

# COVID-19 Monitoring and evaluation in South Africa

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Joint webinar by UNICEF ESA,  
UNFPA ESA and WHO IST ESA  
7 May 2020



# Monitoring and evaluation

- Aim:
  - Document outcomes of women and their babies with COVID-19 in pregnancy
  - Document outcomes of women and their babies without Covid-19 in pregnancy
- Process:
  - COVID-19 a notifiable condition in South Africa
  - Piggyback onto existing system (Perinatal Problem Identification Programme – PPIP)
  - Single page document for pregnant woman and her baby

# Analysis

- Maternal pregnancy complications
- Maternal health system usage (normal, high care, ICU, ventilation)
- Days in hospital
- Outcome
- Route of delivery
- Relationship of complications to HIV status and ARV treatment
- Perinatal outcome – stillbirth, neonatal death, survivor
- Birthweight
- Gestational age
- Neonatal complications (HIE, prematurity, infection)
- Neonatal health system usage (stayed with mother, admitted nursery, high care, NICU, ventilation)
- Days in nursery
- Growth restriction
- COVID-19 infected
- Feeding method
- Effect of HIV status on COVID-19 in pregnancy



# Individual data sheet for in-hospital COVID-19 exposed neonate

## In-hospital COVID-exposed neonates: Individual data sheet

<b>Maternal ID</b>	<i>[link to maternal ID on obstetric COVID-19 form]</i>	
<b>Infant ID</b>	<i>[keep list onsite of infant ID with names &amp; facility reference Nr]</i>	
<b>Maternal information</b> <small>(if out-born or admitted from home) OR (if maternal COVID-19 data is not collected at local site) OR (if paediatric staff opts to document the maternal data)</small>	Parity	/ not recorded
	Age	/ not recorded
	Antenatal care	Yes / no / not recorded
	Maternal HIV status	Positive / negative / not recorded
	If HIV-positive, maternal ART	TEE / TLD / 2 <sup>nd</sup> -line / other / intrapartum / none / not recorded
	Mode of delivery	Vaginal / Caesarean section / not recorded
	Hypertensive disease	PET / eclampsia / non-pregnancy HT / none / not recorded
	Diabetes	Yes (gestational) / yes (non-gest) / none / not recorded
	Number of foetuses	/ not recorded
	Antenatal steroids	Yes / no / not recorded
	Prolonged rupture of membranes	Yes / no / not recorded
	Maternal pneumonia	Yes / no / not recorded
	Maternal level of illness	Well / ill / critically ill (HCU or ICU) / not recorded
	Maternal death (any cause)	Yes / no / not recorded
<b>Maternal positive COVID-19 test</b> <small>[from 14 days before delivery up until neonatal admission date]</small>	Date maternal COVID-19 test	
	Type maternal COVID-19 test	PCR / antibody / other:
<b>Neonatal information</b> <small>(in-born and out-born) [all admissions within neonatal period] [include COVID-exposed neonates who room-in with their mothers after birth] [filled at primary neonatal ward, before down-referral/step-down]</small>	Date of birth	
	Date of admission	
	Birth weight	
	Sex	Male / female / not recorded
	Place of birth	Inborn / another facility / in transit / at home / not recorded
	Gestational age	
	Apgar score @ 1 min	/ not recorded
	Apgar score @ 5 min	/ not recorded
<b>Neonatal signs &amp; symptoms</b> <small>[tick all relevant]</small>	Admission ward	NICU / HCU / standard neonatal / with mother / not recorded
		Rash/oedema/ fever/ hypothermia/ cyanosis/ resp distress/ hypoglycaemia/ hyperglycaemia/ apnoea/ lethargy/ seizures/ feeding intolerance/ vomiting/ diarrhoea/ dehydration/ pallor / jaundice / other:
<b>Neonatal diagnosis</b> <small>[tick all relevant]</small>		Prematurity/ LBW/ VLBW/ ELBW/ HMD/ TTN/ MAS / congenital pneumonia/ cong sepsis/ nosocomial sepsis/ NEC/ jaundice (phototherapy)/ perinatal hypoxia (prem baby)/ HIE/ intracranial haemorrhage/ shock/ cong abnormalities/ other:
<b>Interventions</b> <small>[tick all relevant]</small>	Respiratory support	O <sub>2</sub> / NPO <sub>2</sub> / HFNC/ CPAP/ IPPV/ Oscillation/ None/ other:
	Surfactant administration	Yes / no / not recorded
<b>Neonatal COVID-19 testing</b> <small>[record all relevant]</small>	Result COVID-19 test (test 1)	Positive / negative / indeterminate / not recorded / not done
	Date COVID-19 test (test 1)	
	COVID-19 specimen type (test 1)	NPA / OPA / tracheal aspirate / other:
	Type COVID-19 test (test 1)	PCR / antibody / other:
	Result COVID-19 test (test 2)	Positive / negative / indeterminate / not recorded / not done
	Date COVID-19 test (test 2)	
	COVID-19 specimen type (test 2)	NPA / OPA / tracheal aspirate / other:
<b>Infant feeding</b> <small>[tick all relevant]</small>	Type COVID-19 test (test 2)	PCR / antibody / other:
	Infant feeding type	Breastfeeding / expressed breast milk / infant formula / donor milk / TPN / not recorded
<b>Neonatal outcome</b> <small>[record at discharge/ down-referral/ separation]</small>	Discharge type	Remained with mother / discharged to mother / discharged to caregiver / referred out for neonatal care / down-referred (step-down) / death
	Date of discharge/ death	

# Delivery data for one week

## DELIVERY DATA FOR ONE WEEK

Total number of deliveries: \_\_\_\_\_

Total number of confirmed COVID-19 deliveries: \_\_\_\_\_

HEALTH CARE FACILITY: \_\_\_\_\_

DATA PERIOD: (from Monday until Sunday)

FROM: 

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

 UNTIL: 

D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

### Deliveries during this week

	Total births	Stillborn	Neonatal deaths		Alive on discharge
			Early	Late	
500 - 999g:	_____	_____	_____	_____	_____
1.000 - 1.499g:	_____	_____	_____	_____	_____
1.500 - 1.999g:	_____	_____	_____	_____	_____
2.000 - 2.499g:	_____	_____	_____	_____	_____
2.500g+	_____	_____	_____	_____	_____
Total:	_____	_____	_____	_____	_____

### Delivery methods

Normal vaginal delivery:	_____
Ventouse:	_____
Forceps:	_____
Vaginal breech:	_____
Caesarean section:	_____
Other (destructive etc.):	_____

### Maternal age

Younger than 18 years:	_____
18-19 years:	_____
35y and older:	_____

### HIV serology

Positive:	_____
Negative:	_____
Not done:	_____

### Multiple pregnancies

Pregnancies:	_____
Neonates:	_____

### Morbidity markers

Antepartum haemorrhage:	_____
Postpartum haemorrhage:	_____
Severe pre-eclampsia:	_____
Eclampsia:	_____
Induction of labour:	_____
Prolonged rupture of membranes	_____
Ruptured uterus:	_____
Sepsis:	_____
Obstructed/prolonged labour:	_____
Retained placenta:	_____
Manual removal of the placenta:	_____
Bag/mask neonatal resuscitation:	_____

### Parity

Primiparae:	_____
Multiparae:	_____
Grand multiparae:	_____

### Syphilis serology

Positive:	_____
Negative:	_____
Not done:	_____

### Antiretroviral therapy

<b>HIV positive mother</b>	
Prophylactic ART:	_____
Long-term ART:	_____
Intrapartum ART only:	_____
ART type unknown:	_____
Received no ART:	_____
<b>Neonates of HIV positive mother</b>	
Received drugs:	_____

### Antenatal care

Local clinic	_____
Elsewhere	_____
None:	_____

### Born before arrival

Total:	_____
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### Identification

Data sheet completed by: \_\_\_\_\_

# Weekly health facility data on in-hospital COVID-exposed neonates

## Weekly health facility data on in-hospital COVID-19-exposed neonates

Name of health care facility: \_\_\_\_\_ Province: \_\_\_\_\_

Data period (from Monday until Sunday): From DD – MM - YYYY until DD – MM - YYYY

COVID-exposed neonates		
		Nr
<b>Neonates of mothers with COVID-19 (COVID-exposed)</b> <small>(positive maternal COVID-19 test from 14 days before delivery up until neonatal admission date)                      (in-born and out-born)                      (all admissions within neonatal period)                      (include COVID-exposed neonates who room-in with their mothers after birth)                      (count done at primary neonatal ward, before down-referral/step-down)</small>	COVID-exposed neonates rooming-in with mother	
	Admitted to any neonatal/ paediatric ward (incl NICU/ HCU)	
	Admitted to NICU/ HCU	
	Ventilated: Non-Invasive/ Invasive	
	Given no breastmilk since birth	
	Mixed fed (given any breast milk and formula)	
<b>COVID-19 testing in COVID-exposed neonates</b> <small>(exclude any outpatient COVID-19 testing of neonates)</small>	Well COVID-exposed neonates tested	
	Well COVID-exposed neonates tested positive	
	Sick/ admitted COVID-exposed neonates tested	
	Sick/ admitted COVID-exposed neonates tested positive	
<b>Outcome of in-hospital COVID-exposed neonates</b> <small>(in-born and out-born)                      (all admissions within neonatal period)                      (include COVID-exposed neonates who room-in with their mothers after birth)                      (count done on discharge/ down-referral/ separation)</small>	Remained with mother	
	Discharged to mother	
	Discharged to caregiver	
	Referred out for further neonatal care	
	Down-referred (step-down)	
	Early neonatal death (0 to 6 days of age)	
	Late neonatal death (7 to 27 days of age)	
Other		
<small>*Additional information on COVID-exposed neonates to be captured on individual COVID-exposed data sheet</small>		
All admitted neonates		
<b>All admitted neonates</b> <small>(in-born and out-born)                      (all admissions within neonatal period)                      (count includes COVID-exposed neonates)                      (count done at primary neonatal ward, before down-referral/step-down)</small>	Admitted to any neonatal/ paediatric ward (incl NICU/ HCU)	
	Admitted to NICU/ HCU	
	Admitted who were born with BW 500 – 999g	
	Admitted who were born with BW 1000 – 1499g	
	Admitted who were born with BW 1500 – 1999g	
	Admitted who were born with BW 2000 – 2499g	
	Admitted who were born with BW ≥2500	
	Ventilated: Non-Invasive/ Invasive	
	Given surfactant	
	Given no breastmilk since birth	
Mixed fed (given any breast milk and formula)		
<b>Outcome of all admitted neonates</b> <small>(in-born and out-born)                      (all admissions within neonatal period)                      (count includes COVID-exposed neonates)                      (count done on discharge/ down-referral/ separation)</small>	Discharged to mother	
	Discharged to caregiver	
	Referred out for further neonatal care	
	Down-referred (step down)	
	Early neonatal death (0 to 6 days of age)	
	Late neonatal death (7 to 27 days of age)	
Other		

# Data capture

- Complete individual form for each COVID-19 positive pregnant woman at delivery
- Complete individual form for each COVID-19 positive exposed infant at discharge
- Complete weekly form from birth register
- Complete weekly neonatal form from discharge register
- Enter data on Google drive database

# Data entry and access

- Google drive on Excel form
- Access controlled to site of entry for their data only
- Access given to district managers etc. for their areas

# Reports

- Weekly count of COVID-19+ pregnant women who had delivered
- Outcome of those pregnancies
- South Africa
  - Weekly COVID-19 numbers and outcome
  - Monthly report of pregnancies and impact of COVID-19 on rest of pregnancies
  - Comparison of same month one year previously (“collateral damage”)



# Evaluation from framework document

## 3.13. Doctors, midwives and emergency medical services (EMS) personnel

of communication following the stages of change process. The PROGRESS can be marked like a dash board (D = Done, IP = In process, PA = Prioritise for action). The HYPERLINK takes you to the content (e.g. algorithm or poster for that particular task/activity).

**Messages should be consistent across all levels**

For resources and guidelines consult <https://www.nicd.ac.za/diseases-a-z-index/covid-19/covid-19-resources/> for health professionals and <https://sacoronavirus.co.za/> for the public

### TASK / ACTION

1. Familiarise themselves with the
  - a) health messages given to patients and community
  - b) precautions against infection (PPE and dressing and undressing with PPE)
  - c) disposal of PPE
  - d) protocols for managing pregnant and postnatal women and their babies antenatally, intrapartum, post-natally
  - e) referral criteria and routes [A2]
2. Complete the relevant monitoring forms as required.
3. Refer to the tasks and actions for the health system level or health facility level to which they are designated

### PROGRESS

### HYPERLINK

PROGRESS	HYPERLINK
	[A5]
	[A6; A7; A9; A11]

# Reflections ...

- See what you can piggyback on
- Get data on most important things first
  - Number of cases (and where)
    - Identifies hotspots
  - Outcome data
    - Indicates resources required
    - Management problems, etc.
- Who is going to enter and analyse the data?
- What security systems are built in?

**Thank you**