

# IMPACT OF A LONGITUDINAL MENTORSHIP ON MATERNAL VITAL SIGNS DOCUMENTATION IN BLANTYRE DISTRICT, MALAWI

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# Background



World Health Organization  
Safe Childbirth Checklist  
(WHO SCC)



# Background

## LOCATION OF MALAWI ON AFRICA



## LOCATION OF BLANTYRE DISTRICT ON MALAWI



# Background

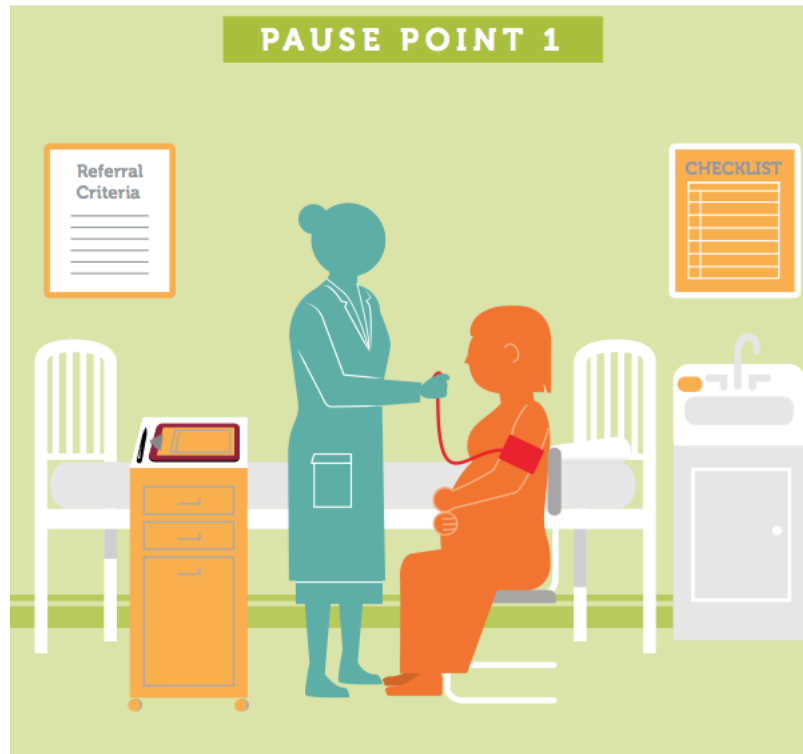
## Quality of (health) Care (QoC)



- Strong maternal & neonatal indicator
- Poor in many LIC e.g. Malawi
- Contributing factors:
  - Staffing levels
  - Equipment
  - Case loads
  - Insufficient training
  - Data
  - Support

# Background

## Pause points (PP) assessments



## Resources



# Background

## PP1: ON ADMISSION

Assessment... need referral?

Temperature.... Antibiotics needed?

Blood pressure.. Magnesium sulfate needed?  
Antihypertensives needed?

Heart rate for both

## PP2: BEFORE PUSHING OR CAESSECTIONAREAN

Temperature

Blood pressure

Heart rate (both)

Supplies

## PP3: SOON AFTER BIRTH (WITHIN 1 HOUR)

Bleeding?

Vital signs (both)

Referral needed? (mother/baby)

Antibiotics/antihypertensives/magnesium

## PP4: BEFORE DISCHARGE

Period after delivery

Breastfeeding

Medication needed?

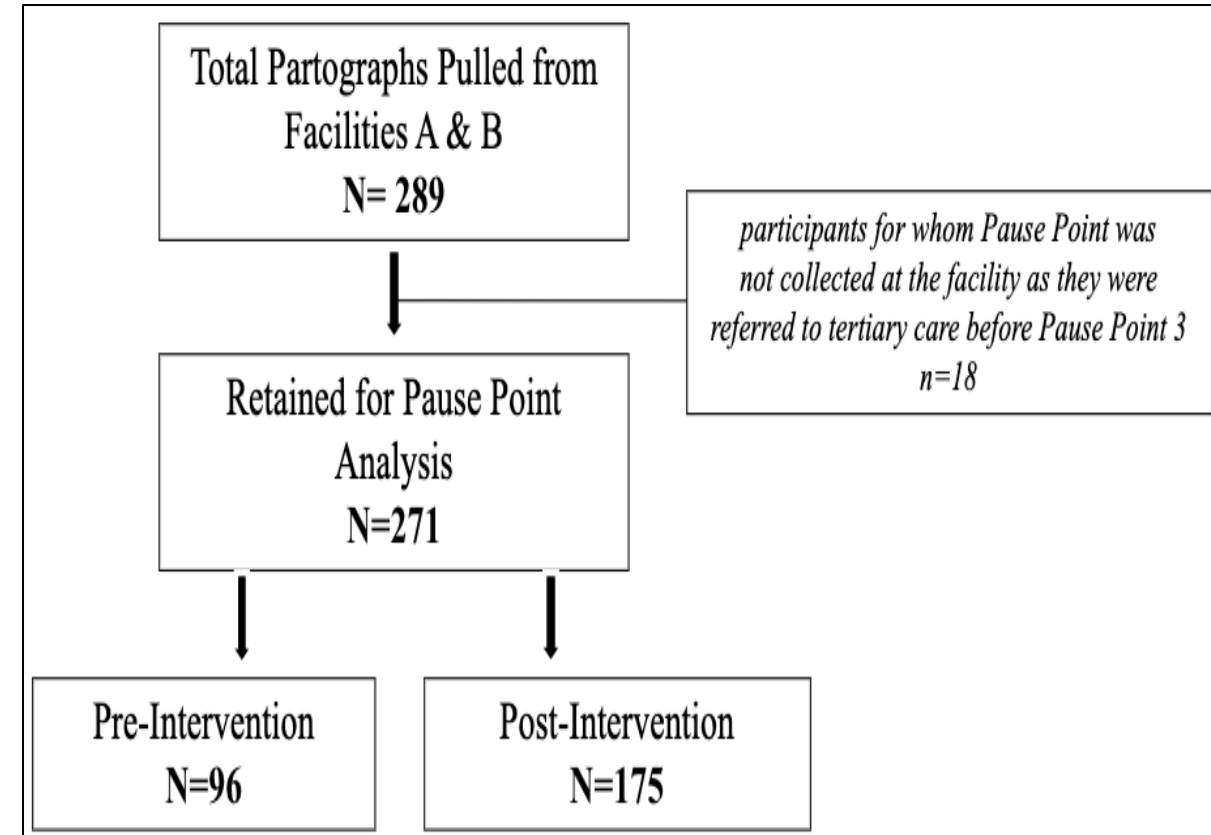
Follow up

Vital signs (both)

# Methods

Type	Retrospective Quantitative Data Collection
Setting	Blantyre, Malawi Two health centres & a tertiary hospital
Approvals	USA: UCSF- Human Rights Protection Program  Malawi: National Health Sciences Research Committee
Design	Pre- & post-intervention study

## Sample (2018 -2022)





# Methods

HOME > INDICATORS FROM THE PARTOGRAPH



\* Was pulse/ heart rate checked at PP1?

☐ Yes

☒ No

☐ Unknown

HOME > INDICATORS FROM THE PARTOGRAPH



\* Was temperature checked at PP1?

☒ Yes

☐ No

☐ Unknown

- Data exported from CommCare to Excel
  - Uploaded to R V4.1.0
- Descriptive analysis followed by bivariate analyses
  - Kruskal Wallis & Fisher's Exact Test
    - Differences (documentation & associations)
- Multivariate regression (differences & associations)
- In all cases, a  $p$ -value  $< 0.05$  was considered significant



# Results

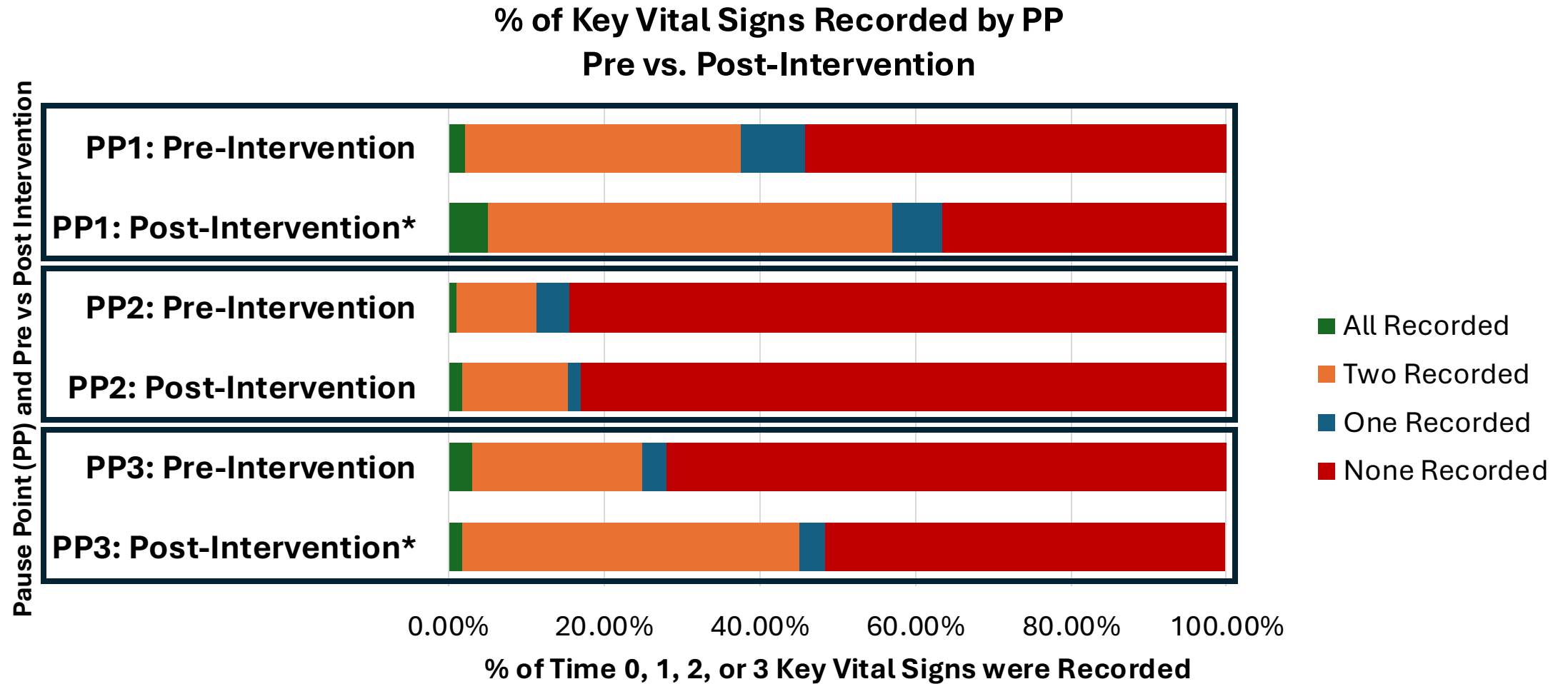
**Table showing Number of Total Key Vital Signs by Pause Point (PP) Pre-Intervention (N=96) and Post-Intervention (N=175)**

	Total (N=271)	Pre-Int (N=96) n (%)	Post-Int (N=175) N (%)	p-value
<b>PP1: Admission</b>				
<b>all recorded</b>	11 (4.1%)	2 (2.1%)	9 (5.1%)	0.017
two recorded	125 (46.1%)	34 (35.4%)	91 (52.0%)	
one recorded	19 (7.01%)	8 (8.3%)	11 (6.3%)	
none recorded	116 (42.8%)	52 (54.2%)	64 (36.6%)	

# Results

Table Cont'd	Total (N=271)	Pre-Int (N=96) n (%)	Post-Int (N=175) N (%)	p-value
PP2: Before pushing or Caesarean section				
all recorded	4 (1.5%)	1 (1.0%)	3 (1.7%)	0.546
two recorded	34 (12.5%)	10 (10.4%)	24 (13.7%)	
one recorded	7 (2.6%)	4 (4.2%)	3 (1.7%)	
none recorded	226 (83.4%)	81 (84.4%)	145 (82.9%)	
PP3: Immediate postpartum (within 1 hour)				
all recorded	6 (2.2%)	3 (3.1%)	3 (1.7%)	0.002
two recorded	97 (35.8%)	21 (21.9%)	76 (43.4%)	
one recorded	9 (3.3%)	3 (3.1%)	6 (3.4%)	
none recorded	159 (58.7%)	69 (71.9%)	90 (51.4%)	

# Results



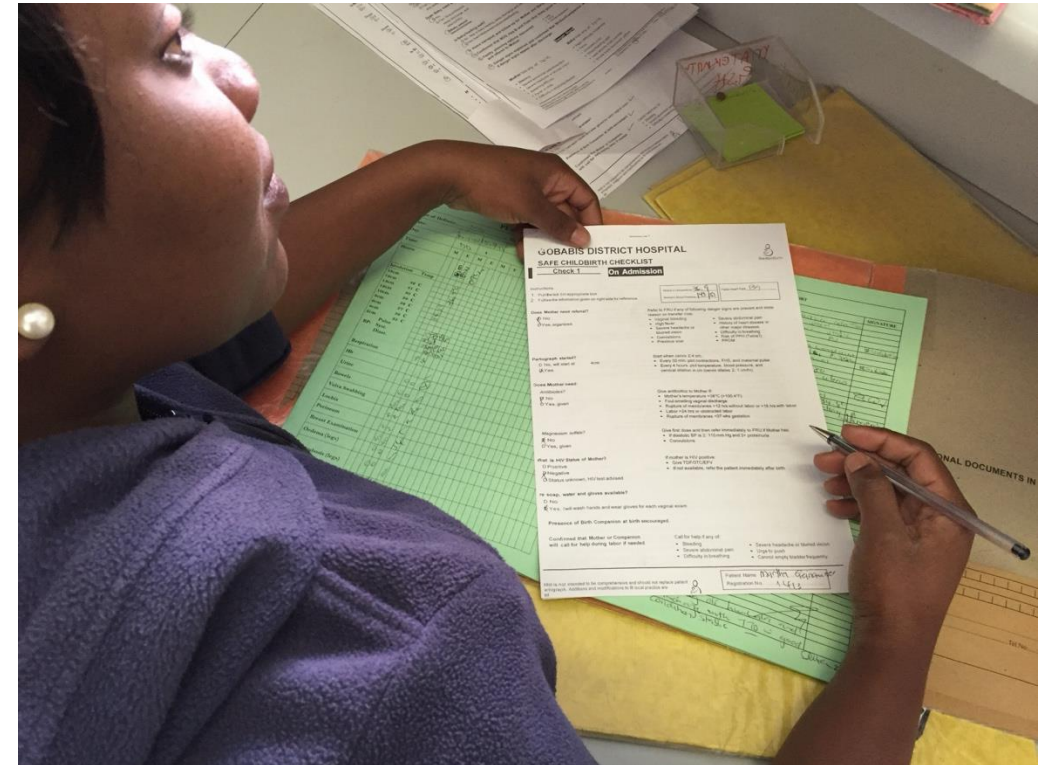
\*statistically significant difference ( $p < 0.05$ )

# Results

- ↑23% documentation in post intervention
  - Significant improvement at admission & immediate postpartum
- >50% recorded heart rate and BP, post-intervention
  - Both centres
- ↑documentation at centre B
  - Less busy
- No significant associations with resource availability
  - (individual device vs related vital sign)
- ↑ documentation at PP1 even when centres' resources were only partially stocked

# Conclusions

- Increased documentation in post intervention
- Documentation low in busier facility
- Low documentation just before birth (PP2)
  - Conflicting priorities
- No association between resource availability and documentation



# Recommendations

- Call for further studies
- Call for multi-disciplinary approach
  - Address bottlenecks in QoC
- GAIN support with equipment
  - Introduced equipment signing sheet
  - Will re-evaluate

## Strengths

- Longitudinal cohort

## Limitations

- Not known whether documentation reflects actual care provided



# Thank you!

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