

# Missed opportunities for vaccination in children under five years: cross-sectional survey



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## Background

Since 1983, The World Health Organization (WHO) recommends using every opportunity to immunize each eligible child.

Missed Opportunities for Vaccination (MOV) contribute significantly to the under-immunization of children in low income countries.

WHO recommends MOV surveys at facility exit to assess presence of MOV, but only in children aged 0-23 months. Children above this age, not targeted by the Expanded Program of Immunization (EPI) but still eligible for catch up vaccination, are therefore not identified.

## Objective

To describe MOV among children up to 59 months of age visiting MSF-supported facilities and to identify reasons for non-vaccination.

## Methods

Cross-sectional surveys were performed in 19 MSF-supported facilities between 2011 and 2015 in Mauritania, Niger, South Sudan, Democratic Republic of Congo, Pakistan and Afghanistan.

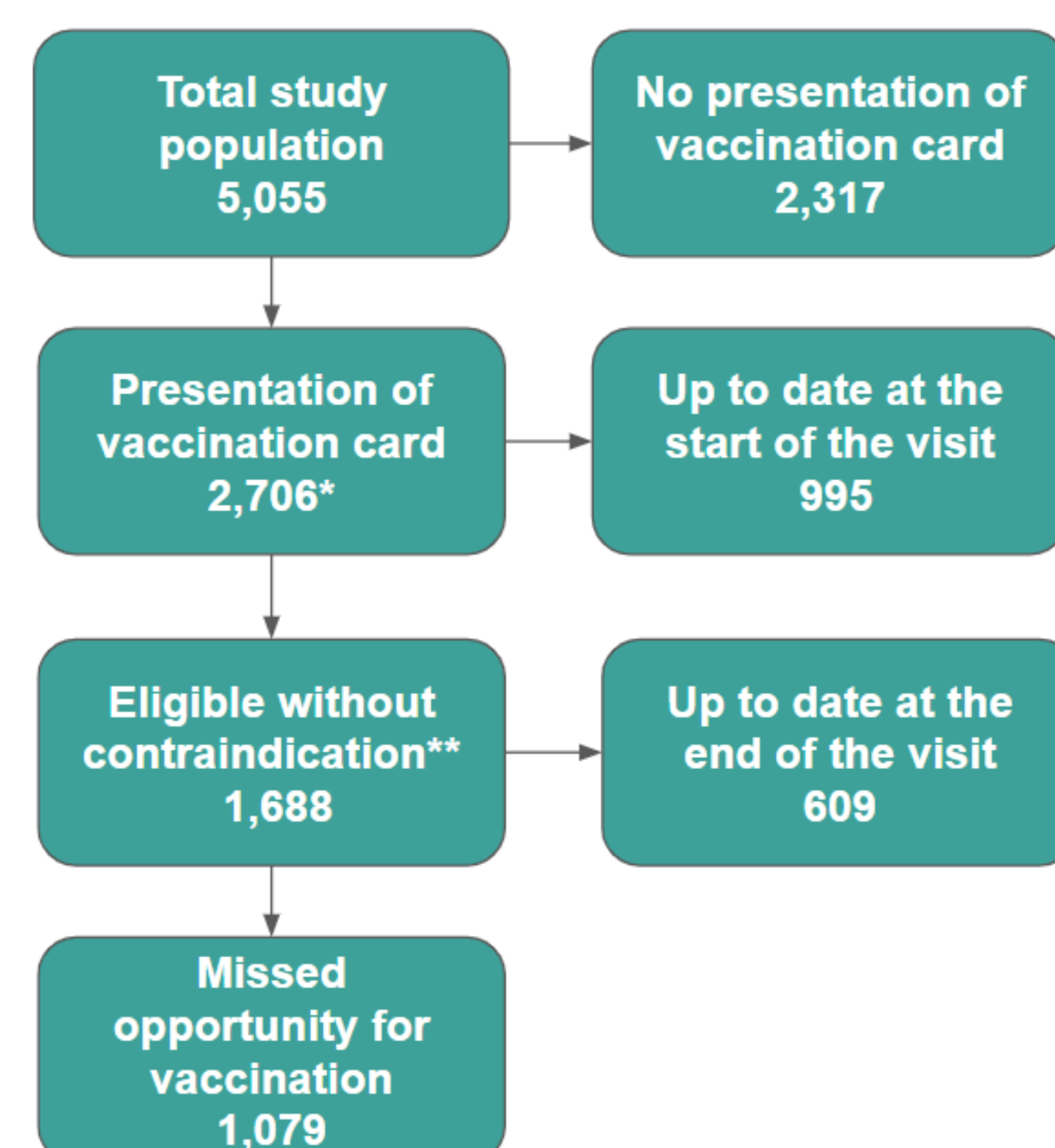
We included children 0-59 months whose caregivers presented their child's vaccination card at consultation exit.

MOV was defined as a child eligible for at least one vaccine dose with no contraindication for vaccination, who remained not up to date at the end of a contact with a health facility.

Differences in MOV by age, type of facility and reason for visit were assessed using the Pearson's two sides chi-square test and Fisher exact test. Its association with MOV was assessed by calculating Odds Ratios (OR) and 95% Confidence Intervals (95%CI).

## Results

Figure 1. Flowchart to identify MOV



\*32 children were not included due to inconsistencies  
\*\* Eligibility according to age and the National EPI schedule. Only 23 children had self-reported contraindication for vaccination.

A total of 1,688 children were identified as eligible for vaccination at facility exit, and of those, 1,079 (64%) had a MOV (Figure 1).

Lack of vaccines was the main reason (40%) identified for MOV (Figure 2).

MOV occurrence was higher among children aged 12-23 months (84%) and aged 23-59 months (88%) when compared with children below 12 months (55%) (Figure 3).

Factors associated with presence of MOV were:

- Being at an age range not targeted by the EPI (OR: 4.9; 95%CI 3.7-6.6)
- Reason of the visit being other than vaccination (OR: 5; 95%CI 3.9-6.6)
- Visiting a hospital instead of a primary health care facility (OR: 2.7; 95%CI 2-3.6)

Figure 2. Reasons reported by caregivers for MOV

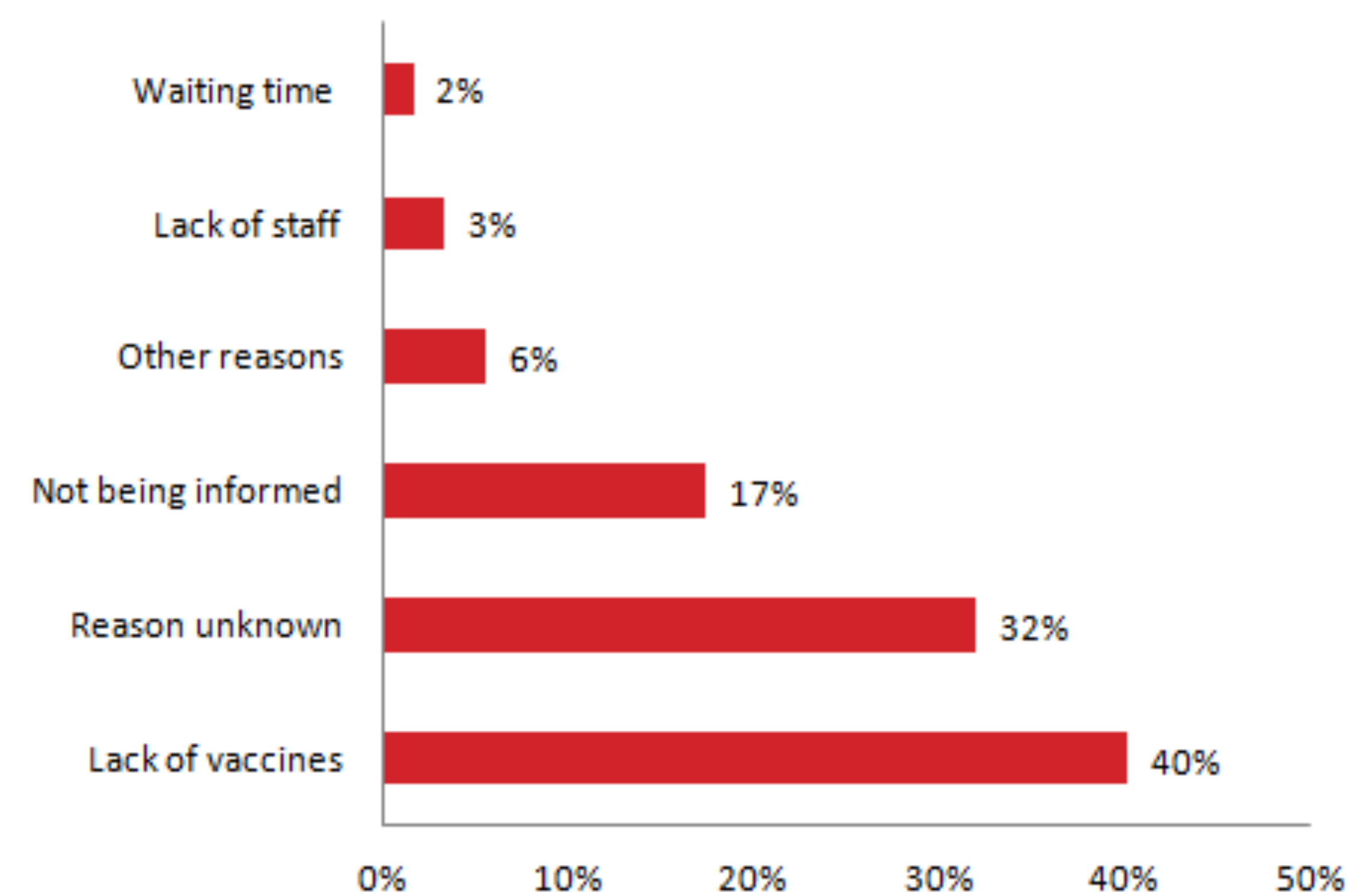
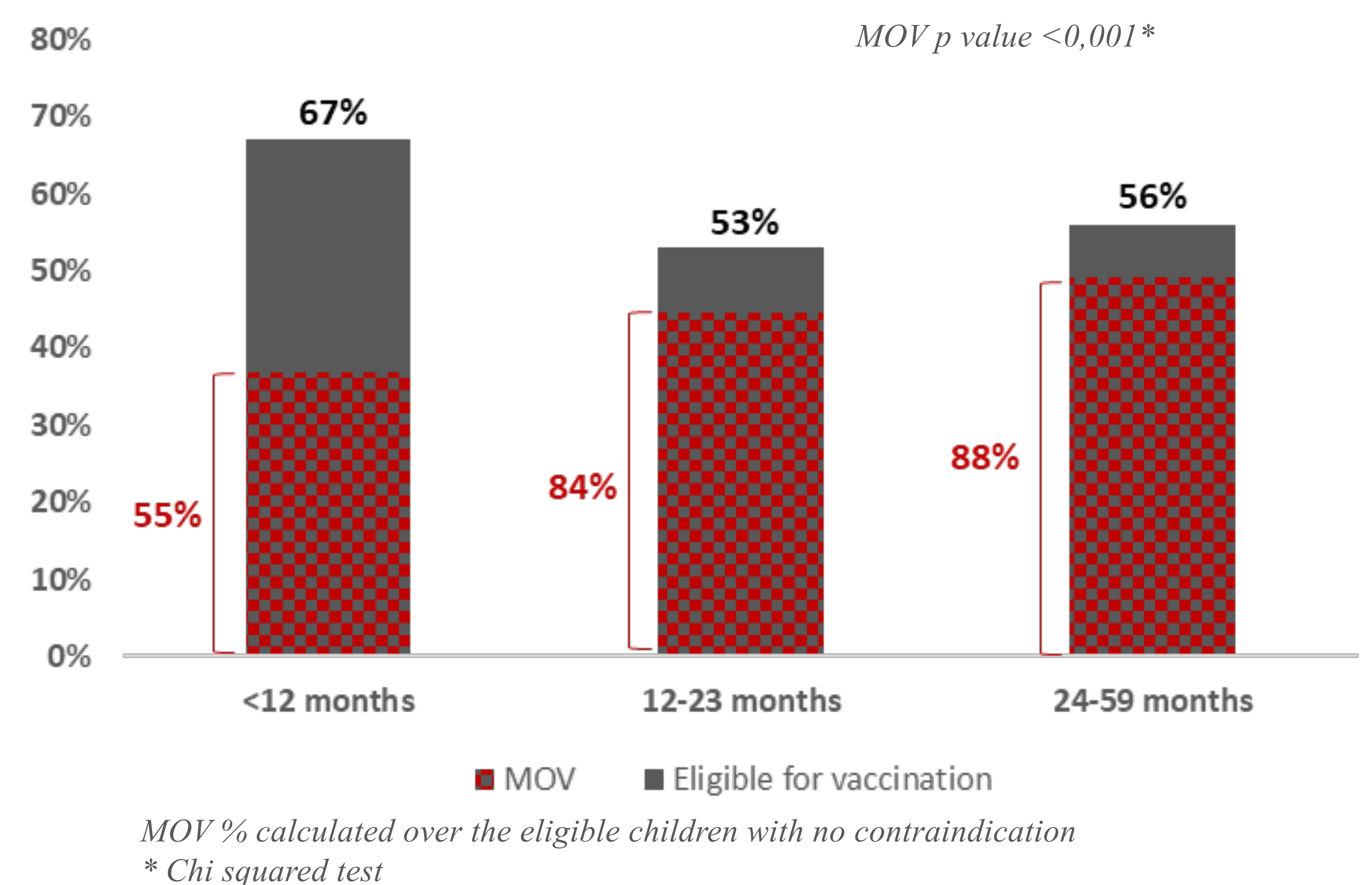


Figure 3. Distribution of eligibility and MOV by age group



## Conclusions

- Prevalence of MOV increases with age. Children not targeted by the EPI are particularly affected.
- Lack of vaccines and lack of information account for more than half of the reasons most frequently reported for MOV but a substantial proportion remains undescribed.

## Recommendations

- MOV surveys to identify and address gaps in vaccine uptake at facility level should go beyond the 23 months of standard surveys.
- Routine screening of vaccination status should be done regardless of consultation reason or the age of the child.
- Second year of life visits can be a catch-up opportunity to provide missed vaccine doses.
- Ensure vaccines supply at the point of care, as this would address more than half of attributable MOV described.
- Health information activities around vaccination should address the lack of information causing MOV.

## Acknowledgements

We would like to thank all caregivers for sharing their invaluable time

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**Children over two years of age should be assessed for MOV since not being targeted by the EPI makes them particularly vulnerable for MOV**