

# POSTNATAL CLUBS TOOLKIT



**A Differentiated Model Of Care Integrating Maternal, Child Health  
And Prevention Of Mother-To-Child Transmission Of HIV**

# ACRONYMS

|              |  |
|--------------|--|
| <b>ART</b>   | Antiretroviral therapy                     |
| <b>ARV</b>   | Antiretroviral                             |
| <b>CDU</b>   | Central dispensing unit                    |
| <b>CF</b>    | Club facilitator                           |
| <b>CN</b>    | Club nurse                                 |
| <b>ECD</b>   | Early childhood development                |
| <b>FM</b>    | Facility manager                           |
| <b>FP</b>    | Family planning                            |
| <b>HR</b>    | Human resource                             |
| <b>IMCI</b>  | Integrated management of childhood illness |
| <b>IUCD</b>  | Intrauterine contraceptive device          |
| <b>M2m</b>   | Mother 2 mothers                           |
| <b>MIP</b>   | Mother-infant pair                         |
| <b>MSF</b>   | Médecins Sans Frontières                   |
| <b>MTCT</b>  | Mother to child transmission               |
| <b>PCR</b>   | Polymerase chain reaction                  |
| <b>PMHP</b>  | Perinatal Mental Health Project            |
| <b>PMTCT</b> | Prevention of mother to child transmission |
| <b>SOP</b>   | Standard operating procedure               |
| <b>RIC</b>   | Retention in care                          |
| <b>ROTF</b>  | Risk of treatment failure                  |
| <b>VL</b>    | Viral load                                 |

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## BACKGROUND

**In 2015, South Africa started implementing ‘Option B+’ for HIV-positive pregnant women, offering them antiretroviral therapy for life regardless of CD4 count.** Subsequently, mother-to-child transmission (MTCT) of HIV in South Africa has fallen from 16,000 (2010) to 5,100 (2015) new vertical infections annually [1]. Despite this success, some challenges remain, including relatively high postnatal transmission, estimated to be around 4.3% when infants reach 18 months of age [2].

**Khayelitsha is a township on the outskirts of Cape Town,** with a total population estimated at 500,000–1,000,000 people. The HIV antenatal prevalence is high (about 30%) compared to the rest of the Western Cape Province (5%) [3]. In 2013, 98% of pregnant women were tested for HIV on the same day as their first antenatal visit and started on antiretroviral viral treatment (ART) as a result of integrated antenatal care and HIV care [4]. At 10 weeks of age, MTCT is estimated at 0.8%

[4]. However, there is no data on the MTCT rate at 18 months due to poor test uptake--about 30% of exposed infants return for 18-month testing [4].

Studies have suggested that adherence to ART may be lower among postpartum women compared to non-pregnant adults started on ART [5][6]. There is also mounting evidence that postpartum retention in care of new mothers is poor. A study in the nearby township of Gugulethu suggested that nearly **30% of mothers default on ART in the first six months after delivery [6] . Non-adherence leads to viral rebound and an increased risk of postpartum MTCT through breastfeeding.** Reasons for poor maternal retention in care are summarized in Figure 1 and are thought to include: long waiting times and high patient volumes at the antiretroviral (ARV) clinic, younger maternal age, non-disclosure of HIV status, travel costs, inadequate knowledge about postnatal MTCT, stigma, regimen fatigue, and lack of partner involvement [4] [5] [6] [7]. Furthermore, literature

suggests post-delivery responsibilities including stresses and demands of caring for a newborn may be a potential barrier for adherence to treatment [8]. Also, negative staff attitude is considered to be a reason for a declining retention in care rate among pregnant and postpartum women [6][9].

One strategy to improve postnatal care and postpartum HIV care is integration of services. In 2011, UNAIDS recommended integration of prevention of mother to child transmission (PMTCT) with maternal, newborn and child health services [8]. South Africa produced a national PMTCT integrated model in 2011, recommending “integration of PMTCT into the existing maternal and child health interventions” [9]. However, **the implementation of integrated postnatal maternal and child health has been generally poor and ineffective.**

In recent years, adherence clubs have been adopted in South Africa as a differentiated model of care for clinically stable adults on ART. Adherence clubs serve the dual purpose of decongesting health facilities by scheduling group prescription pick-up of ART and health checks, and also provide an environment of peer support to patients on ART. **Clubs have shown good patient retention in care and virological outcomes compared to standard of care** [10][11]. Different models of clubs have since been assessed, such as community-based adherence clubs, which also showed good adherence and retention in care [12].

Following lessons learnt from implementing adult adherence clubs, Médecins Sans Frontières (MSF)/Doctors Without Borders in partnership with mothers2mothers (m2m) and City of Cape Town (CoCT) Health decided to create a new differentiated model of care called “Postnatal Clubs” (PNC). The objective of the toolkit entails:



# WHAT IS THE PURPOSE OF THIS TOOLKIT?

1. To provide programmatic information and advice on what is required to start PNCs in other facilities.

2. To provide a practical guide implementing and managing PNCs to assisting the health care staff in supporting mother-infant pairs (MIPs) in clinical care and early childhood development (ECD) as part of First Thousand Days.

## Consequences

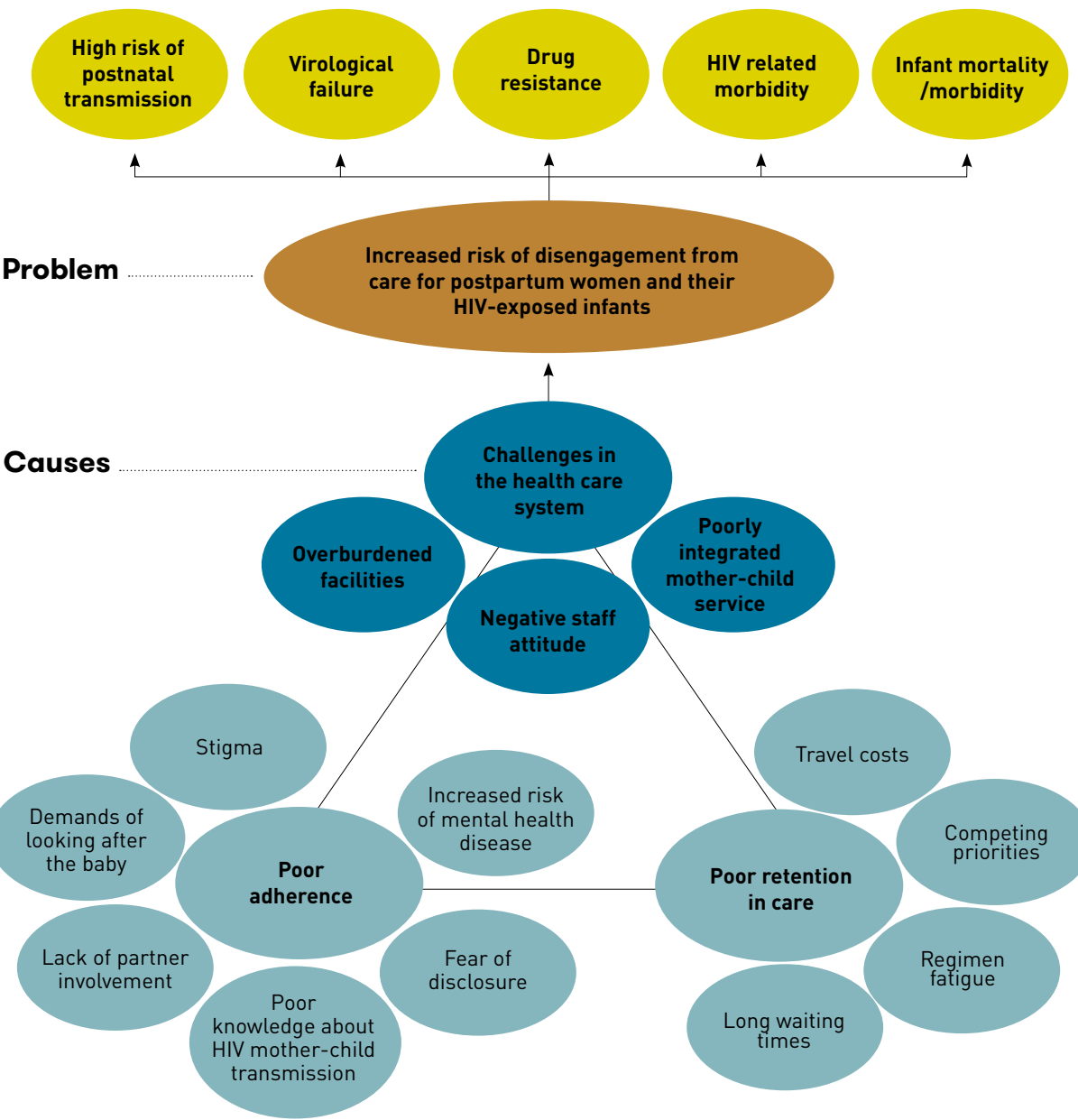


Figure 1: Problem tree of the causes for increased risk of disengagement from care for postpartum HIV-infected women and their HIV-exposed infants





# POSTNATAL CLUB OVERVIEW





# WHAT IS A POSTNATAL CLUB?

PNC is a holistic patient-centered model of care addressing the medical needs of both a mother living with HIV and her HIV-exposed infant. It also provides peer support, psycho-social support and ECD support.



- Group Meeting (Club Facilitator)**
- + Meeting of 3-15 mother-infant pairs according to PNC schedule
  - + Session is led by a club facilitator
  - + Session includes 4 components (peer support, clinical check-up, early childhood development, and medication distribution)

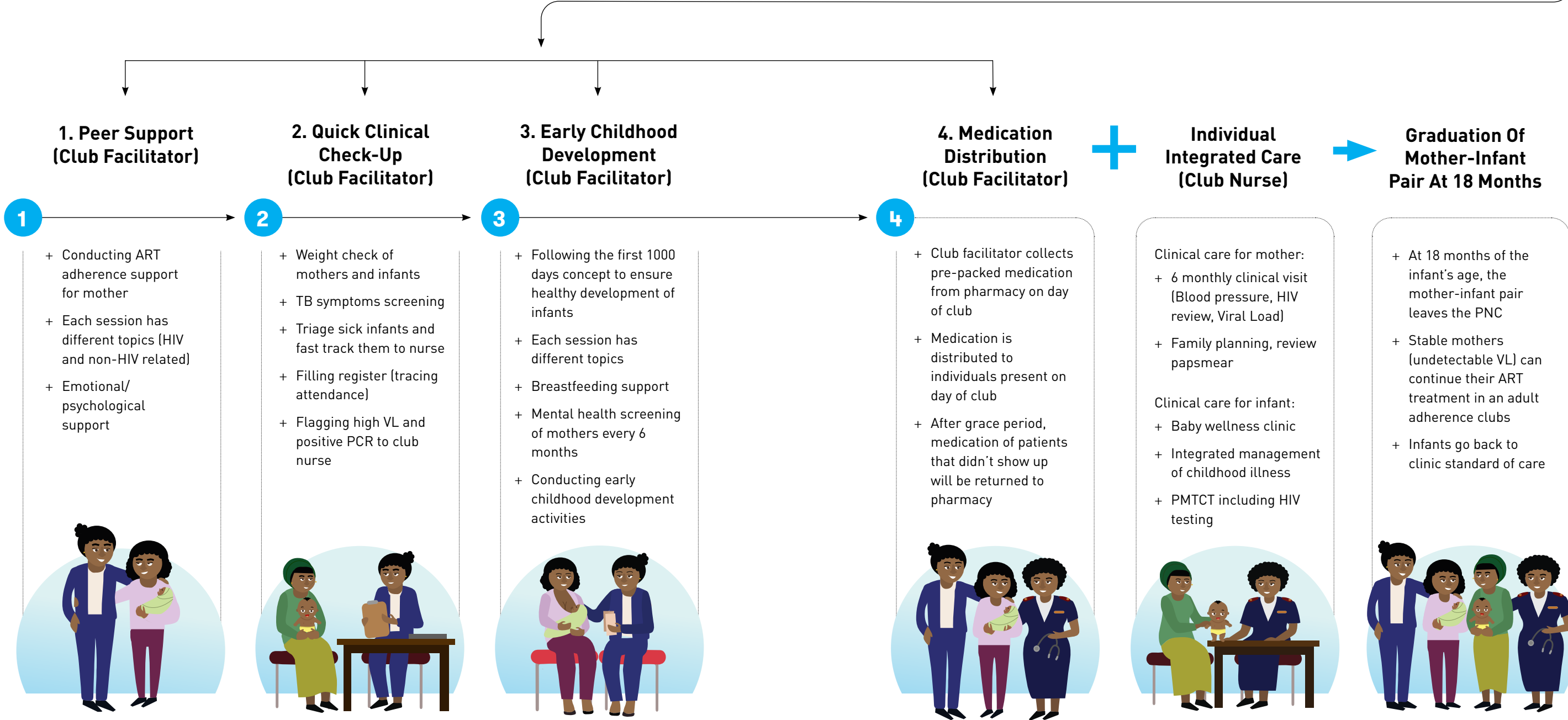
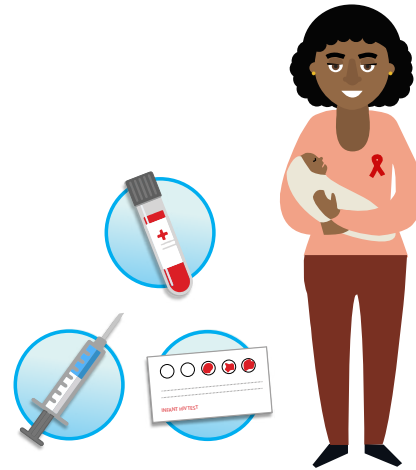


Figure 2: PNC Activities

## POSTNATAL CLUBS AIMS

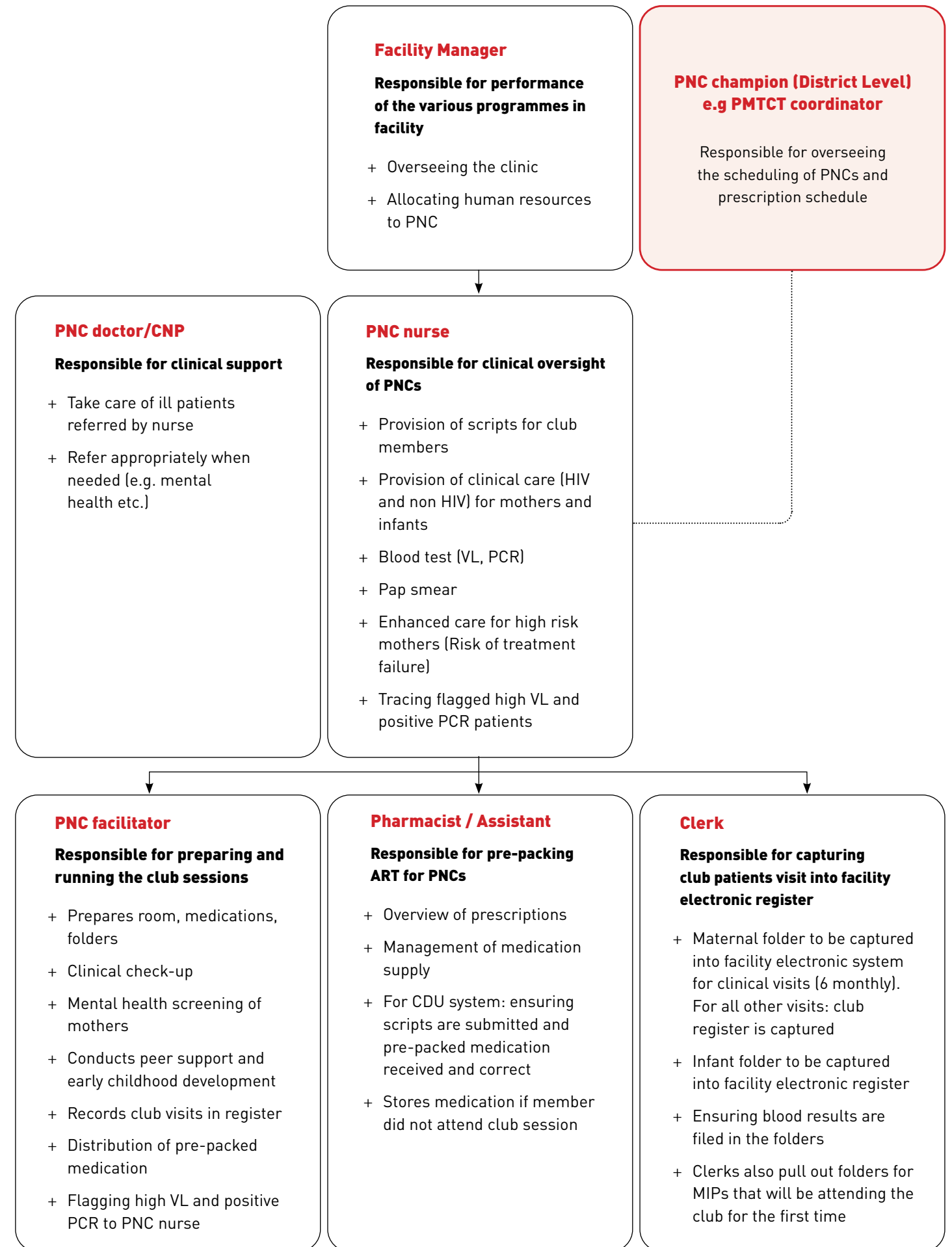
1. Retention in care (RIC) of MIPs
2. Maternal HIV viral load suppression
3. Prevention of mother to child transmission (PMTCT) of HIV
4. Infant HIV testing uptake
5. Full vaccination of infant
6. Improved quality of healthcare for mother and infant



## ROLES & RESPONSIBILITIES

The PNC model relies on a number of different healthcare workers to run smoothly. Figure 3 provides an overview of each staff member

involved in PNCs and detailed explanation are in the text on the next page.



**Fig 3. Roles and responsibilities of staff members involved in the PNC**





**Facility manager (FM):** They oversee the proper functioning of the clinic and allocate human resources appropriately. The FM takes responsibility for all the programmes at the facility including PNCs. Therefore, it is important to keep the FM informed about all club activities to receive adequate support when the club teams need it.

**PNC champion:** The club champion oversees the scheduling of club meetings and prescriptions at district level.

**PNC nurse:** The PNC nurse is responsible for the clinical oversight of PNCs including outcomes of viral load (VL), polymerase chain reaction (PCR) tests and pap smears. The PNC nurse ensures the club team is in place and the standard operating procedures (SOPs) are followed with respect to recruitment, club preparation, club session activities, follow-up and tracing of patients, as well as monitoring and evaluation. They prepare the prescriptions for the mothers of the PNCs. They also provide individual integrated care for HIV-positive mothers and their exposed babies including HIV and non-HIV care as well as management of childhood illnesses. For high-risk mothers of a PNC (with high VL), clinical care will be provided monthly and extra support to address risk of treatment failure will be given. They check the completeness and accuracy of the club register and keep the FM informed about the club progress.

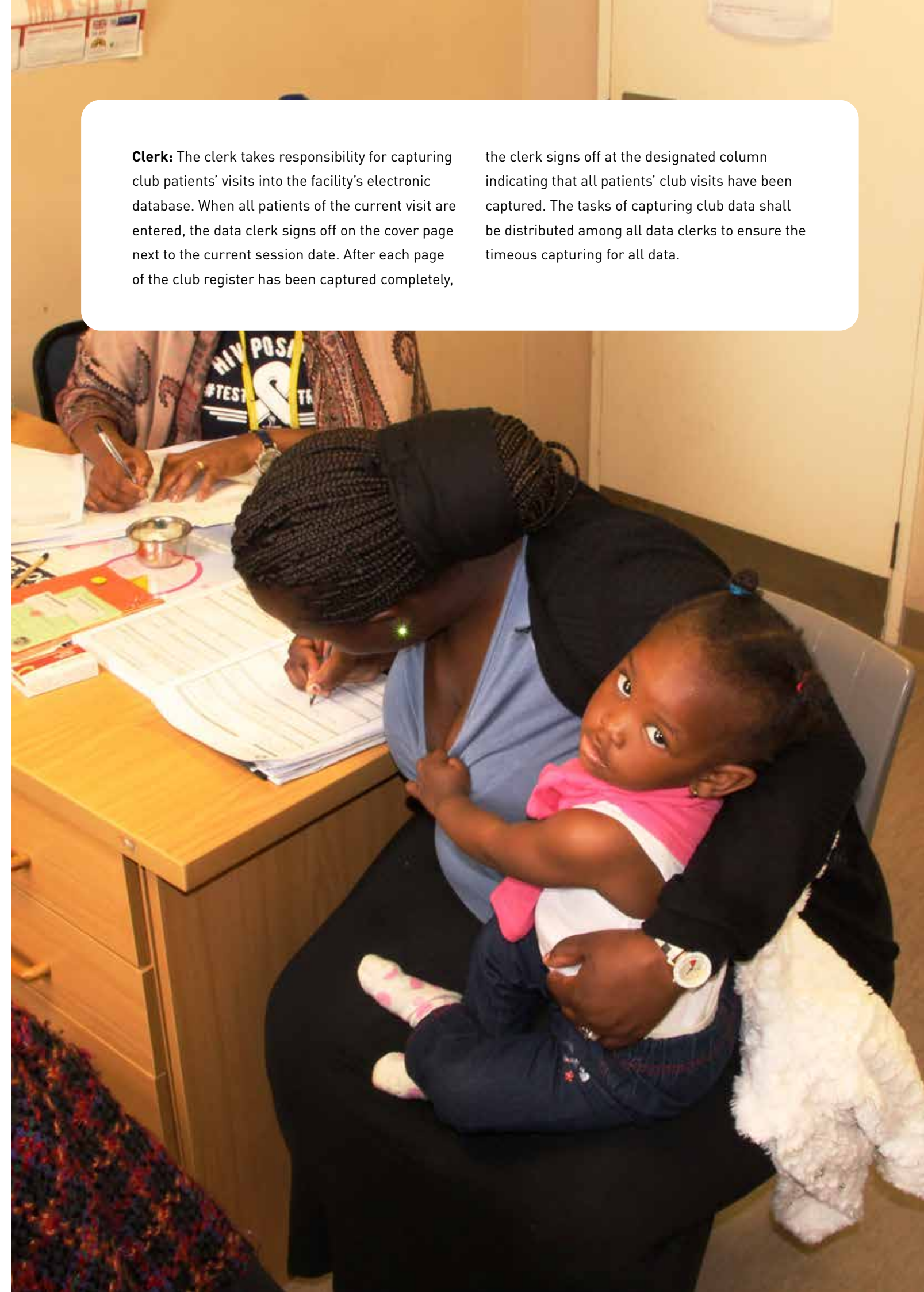
**PNC doctor:** They support the PNC nurse with regard to all clinical questions. They see all referred patients who require further review (e.g. hypertensive patient).

**PNC facilitator:** The PNC facilitator is usually a peer-educator, but the position could also be taken by lay counsellor. He/she makes sure the club venue, medication and all the patients' folders are ready for the club session. He/she recruits the HIV-positive mothers and their HIV-exposed infants into the PNC. They are in charge of preparing the clubs and carrying out the four club component activities. Firstly, they conduct peer adherence support. Secondly, there is a weight check-up for mothers and infants as well as a TB symptoms screening. They point out high VL and positive PCR tests to the PNC nurse. Third component entails the provision of ECD, followed by the distribution of prepacked ART. They complete the club register with all relevant data of the club visit. Every six months they administer the mental health screening questionnaire to the mothers. They trace patients who did not come to the PNC session. For "high-risk" mothers extra psychosocial support will be provided.

**Pharmacist/Assistant:** They ensure that prescriptions have been completed and pre-pack ART medication for club members. If a member did not attend a club session, they will take care of the medication. Uncollected parcels will be kept separate.

**Clerk:** The clerk takes responsibility for capturing club patients' visits into the facility's electronic database. When all patients of the current visit are entered, the data clerk signs off on the cover page next to the current session date. After each page of the club register has been captured completely,

the clerk signs off at the designated column indicating that all patients' club visits have been captured. The tasks of capturing club data shall be distributed among all data clerks to ensure the timeous capturing for all data.





# **PROGRAMMATIC INFORMATION ON PNC IMPLEMENTATION**





# WHAT COMPONENTS ARE REQUIRED AND/OR RECOMMENDED TO START AN INTERVENTION?

Next to each component we have written required or recommended as a guide to assist with designing and planning a new PNC.

What is required below is what we think is needed for a medium clinic of between 120-250 HIV exposed babies (PMTCT babies) attending per year to form 12 clubs a year (one a month) with a maximum of 15 mother infant pairs per club. This means that at least 70% of PMTCT babies should be in PNC for the model to work properly (as with adherence clubs, the model is otherwise too cumbersome if only a few babies are in the PNC).

## 1. DEPARTMENT OF HEALTH AND CLINIC SUPPORT FOR THE INTERVENTION (REQUIRED)

It is first important to get buy-in from the department of health (DOH), both provincial and substructure, prior to the implementation of the pilot. Also prior to implementation, we recommend discussions at the clinic level with the facility manager as well as other staff to get the whole facility's buy in. Further discussion and workshops should be done with the team that will be implementing the PNC. Buy in from relevant community based organizations to support the model is also recommended.

## 2. CLUB SPACE FOR THE INTERVENTION (REQUIRED BUT COULD BE IN THE COMMUNITY)

Having an adequate space to see the patients is necessary for the intervention. We recommend a room where the support groups can take place where a blanket/mat can be laid on the floor for the babies to rest and interact on during the ECD components of the support group. An adjacent/close by clinical room for the nurse to consult the mother infant pair is ideal, but a room could be "made" with separating screens and a mobile bed.

## 3. DEDICATED POSTNATAL CLUB STAFF (REQUIRED)

**One Facility Manager** who is on board with the intervention and assists with human resource (HR) allocation to maximise staff potential.

**One NIMARTed professional nurse** who is able to deliver both maternal and child health interventions and who oversees the PNC (including preparations). We estimate that this nurse would end up spending about half of her time at the clinic on the PNCs.

**One doctor** who is available on request to see complicated cases (for example hypertensive patient). (Light support)

**One clerk** to capture the PNC registers, the mother's folders (for clinical visits or family planning interventions) and the children's folders, as well as to assist with folder retrieval (working one quarter of the time on PNC and preferably experienced with club batch capturing).

**One pharmacy assistant** to help with the pre-packing of the PNC chronic medication (working one quarter of the time on PNC).

**One pharmacist** to oversee the work of the pharmacist assistant (light support).

**At least one counselor/community health worker** (recommended two):

- + ideally: peer HIV positive mentor mothers who are trained in PMTCT and have group facilitation skills (for example m2m mentor mothers). Alternatively could also be counselors, community health workers, other mentor mothers
- + required: group facilitation skills, experience with HIV (either living with HIV or having done previous work with people living with HIV)
- + recommended: containment/coping skills, organizational skills
- + recommended trainings: PMTCT, ECD, mental health screening, session guide

## 4. INTEGRATED STATIONERY AND USE OF CLUB REGISTER (RECOMMENDED)

To gain time during the consultations, we have found that the use of integrated stationery could improve the efficiency of the model. For example, to reduce the amount of papers being filled and to prompt the nurses on what services to deliver, we have developed in collaboration with City of Cape Town integrated paediatric stationery.

We also recommend using an adapted adherence club register for time efficiency so that at each visit

which is not clinical, the register can be filled rather than the maternal folder. A normal club register can also be used instead of the adapted one.

## 5. FLAGGING SYSTEMS FOR MATERNAL HIGH VIRAL LOAD AND CHILD POSITIVE PCR (REQUIRED)

At certain clinical visits (6 monthly for the maternal VL and according to the PMTCT guidelines for infant testing), VL and PCR will be taken. It is very important to have a system in place so that these results are checked a week after they are taken. Three months could have lapsed if the results are not checked until the next club visit. For example with a high VL in a breastfeeding mother, it would be unsafe to wait three months until seeing the mother again. Systems should be in place to check VL and PCR results and to also recall the mother. We recommend:

- + a designated person to follow up VL and PCR results. Ideally every week, this person checks if any VL or PCRs were done in the clubs of the preceding week, print the results and fill them in the club register. For example, the facilitator could be in charge of this as they are responsible for the club register
- + a notification system to alert the PNC nurse if there is a high VL (>50) or positive PCR result. This can be done through the printed results being shown to the PNC nurse if VL>50 or PCR positive, after some basic training on the meaning of results for the facilitator.

- + a person responsible for recalling any mother with a high VL or baby with a positive PCR result. This could be the PNC nurse as she is ultimately responsible for the PNC patients. Patients should be recalled within a maximum of a month of their high VL or positive PCR result.

### 6. PREPARATION TIME (REQUIRED)

Half a day preparation time is required for the PNC nurse to prepare for the clubs, i.e. mostly scripting for patients in the PNC, reviewing results, etc.]

### 7. SUPPORT GROUPS AND SESSION GUIDE (HIGHLY RECOMMENDED)

Support groups should happen at every PNC, involving all the mother infant pairs in each group. Suggested topics are in the session guide but could be adapted to the context. Support groups can be facilitated by a peer mentor mother/ counselor/ community health worker as described above.

### 8. AVAILABILITY OF PRE-PACKED ARVS (RECOMMENDED)

To facilitate the logistics and preparation around PNCs and to gain time, it is recommended to dispense the medication pre-packed (either by pharmacy or by a chronic medication unit).

### 9. INTEGRATING PMTCT AND CHILD HEALTH IN ONE CONSULTATION (REQUIRED)

Because most of the PMTCT babies are now in the PNC, there is no need for a dedicated PMTCT nurse as there is very little PMTCT work outside the PNC (apart from recruitment). Therefore, it is

recommended that more than one MCH nurses are familiar with PMTCT so that they can deliver the services on any days.

### 10. ENHANCED ADHERENCE TOOLS FOR HIGH RISK MOTHERS (RECOMMENDED)

In the Western Cape, we have an intervention called Risk of Treatment Failure (ROTF), which is a local version of Enhanced Adherence Counseling. In the ROTF, the nurse provides most of the counseling herself. Through the ROTF, the high risk mother would be seen monthly and receive monthly ARVs until she has suppressed her VL.

### 11. ECD COMPONENTS (RECOMMENDED)

- + Required: Scissors, string, glue, foil
- + Recycled (brought in): toilet paper rolls, sticks, stones, paper plates, crayons, magazines, paper, medication bottle lids, ice-cream/ yogurt pots, margarine pot lids, newspaper, empty Lays/Simba chips bag

We recommend that the facility buys a few basic things for the ECD activities to take place. The rest will be used from recycling material, either found in the facility or brought in by the mothers/PNC facilitators. If the facility is unable to buy these items, ECD should still be taught (the concept of it) and songs/games could replace the activities described in the manual.

### 12. MONITORING AND EVALUATION INDICATORS (RECOMMENDED)

We recommend using the following indicators to be able to monitor how well the PNC are doing:

| Operational objectives | Indicators                             | Results |   |     |
|------------------------|--|---------|---|-----|
| Outcomes               | % MIP RIC at 18 months                 | >65     | — | <40 |
|                        | % maternal VL suppression at 18 months | >75     | — | <50 |
|                        | % MTCT at 18 months                    | <1      | — | >4  |
|                        | % babies fully vaccinated at 1 year    | >80     | — | <60 |

Fig 4. PNC indicators

### 13. PNC CHAMPION AT SUBDISTRICT LEVEL (RECOMMENDED)

It would help the implementation of the PNC to have a PNC champion at the subdistrict level. This PNC champion could be the same person as the ART Adherence Club champion. His/her main responsibility would be to assist with coordinating the PNC schedule for the year for each facility having PNCs as well as ensuring that the CDU scripting cycle is working (if in use).

### 14. TRACING DEFAULTERS AND COMMUNITY SUPPORT (RECOMMENDED)

To improve retention in care and outcomes, we recommend tracing defaulting mothers. The clinic can use their usual early defaulter tracking system or trace defaulters as per the SOP 1 week after the club. We recommend that mothers defaulting visits are traced (except when a buddy comes instead of mothers- permitted at non clinical visit for the mothers) as soon as

possible, as the risk of MTCT increases if they are breastfeeding and not taking their ART.

Community health workers can do home visits to assist with the tracing of defaulters and also for high risk mothers to determine the home situation.

## PNC COST ANALYSIS

A cost analysis was done to calculate the additional cost to a facility when implementing the PNC model. It is based on an average clinic size of 250 new HIV-exposed babies per year. The additional cost to the facility is R1783.55 per year, which is R7.13 per infant per year. This excludes staffing and other requirements that would otherwise already be in place for the normal running of the clinic.

Based on a total number of 250 babies recruited into clubs per year.

|  | ZAR             |
|--|-----------------|
| Human resources                          | R0.00           |
| Fixed Costs (medical & non-medical)      | R995            |
| Consumable costs (medical & non-medical) | R788.55         |
| <b>Cost per infant</b>                   | <b>R7.13</b>    |
| <b>Total cost of PNC</b>                 | <b>R1783.55</b> |



# STEP BY STEP GUIDE





# STEP BY STEP GUIDE

A PNC consists of 3-15 MIPs and should not exceed the maximum number to ensure the emotional and psychological peer support and ECD activities can be carried out in an appropriate way.



## 1. WHO DO WE RECRUIT FOR PNC?

Any HIV positive mother regardless of age, VL and drug regimen can join a PNC with her HIV negative infant<sup>1</sup> if she wants to have integrated mother-child care.

The eligibility criteria can be adapted based on what is required and needed from the mothers and the community.

<sup>1</sup>: PNC can be adapted to include HIV positive babies

## HIGH-RISK MOTHERS

According to the South African PMTCT guidelines of 2020, a mother is considered at high-risk of HIV transmission if:

- + mother on ART with most recent VL>=1,000 copies/ml
- + mother HIV positive but not on ART:
  - + newly diagnosed HIV-positive while breastfeeding
  - + previously diagnosed HIV-positive but not initiated on ART or discontinued ART

## 2. WHEN AND HOW DO WE RECRUIT FOR PNC?

When the HIV-positive mother first presents to the clinic (usually at 6 weeks), she is given the option of joining a PNC and given a date and time for the first session of the PNC. However, the time of recruitment should be flexible depending on the facility and its capacity for recruitment. The recruitment is usually done either by the club facilitator or by the nurse seeing the MIP. Babies are grouped into clubs per same month of date of birth.

Posters about clubs and the eligibility criteria are one strategy to keep mothers informed about the PNC system. Patients who are already members of a PNC could disseminate knowledge about PNCs by word of mouth and by functioning as patient advocates. Additionally, mothers could receive information about PNCs during their pregnancy.

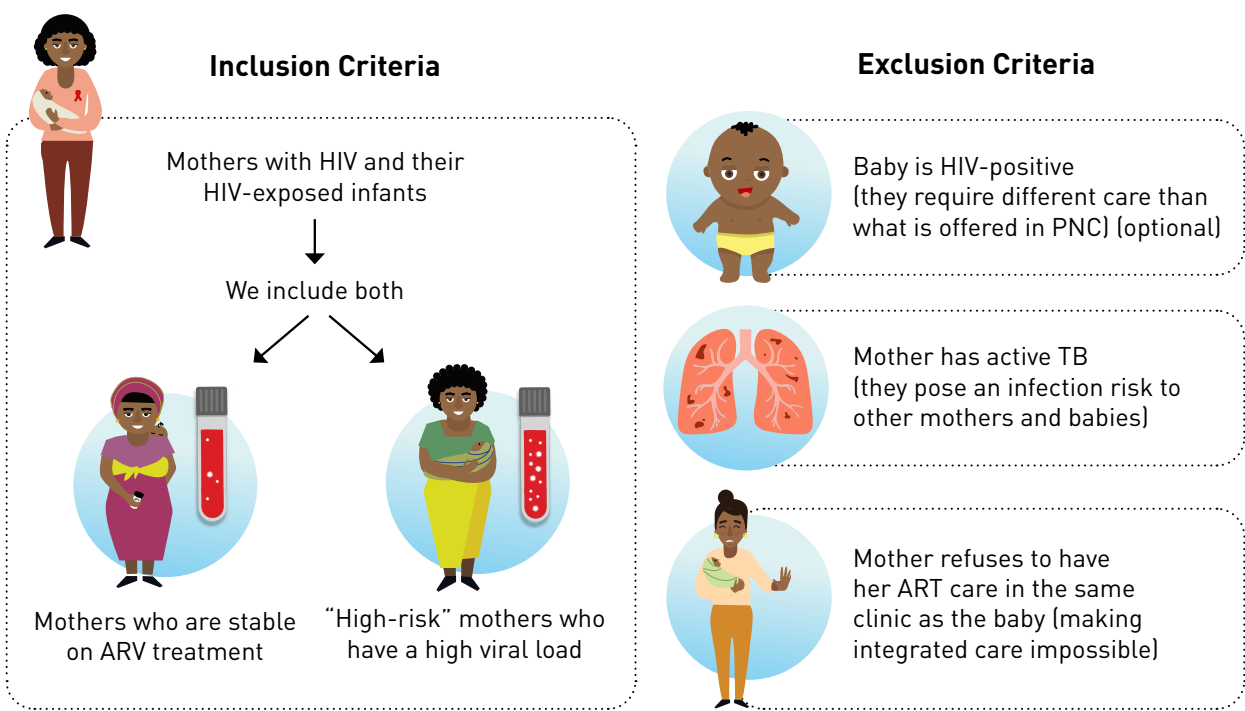


Fig 5. Inclusion & exclusion criteria for recruitment into PNCs

## 3. HOW OFTEN DO CLUBS OCCUR?

In the first 6 months babies are seen monthly because of their higher mortality and morbidity risk in this time period.

After 6 months of age, clubs are held every three months until 18 months of age. These visits follow the “Road to Health” card clinical meetings. “Road to Health” is a booklet given to every newborn in South Africa which includes immunization cards, health messages, and other information relevant to early childhood development.

The timeline of a complete PNC cycle is presented to the right.

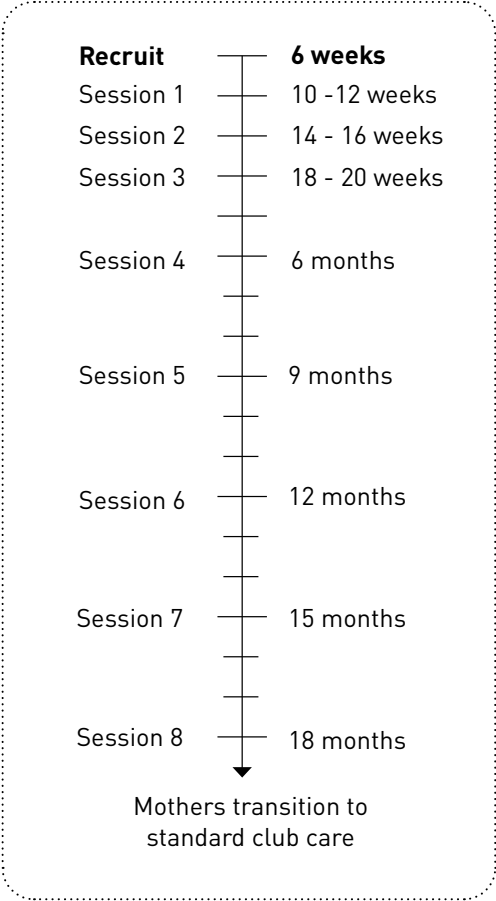


Fig 6. PNC timeline



4. PREPARATION BEFORE A PNC

Duties or actions that are required before a club session are explained below as well as the responsible person for action.

Action and Responsible Person

Club facilitator:

- + Ensure pre-packed ART medication is available at least a day before the club meeting.
- + Check the room is available and ready for the club meeting
- + Collecting mother and infant folders
- + Collecting the club register before the start of the club meeting
- + Collection of pre-packed medication on the day of the club
- + Ensure you have the materials required for ECD activities
- + Ensure preparation of the health talk topic for each session according to the schedule

Club nurse:

- + Scripts need to be issued a few days before the club meeting so that medication can be pre-packed

Pharmacist/Assistant/ CDU system:

Pre-packing ART medication a few days before the club meeting.

On arrival to the facility, mothers and babies go directly to the club room, without having to queue at the reception. The mothers’ folders as well as their babies’ folders are kept in separate club crates or separate shelves. The fact that a mother and her child are enrolled in the PNC is clearly identified on the mother’s and baby’s card so that their folders are easily retrievable should they come to the clinic outside the PNC.

The nurse prescribes the mother’s ARVs a few days before the PNC. The pharmacy will pre-package medication, using pharmacy stock or supplies from CDU (a central pre-packaging facility dispensing chronic medications for clients in the Western Cape). The club facilitator collects the prepacked ARVs from the pharmacy on the day of the PNC. At the first visit, mothers are provided with an ART buffer stock of an extra two weeks, as some of the clubs are spaced more than multiples of 28 days apart.

5. WHAT HAPPENS AT EACH CLUB?

As in the adult club model, the PNC starts with a peer support session, which is led by a club facilitator. ECD activities and promoting the “First 1000 Days”/“Side by side” campaign are included. MIPs will then have a doubly integrated clinical session provided by the PNC nurse. Each visit’s interventions will depend on the age of the baby. The mother’s clinical care schedule is also adapted around the baby’s visits. To facilitate the process, integrated stationery helps map the clinical care requirements for each visit.

When the child reaches 18 months of age, the MIPs graduate from the PNC. The mothers transition as a group into an adult club, so that they keep up the peer support they created within their PNC. The babies go back to standard of care services.

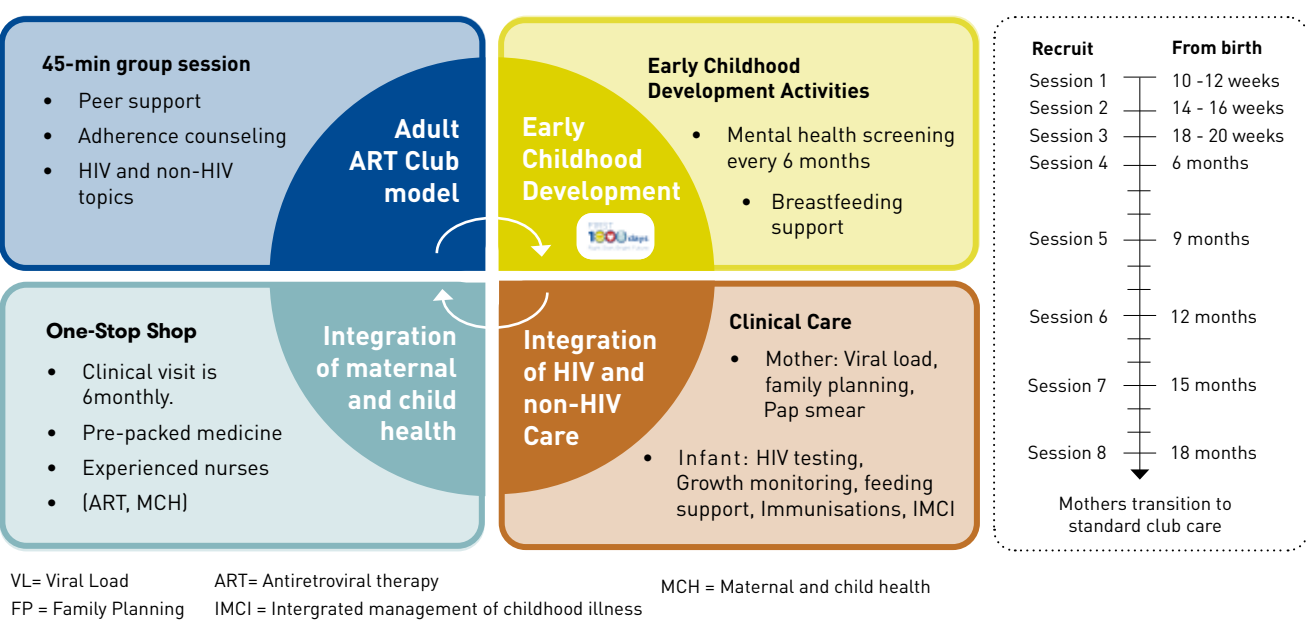


Fig 7. Components of the PNC sessions

6. GROUP SESSION

The mothers and babies start by sitting in a circle and the PNC facilitator then facilitates a health education and ECD activities session as per the guide below.

| Suggested timing | Age         | Health talk topic   | ECD/Activity                                      | Material needed                                 | Page    |
|------------------|-------------|---|---|---|---------|
| Session 1        | 10-12 weeks | Infant Feeding/ Mental Health                                     | Tummy time/ mobile                                | Small yoghurt, rope, sticks, toilet paper rolls | Page 6  |
| Session 2        | 14-16 weeks | Child health  | Tummy exercise/ Make rattle                       | Toilet paper rolls, foil, stones                | Page 12 |
| Session 3        | 18-20 weeks | Family planning/ Substance abuse                                  | Sitting with support/ Song                        |   | Page 16 |
| Session 4        | 22-24 weeks | Disclosure (dialogue)/ Viral load education                       | Early conversations/ Song                         |   | Page 20 |
| Session 5        | 6 months    | Complementary feeding/ Mental Health/ Pre-test information        | Early milestones/ Stack-ing                       | Yoghurt pots,                                   | Page 26 |
| Session 6        | 9 months    | Sexual and intimate partner violence / Pre-test information       | Motor games/ Hide & Seek, Clap with me/ face mask | Paper plates, crayons, scissors, rope           | Page 31 |
| Session 7        | 12 months   | Infant feeding-nutrition for children / Risk of Treatment Failure | Language /make and read book                      | Magazine, paper glue, paper, staples            | Page 36 |
| Session 8        | 15 months   | Caregiver child relationship/ Intro adherence club                | Fine motor/ Lid sorter                            | Margarine pot, lids, ice cream/yoghurt pot      | Page 40 |
| Session 9        | 18 months   | Pre-test information/ Graduation ceremony                         | Refresher/ Graduation activity/ ball              | Vegetable bag, newspaper                        | Page 44 |

ECD = Early Childhood Development

Fig 8. PNC Session Contents

The PNC facilitator will weigh the mother and baby. Mothers are asked about symptoms of TB at every visit and screened for depression every 6 months. The facilitators complete a depression screening form to identify mothers at risk. This is then reviewed by the nurse at the clinical visit. The Perinatal Mental Health Project (PMHP) provides instruction on mental illness and psychosocial risk screening in postnatal women. Download the PMHP maternal risk screening tool on <https://pmhp.za.org/>

The babies are screened for general illness. If the baby shows signs acute severe illness, they are fast-tracked to see the nurse. Everything is recorded into the club register by the PNC facilitator.

Each session includes information on adherence, infant feeding (encouraging exclusive breastfeeding) and health promotion messages which change at each visit—some messages are HIV-related topics whilst others are not. Some topics covered include HIV status disclosure, sexual violence, family planning and education on VL suppression. Each session ends with education about ECD. The PNC facilitator talks about developmental milestones and shows the mothers how to do some ECD activities. Mothers and PNC staff are encouraged to bring recyclable material to the sessions to do the ECD activities.

Whilst the MIPs wait to see the nurse, the PNC facilitator distribute the ART (pre-packed for one month or three months depending on the club) to the mother and they inform them of their next appointment date. The mothers also receive a schedule of all the PNC visits at the first visit. High-risk mothers\* receive extra psychosocial support. Even when the clubs are three-monthly, high-risk mothers are seen monthly.

7. CLINICAL VISIT: ONE-STOP SHOP FOR MOTHER-INFANT PAIRS

When the mother and baby are seen in the consultation room, they are managed according to the baby’s age. The nurse is able to initiate and manage ART, as well as being proficient in child care (including Integrated Management of Childhood Illnesses –IMCI) and maternal care. The nurse will see both the mother and infant, and provide all services in one session. Figure 9 summarises the services provided at each session (both by the PNC facilitator and PNC nurse).

The nurse prescribes the mother’s ARVs a few days before the PNC. The pharmacy will pre-package medication, using pharmacy stock, or supplies from the Chronic Dispensing Unit (CDU). PNC facilitators collect the pre-packed ARVs from the pharmacy on the day of the PNC. At the first visit, mothers are provided with an ART buffer stock of an extra two weeks, as some of the clubs are spaced more than multiples of 28 days apart.

7.1 BABY

The nurse will encourage breastfeeding and evaluate the PMTCT needs of the baby according to their age. This includes HIV testing and various prophylactic medicines, including Nevirapine, AZT, and Cotrimoxazole syrups.

The rest of the infant care follows the visits as per the Road to Health Card.

7.2 MOTHER

The mother has a full clinical visit at the baseline visit (10 weeks), at the 6-month visit and then 6-monthly. The clinical visit includes a review of the mother’s HIV care and VL testing. It also includes

being screened for hypertension, cervical cancer (Pap smear), and for depression. The mother is referred to the PNC doctor if screening positive for depression, hypertension or if any other health problem is encountered that needs medication other than ART.

At each PNC, the mother will be assessed for her need for family planning that day. Long-acting methods, such as the intra-uterine contraceptive device (IUCD) are promoted.

7.3 HIGH-RISK MOTHER

If the mother is high-risk, she is seen monthly by the nurse (outside the club if clubs are three-monthly) and only given a one-month supply of medication. The nurse also provides enhanced adherence support (in Western cape , we use the risk of treatment failure program).

Extra observations are performed by the PNC nurse as needed, during the club clinical visit, saving further time as queues are avoided. Patients should be managed as per local guidelines, see NDoH PMTCT Guidelines.

| Sessions*    | Counsellor-led**  |  | Nurse-led                                      |   |
|--------------|---|--|--|---|
|              | Activities  | Topic /ECD   | Mother   | Infant  |
| 6 weeks      | Recruitment into PNC                                      |  |  |   |
| 10-12 weeks* | Mental Health Questionnaire<br>Weight, Register, ART (1m) | Infant Feeding/ Mental Health<br>Tummy time/ Felt mobile   | Clinical visit, FP, VL,<br>risk stratification | PCR, Immunisations,<br>Growth, PMTCT, (IMCI)  |
| 14-16 weeks  | weight, register, ART (1m)                                | Child health<br>Tummy exercise/ Make rattle  | Pap smear, FP                                  | Growth, Immunisations,<br>Neurodevelopment, PMTCT,<br>(IMCI)                          |
| 18-20 weeks  | weight, register, ART (1m)                                | Family planning<br>Sitting with support/ Song  | FP   | Growth, PMTCT, (IMCI)   |
| 6 months*    | Mental Health Questionnaire<br>Weight, Register, ART (3m) | Complementary feeding/ Mental<br>health/ Pre-test information<br>Early milestones/ Stacking              | Clinical review,<br>FP, VL                     | Growth, Immunisations,<br>Vitamin A,<br>Neurodevelopment, PMTCT,<br>(IMCI) HIV PCR    |
| 9 months     | Child rapid HIV test***<br>weight, register, ART (3m)     | Sexual and intimate partner<br>violence/Pre-test information<br>Motor games/Hide & Seek, Clap<br>with me | FP   | Growth, Immunisations,<br>Neurodevelopment, PMTCT,<br>(IMCI)                          |
| 12 months*   | Mental Health Questionnaire<br>Weight, Register, ART (3m) | Infant feeding- nutrition for<br>children<br>Language /Read magazine                                     | Clinical, FP, VL                               | Growth, Immunisations,<br>Deworming, Vitamin A,<br>PMTCT (IMCI)                       |
| 15 months    | weight, register, ART (3m)                                | Caregiver child relationship/<br>Intro adherence club  | FP   | Growth, PMTCT, (IMCI)   |
| 18 months*   | Mental Health Questionnaire                               | Graduation ceremony Refresher/<br>Graduation activity  | Clinical, FP, VL                               | Growth, immunisations,<br>deworming, Vitamin A,<br>neurodevelopment, PMTCT,<br>(IMCI) |

\*These visits should be attended by the mother (as opposed to a buddy) with the baby, as they involve more intensive clinical interventions for the mother and baby.

**Acronyms:**

PCR - Polymerase chain reaction (HIV test)

Q - Questionnaire

ART - Antiretroviral therapy

FP - Family planning

VL - Viral load

PMTCT - Prevention of mother to child transmission (medications)

IMCI - Integrated management of childhood illness

vit A - Vitamin A

Fig 9. Group session activities and clinical care



8. POST-PNC FOLLOW-UP

After the club, a number of follow-up actions are taken by the PNC facilitators.

In the week after the PNC, the PNC facilitators check the results of the mothers' VL tests, and the infant PCR tests. They place results into the respective mother and infant folders. If maternal VL>50 copies/ml or the baby's PCR is positive, the PNC facilitator immediately informs the nurse. The nurse will then recall the mother and her baby to be seen as soon as possible.

9. TRACING OF MOTHER-INFANT PAIRS

Mothers should attend club sessions that include scheduled VL testing, but may send a buddy with the baby in her stead on other visits. If the mother (or buddy) and baby do not attend a PNC session, the PNC facilitator is responsible for recalling the mother within 2-3 days. If the mother has not presented by Day 5, an PNC facilitator or CCW will carry out a home visit. If the patient does not present to care within 2 weeks of the home visit, she is considered as a defaulter and would be recorded as such in the register. She would however be accepted back into the PNC if she comes back at a later stage. This is a major difference from a normal adult ART club, in an effort to retain the high-risk mothers in PNC care.

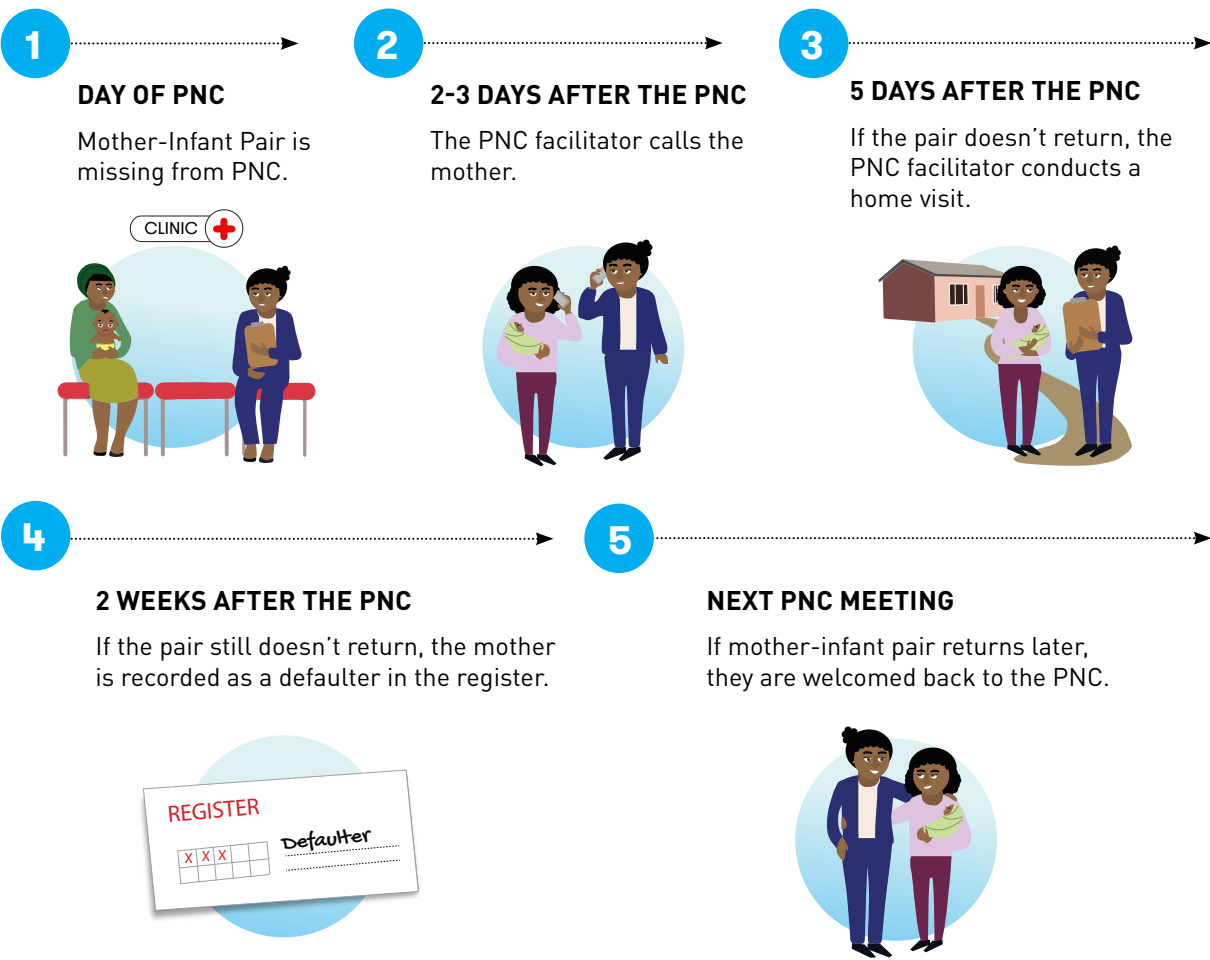


Fig 10. Tracing defaulters





# MONITORING AND EVALUATION

## 1. STATIONERY

The PNC facilitator records PNC data into the club register. The club nurse completes the integrated paediatric stationery, which encourages integrated care and prompts the nurse as to which services should be rendered at each visit. The nurse fills in the paediatric stationery in the baby's folder at each visit, but she only writes in the mother's folder at the mother's clinical visits or if she receives family planning. For all other visits, the mother's information is recorded in the club register.

## 2. DATA CAPTURING

Data clerks should ensure that all the latest blood results of the mothers are filed in the folder. Facility clerks regularly capture the PNC visits into an electronic data system, using a combination

of the club register and the mothers' and babies' folders for other services rendered. The mothers' and babies' folders are kept together in crates, per PNC number, at the reception, where all folders are kept. This is clearly identified on the mothers' and babies' cards so that their folders are easily retrievable in case they come for a clinical visit outside the PNC.

Once the data capturing is completed, the clerk has to sign off each page that has been captured. When all patients' information has been transferred into the electronic system, the cover page of the club register will be signed off.

A summary of who is filling in and capturing what is provided in the table below.

| Responsible Person | Required documentation   |
|--------------------|--|
| Club nurse         | <b>Baby:</b> <ul style="list-style-type: none"><li>+ Integrated Paediatric stationery (each visit)</li><li>+ PMTCT register</li><li>+ Road to Health card</li></ul> <b>Mother:</b> <ul style="list-style-type: none"><li>+ HIV stationery (at clinical visit)</li><li>+ Mental health screening form (6 monthly)</li><li>+ Blood request forms for the mother at 1st visit and then 6 monthly.</li></ul> |
| Club facilitator   | <b>Club register (each visit):</b> <ul style="list-style-type: none"><li>+ Patient's details (DOB, address, phone number, sex, patient folder number)</li><li>+ ART regimen at initiation and enrolment of PNC</li><li>+ Date of session</li><li>+ Weight and symptoms</li><li>+ Blood results (VL, PCR)</li><li>+ Attendance</li></ul>  |
| Clerk              | <b>Facility electronic data system:</b> <ul style="list-style-type: none"><li>+ Club number</li><li>+ Patient information</li><li>+ Club visit dates, upcoming visit dates</li><li>+ Blood results (VL, CD4)</li><li>+ Maternal and child information as per local guidelines (eg immunisations, etc)</li></ul>  |

Fig 11. Data capturing responsibilities



# RESULTS



## QUANTITATIVE RESULTS

**(June 2016 to December 2018)\*\***

From June 2016 to 31<sup>st</sup> December 2018, we recruited 433 mothers (27 high-risk) and 439 infants (6 sets of twins).

Uptake of infant HIV testing was high at age 9 months (99.1%) and 18 months (98.4%). No seroconversions of infants were observed (See Figure 12).

Of those reaching their 18-months visit, 70.5% pairs were still in care (see Figure 13).

Of the 141 mothers who were eligible for a pap smear, 53.2% received a pap smear by 18 months.

Of all the women who had a mental health screening, 17.5% screened positive for depression on at least one occasion.

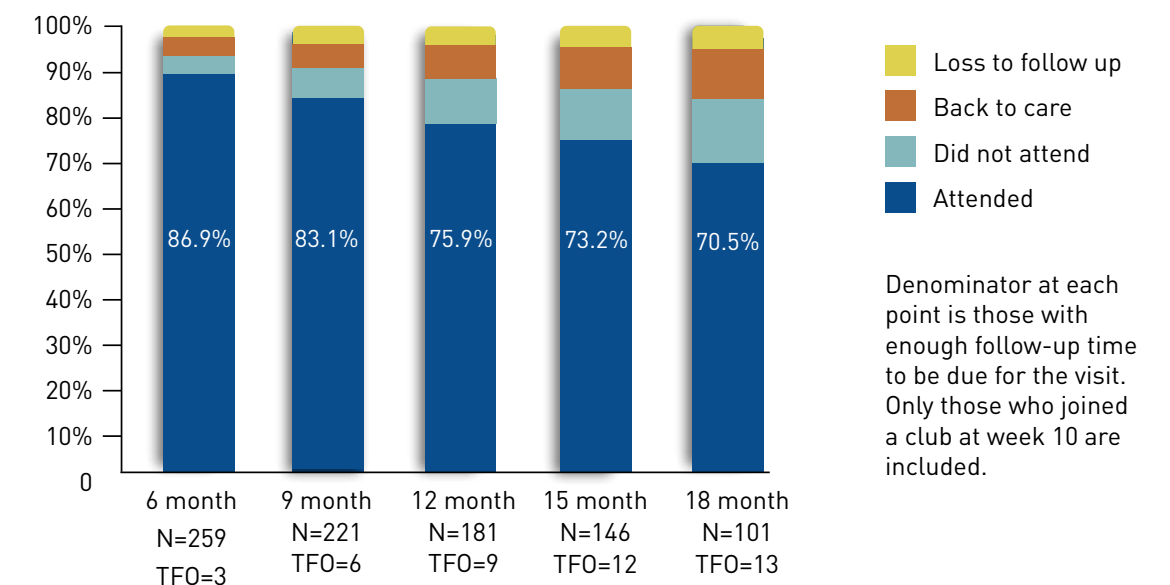
Maternal viral load testing and suppression remained above 90% throughout PNC (see Figure 14).

Out of a total of 187 confirmed infants' vaccination coverage at 12 months, 88.9% were fully immunised.

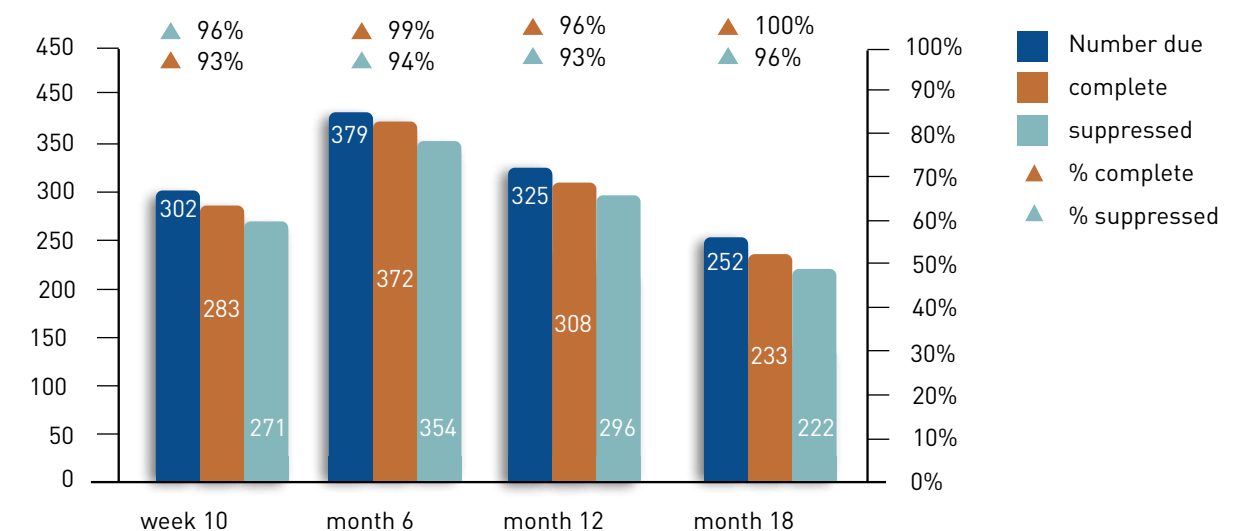
*\*\* Protocol was approved by Foundation Professional Development-Ethics Research Board and by MSF-ERB*

| Visit month | Test uptake/Total attending visit | Uptake percentage |
|-------------|-----------------------------------|-------------------|
| 9 Months    | 247/249                           | 99.1%             |
| 18 Months   | 127/129                           | 98.4%             |

**Fig 12. Uptake of infant HIV rapid tests at 9 months and 18 months of age**



**Fig 13. Proportion of MIPs attending each visit**



**Fig 14. PNC viral load completion and suppression**

# TIME AND MOTION STUDY

## CHALLENGE: LENGTH OF CLUB VISIT

The peer support group session is lengthy at 30 to 45 minutes, and a dedicated counselor or peer mentor is required to facilitate the session. In addition, the PNC nurse and clinic management initially felt that the clinical visit was very lengthy, and that too many services were being rendered at the PNC. They suggested that some interventions (i.e. Pap smear) should be shifted back to other clinic staff.

An informal “time and motion study” challenged this perception, showing that the time taken to provide all PNC services in a non-integrated way differed little from the duration of an integrated PNC clinical visit. Following further discussions, staff unanimously agreed that no services should be removed from the PNC model.

## CHALLENGE: MEETING HEAD COUNT TARGETS

In the City of Cape Town health system, nurses have a target number of patients to see per day (“headcount”). Initially there was concern that the PNC nurse was not seeing enough patients. This headcount does not take into consideration that multiple services are being offered. Such targets should be changed to number of services rendered to more accurately reflect the workload. It is also important to note that an integrated clinical visit provides an improved quality of care, as seen in an audit of the City of Cape Town PMTCT –PNC indicators.



# QUALITATIVE STUDY\*\*\*

We conducted a qualitative study in September 2017 to look at “Knowledge transmission, peer support, health-seeking behaviour and satisfaction in Postnatal Clubs in Khayelitsha, South Africa”. 10 IDIs (individual interviews), 3 FGDs (focused group discussion) and 2 POs (observations) were conducted with PNC participants, staff and key informants in isiXhosa and English until reaching saturation. Findings of the study are below and were published \*\*\*\*

\*\*\* Protocol was approved by University of Cape Town Ethics Board, ITM IRB, UZA/UA and MSF ERB

\*\*\*\*Duvivier et al. Reproductive Health (2020) 17:107 <https://doi.org/10.1186/s12978-020-00957-0>

## ADVANTAGES OF PNCS

- + Sharing experiences
- + Time saving
- + Comprehensive care
- + Staff attitude and setting
- + Patients’ follow up and data collection
- + Health education
- + Mental health assessment and support
- + Health outcome improvements
- + Assistance to other participants



Fig 15. Advantages of PNCS

## INFLUENCE OF PNCS ON BEHAVIOUR

- Health behaviour:**  
PNC participants adapt their behaviour based on advice they receive in PNCS.
- Motherhood:**  
PNC participants said they gained reassurance about their ability to breastfeed and care for their baby.



Fig 16. Influence of PNCS on behavior

## KNOWLEDGE ACQUIRED IN PNCS

- + Adherence
- + Infant feeding and healthy diet for mothers and babies
- + Follow-up tests and treatment for babies
- + Early childhood development activities



Fig 17. Knowledge acquired in PNCS





# TOOLS

## ONLINE RESOURCES

All resources are downloadable online visit:

[msfsouthernafrica.shorthandstories.com/postnatal-clubs-toolkit](https://msfsouthernafrica.shorthandstories.com/postnatal-clubs-toolkit)

From April 2021, this independent website will be moved onto the MSF South Africa website and this link will no longer work. Please consult the MSF South Africa website [www.msf.org.za](https://www.msf.org.za) from then on.

- |   |   |
|---|---|
| + PNC scheduler application                       | + PMHP maternal Risk Screening Tool               |
| + Facilitator Session Guide                       | + Job Description Club Facilitator                |
| + ROTF worksheet                                  | + Job Description Checklist Data Clerk            |
| + Standard Operating Procedure on Postnatal clubs | + Job Description Checklist PNC Nurse             |
| + Road to Health Booklet                          | + Job responsibility Checklist Pharmacy Assistant |
| + City of Cape Town Paediatric Stationery         |   |
| + Training for Health Care workers                |   |
| + Training of Trainers                            |   |







## CONCLUSIONS

Through the PNC model we were able to improve maternal retention in HIV care and postpartum Viral Load completion and suppression. We were also able to realize a higher uptake of infant HIV testing until 18 months of age, and experienced no infant seroconversions. Qualitative study also showed high levels of satisfaction among participating mothers. The PNC model allows for comprehensive integration of a number of healthcare services for the mother-infant pair.

Given the high uptake of several services and favourable outcomes through the PNC model, PNCs are being scaled up in other clinics in South Africa. This model can also be adapted with relative ease to be implemented in or other resource-limited settings with substantial burdens of HIV.

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Photos by Leila Stein and Sean Christie.



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# CONTACT

For Operational Feedback and Support, contact:

**Tabitha Mutseyekwa**

HIV Prevention Manager

Email: [msfocb-khayelitsha-prep@brussels.msf.org](mailto:msfocb-khayelitsha-prep@brussels.msf.org)

For media or page-related queries, contact:

**Sean Christie**

Communication officer

Email: [msfocb-capetown-commsoff@brussels.msf.org](mailto:msfocb-capetown-commsoff@brussels.msf.org)