

Pathways to Implementation of the NRC Recommendations

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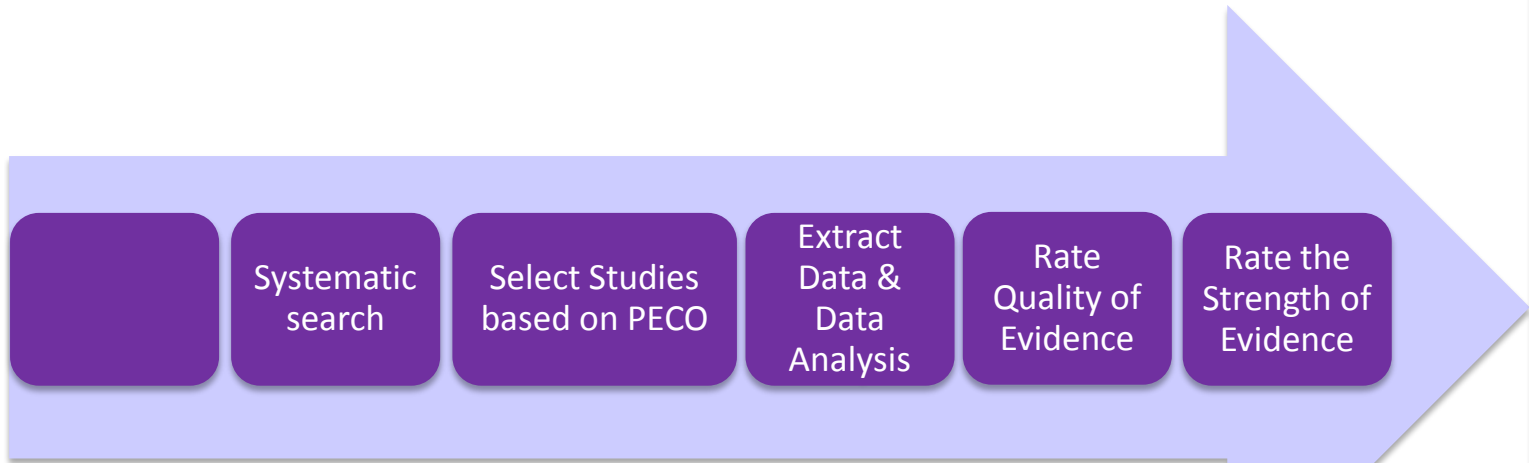
Program on Reproductive
Health and the Environment



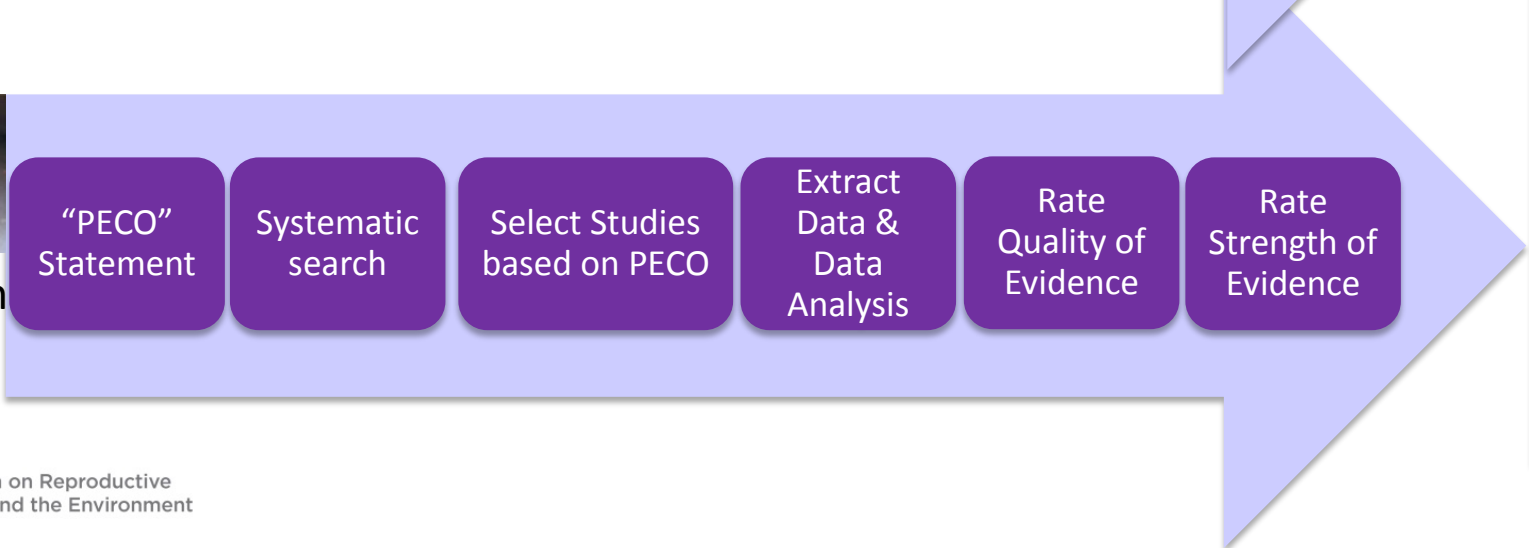
Identify evidence more transparently and efficiently



Human Data



Non Human Data



Overall Conclusion



Rate Quality of Evidence

- Risk of Bias



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

- Rating quality of evidence

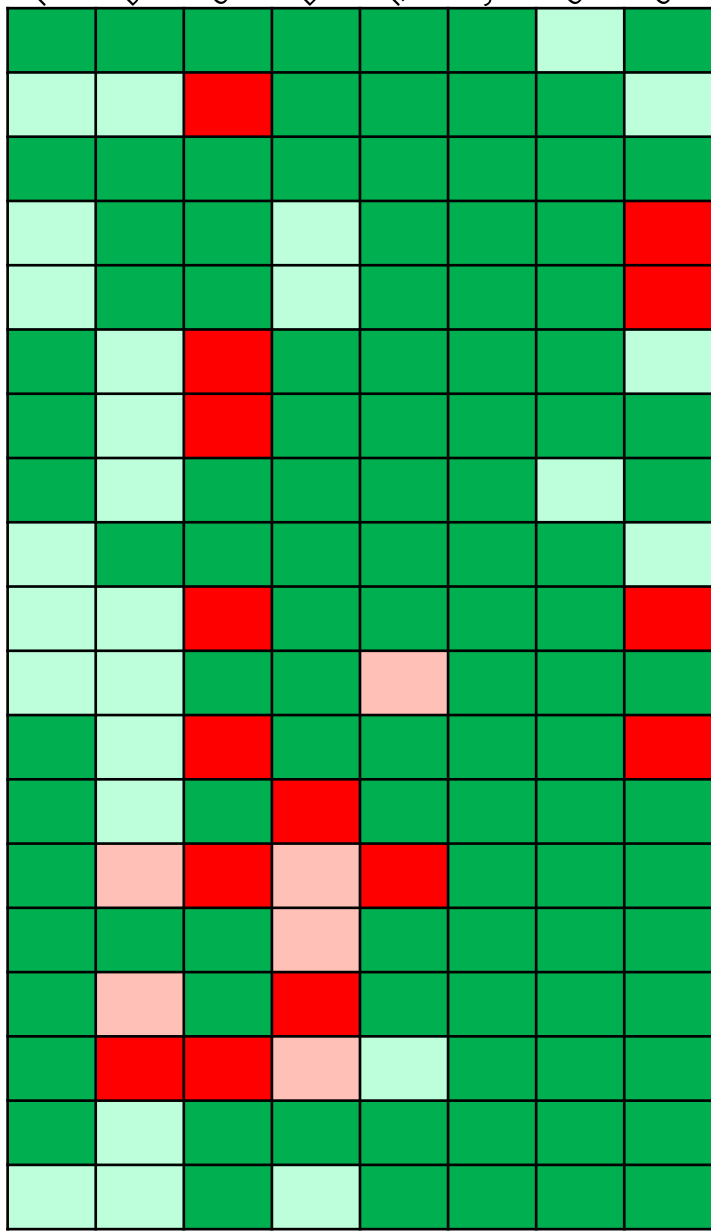


Figure 1. Evaluating Study Quality and Strength of Evidence



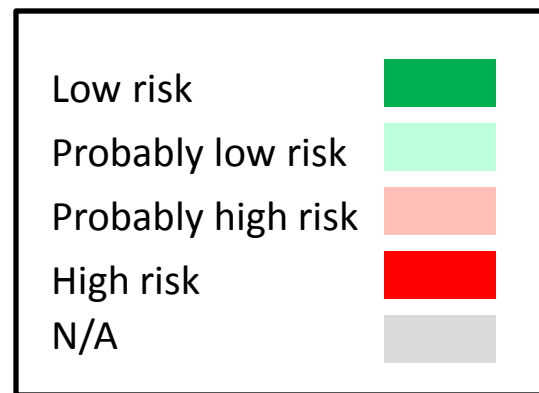
Recruitment Strategy
 Blinding
 Confounding
 Exposure assessment
 Incomplete outcome data
 Selective outcome reporting
 Other sources of bias
 Conflict of Interest

Apelberg et al. 2007
 Arbuckle et al. 2012
 Chen et al. 2012
 Fei et al 2008
 Fei et al. 2007
 Fromme et al. 2010
 Halldorsson et al. 2012
 Hamm et al. 2010
 Kim S. et al. 2011
 Kim S.K. et al. 2011
 Maisonet et al. 2012
 Monroy et al. 2008
 Nolan et al. 2009
 Savitz et al. 2012a
 Savitz et al. 2012b (study 1)
 Savitz et al. 2012b (study 2)
 Stein et al. 2009
 Washino et al. 2009
 Whitworth et al. 2012

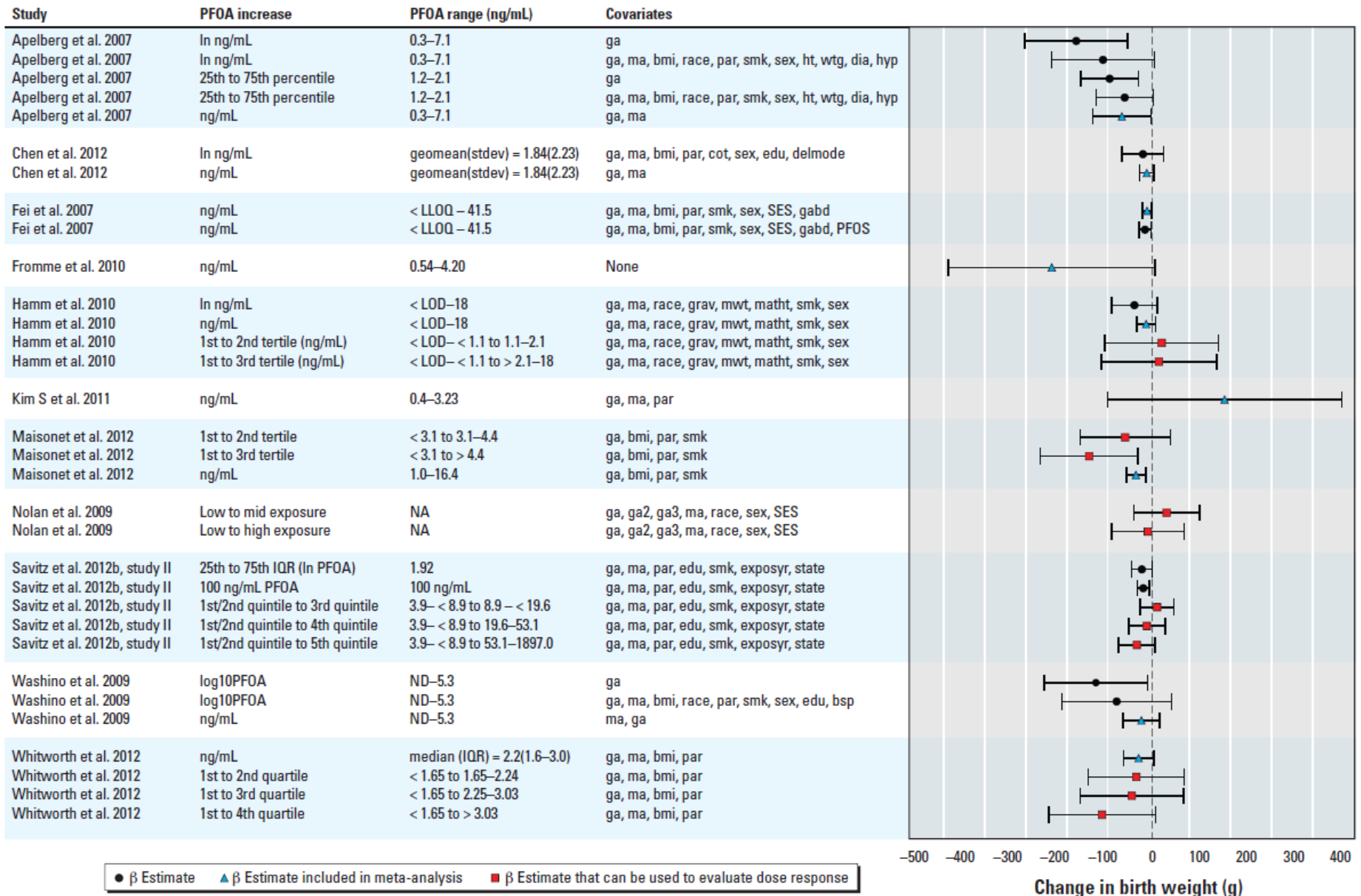


Results: Risk of Bias Human Evidence N=19

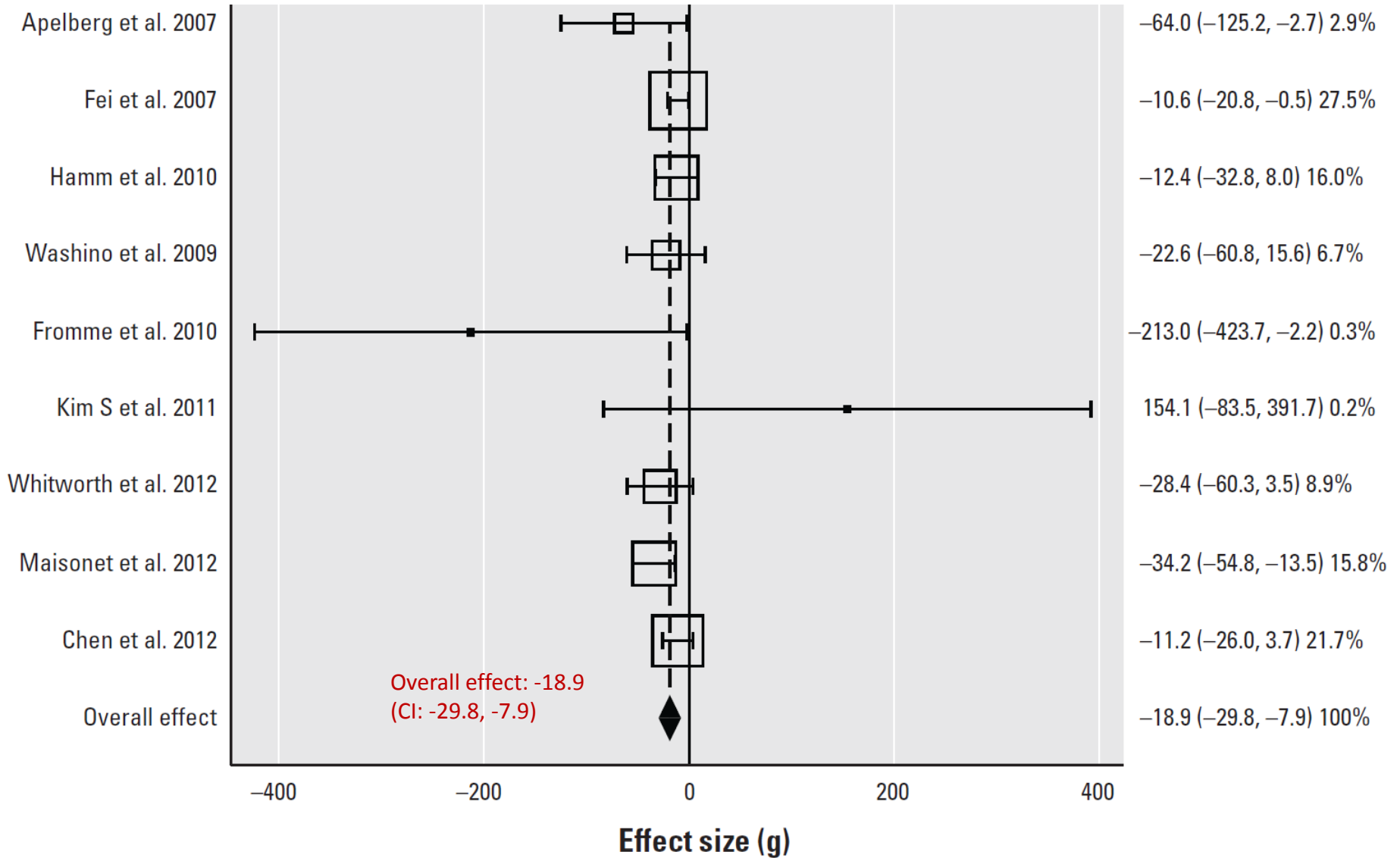
For individual studies (N=19)



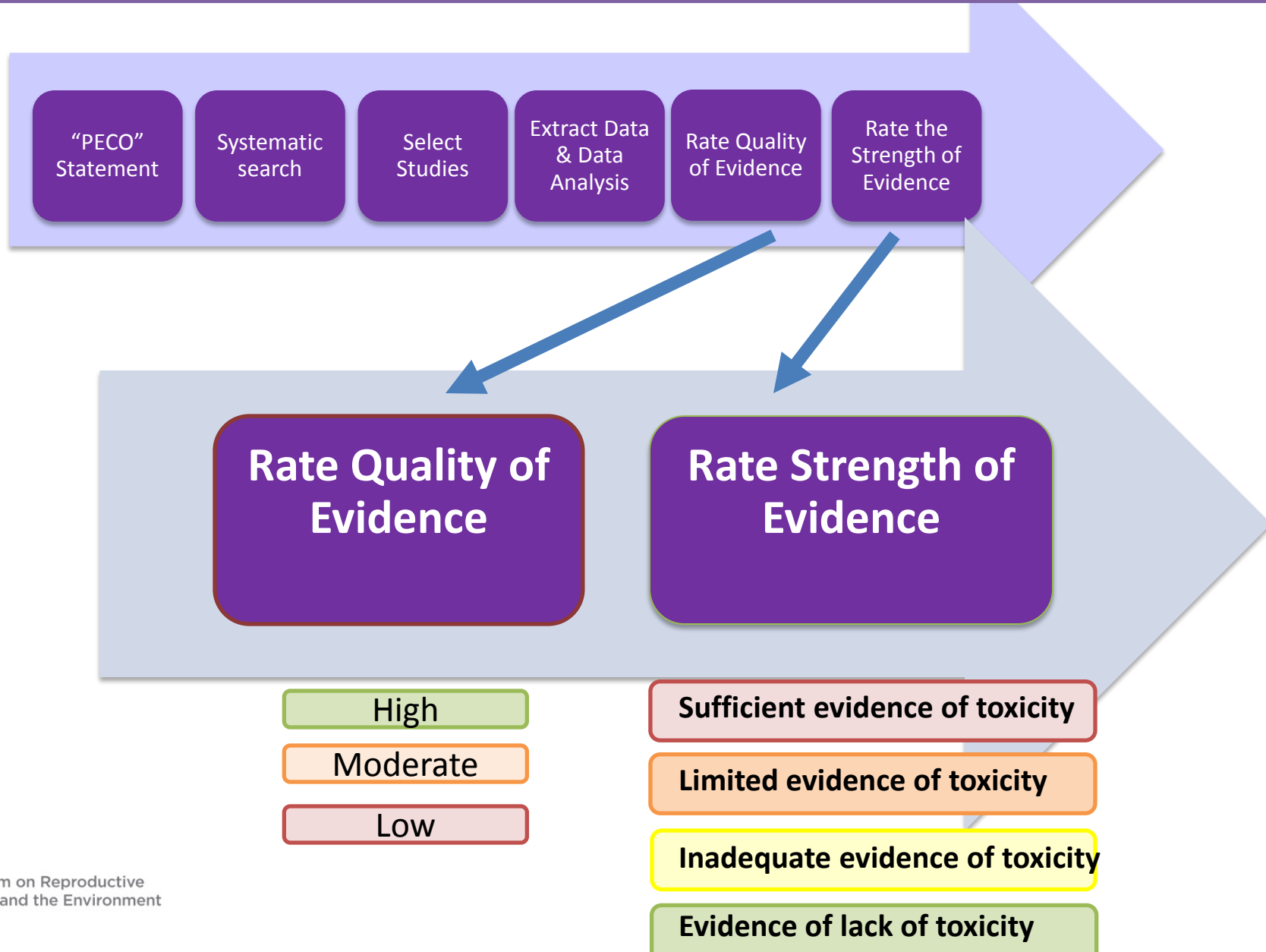
Individual Studies for PFOA & BW



Meta-analysis for Birth Weight (n=9 studies)



Rate the Quality and Strength of the Evidence



Summary of Quality of Evidence for PFOA



		Evidence Stream	
		Human	Non-human mammalian
Downgrade	Starting rating	Moderate	High
	Risk of Bias	0	-1
	Indirectness	0	0
	Inconsistency	0	0
	Imprecision	0	0
Upgrade	Publication bias	0	0
	Large magnitude effect	0	N/A
	Dose response	0	N/A
	All possible confounding would confirm negative result	0	N/A
Grade		0	-1
Final rating		Moderate	Moderate



Strength of Evidence

Human Evidence = “Sufficient”

CRITERIA:

1. Quality of evidence: **Moderate**
2. What is the direction of effect? **Decrease in fetal growth with PFOA exposure**
3. What is the confidence in the effect? **A new study would be unlikely to change the certainty in the direction of the effect**
4. Are there other compelling attributes of the data that influence certainty?

Sufficient evidence of toxicity

The available evidence includes consistent results from well-designed, well-conducted studies and the conclusions are unlikely to be strongly affected by the results of future studies. A positive relationship was observed between exposure and outcome where chance, bias and confounding can be ruled out with reasonable confidence.

Used criteria and considerations used by IARC, the U.S. Preventive Services Task Force, and U.S. EPA for

Summary of Recommendations for Systematic Review Methods

1. Doable!
2. Protocol (prespecified approach) is essential
3. Apply consistent, systematic approach for evaluating each evidence stream separately, then integrate
4. Build off existing methods for a structured, complete and transparent methodology for integrating evidence:
OHAT/ Navigation Guide/GRADE
5. Support infrastructure and research



Thank you



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San Francisco

