Objectives:
To assess screening performance of single or combined 2nd and 3rd trimester ultrasound, in addition to maternal characteristics at the start of pregnancy, for detecting fetuses at risk for preterm birth, SGA and LGA in the general population.

Methods:
In a prospective, population based cohort among 7,670 pregnant women we collected
- maternal characteristics (age, bmi, ethnicity, parity, smoking) and fetal sex
- 2nd and 3rd trimester EFW and
- placenta flow measures

Screening performance was assessed via ROC-Curves, AUC, and we derived sensitivity at 90% specificity

Results:
- Maternal characteristics only and in combination with 2nd trimester EFW had a moderate screening performance (fig. 1, blue and purple lines)
- Screening performance improved strongly by adding 3rd trimester EFW to the maternal characteristics model (fig. 1, red lines)
- Adding 3rd trimester placenta measures improved only screening for risk of preterm birth
- Combining 2nd and 3rd trimester fetal and placental ultrasound did not lead to better performance than only 3rd trimester results.

Conclusions:
1) Combining 3rd trimester ultrasound results with maternal characteristics has the best screening performance for risks of preterm birth, SGA and LGA.
2) Compared to 2nd trimester screening, 3rd trimester screening doubles detection of fetuses at risk of adverse birth outcomes.