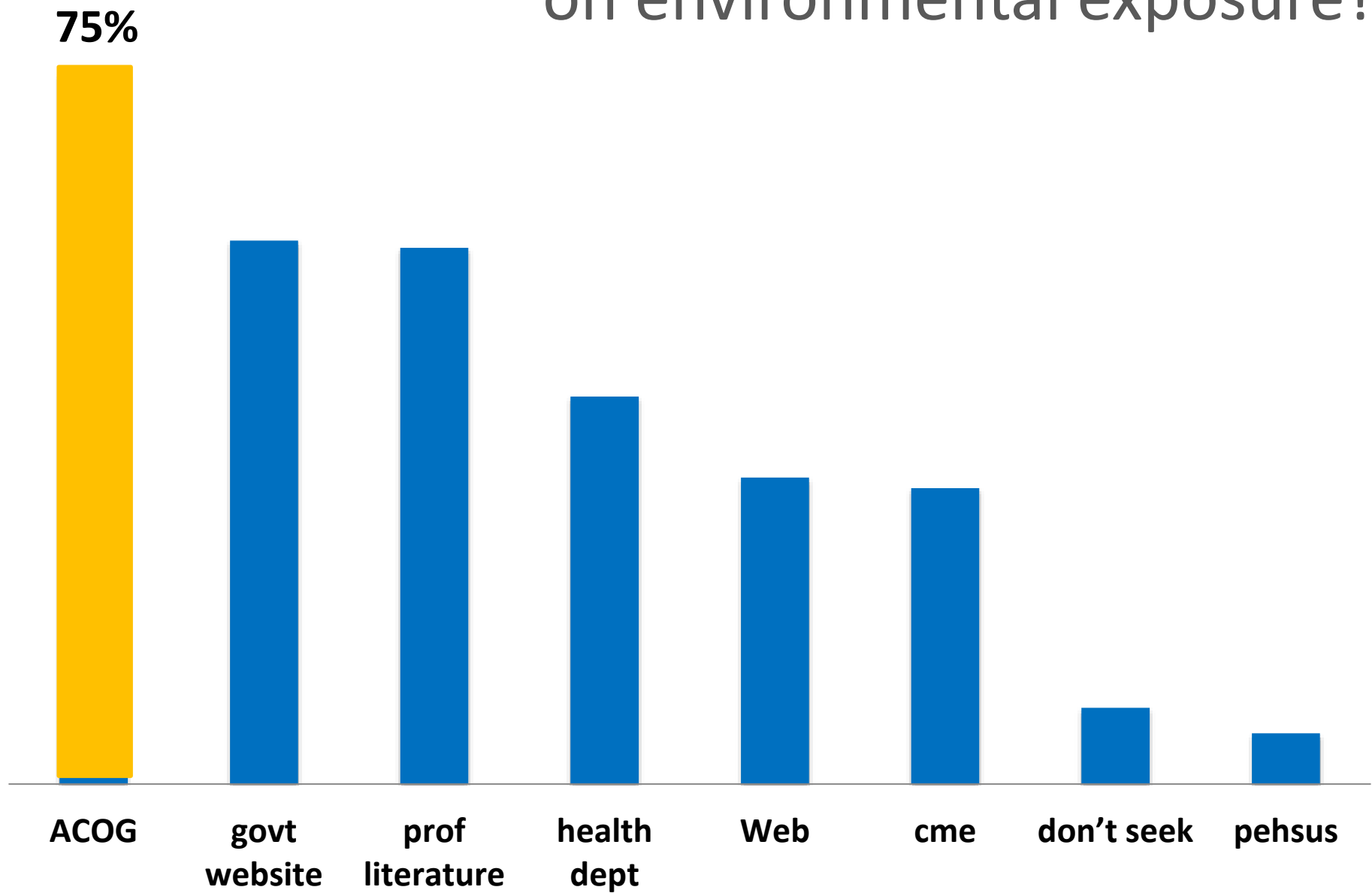


**Yet...**

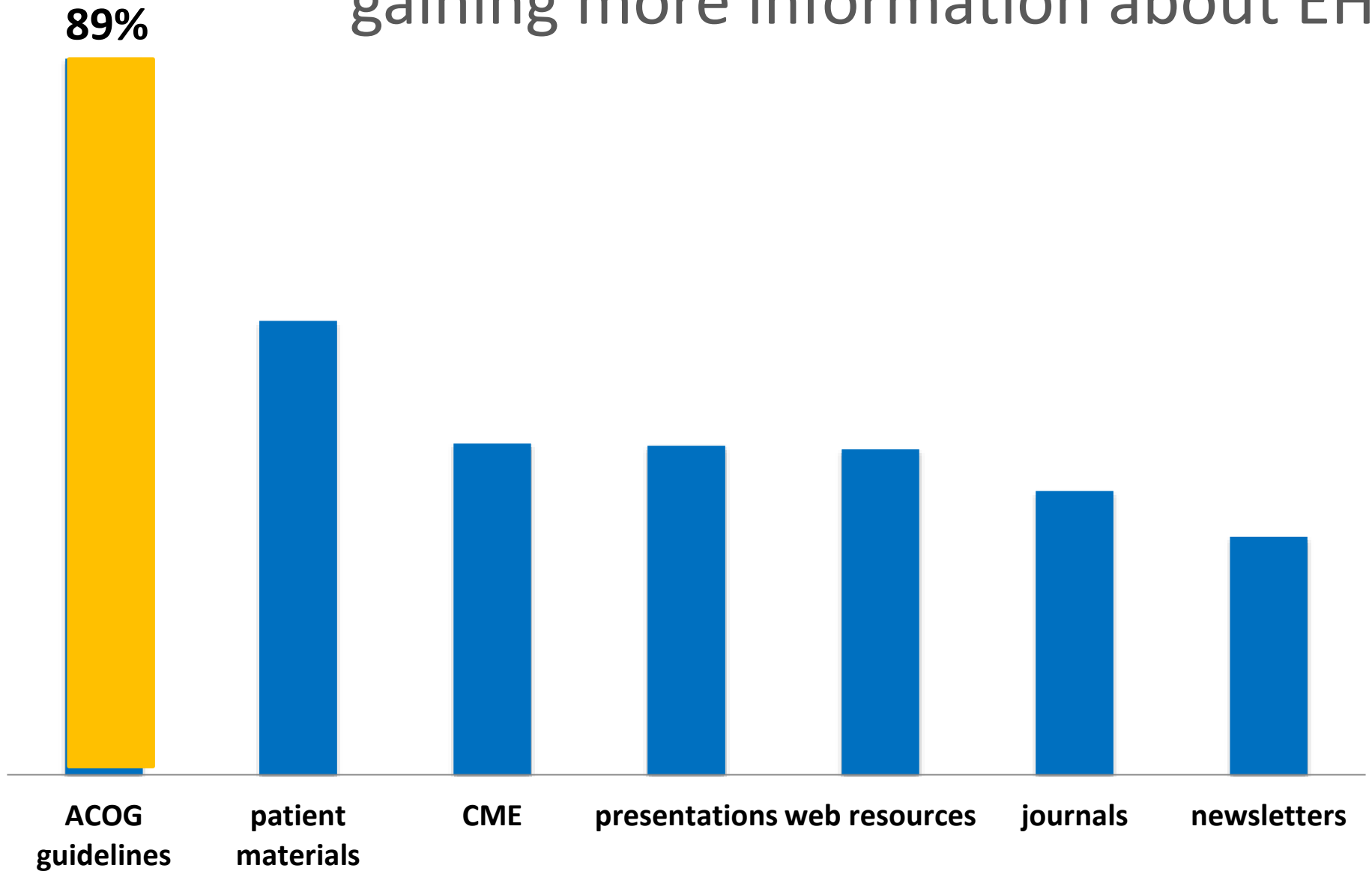
# What percentage of the time do you take an environmental health history?



# What sources do you trust for information on environmental exposure?



# Which would be most helpful to you for gaining more information about EH?



“it’s a little scary barrel to open because **I don’t have an answer.**”

(Female OB/Gyn)

“Pandora’s Box”





# “bigger fish to fry”

“I mean a lot of the time when you’re talking to the person and they’re sitting in the room and, **you know, they eat at Popeye’s four times a week, you have bigger fish to fry than some [environmental exposures]...** we don’t have enough information, you know?”

(Female OB/Gyn)



“If I freak out like, ‘**Whoa, look at that kid who’s drinking Coke out of a BPA bottle,**’ you know, it’s like which one of those things should I deal with, right?” (Female OB/Gyn)

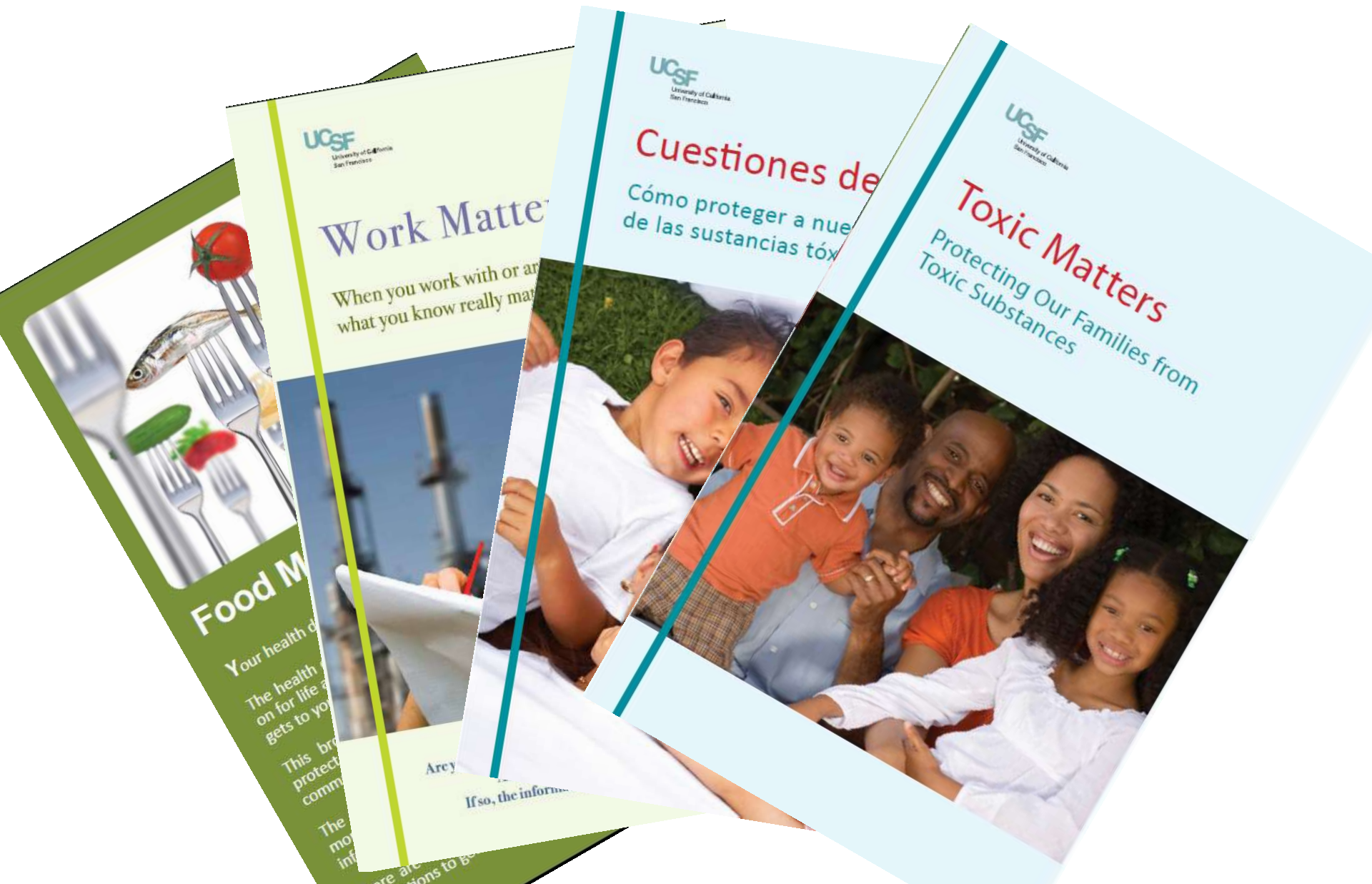
“bigger fish to fry”

# Uncertainty

“I think you have to know what’s fact and what’s fiction. You know, there has to be enough data about something to concretely say, “Look, this is bad for you because it causes *this, that and the other* in your pregnancy.” And there’s not that much concrete data about certain exposures. And so *in order to avoid causing anxiety or stress or hand-waving*, you don’t want to bring something up *unless you know for sure* it’s a problem. That’s a huge barrier, **just not knowing ourselves what’s important.**”

# STRATEGIES

# All That Matters



UCSF  
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## Work Matters

When you work with or around  
what you know really matters

UCSF  
University of California  
San Francisco

## Cuestiones de

Cómo proteger a nue  
de las sustancias tóx

UCSF  
University of California  
San Francisco

## Toxic Matters

Protecting Our Families from  
Toxic Substances

## Food Matters

Your health depends on  
the health of the food you eat

The health of the food you eat  
on for life and health  
gets to you

This brochure  
protects  
communities

The most  
important  
information

Arcy

If so, the information

EMR





# Information for Families

Resources to help your family reduce their  
environmental exposures



# Clinical Practice

Resources for health care professionals  
to promote environmental health



- [Work Matters: When You Work With or Around Toxic Chemicals, What You Know Really Matters](#)
- [Pesticides Matter: Steps to Reduce Exposure and Protect Your Health](#)
- [What to Eat: A Guide to Your Daily Food Choices](#)

To get out more information about the tips in these brochures, visit our [Family Resources page](#).

## OBSTETRICS

## Toxic environmental chemicals: the role of reproductive health professionals in preventing harmful exposures

Patrice Sutton, MPH; Tracey J. Woodruff, PhD, MPH; Joanne Perron, MD; Naomi Stotland, MD; Jeanne A. Conry, MD, PhD; Mark D. Miller, MD, MPH; Linda C. Giudice, MD, PhD

Among the US population, current indicators of reproductive adversity include a decline in the age of the onset of puberty,<sup>1</sup> declines in fertility and fecundity,<sup>2,3</sup> increased rates of poor birth outcomes (such as babies born prematurely<sup>4,5</sup>), increased rates of small for gestational age infants,<sup>6</sup> increased rates of certain birth defects,<sup>7</sup> and increased rates of childhood diseases (such as autism,<sup>8</sup> certain types of cancer,<sup>9</sup> and obesity<sup>10</sup>), and declines in life expectancy

Every pregnant woman in the United States is exposed to many and varied environmental chemicals. Rapidly accumulating scientific evidence documents that widespread exposure to environmental chemicals at levels that are encountered in daily life can impact reproductive and developmental health adversely. Preconception and prenatal exposure to environmental chemicals are of particular importance because they may have a profound and lasting impact on health across the life course. Thus, prevention of developmental exposures to environmental chemicals would benefit greatly from the active participation of reproductive health professionals in clinical and policy arenas.

**Key words:** environmental chemical, reproductive environmental health, toxic chemical



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# Questions?



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