UNIVERSITY OF LOUISVILLE
SCHOOL OF PUBLIC HEALTH & INFORMATION SCIENCES

EE173

COST-EFFECTIVENESS OF WIC ELIGIBILITY EXTENSION IN PREVENTING MATERNAL POSTPARTUM DEPRESSION FROM **US** PAYERS' PERSPECTIVE

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BACKGROUND

One in eight women in the United States is affected by postpartum depression (PPD).[1]
This form of depression accounts for 23% of pregnancy-related deaths and is associated with impaired maternal bonding and child developmental problems.[2]

Medicaid spent **$762 per mother** on treatments in 2017 on PPD excluding societal costs imposed by PPD.[2]

RESEARCH QUESTION

Is the eligibility expansion of the Special Supplemental Nutrition for Women, Infant and Children (WIC) program a cost-effective approach in preventing maternal PPD?

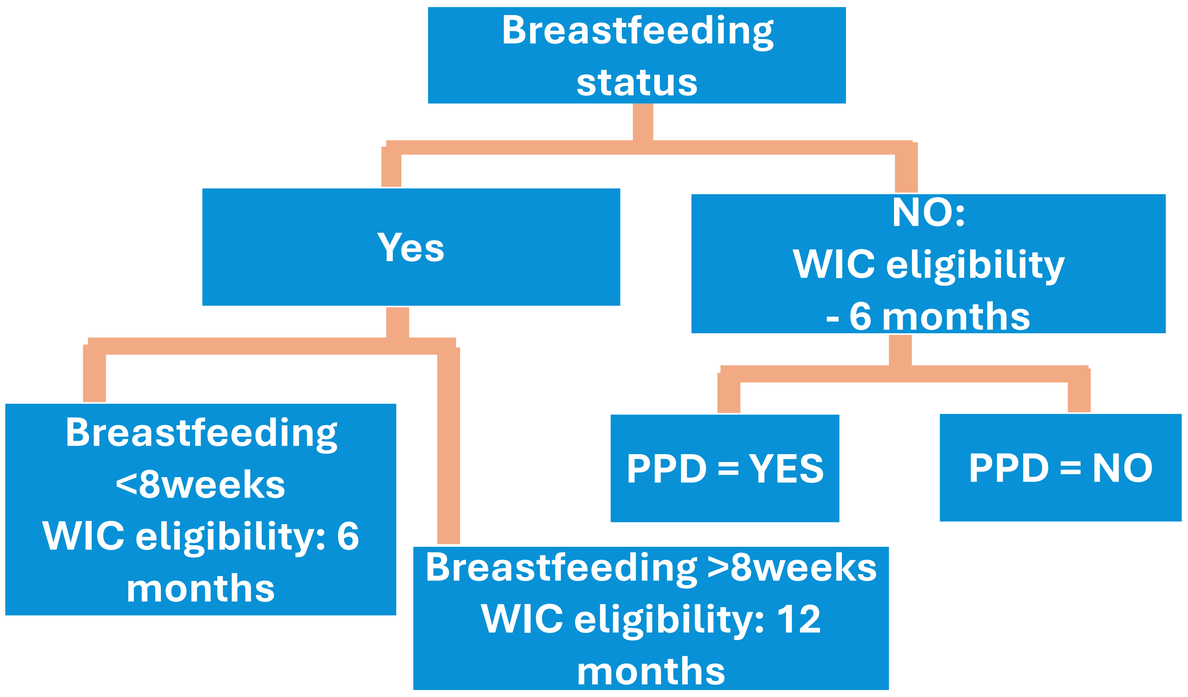
METHODS

➡**Perspective:** US payers (US Department of Agriculture & Medicaid)

➡**Alternative courses of action:**

1. Do Nothing.
   Maintain WIC eligibility at 6 months
2. Extend WIC eligibility to 12 months

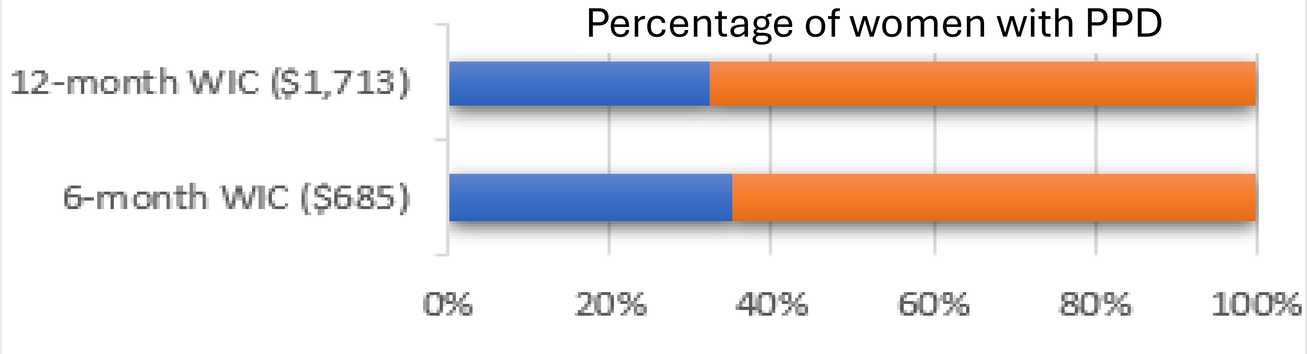
➡ **Data:** Pregnancy Risk Assessment Monitor – ing System (PRAMS): a national cohort of 11,387 mothers, collected between 2016 – 2022.



Identifying WIC eligibility based on breastfeeding status

Measure of cost	Measure of effect
USDA's expended cost of WIC per mother, at 6 and 12 months	The likelihood of reporting PPD from an adjusted logistic regression

RESULTS



	6-month WIC ($685)	12-month WIC ($1,713)
PPD	2472	1412
No PPD	4535	2968

Number of women by PPD status and WIC eligibility

Association between WIC eligibility and PPD *(95% CI)*

Variables	%Likelihood of reporting PPD	AOR	CI (%Likelihood)	CI (AOR)
WIC Status	-0.023**	0.890**	-0.05 – 0.00	0.79 – 1.00
No (Reference)	(0.012)	(0.055)		

Cost estimation

Cost of WIC for 6 months (USD)	Cost of WIC for 12 months (USD)
Capital costs = 385 WIC food = 183 NSA =117 **Total cost = 685**	Capital costs = 768 WIC food = 584 NSA =361 **Total cost = 1,713**

Incremental Cost effectiveness Analysis

➡ $$\text{ICER} = \frac{\Delta C\ (12\ vs\ 6 months)}{\Delta E(\%Likelihood\ of\ PPD)}$$

$$(\$1{,}713 - \$685) \div 2.3 = \$446.96$$

➡ **1% - point reduction in PPD** = 0.01 * 11,387 = 114

➡ **Cost per woman** = $446.96 ÷ 114 = $3.9

Therefore, **$446.96** is spent to prevent 114 women in a population of 11,387 women at risk, from maternal PPD. This translates to an expense of **$4 per woman** to prevent PPD

CONCLUSION/POLICY IMPLICATIONS

An expense of $4 per woman is remarkably low given a monthly cost of over $700 on PPD treatment, per woman. Considering cost-effective impact on PPD and given other associated outcomes of the WIC program, the effect of expanding WIC eligibility for new mothers is underestimated, making a case for program consolidation.