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The cost-effectiveness of first trimester screening and early preventative use of aspirin in women at high risk of early pre-eclampsia

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Hawkins TL, Johnson J, Hyett J, Metcalfe A.



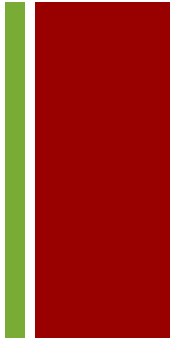
+ No conflicts of interest to declare.



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Background

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- Pre-eclampsia (PE) is a leading cause of maternal-fetal morbidity and mortality
 - Associated with high healthcare costs
- Early PE (<34 weeks): ↑ adverse outcomes
- FMF multimarker screening algorithm in T-1 predicts women at high risk of early PE^{1,2}
- Initiation of ASA at 11-13 weeks reduces prevalence of early PE³



Objective

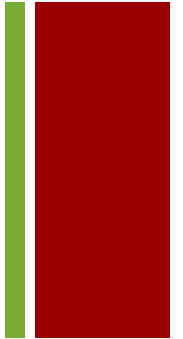
- To evaluate the **cost effectiveness** of a T1 screening program coupled with early use of low dose aspirin in women identified as high risk of early PE compared with current practice



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Methods

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- Decision Analysis
- Theoretical population of live births in Canada/year (n=386,400)
- Decision model comparison:
 1. Current practice
 2. 1st Trimester Screening + ASA
- Probabilities & cost estimates based on published data
- Outcomes:
 - Clinical outcomes: # Cases of PE Prevented
 - Maternal health care costs (CAD\$)
- Sensitivity analysis performed

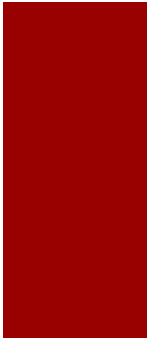
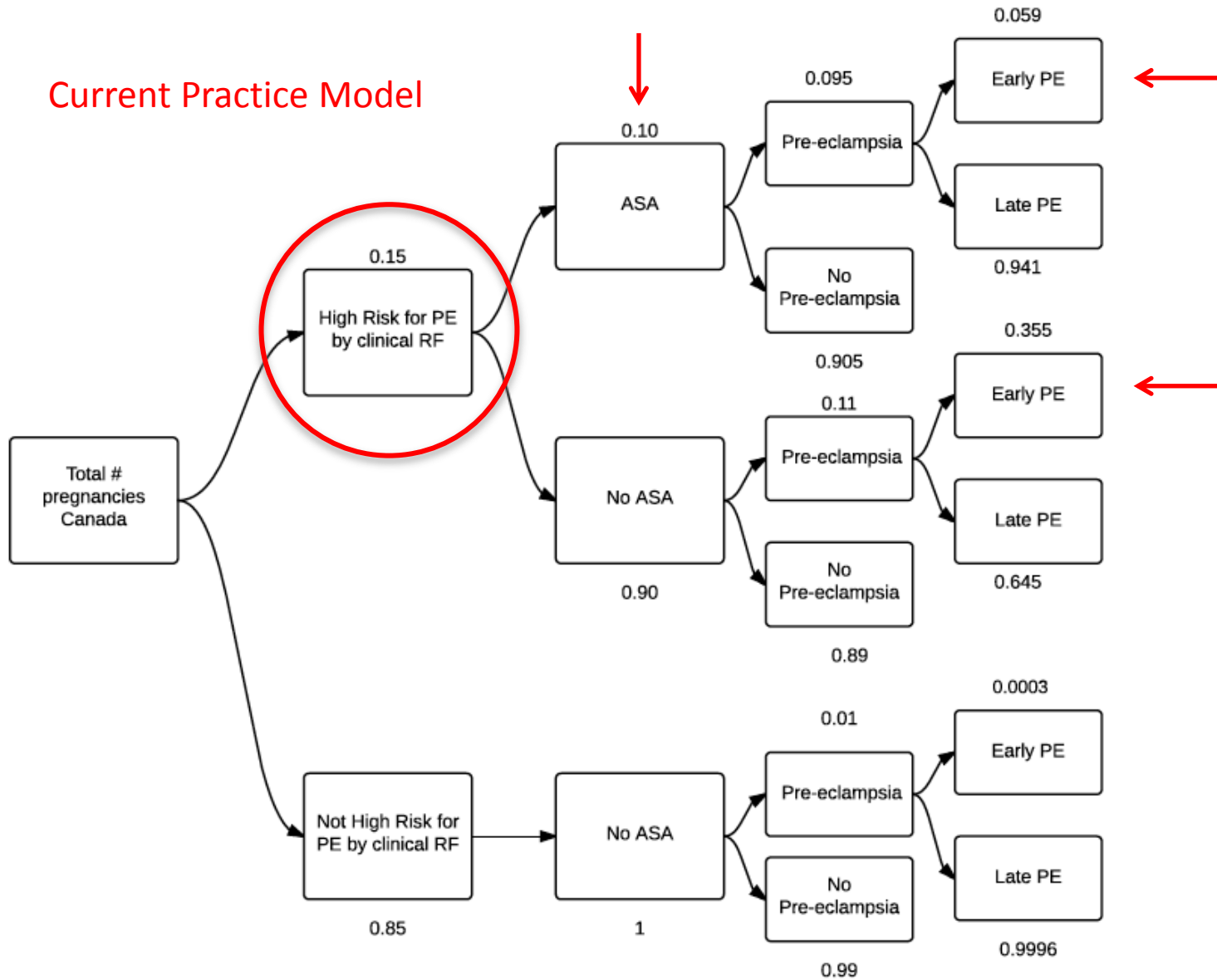


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Results

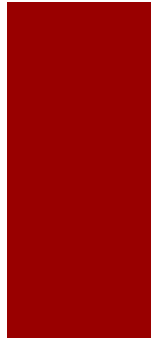
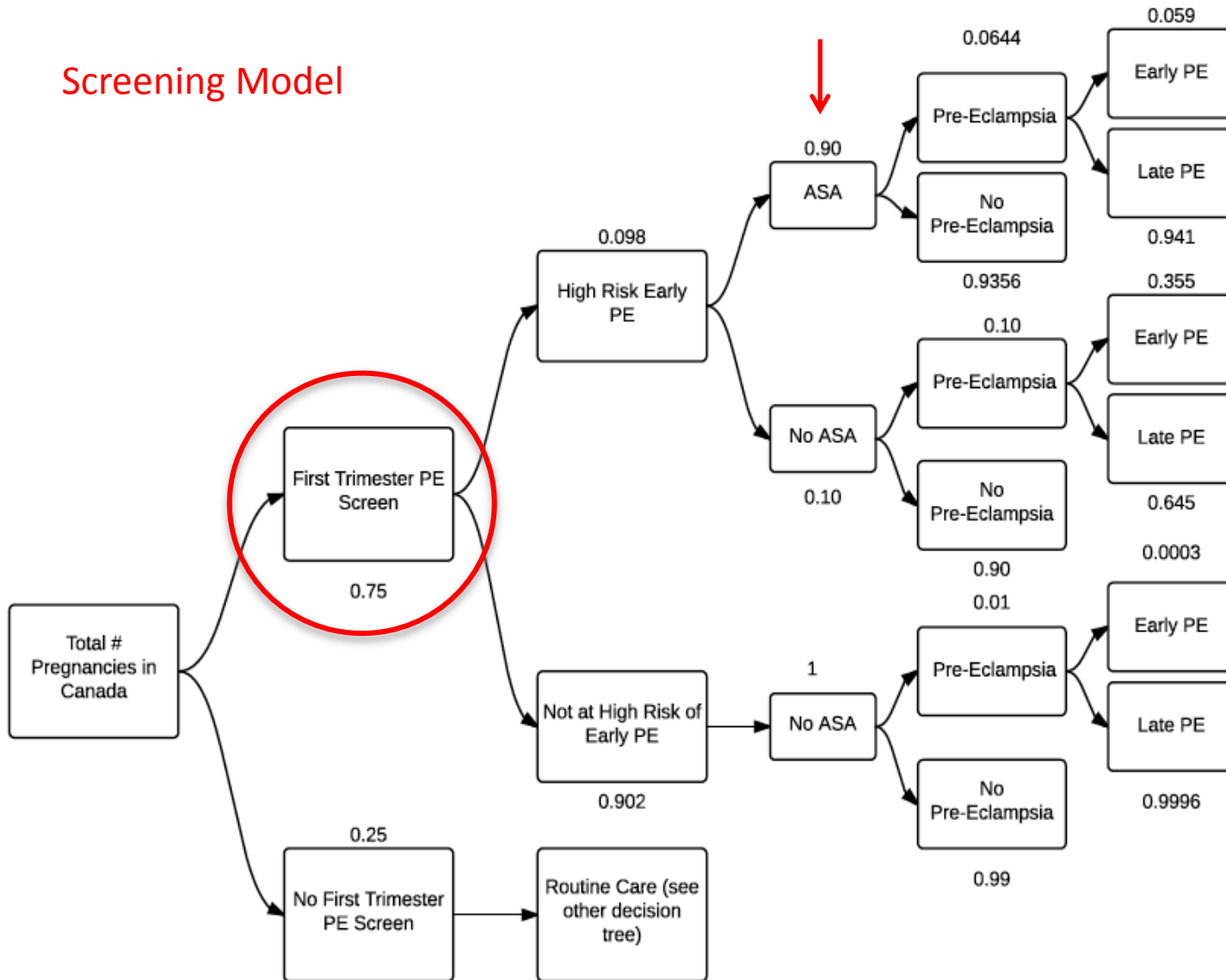


Current Practice Model





Screening Model



+ Results

	Current Practice Model	Screening + ASA Model
Estimated Prevalence of Early PE	2068 (0.5%)	716 (0.2%)
Associated Maternal Cost (CAD\$)	\$24,465,320	\$8,580,403



1352 Cases Prevented/Year (P<0.001)



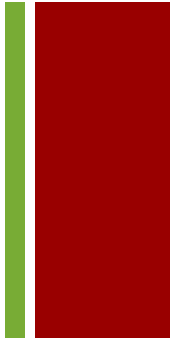
\$15,884,917 CAD Saved/Year (64.9% cost savings)





Conclusions

+ Conclusion



- PE multimarker screening program coupled with ASA intervention is **Cost Effective**
- Clinical and financial benefits gained from this approach
- Steps should be taken towards implementing this preventative screening program on national & global levels



Questions/Discussion

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