

# Unexpected proteinuria at booking- a risk factor for preterm birth



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## INTRODUCTION

### Objectives

- To identify and characterise women with dipstick proteinuria at their first antenatal appointment
- To quantify the proteinuria with a urine protein-creatinine ratio (uPCR); with a value of 30mg/nmol as the threshold of significance
- To investigate for underlying renal disease
- To improve care pathways

### Design

- This is a quality improvement project (QIP)
- Retrospective audit, followed changes to the care pathway, and subsequent monthly prospective audit

## METHOD

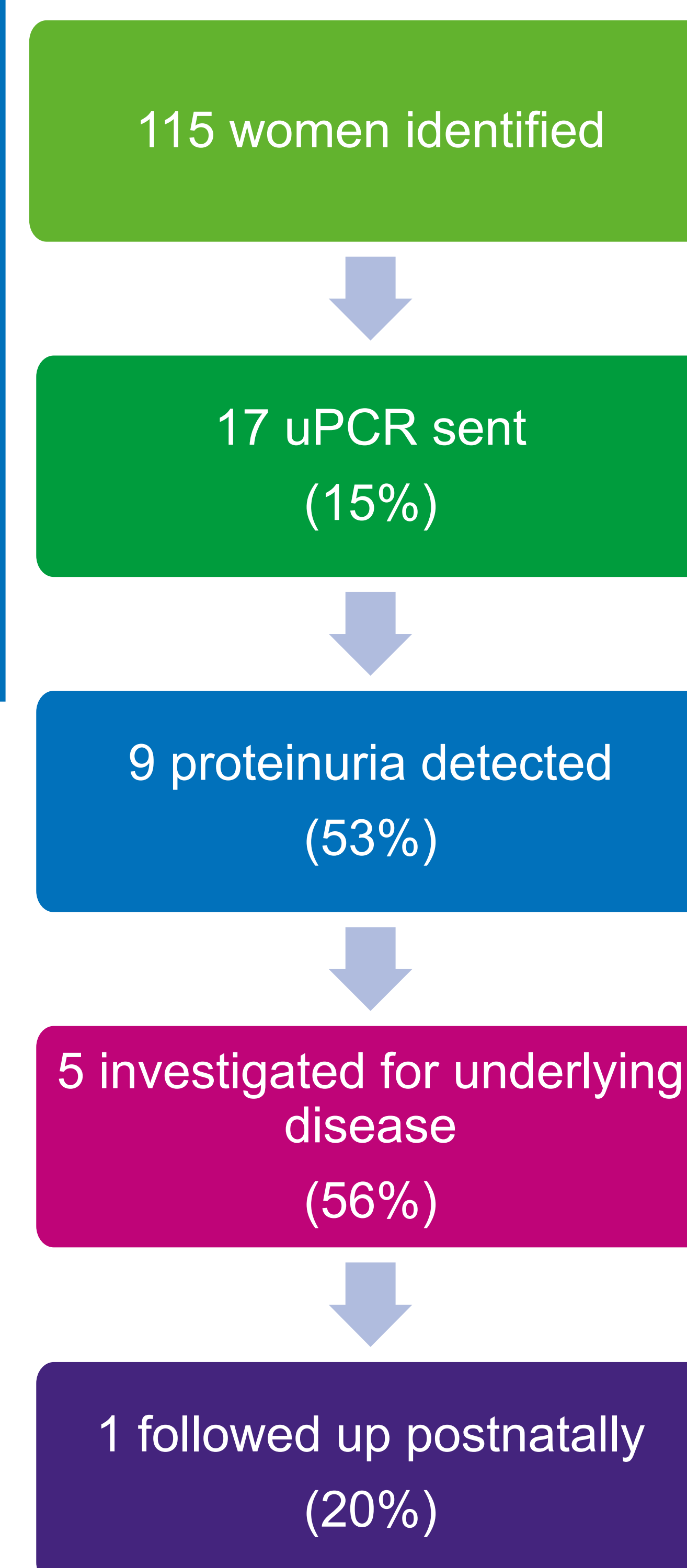
### Cohort

- Patients with unanticipated protein on urine dipstick at initial appointment
- Retrospective audit of patients booking in 2017 and 2018
- Prospective audit of patients booking from June 2020 to date

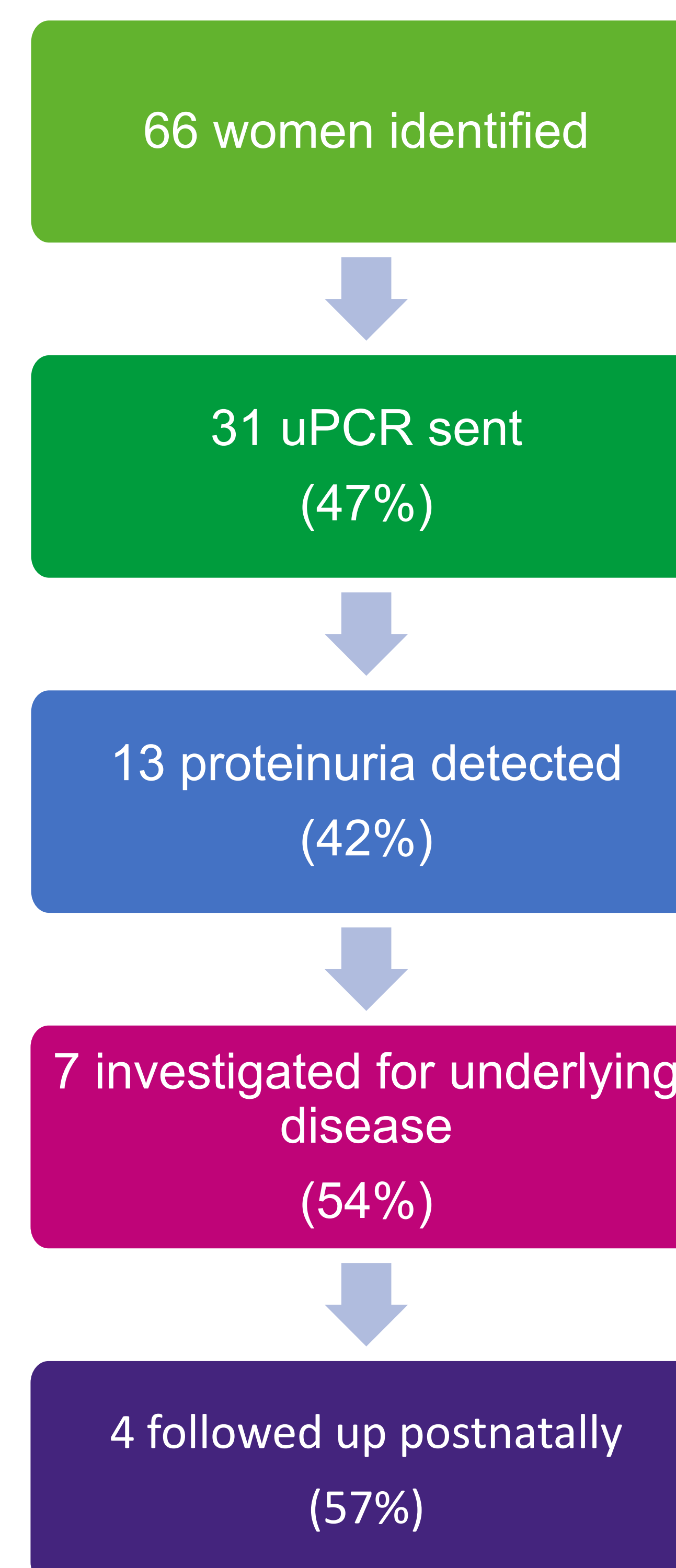
### Data collected

- From electronic health records
- Patient demographics, medical history, uPCR, investigations undertaken, and pregnancy outcome

## 2017 + 2018



## June 2020 onwards



## RESULTS

The birth rate at West Middlesex University Hospital is approximately 4500 babies annually.

### 2017 and 2018

- 15% had proteinuria quantified by uPCR; with a significant value in 53% of them
- 1 followed up postnatally

### June 2020 onwards

- 1 known pre-existing renal disease (excluded)
- 2 diabetes (without previous proteinuria)
- 47% had proteinuria quantified with uPCR; detected in 42%
- 43 have delivered (mean gestation 38+1)
- 4 followed up postnatally

### A risk factor for preterm birth?

- 8 have delivered preterm since 2020 (19%)
- Average gestation of preterm birth 33+6
- UK preterm birth rate 8%

## CONCLUSIONS

- This QIP demonstrates an improvement in the number of urine samples sent for a uPCR to quantify the proteinuria.
- There remains inconsistency in the way these women are investigated and followed up
- More study is needed to improve the care pathway for women with proteinuria at booking
- The higher rate of preterm birth in this cohort raises the question of whether improving this care pathway for these women will improve preterm birth rates

Women with unexpected dipstick protein at booking should have a uPCR sent as a minimum, with referral to an appropriate antenatal clinic and postnatal follow up. They may benefit from low dose aspirin.