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## Introduction

Patient exit interviews are commonly used to assess standards in health care but the act of observation may alter healthworkers' practice, an effect commonly described as 'Hawthorne'.

This study aimed to identify evidence of a Hawthorne effect in a 1 year trial of the use of rapid tests for malaria diagnosis where clinical outcomes were recorded in exit surveys.

## Methods

The analysis used data from a 1-year 3-arm cluster-randomised trial of interventions to improve adherence to malaria treatment guidelines, conducted in Tanzania in 2011/2012.

Prescribers from health facilities received standard or enhanced training in the use of Rapid Diagnostic Test (RDT) and prescription of antimalarial treatment.

To assess trial outcomes, patients exiting participating health facilities were interviewed on two random days per week over the trial period.

As part of usual practices, health workers recorded basic data from each consultation in the standard reporting format for Tanzania (MTUHA records). Data from these registers were collected and computer-entered at three time-points during the 1-year of the trial.

The Hawthorne effect was assessed by looking at differences in documented (MTUHA) practice on days when exit interviews were conducted compared to days without exit interviews. Three indicators were defined:

- Reporting an RDT result
- Reporting the prescription of an antimalarial with an RDT-negative result
- Reporting the prescription of an antimalarial without an RDT result

Statistical analysis was based on hierarchical models to take into account the clustering by practices and calendar day, and adjusted for day of the week and study period. We also explored whether the Hawthorne effect reduced with study time.

## Results

### Sample characteristics

Routine data were collected in 18 health facilities, for a median of 85 days for each facility, representing 19,579 consultations.

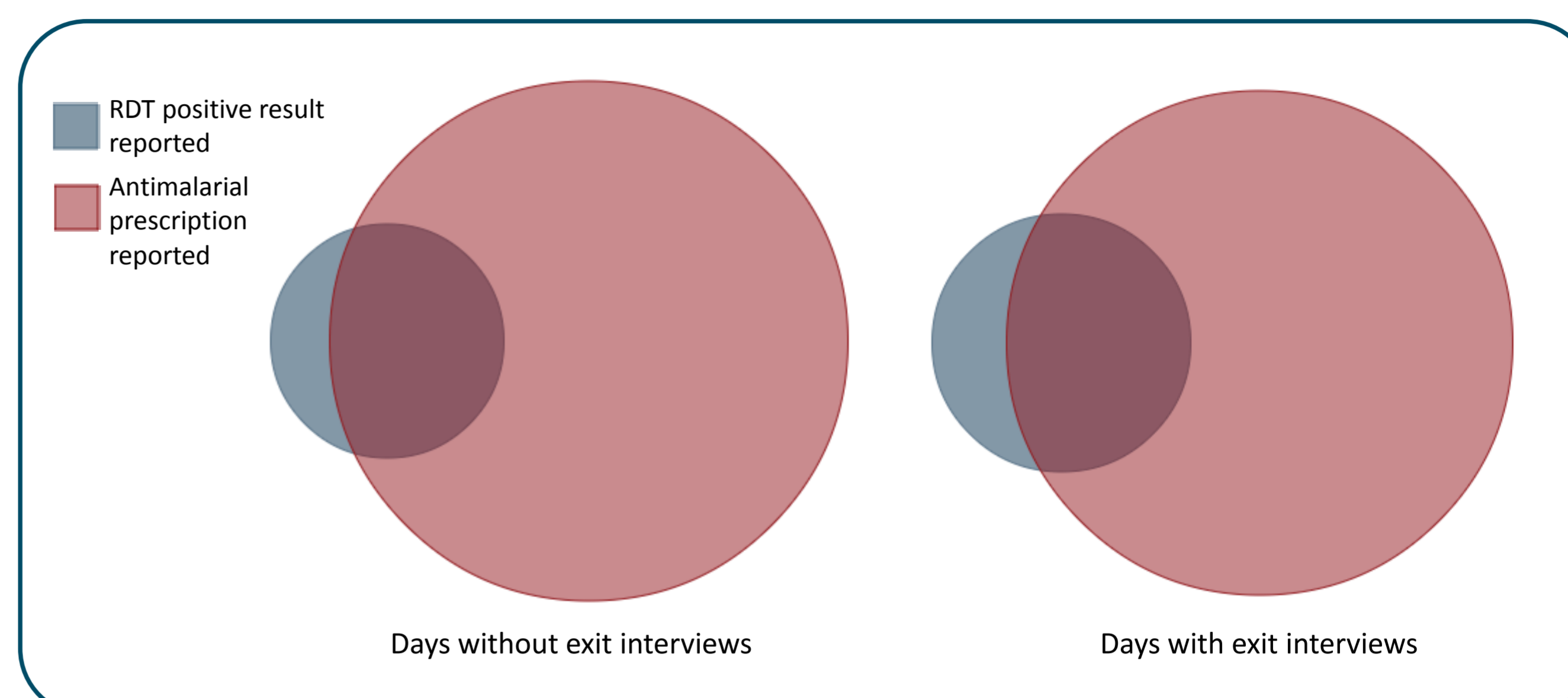
Characteristic	Median/Proportion
Patient's age	12 years (IQR 3-36)
Patient gender	57% female
Consultations with a RDT result reported	19.5%
RDT result	Positive: 5.2% Negative: 94.8%
Consultation with an antimalarial drug prescribed	4.4%
Antimalarial drug prescribed	ALu: 73.2% Other AM: 26.8%

## Conclusions

There was no conclusive evidence that health workers adapted their practice toward better adherence to guidelines when interviews were conducted with patients exiting health facilities. The findings generally support the use of simple exit-interviews as a tool to assess consultation practices. However the results are likely to be context-specific and the possibility of a "Hawthorne effect" should always be considered when observing clinical practice.

## Antimalarial prescription and RDT result

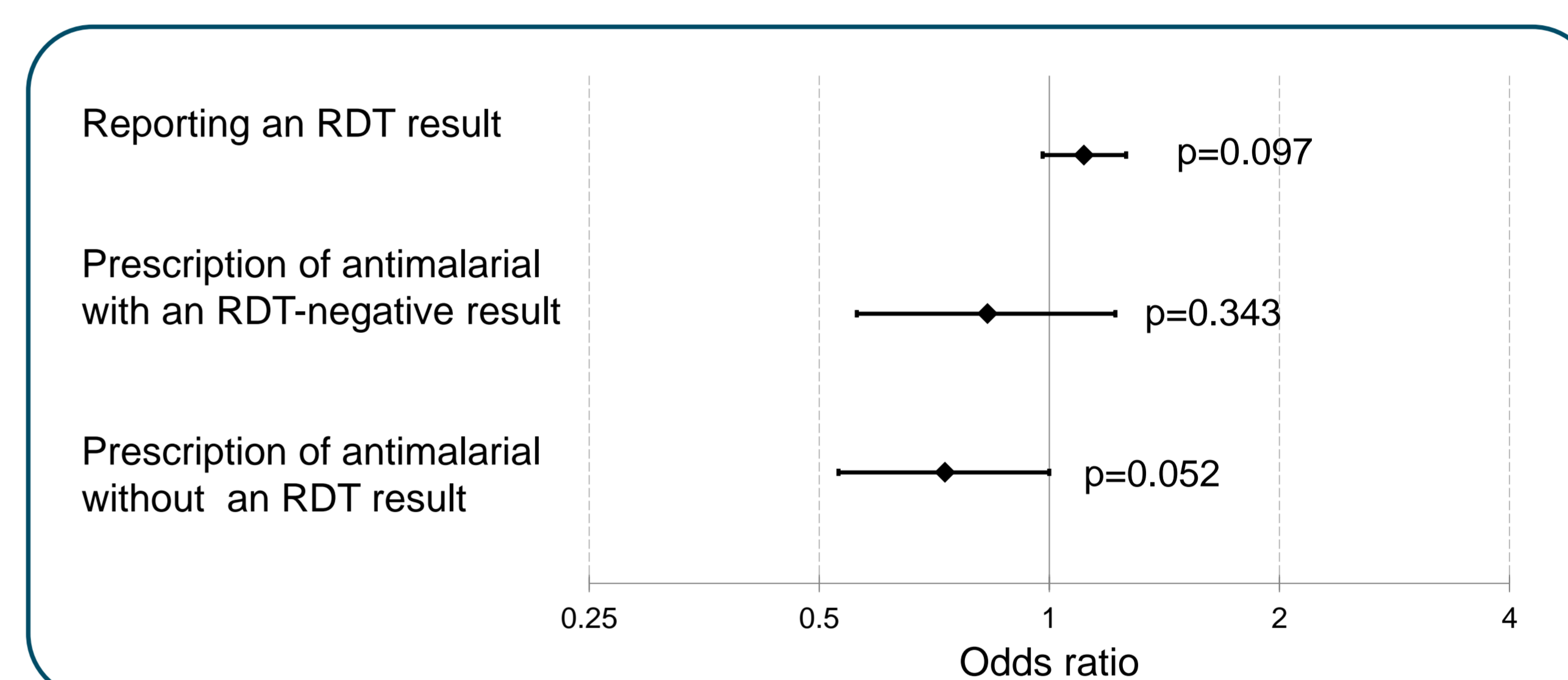
Figure 1 – Antimalarial treatment prescription and RDT positive results



→ A majority of antimalarial prescriptions were reported without a positive RDT result. Overlap between reported antimalarial prescription and RDT positive result appeared similar on days when exit interviews were conducted, compared to days where no exit interview was conducted.

## Hawthorne effect on primary indicators

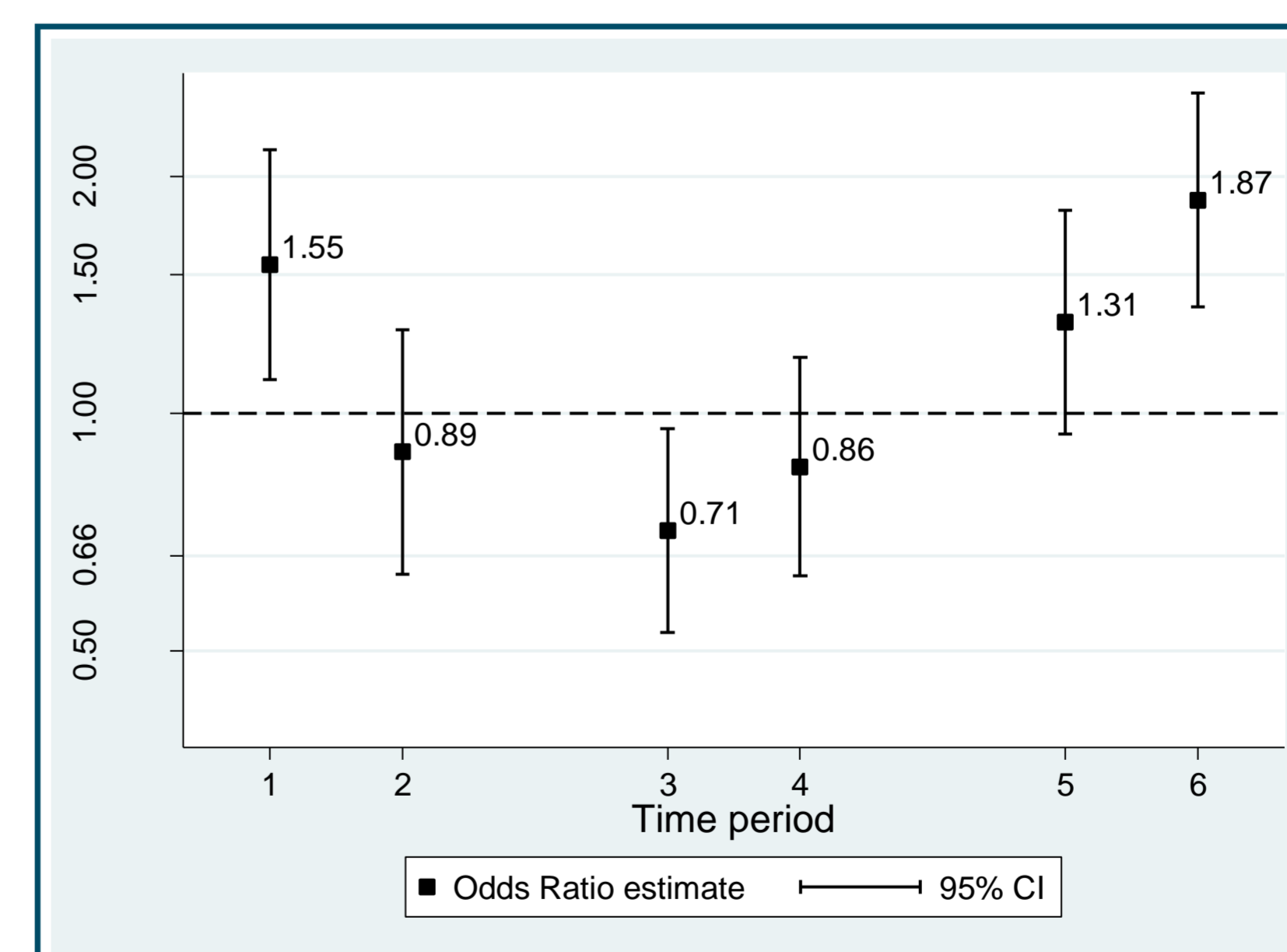
Figure 2 – Adjusted odds ratio, comparing indicators on days where exit interviews were conducted



→ There was a possible indication of better adherence to guidelines on days where exit surveys were conducted, although none of these differences were significant.

## Hawthorne effect over time

Figure 3 – Adjusted odds ratio for reporting a RDT result, over study time.



→ The Hawthorne effect varied with time, being the highest at the start and end of the trial. There was no evidence of a consistent reduction of the effect with time.