



**Title: Standard Operating Procedures (SOP) for Routine Registry Operations- Implementation, Establishment and Maintenance of Mother& Child Health (MCH) Registry**

**Sub-title: Data Extractions & Management**

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## Aim

This SOP contains a step-wise list of procedures, actions and persons responsible for carrying out the different actions for collecting, receiving and processing data from different sources.

During this transition phase while the electronic system (MCH eRegistry) is being rolled out in Palestine, data comes in from five main sources:

- Primary Healthcare Clinics (PHCs) without MCH eRegistry
- Primary Healthcare Clinics (PHCs) with MCH eRegistry
- Governmental hospitals on labor and birth outcomes
- Non-governmental hospitals on labor and birth outcomes
- Women that are not captured in any of the hospitals

## Data sources

### Primary Healthcare Clinics (PHCs) without MCH eRegistry

#### General preparation

- Paper Antenatal Care (ANC) recording files have been tagged and numbered for easy identification and tracking of records from different PHCs.
- Paper ANC recording files are supplied by the MCH e Registry team (PNIPH) within the communication package informing PHCs of the data extraction plans.
- There are 64 PHCs without MCH eRegistry and still using paper ANC recording files from which data has to be extracted including pregnant women whom referred to high risk clinics; their data will be extracted from the original clinics referred from. **(Appendix 1)**

#### Communication with MCH supervisors and data extractors

MCH e Registry team (Research officer at Palestinian National Institute of Public Health (PNIPH)) should:

1. Call MCH supervisors on 1<sup>st</sup> Sunday of every month starting February 2017 to remind them to collect completed files as described below.
2. Make sure that the MCH supervisors call the PHCs and high risk clinics at their districts and asks them to compile the completed Paper ANC recording files for woman:
  - Attended the booking visit on or after 1<sup>st</sup> January 2017 **AND**
  - Are at least 6 weeks or more after the expected date of delivery.
3. Confirm that all the paper ANC recording files are sent to the district-level (health directorate) for data extraction by the 2<sup>nd</sup> Sunday of every month.

4. Organize monthly data extraction using secured laptops into the registry database according to the schedule for data extraction which has been developed by the MCH e Registry team (PNIPH staff & NIPH staff) (**Appendix 2**).
5. Keep a signed confidentiality agreements from the three independent, qualified and trained data extractors (**Appendix 3**).
6. Make sure data extractors have:
  - Been trained on using the District Health Information system (DHIS2) which is the data extraction tool.
  - An exclusive encrypted password-protected laptop fully charged in addition to charger.
  - Ministry of Health approval for data extraction.
  - Fully charged mobile phone to call the MCH e Registry team (Research officer at PNIPH) in case of any questions.
  - Data dictionary/ core variables booklet which has been prepared by the MCH e Registry team (NIPH staff) (**Appendix 4**).
  - Username and password to their data entry 'program stage' on DHIS2 by the MCH e Registry team (Health systems officer at PNIPH).
7. Collect the list of all unique numbers of completed paper ANC recording files from the data extractors on monthly basis and double check with the identified list of serial numbers.

### Double data entry and data quality check for paper ANC recording files that are sent to MCH e Registry team (PNIPH)

MCH e Registry team (Research officer at PNIPH) should make sure that approximately 10% of the paper ANC recording files are double-entered to ensure consistency and maintain data quality.

MCH e Registry team (Research officer at PNIPH) should organize data extraction as follows:

1. Divide equal numbers of paper ANC records (19 paper ANC records for each data extractor per day) and put them in a cardboard box labelled 'data extractor 1', 'data extractor 2' and 'data extractor 3' and give these boxes randomly to the data extractors at the beginning of the day.
2. Each data extractor should complete 10 records from their box before lunch.
3. During their break (Research officer at PNIPH) will move two randomly picked completed records from:
  - Box 'data extractor 1' to top of box 'data extractor 2' and box 'data extractor 3'.

- Box 'data extractor 2' to top of box 'data extractor 3' and box 'data extractor 1'.
  - Box 'data extractor 3' to top of box 'data extractor 1' and box 'data extractor 2'.
4. Once all double data extraction is completed, The MCH e Registry team (Data base administrator at PNIPH: the only person who can access all the data from the registry) should export the data from DHIS2 as an excel file – after filter or STATA access removing identifiable data points and handing it over to (Research officer at PNIPH) to do quality checks every week. (Research officer at PNIPH) will check if all the data points for the same women are similar.
  5. If they are not similar, discuss with the two data extractors why they extract different values/ text from the same file.
  6. Once the discrepancy is solved, ask one of the data extractors to correct it by re-opening the data entry form in DHIS2 for that woman.
  7. After each day of data extraction (including all the above steps), (Research officer at PNIPH) should stamp “completed” on the top left corner of the front page of the record and ask the MCH e registry team leader to put them in the locker/ safe.

### **Primary Health Care Clinics (PHCs) with MCH eRegistry**

The MCH e Registry team (Research officer at PNIPH) should refer to SOP for monitoring of optimal use of MCH eRegistry, evaluation and action plans, SOP for training and user support, SOP for data security, privacy and confidentiality.

### **Governmental hospitals on labor and birth outcomes**

#### **General preparation**

The MCH e Registry team (Ministry of Health (MoH) public health officer at PNIPH) should finalize the export from Avicenna through the following steps:

- Collaborate with (MOH IT officer) to get data export containing the following data points from all places where it is entered and stored in Avicenna:
  - Mother's identifiers – data for creating a registry:
  - Baby Data:
    - Birth date
    - Birth weight
    - Height
    - APGAR 1 MIN Score
    - APGAR 5 MIN Score
    - APGAR 10 MIN Score

- Pregnancy no of weeks
  - Record date creation
  - Birth Result
  - Birth Type
- Lab tests:
  - Hemoglobin at admission to labor ward
- Vital signs:
  - Blood pressure
- Others:
  - Indication for Caesarean section
  - Presentation
- Ask the hospital data extractors to select 10 recent deliveries per district and enter all data points from Avicenna into a table in word document and keep a log sheet (**Appendix 5**).
- Send the same 10 Identification Document numbers (ID) of the 10 recent deliveries per district that were selected to (MOH IT officer).
- Check the table in the word document from hospital data extractors and compare it with Avicenna data for the same 10 ID numbers per district. Note if there are differences by using the table in (**Appendix 5**).
- Collaborate with (MOH IT officer) to finalize the script for data export from Avicenna.
- All data is handled with privacy and confidentiality according to the MoH legal framework for MCH e-registry. Only authorized persons have access to the data.

### Steps after script for data export is finalized

The MoH IT officer should:

- Prepare data sets with defined variables (see above) as an excel file.
- Send the dataset on the 1<sup>st</sup> Sunday of every month starting from February 2017 for all deliveries in the previous month from all (8) hospitals using Avicenna.

The MoH public health officer should:

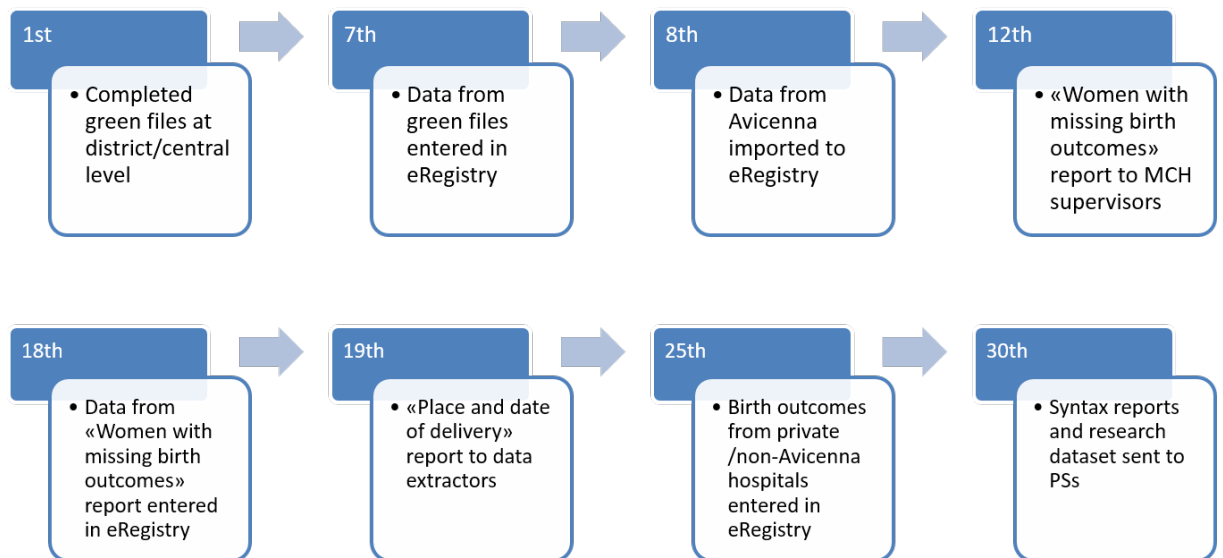
- Ensure that the dataset is sent according to plan.
- Make sure that data privacy and confidentiality is maintained according to the MoH legal framework for MCH e-Registry all times.
- Make sure that the Avicenna system must be checked regularly every three months with IT staff at MOH.

## Cleaning and importing the Avicenna data set into DHIS2

The Database manager at PNIPH should:

- Receive the Avicenna dataset 1<sup>st</sup> Sunday of every month and save the data set in the folder corresponding to that month.
- Check that there are delivery records from all hospitals with Avicenna for the entire previous month (1<sup>st</sup>- 30<sup>th</sup>).
- Make sure that all the required data points (see above) are in the data set.
- Import Avicenna data into the electronic registry in DHIS2 on the 8<sup>th</sup> of every month (Steps for preparation and import will be communicated) (figure 1).

Figure 1: Timetable for data extraction every month



## Non-governmental hospitals on labor and birth outcomes and women that are not captured in any of the hospitals

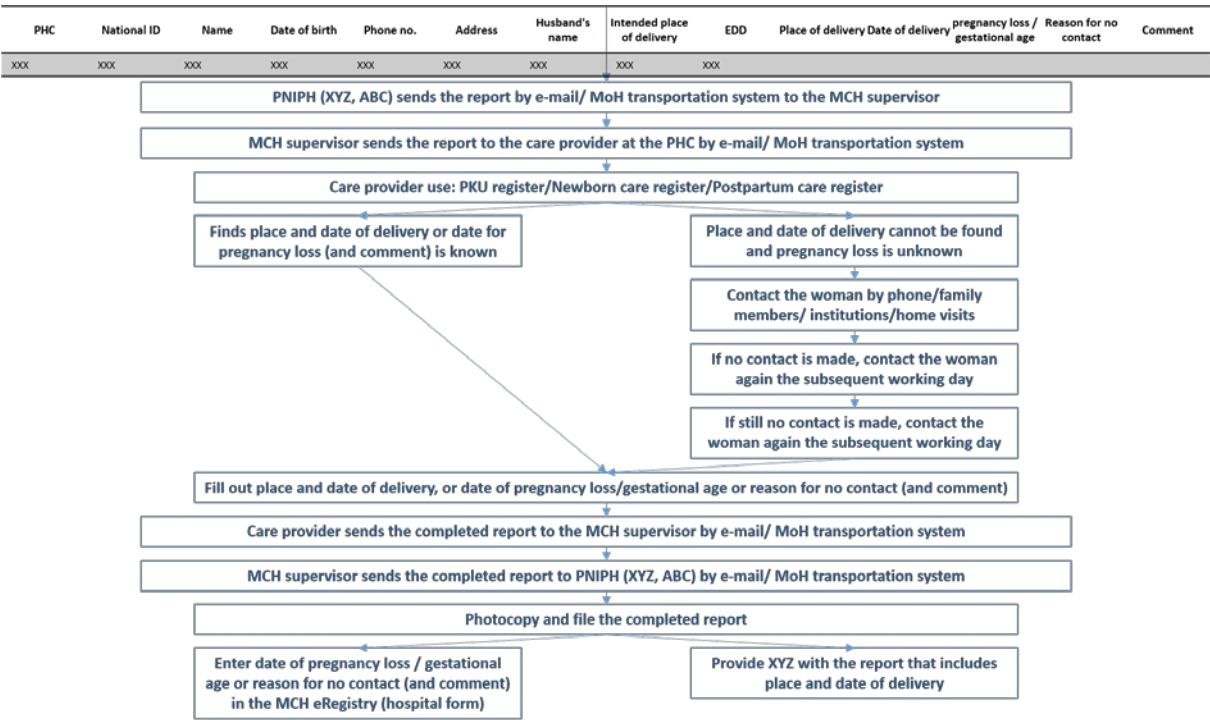
### General preparation

The MCH e Registry team (MoH public health officer at PNIPH) should:

- Generate 2<sup>nd</sup> Sunday of every month, a DHIS2 (tracker) dashboard report on information from the MCH eRegistry containing a list of all women with missing birth outcomes data.  
The report will contain: PHC, National ID, Name, Date of birth, Phone no., address, husband's name, expected date of delivery and intended place of birth, place of delivery, and date of delivery, date of pregnancy loss/ gestational age, woman contacted on, reason for no contact and why (**Appendix 6**).
- Send the report to the MCH supervisor by e-mail or MoH transportation system.
- Instruct PHCs to:
  - Refer to one/ all of the following to identify the place and date of delivery of the woman:
    - Newborn care register (or)
    - Post-partum care register (or)
    - PKU register (or)
    - Any written documentation stating date of pregnancy loss
  - Do the following if place and date of delivery is not found and pregnancy outcome is unknown (figure 2):
    - Contact the woman/family members by phone /institutions/home visits
    - If unsuccessful in making contact try again the subsequent PHC working day, totally up to three times on two consecutive days at different times of the day. Using a questionnaire to be filled while making phone calls( **Appendix 7**)
  - Send completed reports to MCH supervisors within one week.
- Get the compiled completed reports from MCH supervisors as soon as possible or at least within two weeks after receiving the report.
- Photocopy and file the completed reports.
- Enter data regarding date of pregnancy loss/ gestational age, reason for no contact and comment into DHIS2.
- Compile the reports according to place of delivery (with names of private hospitals) and hand it over to the data extractors or PNIPH staff for private hospital data extraction, according to district.



Figure 2: overview- identify missing birth outcomes and steps after



The MCH e Registry team (MoH public health officer at PNIPH) should:

- Call/ email private hospitals before monthly visits.
- Refer document for each private hospital for special instructions.

Receiving and processing birth outcomes data

The MCH e Registry team (MoH public health officer at PNIPH) should:

- Enter the birth outcomes data extracted from private hospitals into the ‘hospital data entry’ form in DHIS2.
- Collect all women with data not found in private hospitals and enter into an excel sheet “Missing birth outcomes continued”. (These women will appear in the next month’s report for missing birth outcomes).
- Call women randomly from this excel sheet twice before declaring missing data.
- Enter women with missing data into the excel sheet “Missing birth outcomes untraceable”.

## **Pilot data extraction (January 2017-March 2017)**

### General preparation

- Sample size estimates were made and clinics were selected proportional to their size. All files from these clinics have been sent to the respective district health directorate (September 2016).
- MoH approval has been obtained (October 2016).
- Test data extraction from PHCs will commence 21.11.2016.
- Data extraction will start 22.01.2017 and end 15.03.2017.
- (MOH IT officer) will send a data set for all deliveries from January 1<sup>st</sup> – December 31<sup>st</sup> 2015 from all Avicenna hospitals on 15.01.2017.

**This exercise follows all the steps described in this SOP. It is a simulation of the data extractions and management.**

## Appendixes attached

- Appendix 1: list of clinics without MCH eRegistry and still using paper ANC records.
- Appendix 2: Schedule for data extraction from clinics without MCH eRegistry.
- Appendix 3: Confidentiality agreement form to be signed by data extractors.
- Appendix 4: Data dictionary for data extractors from paper ANC records.
- Appendix 5: Hospital data extraction table and log sheet in preparation for writing the Avicenna script.
- Appendix 6: Missing" birth outcomes report to be sent to the care providers at the PHCs that woman was booked in.
- Appendix 7: Missing birth outcome forms -Questionnaire for use when care providers call women (when they cannot find the place of delivery of woman from their registers).