



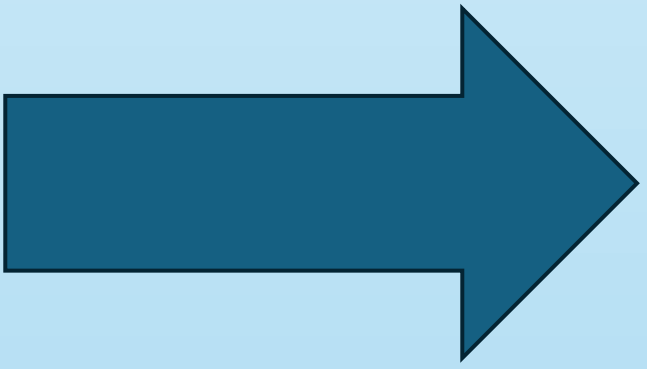
Universal preeclampsia screening in the NHS with the FMF algorithm

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Screening for Preeclampsia in UK :

- NICE** advises screening for preeclampsia (PE) by maternal characteristics at booking (1).
- Aspirin is then offered at a dose of 75-150mg as secondary prevention.
- The Fetal Medicine Foundation (FMF) has developed a multifactor algorithm to screen for PE that is more accurate than screening by maternal characteristics alone(2).
- The National screening committee has advised further work to assess the feasibility, cost and patient acceptance of this method (3).



Aspirin:

- Aspirin can prevent preterm PE (4) but to achieve the greatest impact need to:
 - Start treatment early <16 wks.
 - Achieve good compliance.
 - Accurately predict the patients most likely to develop PE in order to offer secondary prevention.
- Correct dose? -evidence that 150mg more effective than 75mg (5).

Methods:

- All singleton pregnancies offered FMF screening at out trust since Jan 2022
- Accuracy of screening compared to NICE screening by maternal characteristics alone.
- Obstetric outcomes compared to a cohort of women prior to the introduction of screening.

Results:

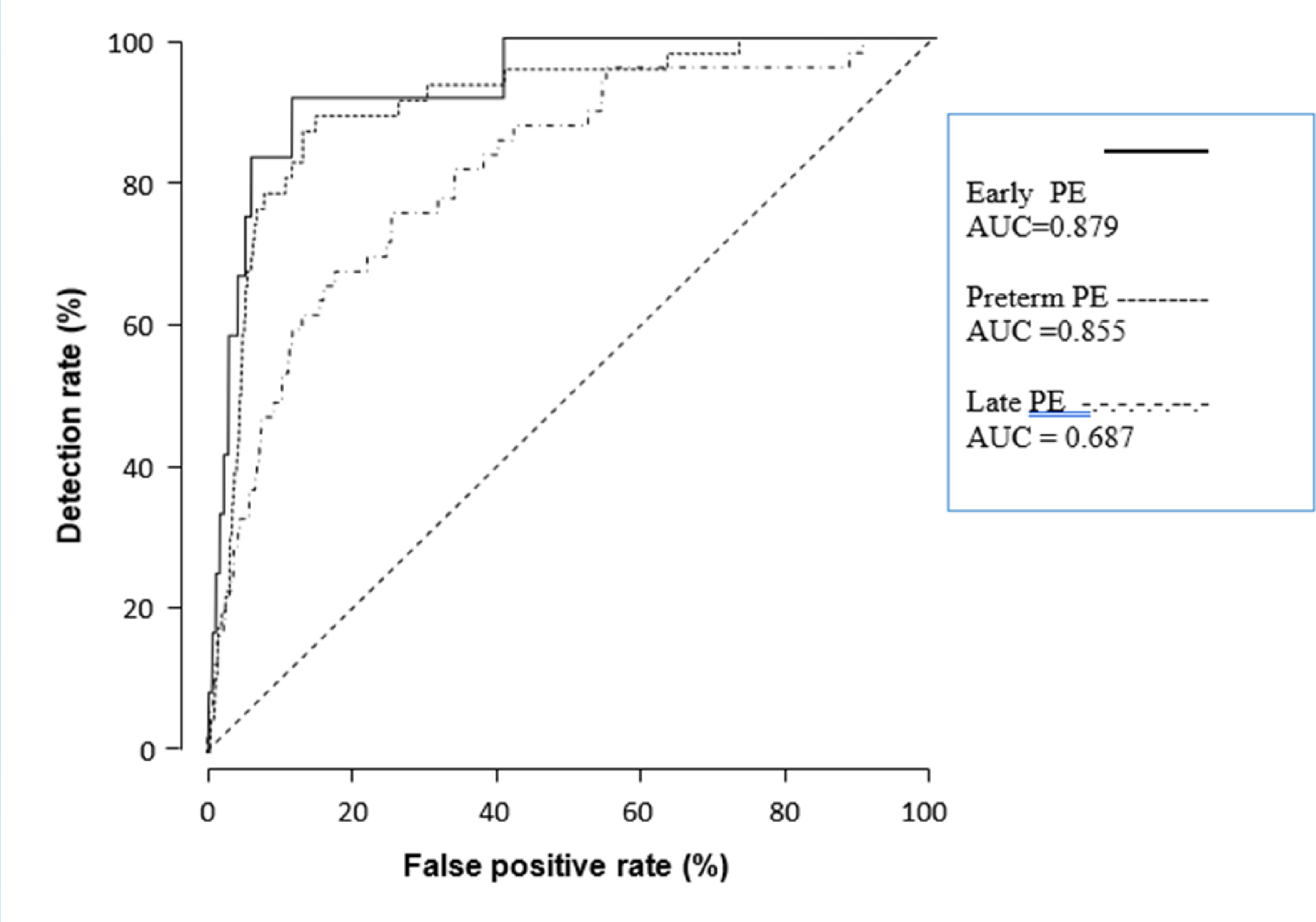
- The uptake of screening in our population was 99.95% (7462/7466).**
- FMF based screening was significantly more accurate at predicting all preterm PE in spite of a lower screen positive rate.
- At present reductions in rates of preterm PE in our trust are not statistically significant

Preeclampsia	NICE	FMF screening	P value
Prediction of early onset PE	2/12 (16.6%)	10/12 (83.3%)	0.004
Prediction of all preterm PE	13/46 (28.2%)	36/46 (78.3%)	<0.001
Prediction of late PE	17/49 (34.6%)	22/49 (44.9%)	0.409
Screen Positive rate	857/7342 (11.7%)	569/7342 (7.8%)	<0.001

Preeclampsia	Prior to FMF based screening 2019-2021 n= 7769	Post screening 2022-2024 n = 7342	RR following screening	P value
PE with delivery <37 weeks	42 (0.54%)	40 (0.54%)	1.01 (0.65-1.55)	0.97
PE with delivery < 34 weeks	18 (0.23%)	12 (0.16%)	0.71 (0.34-1.46)	0.35
PE with FGR	25 (0.32%)	30 (0.41%)	1.27 (0.75-2.16)	0.37
Severe PE (HELLP, MgSO4, eclampsia, IV antihypertensives, abruption)	45 (0.58%)	26 (0.35%)	0.61 (0.38-0.98)	0.045

Conclusion:

- Universal screening in the NHS using the FMF algorithm is feasible and acceptable to almost all women.
- It is more accurate than screening by maternal characteristics alone.



References:
1. Hypertension in pregnancy: diagnosis and management. London: National Institute for Health and Care Excellence (NICE); 2019 Jun 25. (NICE Guideline, No. 133.)
2. Akolekar R, Syngelaki A, Poon L, Wright D, Nicolaides KH. Competing Risks Model in Early Screening for Preeclampsia by Biophysical and Biochemical Markers. 2013;33(1): 8–15.
3. UK National Screening Committee. (2023). **Screening for pre-eclampsia: UK NSC evidence summary.** [London]: UK National Screening Committee.
4. Rolnik DL, Wright D, Poon LC, O’gorman N, Syngelaki A, De Paco Matallana C, et al. Aspirin versus Placebo in Pregnancies at High Risk for Preterm Preeclampsia. 2017;377(7): 613.
5. Rolnik D, Nicolaides K, Poon L, **Prevention of preeclampsia with aspirin**, American Journal of Obstetrics & Gynecology, 2020; 226, S1108-S1119