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# Assessing the quality and humanization of maternity and ANC care in Mozambique:

## Model and Non-Model Maternities &

## Comparison to 5 other SS African countries

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# Outline of presentation

- Review background and methods of study
- Review results
  - Compare key results to those from 5 other SS African countries
  - Compare key results in Model and Non-Model Maternities
- Present conclusions
- Discuss preliminary recommendations
- Review next steps

# BACKGROUND AND METHODS

# Objectives of QHC Study

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1. Assess quality and humanization of care in current Model Maternities Initiative (MMI) facilities
   - Track progress when study repeated in 2013 and 2014
   - Compare to maternities in MISAU's MMI expansion plan
   - Compare to results from other SS African countries

2. Assess interventions needed to improve quality and humanization of care in MMI facilities

# Countries in which assessments done

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- MCHIP conducted similar Quality of Care assessments of maternity and ANC care in 5 countries in 2009-2010

- Assessments in Zimbabwe and Mozambique done in 2011


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# Content of QHC Study

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## Focus on main interventions of MMI:

- Screening/treatment of severe pre-eclampsia / eclampsia
- Prevention of post partum hemorrhage (PPH) through use of active management of third stage of labor (AMTSL)
- Detection and management of prolonged/obstructed labor through the use of partograph
- Prevention of sepsis through infection prevention practices (IP)
- Immediate essential newborn care (ENC), including skin-to-skin contact and immediate breastfeeding
- Assess humaned care (communication, privacy, birth position)

  Current MISAU guidelines for ANC and Labor and Delivery were used as the standard of care for assessment.

# Data Collection Instruments

- ANC inventory
- Maternity inventory
- ANC observation checklist
- Labor & Delivery observation checklist
- Health worker interview with knowledge tests for maternal and newborn health

# Maternal Health Indicators for Countries Assessed

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| | Maternal Mortality Ratio[1] | Skilled Birth Attendance[2] | Antenatal care (at least 1 visit)[3] |
|---|---|---|---|
| **MOZAMBIQUE** | **520** | **62** | **92** |
| Ethiopia | 470 | 6 | 28 |
| Kenya | 530 | 45 | 91 |
| Madagascar | 440 | 43 | 90 |
| Rwanda | 540 | 58 | 96 |
| Tanzania | 790 | 51 | 99 |
| Zanzibar | not available | 54 | 99 |

1. Number of maternal deaths per 100,000 live births. Source: World Health Organization, 2008.
2. Percent of women who had a live birth in the five years preceding the survey who delivered with a skilled attendant (does not include TBA) . Source: Most recent DHS (Ethiopia 2005, Kenya 2008-09, Madagascar 2008-09, Rwanda 2007-08, Tanzania 2010 (for TZ and Zanzibar)).
3. Percent of women who had a live birth in the five years preceding the survey who received at least one antenatal care visit. Source: Most recent DHS (see list above).

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# Sample of facilities

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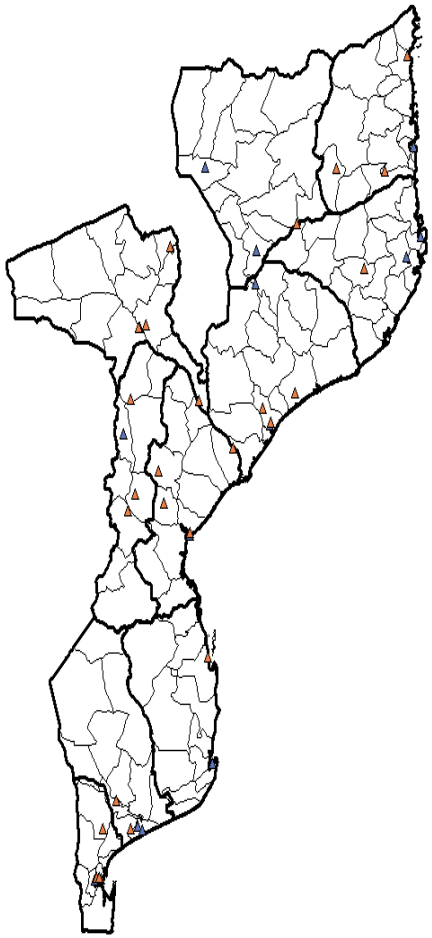
Random sample of current and future MMI facilities with an avg. ≥6 births in 24 hour period

- **Model Maternities**

  19 of 34 current model maternities; 3 excluded because of small size; sampled about ½; MM are larger facilities; almost all are hospitals

- **Non-Model Maternities**

  27 of 88 in MISAU expansion plan; 21 excluded because of small size; about ½ of remaining facilities sampled; most are health centers



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# Mozambique Samples compared to others

| Sample | Moz | Ken | Eth* | Tan | Zan | Rwa | Mad |
|---|---|---|---|---|---|---|---|
| **Facilities assessed** | **46** | **409** | **19** | **52** | **9** | **72** | **36** |
| • Hospital | 54% | 52% | 100% | 23% | 56% | 58% | 75% |
| • Health Center/dispensary | 46% | 48% | 0% | 77% | 44% | 42% | 25% |
| **Labor & Delivery Obs (total)** | **525** | **626** | **192** | **489** | **217** | **293** | **347** |
| • Initial assessment | 378 | 452 | 107 | 306 | 106 | 187 | 268 |
| • 3rd/4th stage of labor | 507 | 563 | 117 | 415 | 201 | 225 | 288 |
| • Newborn care | 508 | 571 | 115 | 419 | 203 | 225 | 336 |
| **ANC consult Observations** | **295** | **1409** | **126** | **391** | **57** | **311** | **323** |
| **Health worker interviews** | **186** | **249** | **79** | **206** | **51** | **146** | **140** |

* In Ethiopia only the country's 19 largest maternities were assessed

# Data collection with tablet computers

Data collectors used Samsung Galaxy tablet computers. This allowed data quality checks as well as allowing telephone transmission of data and  making data analysis more rapid.

# Screen shots of data collection tools

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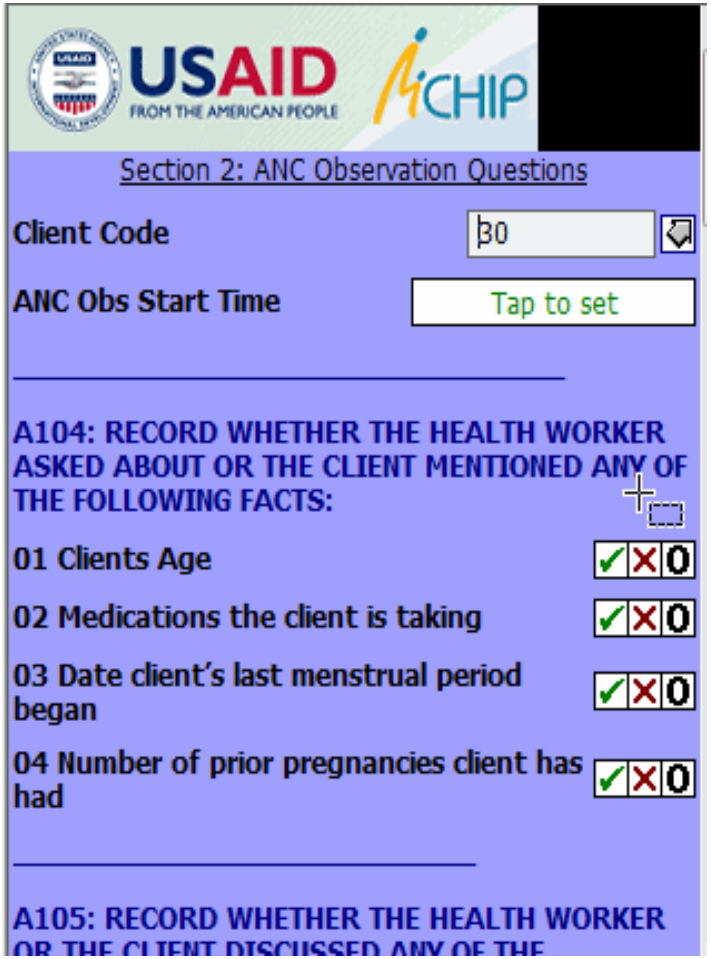


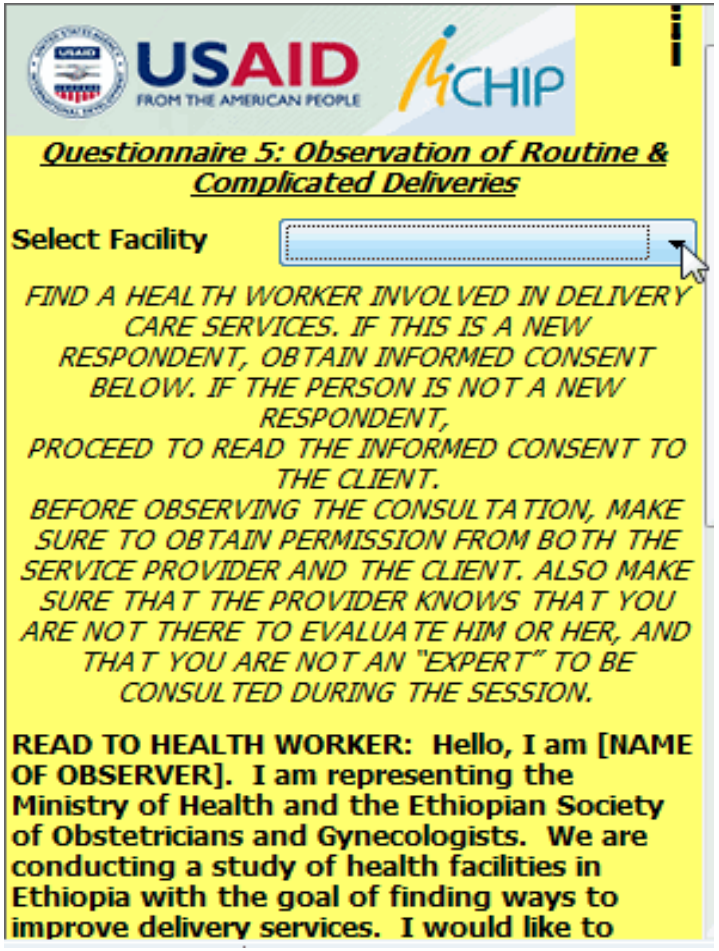

# SUMMARY OF KEY RESULTS

# Humanized Care

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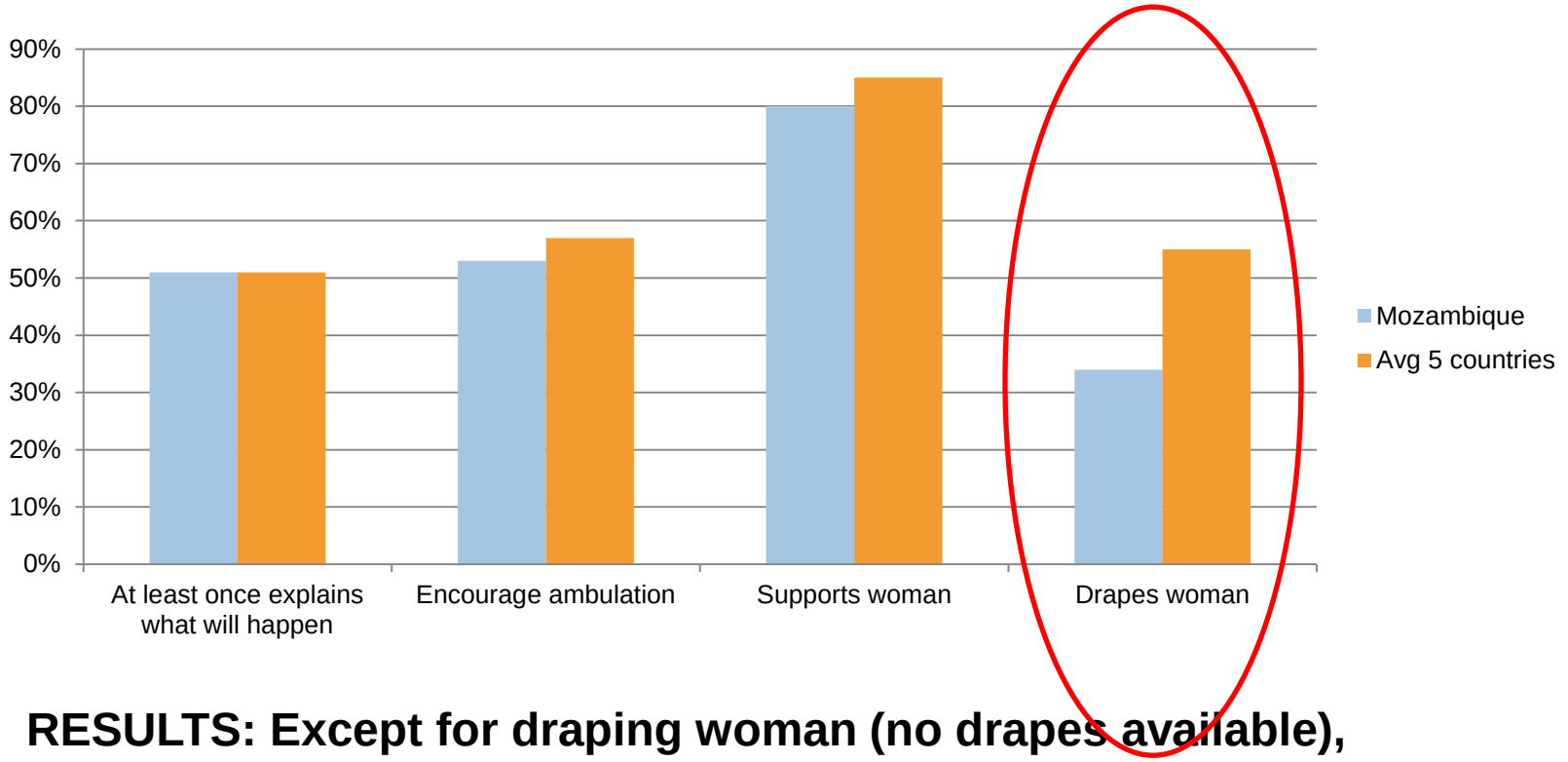


**RESULTS: Except for draping woman (no drapes available), Mozambique similar to others**

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# PREVENTION AND MANAGEMENT OF PRE-ECLAMPSIA & ECLAMPSIA

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# Screening for Pre-eclampsia during ANC

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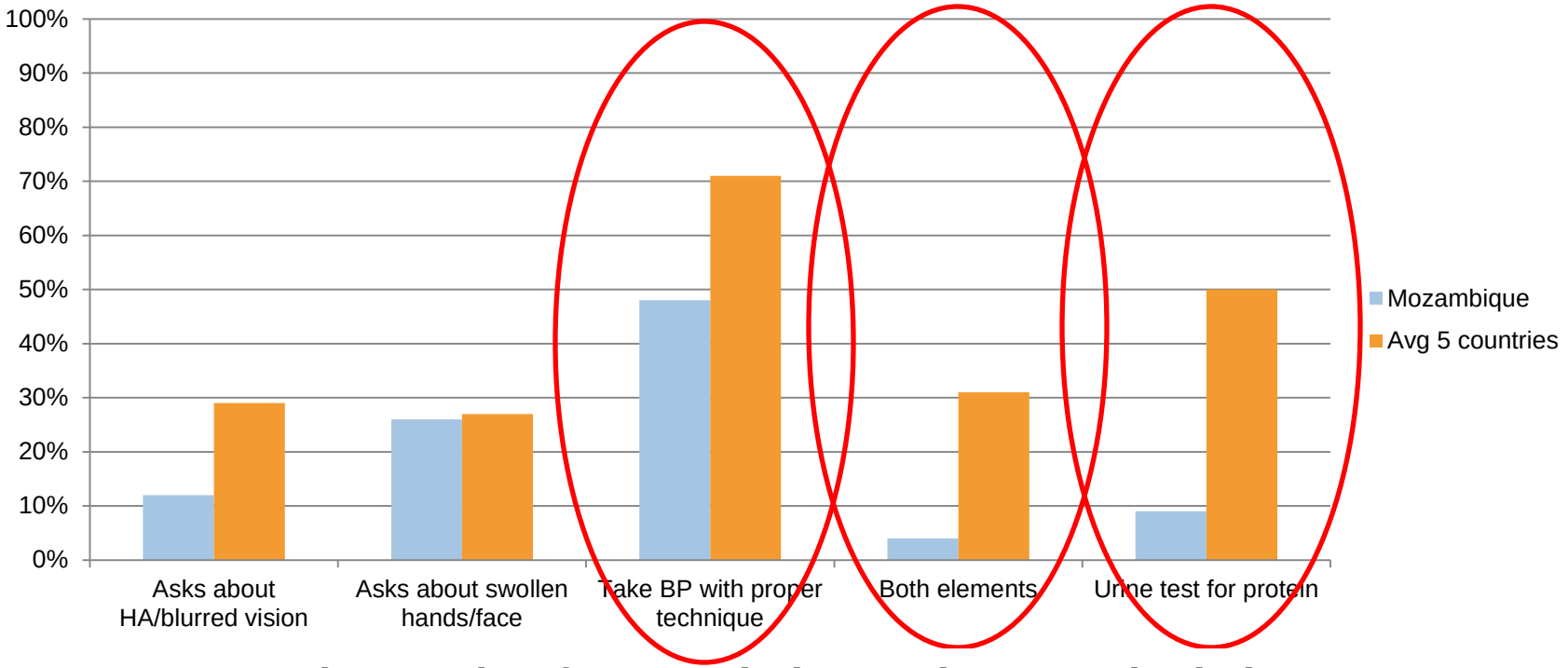


**RESULTS: Urine testing for protein is not done routinely in Mozambique, but also other elements of screening not done as consistently (history taking, measure blood pressure).**

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# Screening for PE/E during L&D

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**RESULTS: Similar to ANC screening results**

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# Availability of MgSO4 in Delivery Room

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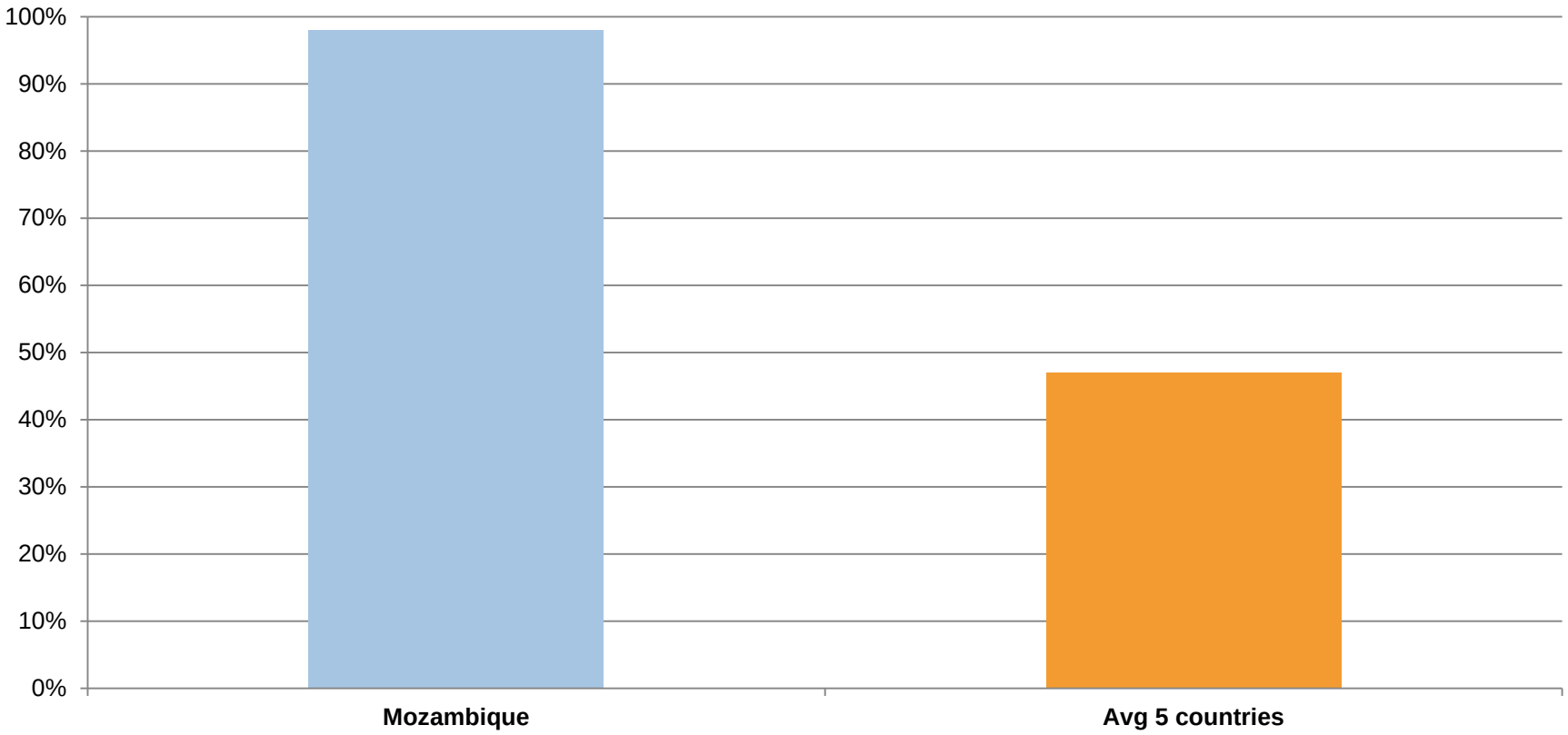


**RESULTS: Magnesium sulfate almost always available. This is much better than other countries evaluated.**

# PE/E Cases Observed

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| | No cases - Moz | No Cases – 5 other countries |
|---|---|---|
| Total PE/E observations | 9 | 41 |
| **Description of problem** | | |
| • Eclampsia (convulsing and/or unconscious) | 7 | 11 |
| • Severe pre-eclampsia | 2 | 15 |
| • Mild pre-eclampsia | 0 | 15 |
| **Anti-convulsant used** | | |
| • Magnesium sulfate | 7 | 12 |
| • Diazepam | 0 | 9 |
| • No anti-convulsant | 2 | 26 |
| **Other medication used** | | |
| • Antihypertensive | 7 | 7 |
| • Calcium gluconate | 0 | 0 |
| **Outcomes** | | |
| • Maternal deaths | 0 | 0 |

# From Policy to Practice: PE/E Constraints Analysis

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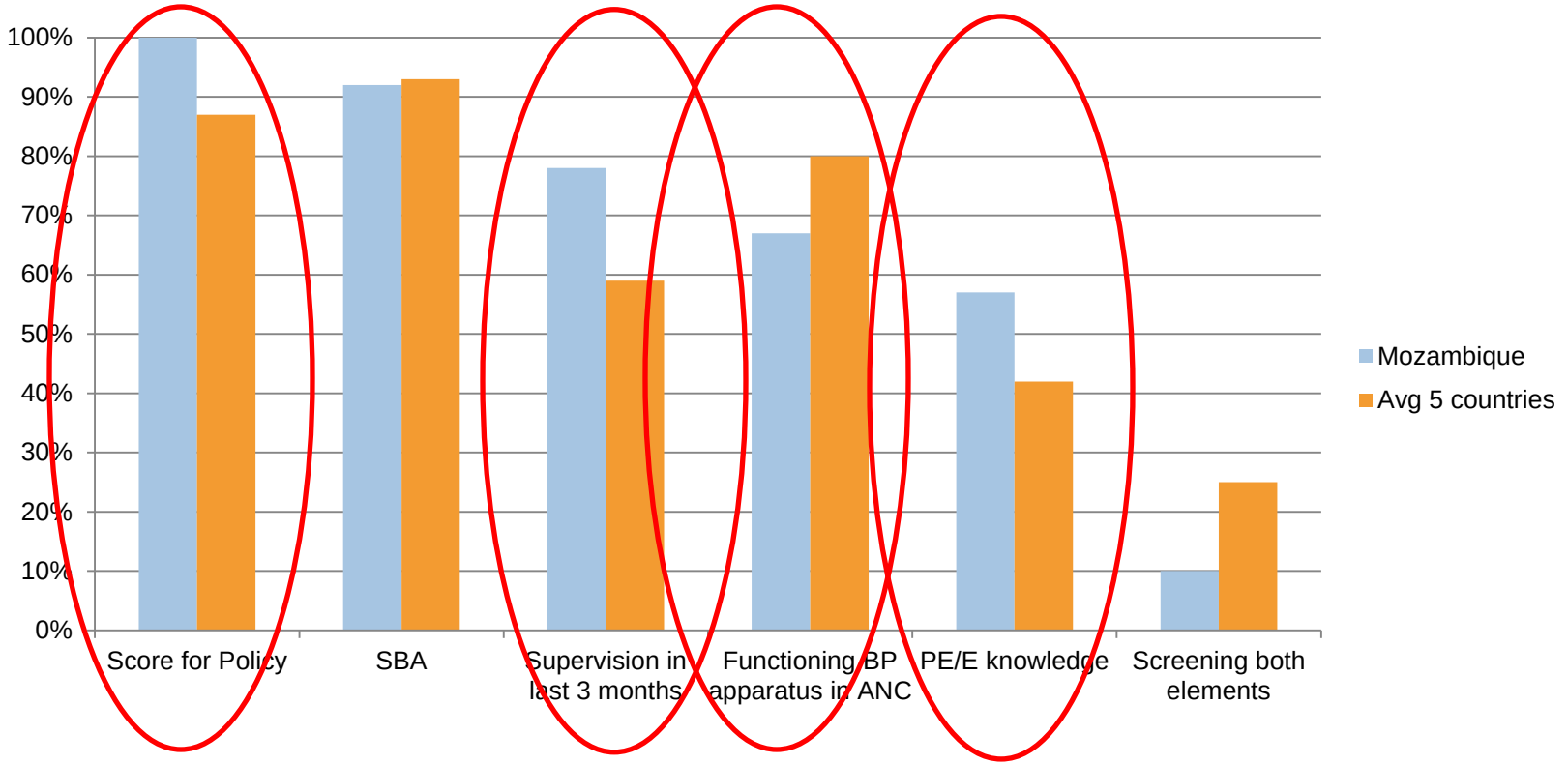


**RESULTS: Mozambique does as well or better than reference group of countries except for presence of blood pressure apparatus. The end result is screening for PE in ANC that is quite low.**

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# PREVENTION & MANAGEMENT OF POSTPARTUM HEMORRHAGE

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# Practice of AMTSL according to FIGO/ICM definition

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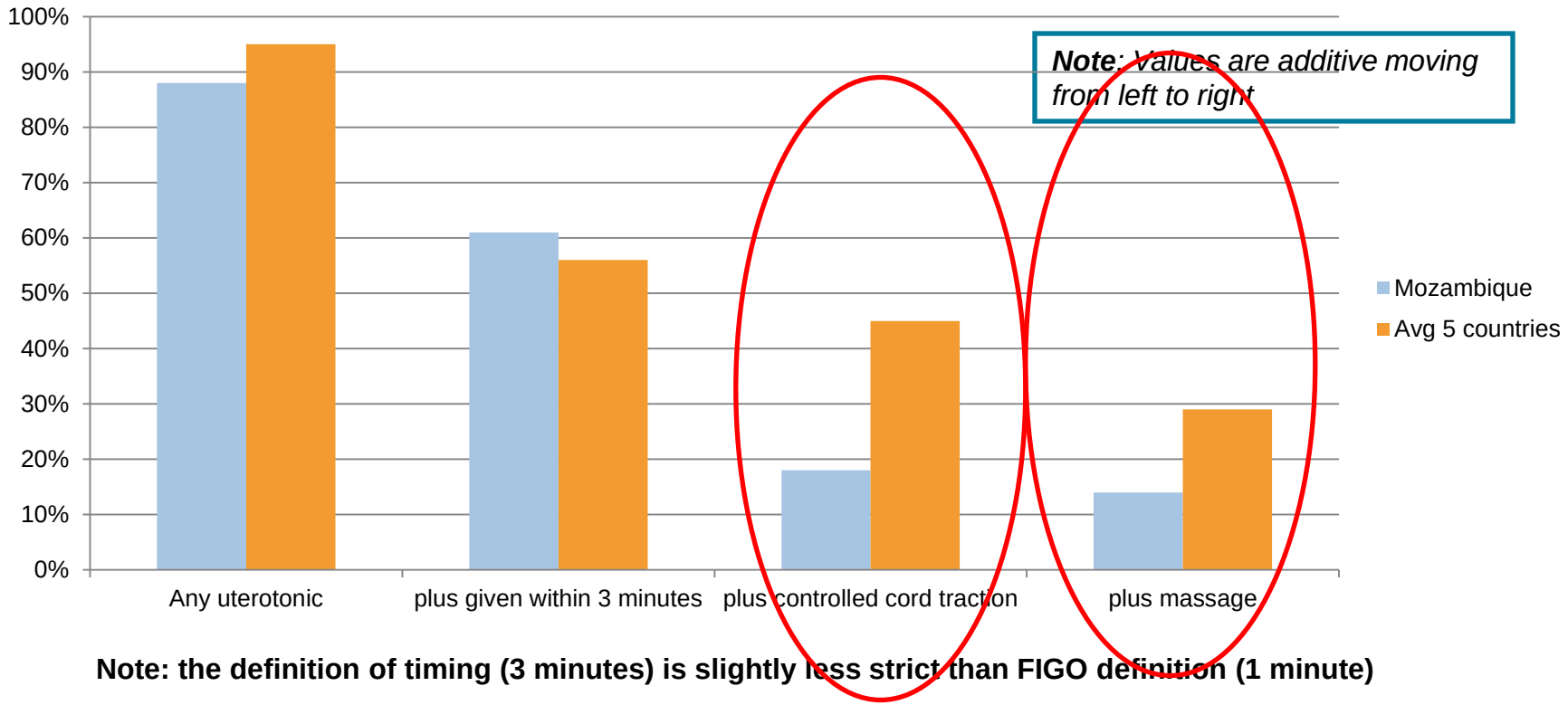


**Note: the definition of timing (3 minutes) is slightly less strict than FIGO definition (1 minute)**

**RESULTS: Uterotonic use almost universal, but other elements of AMTSL not well practiced**

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# Availability of Oxytocin in Delivery Room

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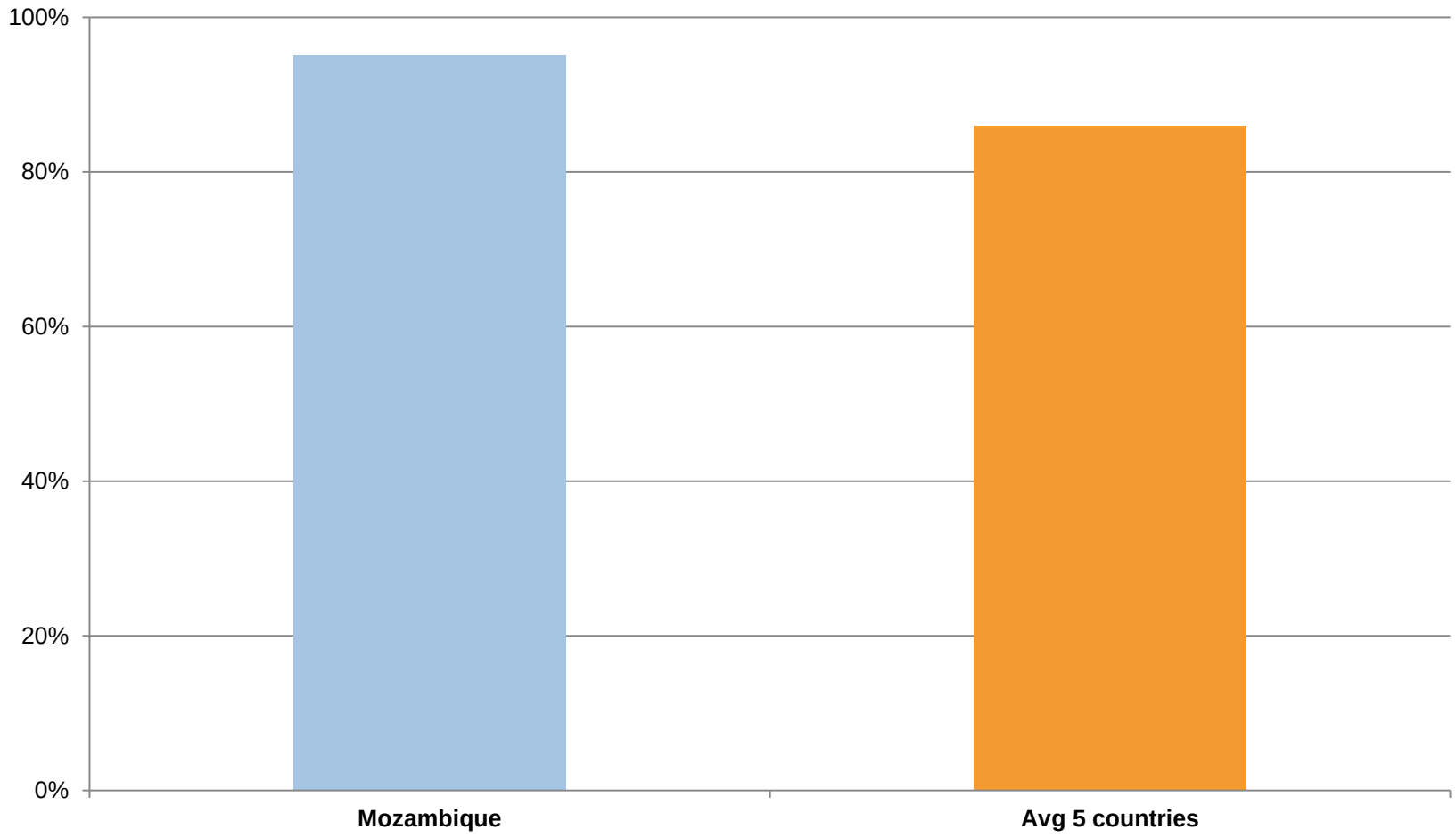

# Management of PPH

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| | No cases - Moz | No cases – 5 countries |
|---|---|---|
| Total PPH observations | 6 | 74 |
| **Type of treatment provided** | | |
| - Massage the fundus | 5 | 33 |
| - Manual removal placenta | 0 | 22 |
| - Bimanual compression | 0 | 2 |
| - Blood transfusion | 0 | 4 |
| **Medications provided** | | |
| - Oxytocin | 4 | 36 |
| **Outcomes** | | |
| - Surgery | 0 | 9 |
| - Maternal deaths | 0 | 0 |

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# From Policy to Practice: PPH Constraints Analysis

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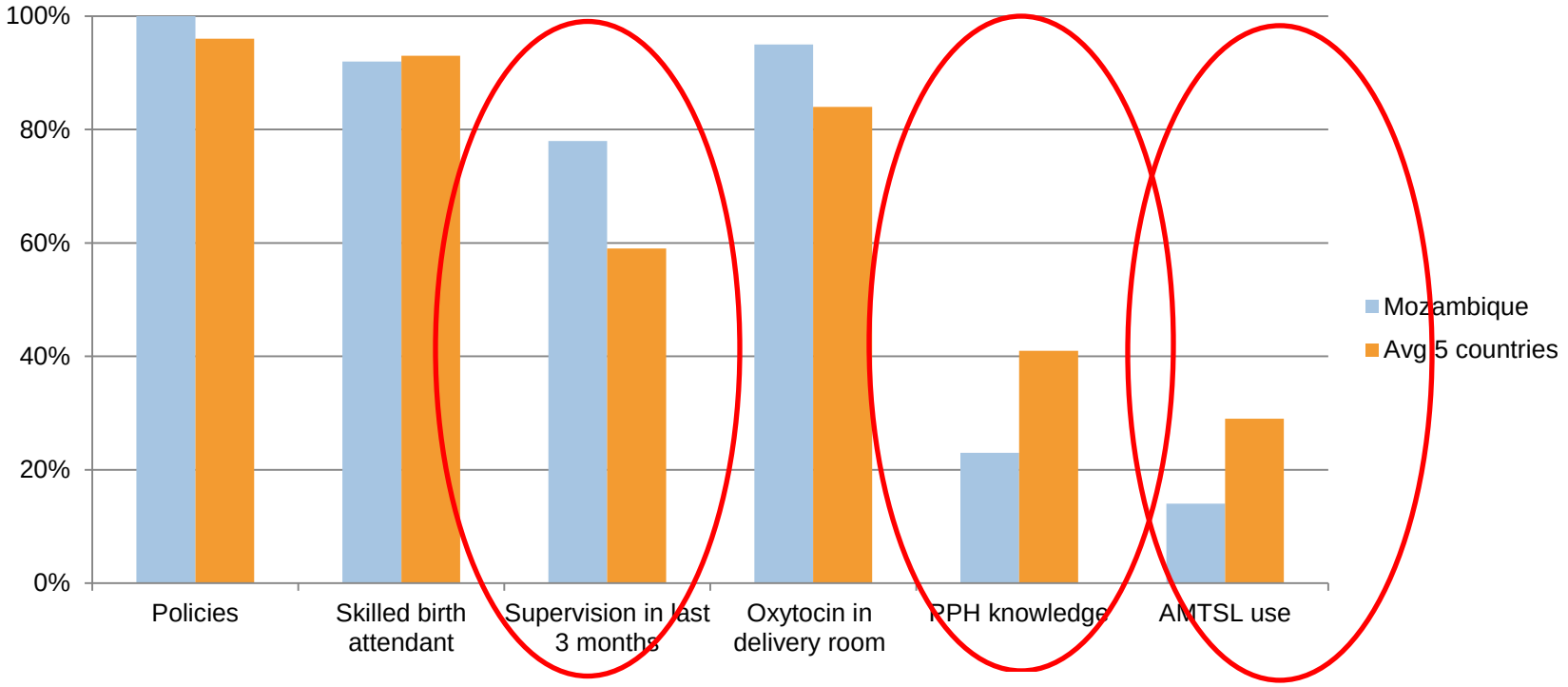


**RESULTS: Largest gap is knowledge.**

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# IMMEDIATE NEWBORN CARE

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# Immediate Newborn Care

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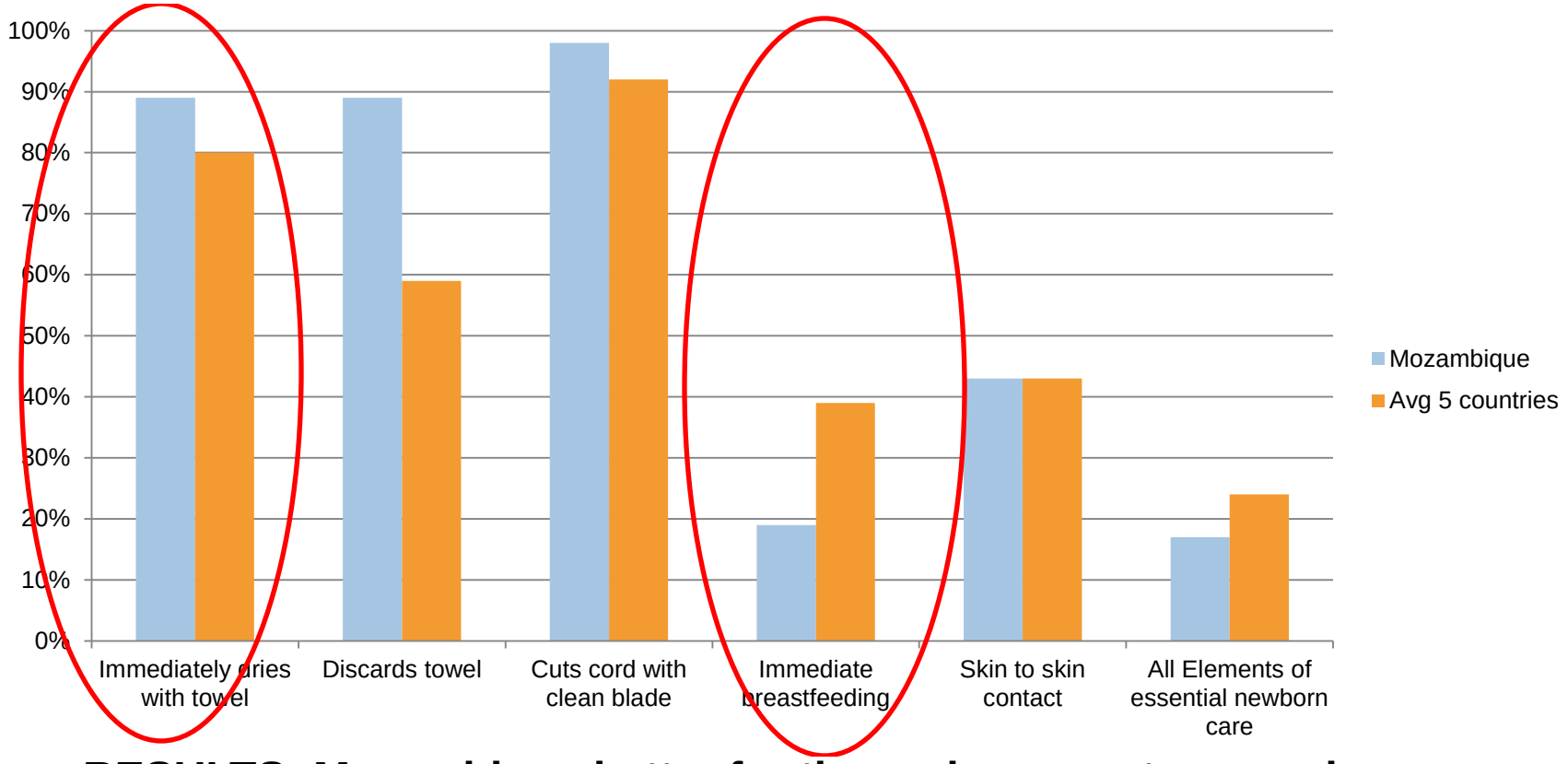


**RESULTS: Mozambique better for thermal care, not as good on immediate breastfeeding**

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# Case Study: Neonatal Resuscitation

## An example of the need for preparation for emergencies

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An 18 year old $G_2P_1$ woman reached the health center (non-model) at term in active labor, 4 cm dilated. Labor pains had started one hour before. She was attended by a basic level MCH nurse with 26 years experience. After a labor of 3.5 hours, she was fully dilated. Her water broke and demonstrated thick meconium. The nurse did not prepare materials for essential newborn care nor for resuscitation. After a 2nd stage of 10 minutes, a male child weighing 3700 grams was born. He was limp, cyanotic, with faint respirations. The nurse cut the cord, but did not dry or cover the baby, did not aspirate the nose or mouth, and did not give stimulation.

The study team intervened, telling the nurse that the baby was clearly at risk of dying. A study team member stimulated the child, rubbing his back, but he did not improve. The team proceeded to suction the baby. The baby began to exhibit poor respiration. The team asked for a bag and mask. When the nurse found them, they showed signs of disuse. A pediatric bag and mask was found, but the rubber seal was missing. The team put the baby in skin to skin contact and covered him with a dry cloth. His mouth and nose were covered with gauze and a study team member administered mouth to mouth resuscitation. Hot did not respond. He was pronounced dead 30 minutes after birth. 10 minutes later, the nurse returned with the missing piece of the mask.

# From Policy to Practice: Essential Newborn Care Constraints Analysis

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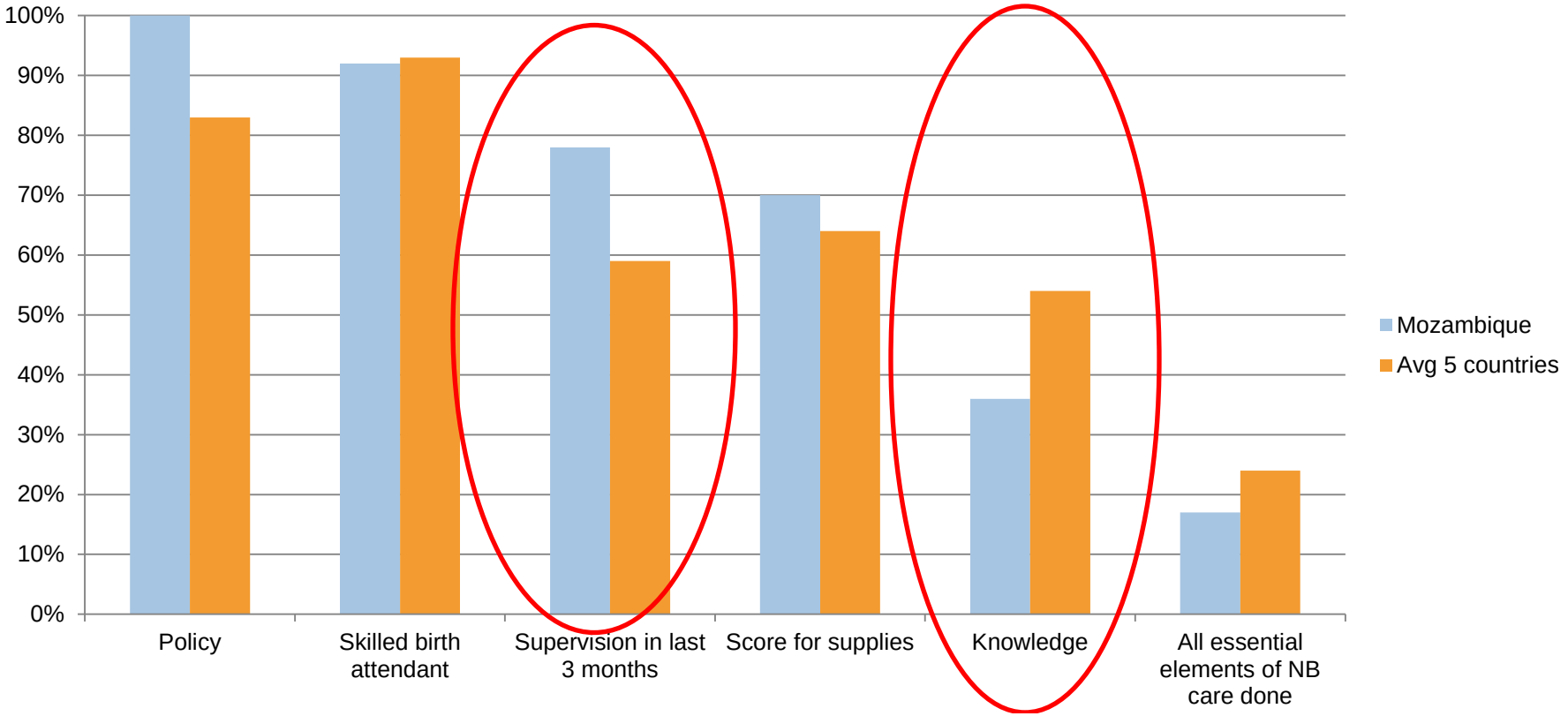


**RESULTS: Knowledge again the biggest gap**

# MODEL COMPARED TO NON-MODEL MATERNITIES

# ANC Preventive Interventions

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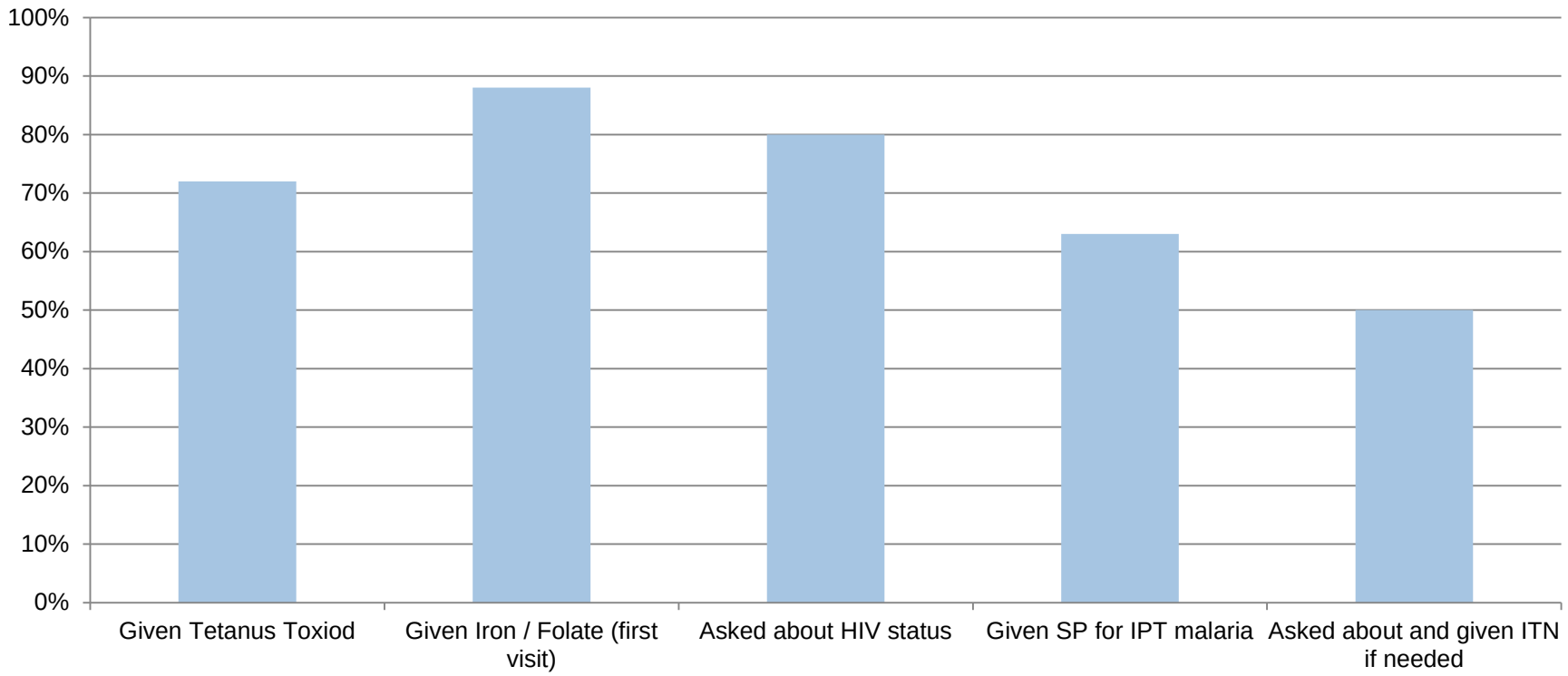
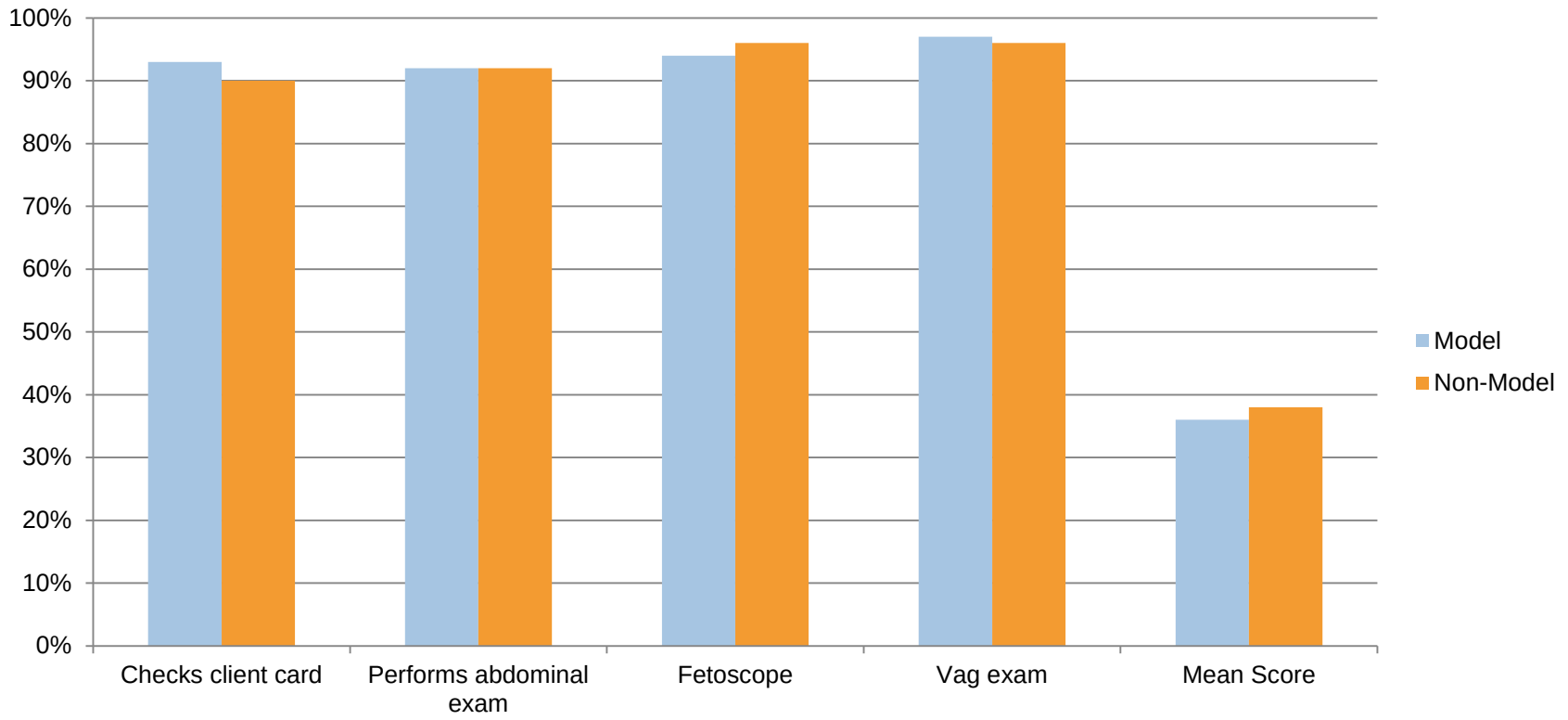


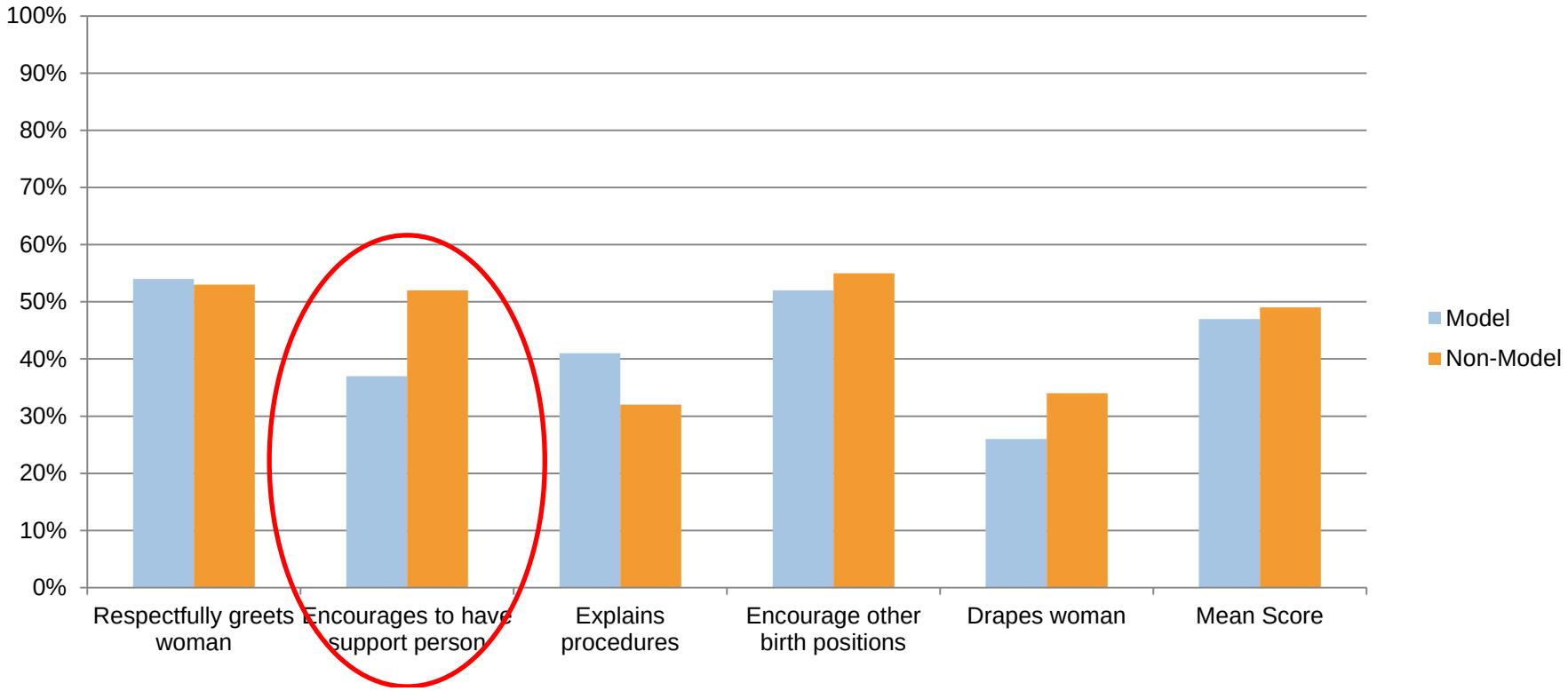

**RESULTS: In this group of facilities, preventive measures relatively well done, but with need for improvement**

# Essential obstetric practices



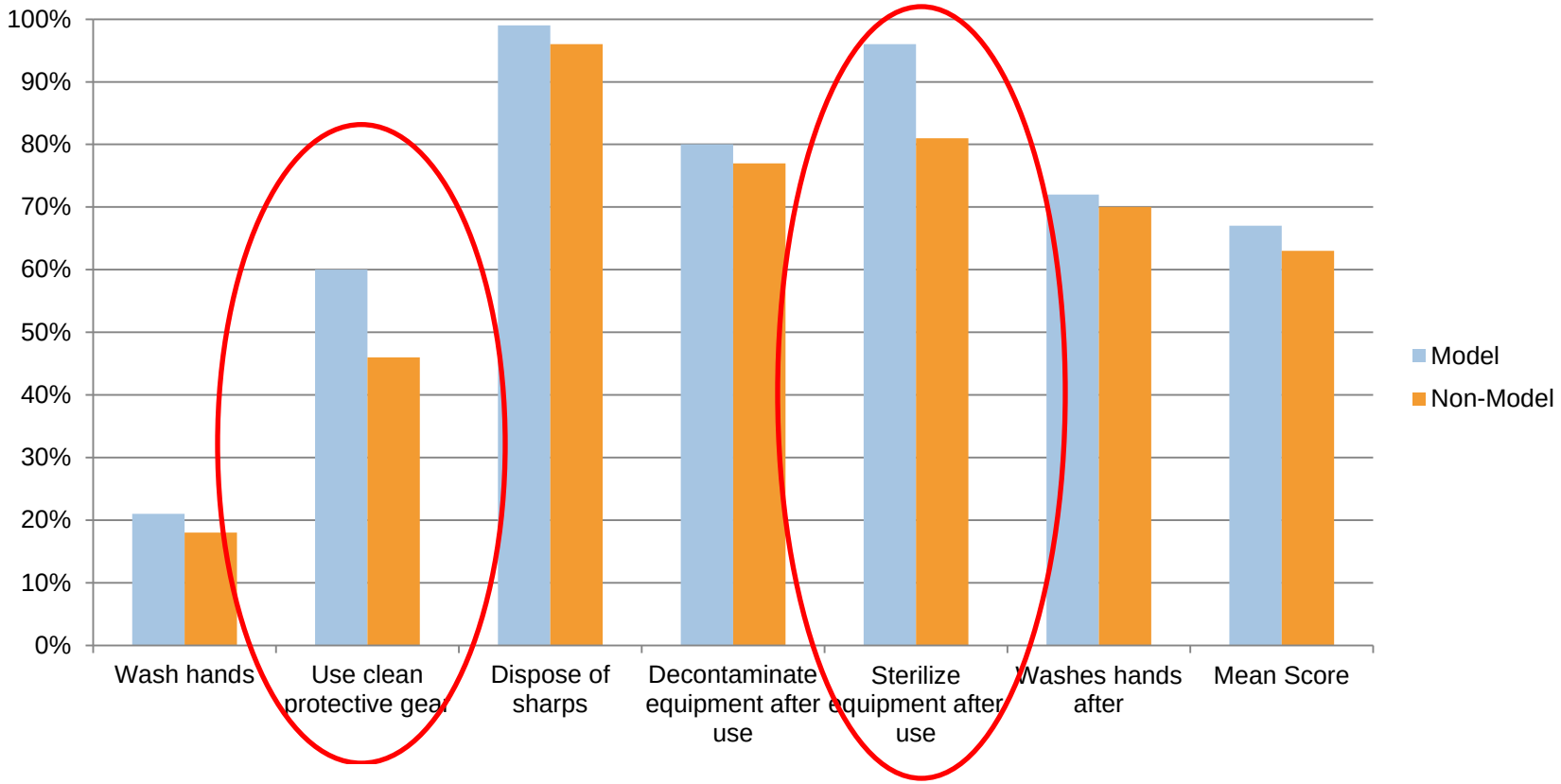

**RESULTS: No differences**

# Humanization of care



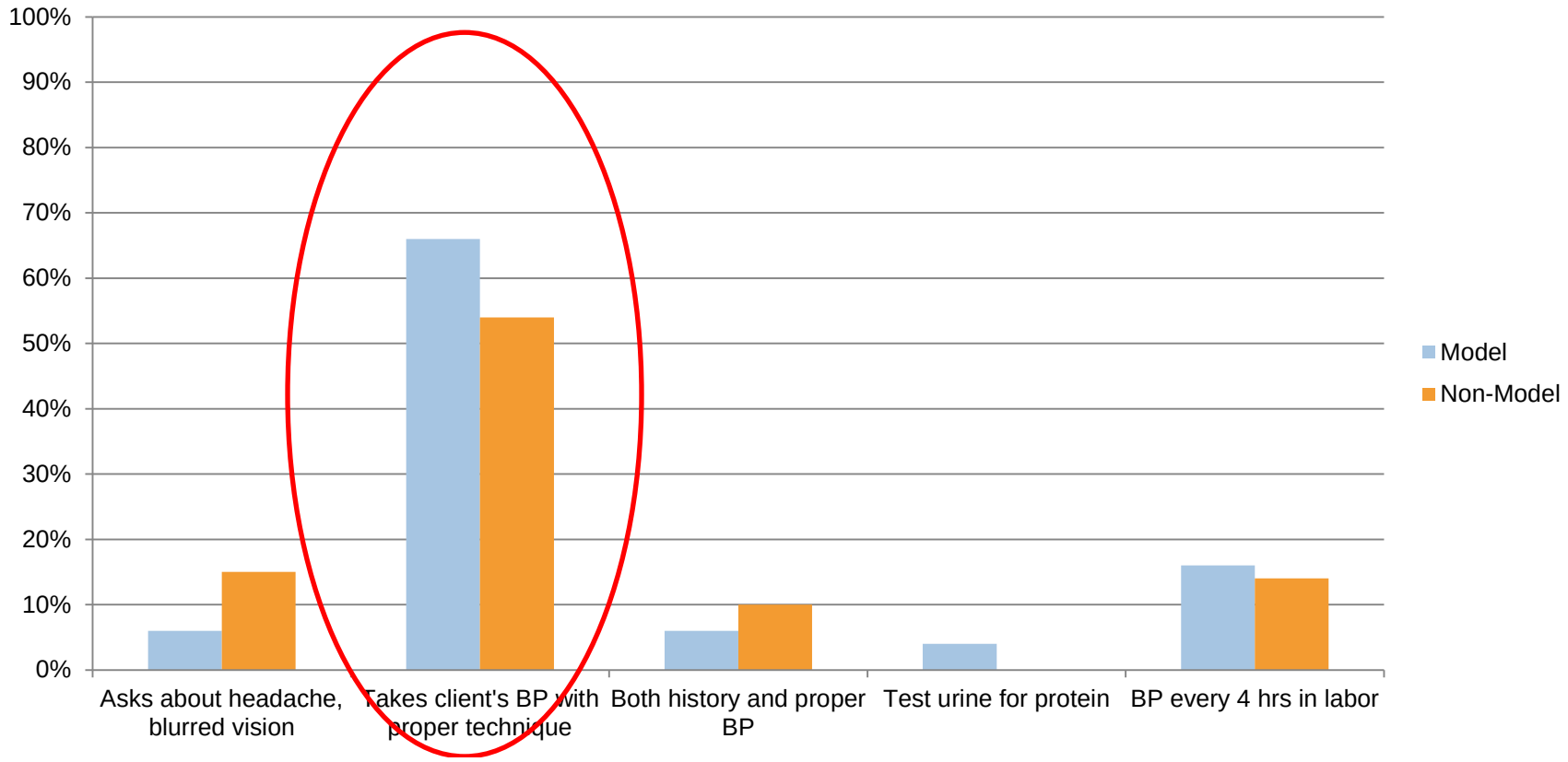

**RESULTS: Few differences, but woman MORE likely to be told to have companion in Non-Model Maternities; however, a companion is more likely to be present in a Model Maternity facility.**

# Infection prevention practices



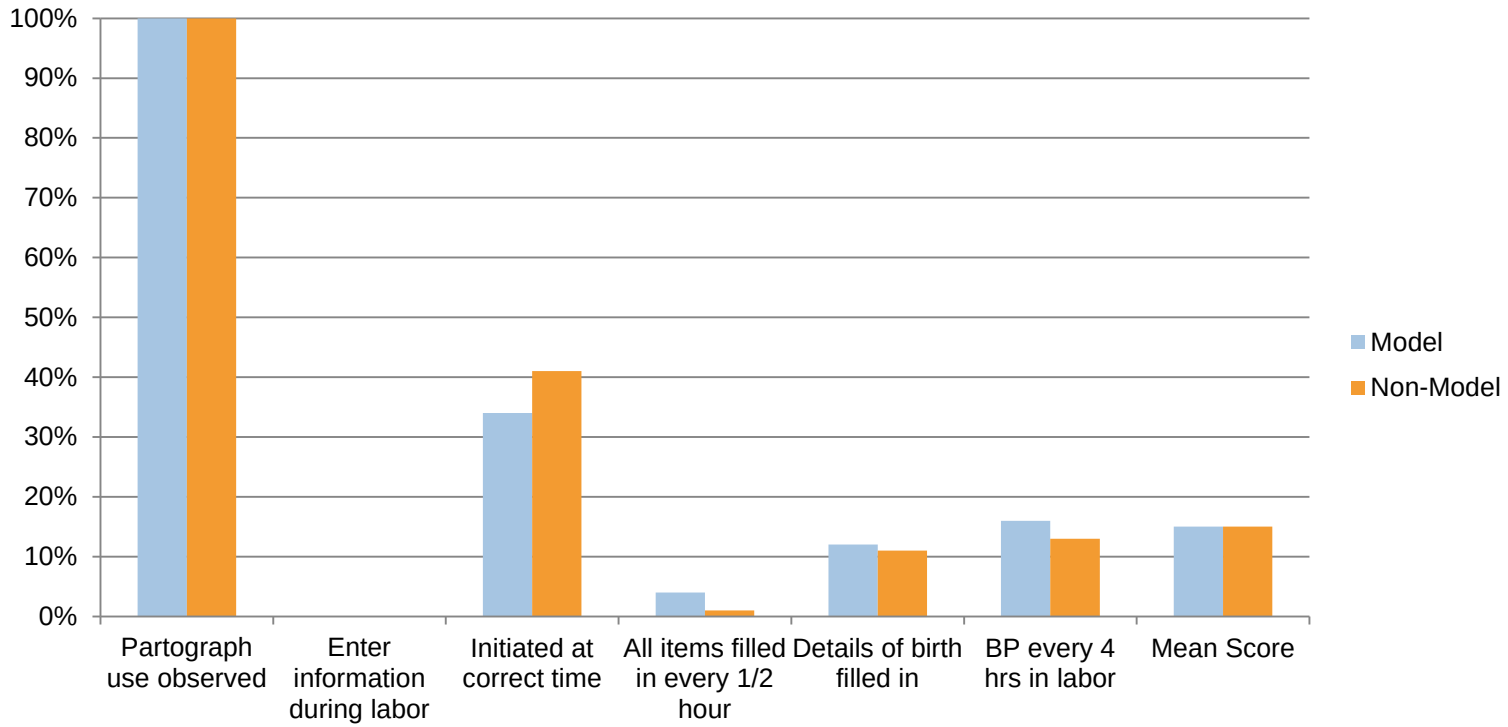

**RESULTS: Generally good except for washing hands BEFORE (similar results in other countries); better in Model Maternities**

# Screening for PE on L&D



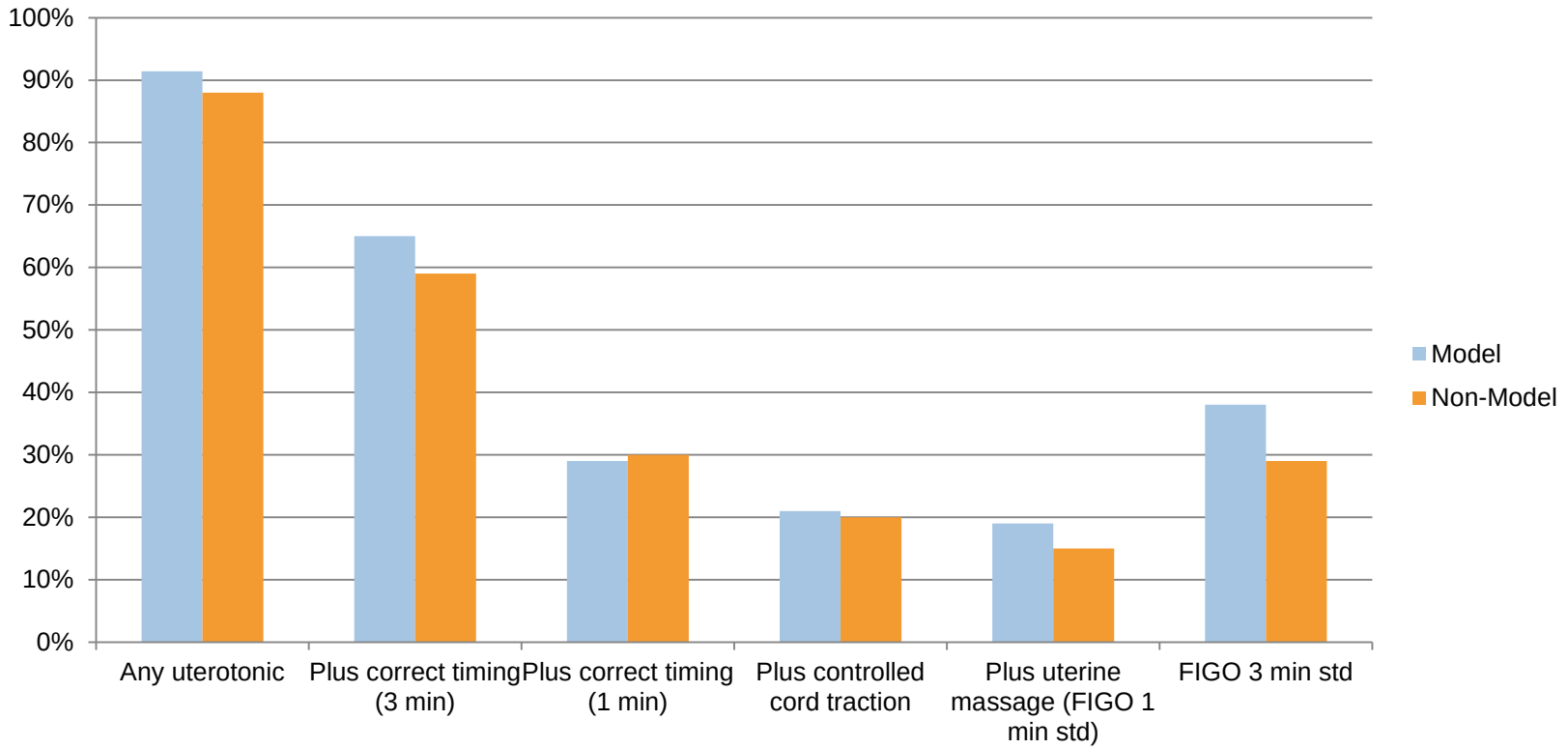

**RESULTS: Client's blood pressure more likely to be taken in Model Maternities. BP apparatus not present in many maternities.**

# Partograph use



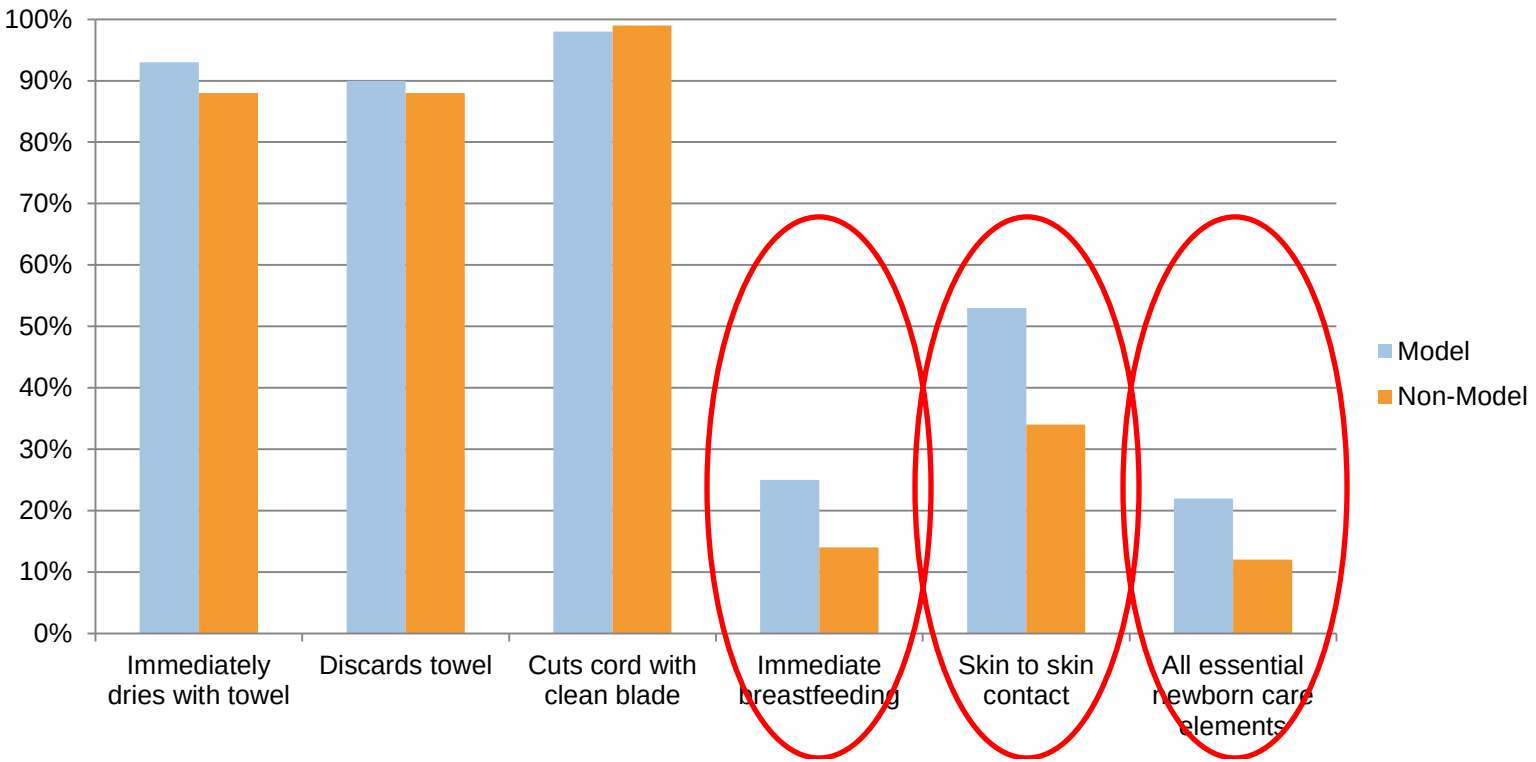

**RESULTS: Low use of partograph; always filled out AFTER birth. No difference Model or Non-Model**

# Active management of 3rd stage



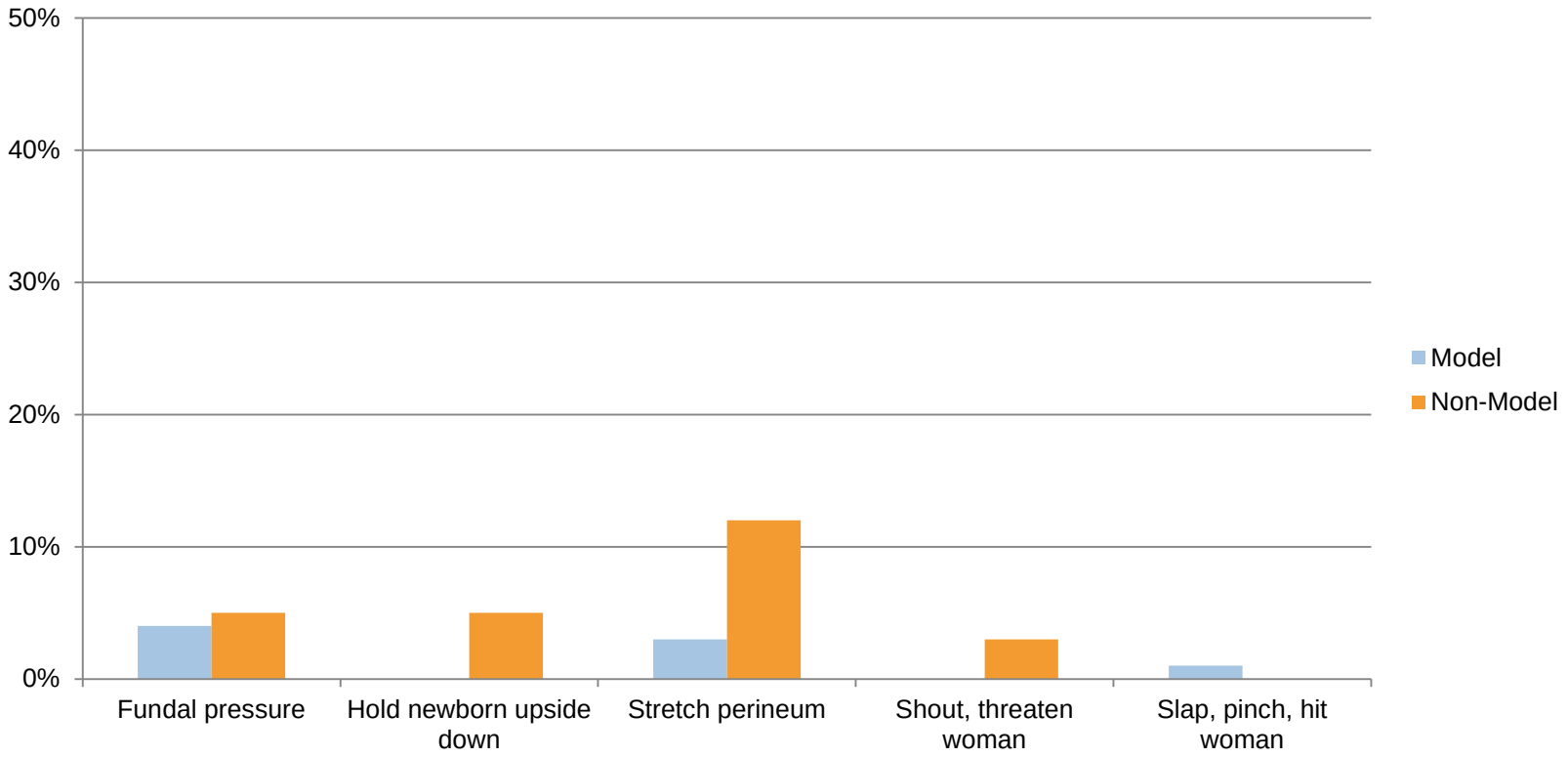

**RESULTS: Excellent uterotonic usage. Other components of AMTSL not performed as consistently.**

# Essential newborn care




**Results: Immediate breastfeeding and skin-to-skin contact better in Model Maternities, but still need improvement.**

# Non-beneficial & un-indicated practices




**Results: Un-indicated practices infrequent except stretching perineum in Non-Model Maternities.**

# Other observations

- During ANC care, many nurses counseled women to bring a capulana to the Labor Ward. This mitgated the effect of the lack of bedsheets.
- Oxytocin was often not refrigerated, even in health facilities with a refrigerator and a reliabel source of electricity. In some health facilities health personnel said they had received instructions that it was not necessary to refrigerate oxytocin.
- In some facilities, the nurse gave oxytocin routinely after the delivery of the head.
- In spite of using gloves, the fact that they used gloves, many health workers did not maintain sterility, touching various surfaces before touching the patient.

# Limitations of the study

- Observers were not "gold standard observers" as it is done, for example, in some evaluations of IMCI, but they were MCH nurses and nurse trainers with additional training in observation. Probably they made accurate assessments, but there may be some errors in their judgments.
- The sample size is limited. The ability to do sub-group comparisons is, therefore, limited.
- Non-Model Maternities are not ideal controls because they are not exactly equivalent to Model Maternities. They tend to be smaller health facilities compared Model Maternities.
- As a control, the Non-Model Maternities were "contaminated" because many health providers there had also received training

# Conclusions - General

- Essential commodities for Maternal and Newborn care (oxytocin, MgSO4) available in almost all maternities
- Knowledge is one of the largest gaps shown in Constraint Analyses
- Few differences between MMI and non-MMI facilities
  - This is probably an indication that effect of training has diffused to non-MMI facilities
  - This means that the quality of care in a group of Maternities covering almost 50% of all institutional births (Model Maternities plus Non-Model Maternities in MISAU's expansion plan) is at a fairly similar level to a reference group of health facilities in 5 other SS African countries

# Conclusions – Specific Areas

- AMTSL: Uterotonic use almost universal but other components need improvement
- PE Screening: Need for improvement, especially in ANC setting
- Partograph: Still not usually used and when used, it is almost always AFTER delivery
- Infection Control: Fairly well practiced, except for handwashing before client contact; better in Model Maternities, but need for improvement
- Management of complicated cases: Readiness for complications was affected by the fact that equipment and material was often not prepared previously.

# Recommendations (1)

- Mozambique should be included in 2012 rapid oxytocin potency study to see if lack of refrigeration is affecting pharmaceutical quality
- Urgent need to improve partograph use
  - Need to interview ESMI: Why is partograph not used and what might improve the situation? Is it worth exploring use of e-partograph?
- Need to expand the focus of the MMI to ANC care (improve screening for PE and other preventive interventions)

# Recomendações (2)

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- Lessons from infection control should be emphasized more in maternities (e.g., washing hands before patient contact).
- Simple solutions can be applied as has been done for Model Inpatient Wards like Beira Central Hospital. They have several sites near patient contact areas so that service providers can easily wash their hands with liquid soap before patient contact.
- Need to broaden the focus of MMI to put more emphasis on ANC (to improve PE screening and other preventive interventions)
- Obstetric and neonatal emergency preparedness needs to be emphasized more during training and supervision.

# Next steps

December:

- Examine study results in more detail
  - In-depth analysis of Model vs. Non-model
  - Description and analysis of complicated cases

January:

- Write complete report
- Discuss results with provincial and health facility personnel to assist in joint planning of quality improvement interventions

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# Thank you

# Obrigado

# Kanimambo



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