Improving Postnatal Care For High Risk Mother Infant Pairs at MLM Hospital, Ba-Phalaborwa

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Introduction

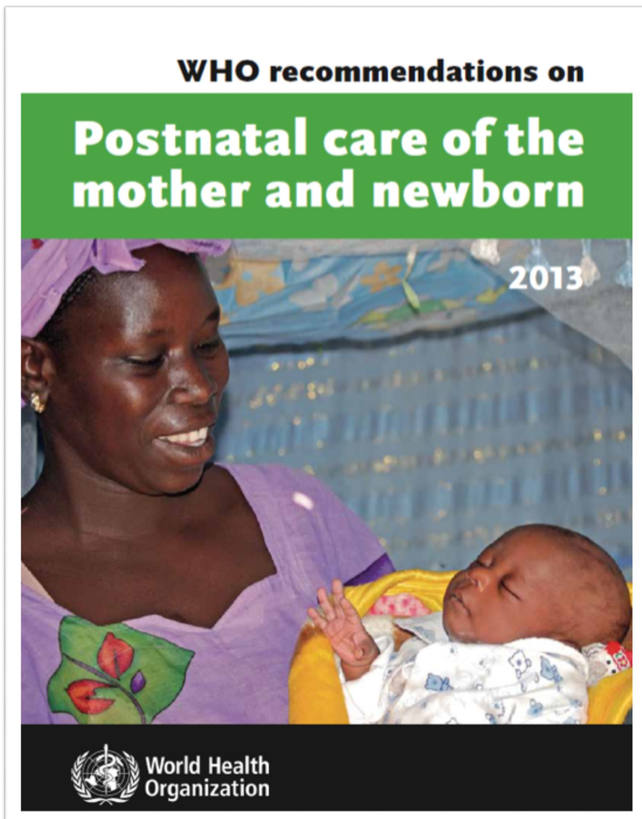
The postnatal period (6 weeks following childbirth) is a critical time for mother and baby.

During the period mothers are vulnerable to physical and mental health problems, with babies being most at risk of dying in the first month of life. Despite evidence that postnatal care (PNC) reduces neonatal mortality, it has been relatively neglected, including in South Africa. Evidence shows that improved post-natal follow up of pre-term infants would lead to a decrease in the large numbers of post-discharge deaths from respiratory tract infections.

The WHO guidelines recommend:

- Postnatal care in the first 24 hours
- Four postnatal visits: (1) first day; (2) day 3; (3) between days 7-14; (4) six weeks
- Home visits
- Support identification of issues and referrals

We identified a gap in postnatal care, with the 7-14-day visit not included within postnatal routine care in South Africa.



What were our objectives?

To determine the feasibility and scalability of a model providing an additional telephonic postnatal contact at 7-14-days and to assess the outcomes of the call.

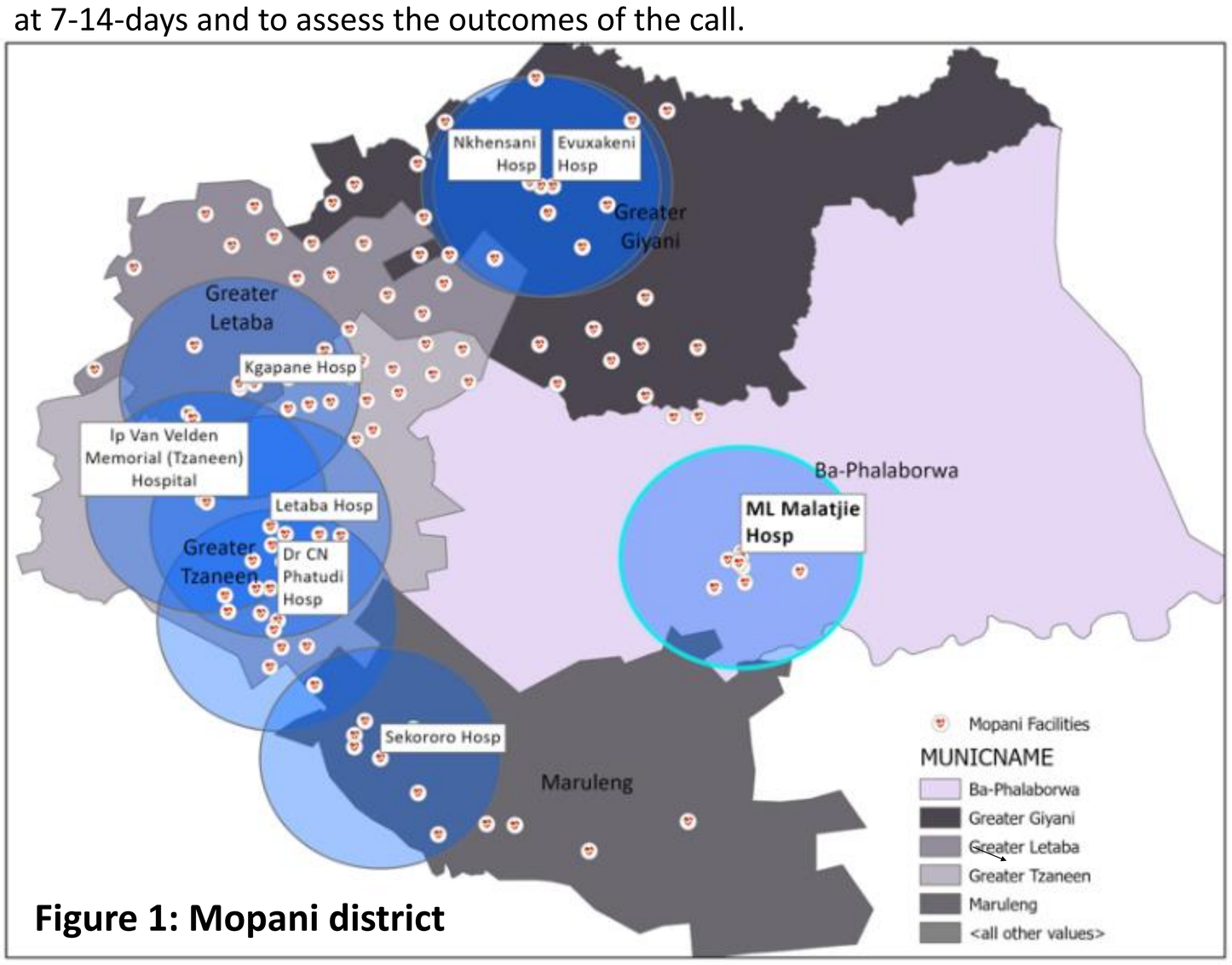


Figure 1: Mopani district

Study location:

- We collected data for this study at Maphutha L Malatjie Hospital (MLMH), Mopani district
- MLMH is the only hospital located in the sub-district of Ba-Phalaborwa
- 79% of the sub-district's deliveries occur at this hospital

What was our approach?

- We collected data from mothers who had recently delivered and were admitted in the hospital during the study period August 2020 to January 2021 (see Figure 2).
- The following data collection tools were created for this purpose: a risk assessment tool, 7-to-14-day check tool, a follow up tool, 3 months follow up tool and a file review.
- Following delivery and at discharge all mothers were invited to participate and assessed for risk using the risk assessment tool. Following this they were classified into high or low risk groups .
- Randomised mothers in the high-risk group received the 7–14-day call from the research nurse and mother-infant pairs (MIPs) with problems identified during this call were referred to the appropriate level of care.
- All MIPs with postnatal problems identified during the 7–14-day call were followed up a week later.
- MIPs attended their 6-week postnatal check-up (as per standard care guidelines).
- At 3 months, a telephonic follow up was conducted by the research nurse with all study participants (high risk and low risk) enrolled at the beginning of the study.
- A file review was then conducted for selected MIPs.

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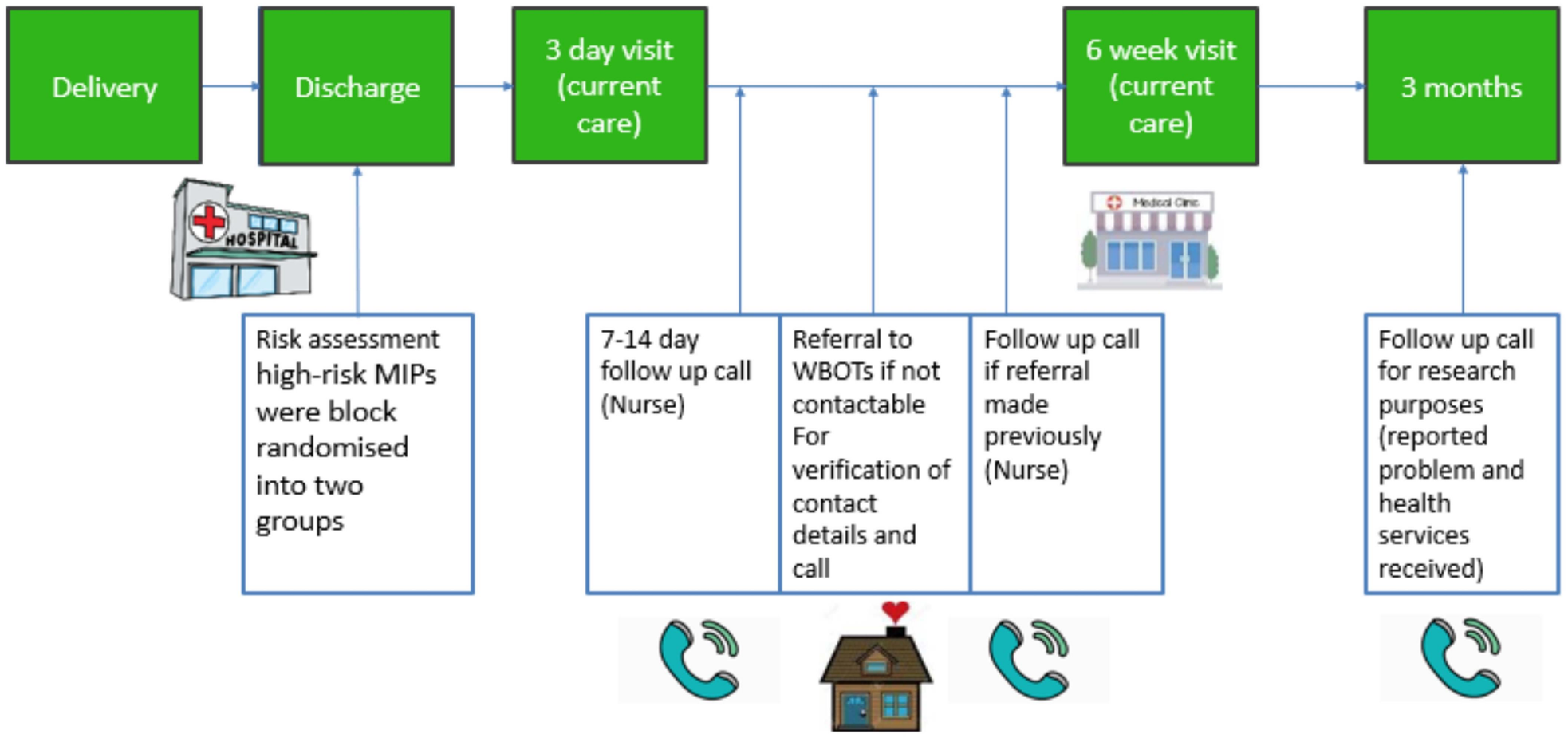
Figure 2: Intervention timeline

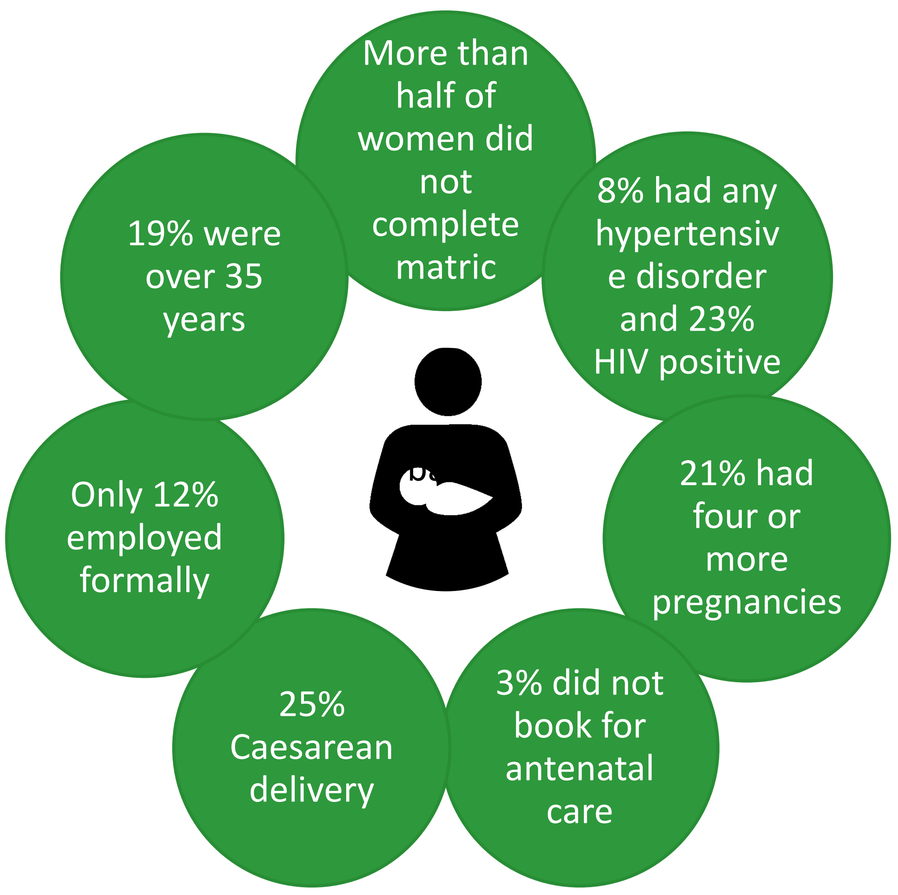


What did we find?

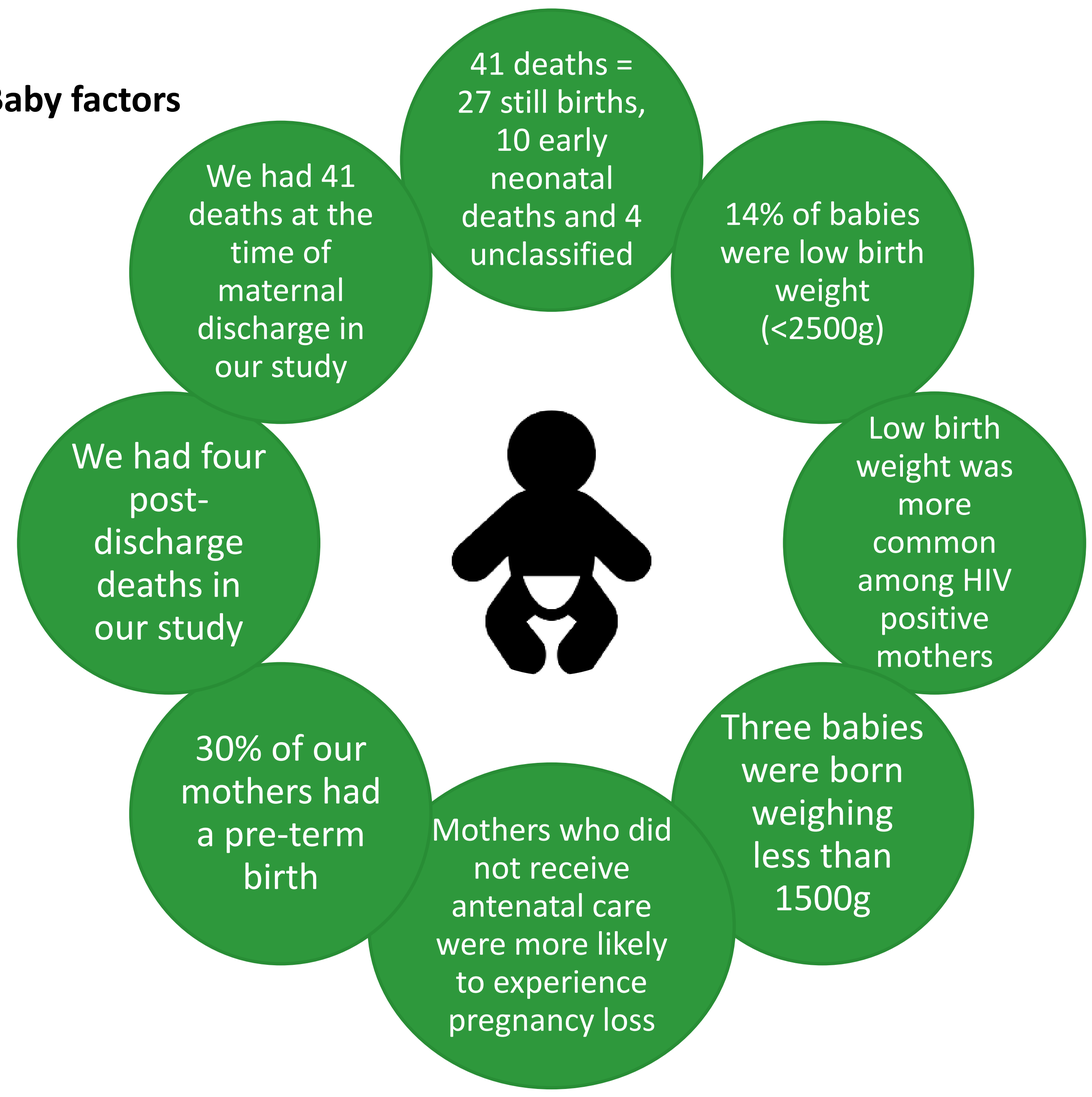
1 Study description

- 882 MIPs were recruited into the study
- 854 MIPs were classified as high risk
- The 7-to-14-day call was conducted for 417 (49%) high risk mothers
- 50 (12%) referrals were made following the call
- Follow up calls on those referred were conducted for 46 mothers (with 4 mothers being unavailable)
- 686 (78%) of all mothers enrolled received a 3-month follow up call (tried to contact all mothers, these were contactable)
- Of these, 30 mothers reported accessing other health services
- Amongst the mothers who received a referral during the 7-to-14-day call or mothers who reported accessing other health services during the 3 months follow up, a file review was conducted for 54 mothers

2 Mother characteristics



3 Baby factors



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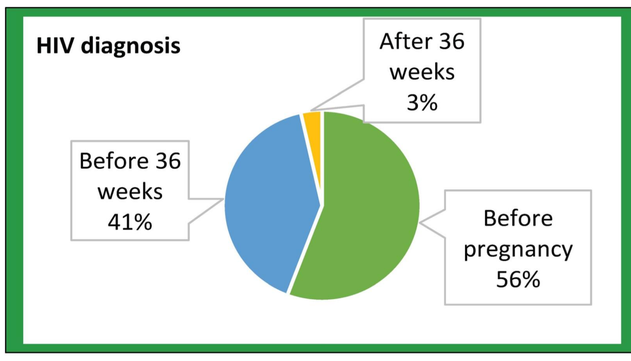
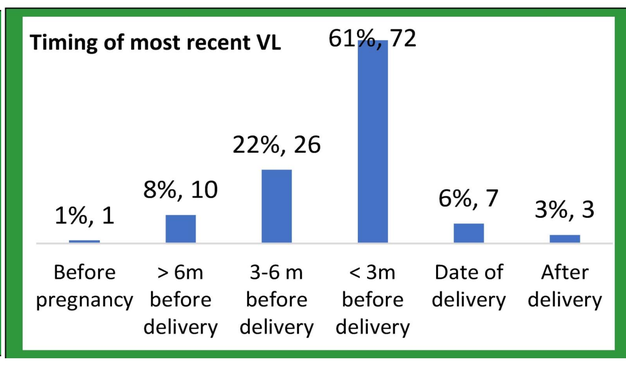
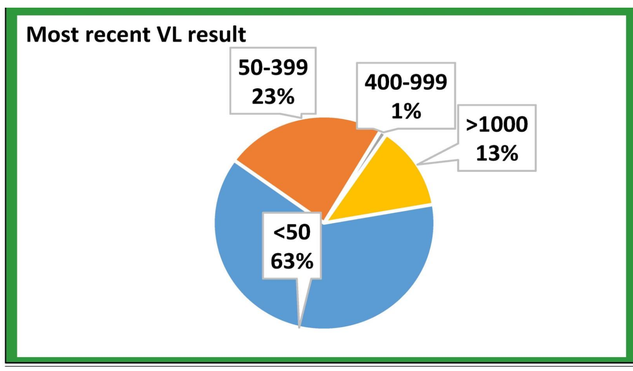
4 HIV and Mental health



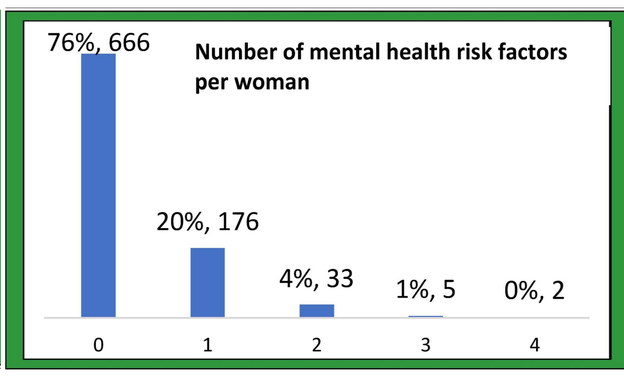
- 201 HIV positive women (23%)
- Of the HIV negative women, only 28 (4%) were tested for HIV at delivery
- Only 2 babies did not have a birth PCR done. Results were only available for 2 babies (negative) at discharge
- 182 HIV exposed babies (93%) received 6 weeks of NVP; 13 received a single dose



- 59% of women with HIV had a recorded viral load
- 61% of women with a VL result, had the VL taken <3 months before delivery
- 51% had a recorded result



- 13% of women had a VL>1000 copies/ml
- Of women with a VL>1000 copies/ml: 11 were results from <3m before delivery and two were taken VL 3-6m before delivery, with no further action taken



- Mothers who presented with no income, no clinic booking, HIV positive status, and any hypertension were more likely to have at least one mental health risk factor.

5 3-6-day clinic visit

- Baby checks during the visit were well completed, although 10% of babies were not weighed
- Mothers were only asked about their mood in 5% of the cases and 18% of those with a c-section reported their wound was not checked

6 7–14-day call – problems identified, and referral made

- 416 (49%) mothers received the 7-14-day call
- Over 90% felt that the call was helpful
- The following problems were identified during the call:

Mother problems

- 26 (6%) mothers did not attend their 3-6-day clinic visit
- 5 mothers had breastfeeding problems
- 4 mothers had abdomen or bowel problems
- 1 mother had a perineal problem
- 3 mothers had mental health problems
- 5 mothers had breastfeeding problems
- 6 mothers had c-section-related problems

Baby problems

- 2 babies were not feeding well
- 1 baby had convulsions
- 4 babies were breathing fast
- 1 Baby was not moving spontaneously
- 5 babies had yellow palms and soles
- 2 babies had puss and redness around cord

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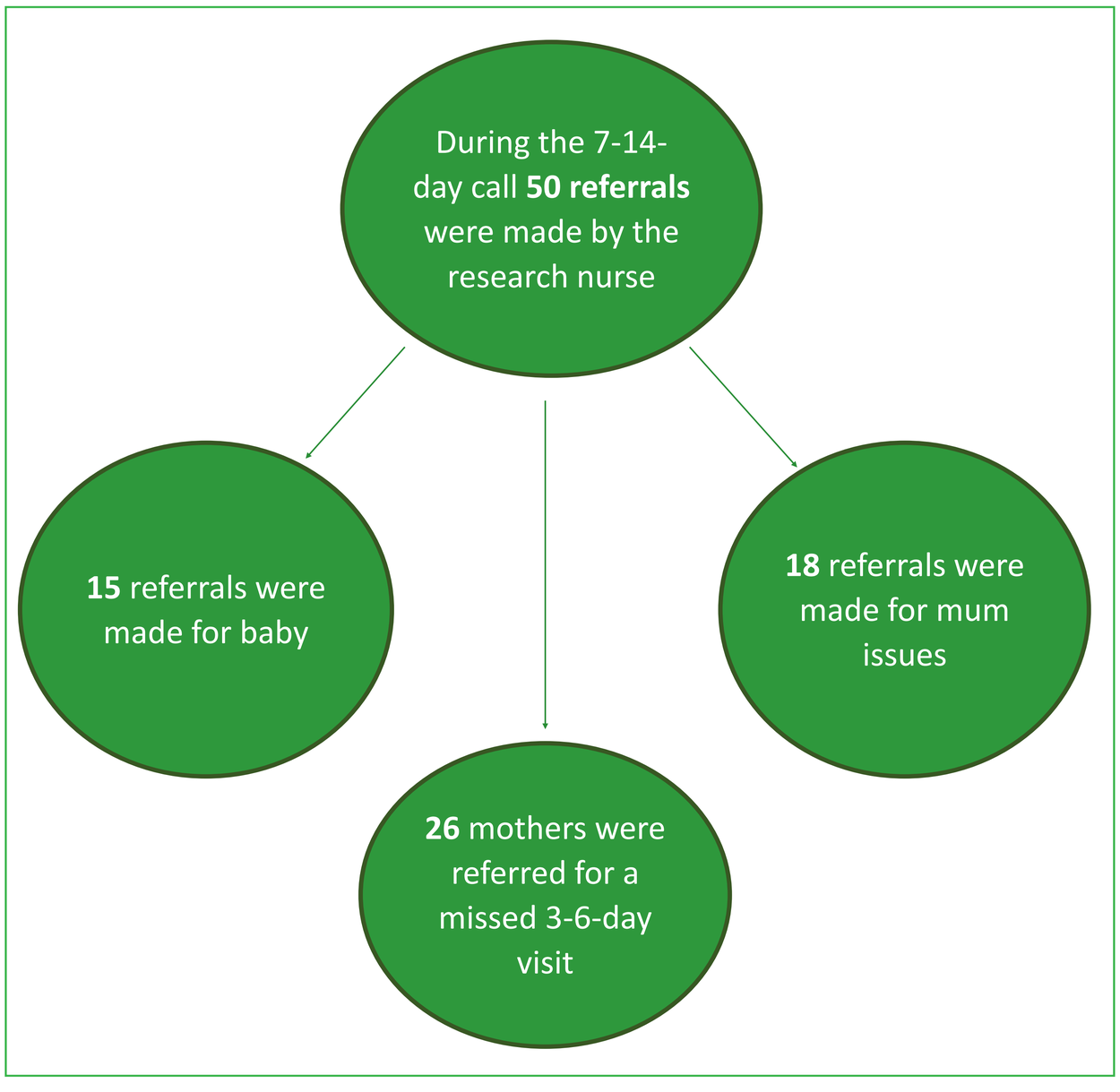

7 So what was the impact of the 7-14-day call?

- The 7-14-day call did not influence access to additional services by mothers, however mothers who received the call expressed gratitude for being checked up on by the nurse
- Mothers who presented with hypertension, mental health risk, PV bleeding during pregnancy and problem in labor were more likely to access other health care services
- Three out of the four post-discharge deaths occurred before the 7-14-day call. One occurred afterwards with the call not identifying risk in the baby

Conclusion

- Many more MIPs were classified as high risk than anticipated. This was mostly due to mothers experiencing social factors which could affect their health. Important risk factors included low rates of secondary school completion and employment, important comorbid conditions like HIV and hypertension, and high rates of preterm births.

- HIV testing at delivery and adherence to viral load guidelines were sub-optimal. The majority of HIV negative mothers were not tested at delivery. Many mothers living with HIV had no viral load results available. We also found viral suppression rates were poorer in women initiating ART during pregnancy. Infant HIV testing was high, although as expected, very few results were available prior to discharge.

- Our study finds low levels of postnatal depression, likely due to a reporting bias. Having no income, no antenatal care, having HIV and any hypertensive disorder was associated with the presence of a mental health risk factor. Mental health was not checked at the 3-6-day visit and is a neglected part of postnatal care.

- Further enquiry is needed to understand the high number of pregnancy losses/still births. Mothers who did not receive antenatal care were more likely to experience pregnancy loss.

- Although we find the 7-14-day call not to influence access to additional health services, the study does show that hypertension, mental health risk, PV bleeding during pregnancy and problem during labour, which were common in this population of women, were linked with additional postnatal health care visits. In addition, women who received the call expressed that they found it helpful. While the majority were simply happy to receive the call and check-in, some women expressed they were happy with the call because baby or mother issues were resolved. Therefore, there is a need for additional care to be provided to high-risk mothers and babies postnatally.

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