MINISTRY OF HEALTH
MALAYSIA

GUIDELINES FOR STILLBIRTH AND UNDER FIVE MORTALITY REPORTING SYSTEM

July 2013

CONTENTS

GLOSSARY

A&E : Acute and Emergency Department

ABC : Alternative Birth Centre

FHDD : Family Health and Development Division

HO : House Officer

ICD : International Classification of Diseases

ICU : Intensive Care Unit

ID : Identification Number

MO : Medical Officer

MOH : Ministry of Health

NICU : Neonatal Intensive Care Unit

O &G : Obstetrics and Gynaecology Department

PICU : Paediatric Intensive Care Unit

PHDW : Paediatric High Dependency Ward

SCAN : Suspected Child Abuse and Neglect

SCN : Special Care Nursery

ACKNOWLEDGEMENT

We wish to express our appreciation to the Director of Health Malaysia, Y.Bhg. Datuk Dr. Noor Hisham bin Abdullah for his continuing support in the improvement of child health care services.

We would also like to thank our colleagues, who provide excellent feedback to improve the stillbirth and under five mortality reporting format. They made significant contributions to the present method of reporting stillbirths and under five deaths in Malaysia.

This improved reporting format for stillbirths and under five deaths in Malaysia was further advanced during a workshop on Revision of Quality Manual Confidential Enquiry Into Maternal Deaths and Stillbirth and Under Five Mortality held in October 2012. The committee would like to thank the participants of the workshop for their contribution.

National Stillbirth and Under Five Mortality Technical Committee
MINISTRY OF HEALTH MALAYSIA

July 2013

GUIDELINES ON STILLBIRTHS AND UNDER FIVE MORTALITY REPORTING

INTRODUCTION

Under five mortality rate in Malaysia has stagnated over the last decade at 8-9 per 1 000 live births. Under the Plan of Action towards achieving Millennium Development Goal (MDG) 4 (2010-2015), one of the strategies is to improve surveillance of Under-5 Mortality (U5M) where all under 5 deaths must be registered, reported and investigated. This is to monitor mortality and identify areas for intervention at national, state and district levels.

U5M reporting system is to report all under five deaths (live births) including those from the private sector and deaths outside hospital. All deaths need to be investigated and identified, substandard care should there be any, and be classified as preventable or otherwise. It is hope that this U5M reporting system would able to improve the certification of deaths using ICD 10 coding by the medical personnel. For those non hospital deaths, verbal autopsy should be carried out and a probable cause of death should be made and thus to enable for use of ICD 10 coding.

Prior to this, stillbirths were reported and classified using the PNM formats (PNM 1/97 (pindaan 2000) and PNM 2/2012). Although stillbirths are not calculated as under five deaths, but it is part of perinatal deaths. Thus, to ensure no duplication of reporting of stillbirths, stillbirths reporting has been integrated into the new stillbirth and under Five Mortality Format (SU5MR-I/2012).

OBJECTIVES

All stillbirths and Under-5 Mortality need to be notified, investigated and analysed by district, state and national level. This reporting system is to:

- Standardize the Stillbirths and Under-5 Mortality reporting system

- Ensure all Stillbirths and Under-5 Mortality are reported and investigated within the stipulated time frame

- Obtain accurate data and as a data base on stillbirths and Under-5 Mortality in the country

- Identify areas of shortfall in care and implement the remedial measures

- Plan for the program and strategies for intervention

- Improve health care for the stillbirth and Under-5 Mortality

CASE DEFINITION

Livebirth

A birth of an infant with birth weight equal to or more than 500 gm (or 22 completed weeks of pregnancy if birth weight is not known) which shows any sign of life such as a beating heart, pulsations of the umbilical cord or definite movement of the voluntary muscles.

Stillbirth

A birth of an infant with birth weight equal to or more than 500 gm (or 22 completed weeks of pregnancy if birth weight is not known) which does not shows any sign of life such as a beating heart, pulsations of the umbilical cord or definite movement of the voluntary muscles. If both the above are not known, then the body length (crown heel length of 25 cm or above) will be taken as the cut off value.

Total births

Live births + Stillbirths

Perinatal death

Deaths occurring in the perinatal period **AND** with birth weight equal or more than **500gm.**

Perinatal period

The period after 22 weeks of pregnancy, birth and the first seven days of life.

Neonatal death

Deaths among live births during less than 28 days of life **and** with birth weight equal or more than **500gm.**

Early neonatal death

Deaths among live births during less than 7 days of life **and** with birth weight equal or more than **500gm.**

Late neonatal death

Deaths among live births from 7 to at less than 28 days of life

Under five death

Death that occurs from the first day of life (day 0) to < 5 years old (1824 completed days) after birth.

Perinatal Mortality Rate

The number of stillbirths (fetuses weighing at least 500g or when birth weight is unavailable, after 22 completed weeks of gestation or with a crown-heel length of 25 cm or more) plus the number of early neonatal deaths, per 1 000 total births.

Neonatal Mortality Rate

Number of neonatal deaths per 1 000 live births

Under-5 Mortality Rate

The number of deaths that occur from the first day of life (day 0) to < 5 years old (1824 completed days) after birth, per 1 000 live births.

Hospital death

Patient who arrives at the hospital with signs of life in A&E, ward, intensive care etc before the patient dies. This includes all deaths occurring during ambulance transportation from one hospital to another.

Non hospital death:

Any death that occurs outside the hospital which also includes:

i. Those brought in dead to the hospital
ii. Death while on the way to care/hospital
iii. Death in clinic/polyclinic
iv. Death at home or elsewhere

SYSTEM FOR NOTIFICATION AND INVESTIGATION OF STILLBIRTHS AND UNDER-5 MORTALITY

SYSTEM OF NOTIFICATION:

- A flow chart showing the system of notification is shown in Appendix A.
- Roles and responsibilities is shown in Appendix C.
- All under 5 deaths (0 - <5 years old) must be notified to PKD by filling in and send the Notification form U5MR-N pindaan 2013 within 24 hours from time of death.
- PKD send the notification forms to JKN or redistribute the notification form to the respective PKD according to the residential address of the deceased within 24 hours from time of death.
- JKN to verify the case and notify to KKM within 24 hours from time of death.
- Stillbirths do not require notification.
- Notification form U5MR-N Pindaan 2013 can be downloaded from BPKK website: fh.moh.gov.my

SYSTEM OF INVESTIGATION:

- A flow chart showing the system of investigation is shown in Appendix B.
- Roles and responsibilities is shown in Appendix C.
- The membership of the committees and terms of reference is shown below.
- Investigation form SU5MR-I/2012 can be downloaded from BPKK website: fh.moh.gov.my

<u>Hospital level/ health clinic:</u>

Hospital Stillbirth and Under Five Mortality Committee

i. Chair person : Hospital Director
ii. Head of O&G Department
iii. Head of Pediatric Department
iv. Head of relevant disciplines
v. Other relevant staffs from O&G and Pediatric Department

Terms of Reference

- All stillbirths and under 5 deaths (0-<5 years old) must be investigated.
- The relevant sections in SU5MR-I/2012 need to be filled in completely and sent to the PKD within 1 week.

District level:

District Stillbirth and Under Five Mortality Committee

i. Chair person : Medical Officer of Health
ii. Head of Pediatric Department
iii. Head of O&G Department
iv. Family Medicine Specialist
v. District Family Health Officer
vi. District Matron
vii. Other relevant staffs from other departments

Terms of Reference

- Holds a district stillbirth and under 5 mortality committee meeting to discuss and identify preventable factors and remedial measures.
- To complete Section 1 – Section 7 in SU5MR-I/2012 form which validated by Medical Officer of Health after committee meeting. Send the form to JKN and KKM (through KKM Under 5 Mortality email address: u5mr@moh.gov.my – to save as a pdf report) OR by mailing the hardcopy to KKM within 4 weeks from time of death.

State level:

State Stillbirth and Under Five Mortality Committee

i. Chair person : State Health Director
ii. State Pediatric Discipline
iii. State O&G Discipline
iv. State Deputy Director (Health)
v. State Family Health Officer
vi. District Medical Officer of Health
vii. District / State Hospital Director
viii. Family Medicine Specialist
ix. State Matron
x. Other relevant staffs

Terms of reference

- Holds a state stillbirth and under 5 mortality committee meeting to discuss and identify preventable factors and remedial measures.
- To complete Section 8 in SU5MR-I/2012 form which validated by State Director after committee meeting. Send the complete form within 4 weeks from time of death through KKM Under 5 Mortality email address: u5mr@moh.gov.my – to save as a pdf report OR by mailing the hardcopy to KKM.

National level:

National Stillbirth and Under Five Mortality Technical Committee

i. Chairperson : Director General of Health
ii. Deputy DG (Public Health)
iii. Deputy DG (Medical)
iv. Director of Medical Practice
v. Director of Medical Development Division
vi. Director of Disease Control Division
vii. Head of Pediatric Discipline
viii. Head of O&G Discipline
ix. Head of Family Medicine Discipline
x. Director of Nursing Division
xi. State Health Directors
xii. Other relevant Staffs

Family Health Development Division (secretariat)

a. Director
b. Deputy Director (Family Health)
c. Head of Child Health Unit

Terms of Reference

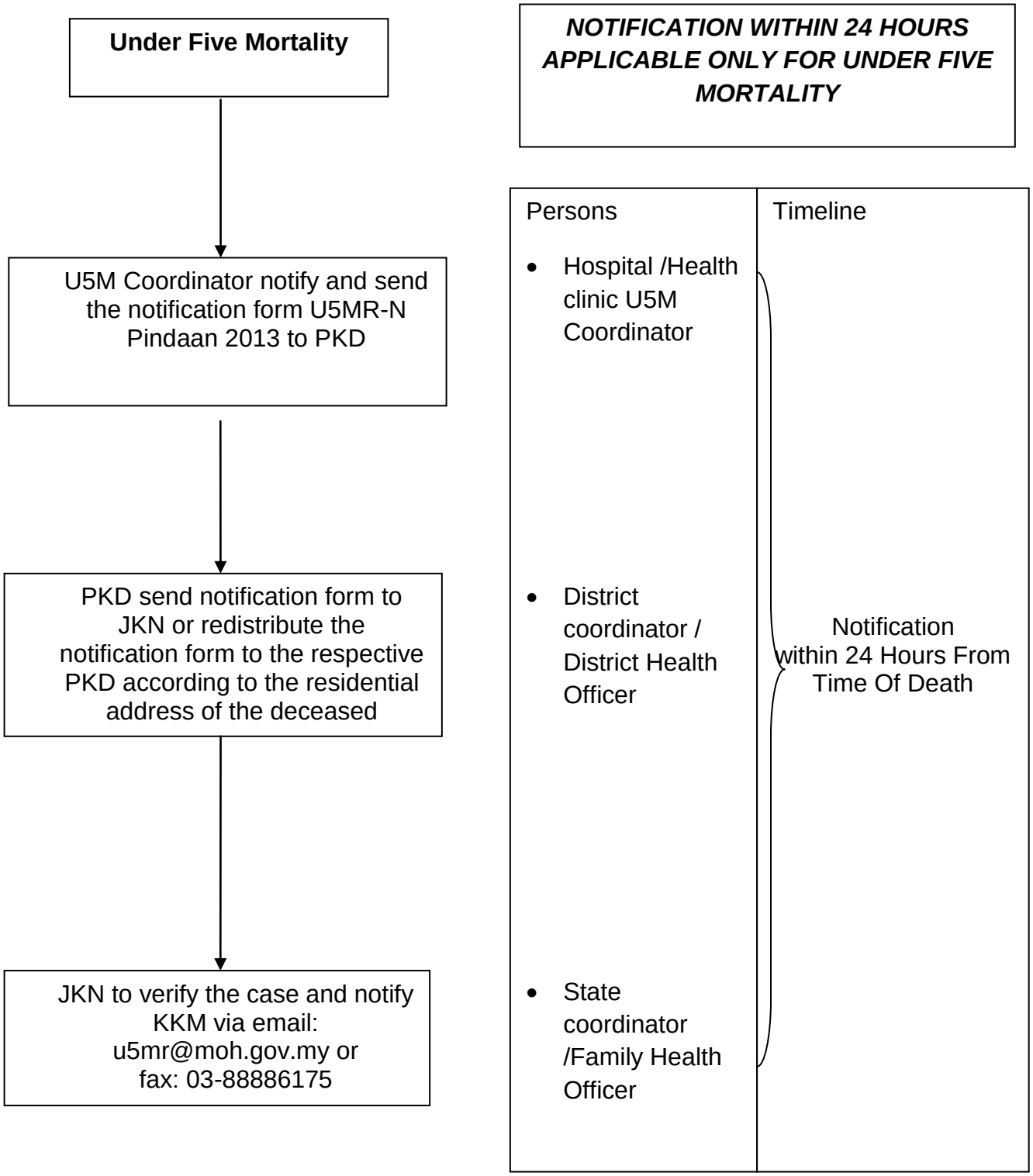
- Review the mortality reports from the states.
- Consolidate and compile the death reports.
- Analyze and provide feedback.
- Produce annual reports including recommendations and circulates to the relevant staffs at state and district levels for follow up actions. A copy of this report is to be given to the Director General of Health Service.

CONCLUSION

It is hoped that by implementing this reporting system, more accurate data on stillbirths and under 5 mortality could be obtained. We also hope that the detailed investigation could help identify areas of improvement to further reduce the mortality and improve child care.

Appendix A

FLOW CHART FOR NOTIFICATION OF UNDER FIVE MORTALITY

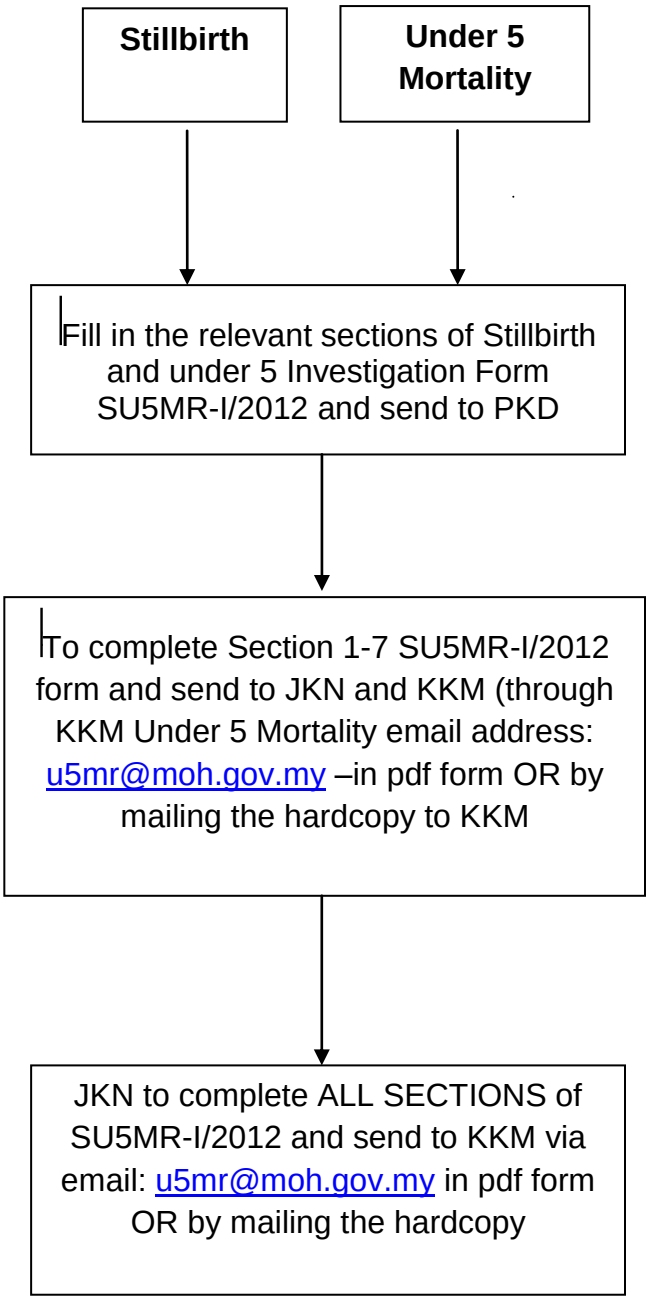


Notes:

Both Notification and Investigation Forms (U5MR-N Pindaan 2013 and SU5MR-I/2012) can be downloaded from BPKK website : fh.moh.gov.my

Appendix B

FLOW CHART FOR INVESTIGATION OF STILLBIRTHS AND UNDER FIVE MORTALITY



Person	Timeline
• Hospital: MO / specialist where case died • District: MO/ specialist at nearest health clinic	**1 Week From Time of Death**
• District Health Officer • State MCH officer • State Health Director	**4 Weeks From Time Of Death**

Notes:
Both Notification and Investigation Forms (U5MR-N Pindaan 2013 and SU5MR-I/2012) can be downloaded from BPKK website : fh.moh.gov.my

Appendix C

ROLES AND RESPONSIBILITIES

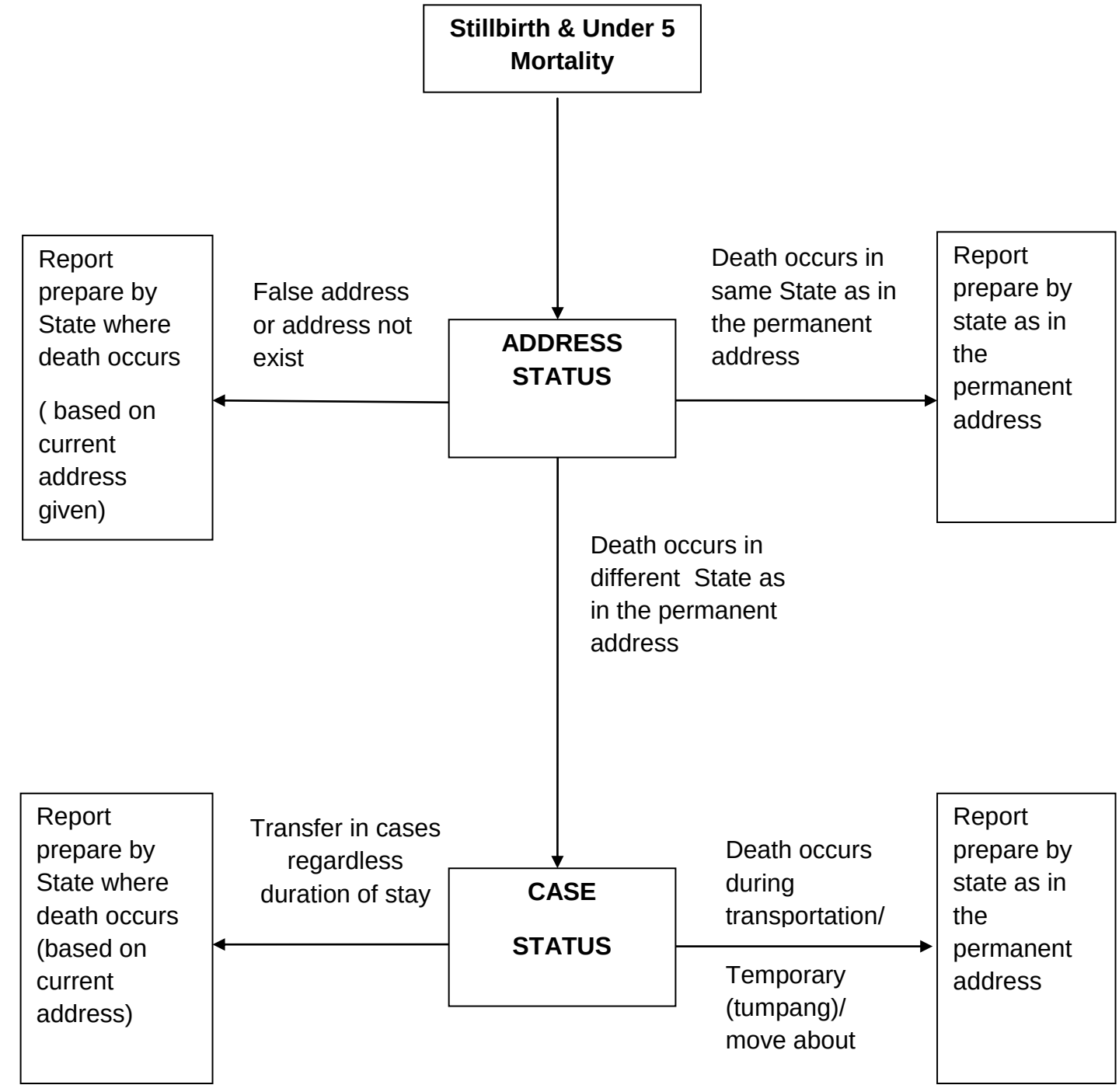
No.	Person In charge	Roles and Responsibilities
HOSPITAL		
1.	Pediatrician/O&G specialist/Medical Officer/relevant department officers (e.g. Emergency Department, Surgery, Mortuary)	i. Notify all under five deaths to the hospital coordinator immediately. ii. Fill up the Under Five Mortality Notification form (U5MR-N/pindaan 2013) & handover to the coordinator. iii. Fill up the Stillbirth & Under Five Investigation form (SU5MR-I/2012) iv. Complete all the information needed after discussion in hospital committee meeting.
2.	Hospital Coordinator (PICU/HDW/Paediatric ward Sister)	i. Notify District Coordinator about the death within 24 hours from time of death. ii. Send the notification form to PKD within 24 hours from time of death.
3.	Head of Pediatric / O&G Department	Hospital Stillbirth and Under Five Mortality Committee meeting: i. Discuss all deaths ii. Determine the cause of death iii. Identify preventable factors and remedial measures iv. Implement and monitor remedial measures v. Periodic review of deaths trend vi. Data quality assurance
4.	Hospital Director	• Ensure all the stillbirths and under five deaths are notified and reported. • Chair Stillbirth and Under Five Mortality Committee meetings. • Ensure remedial measures are implemented and monitor the progress of implementation.

DISTRICT HEALTH OFFICE		
Health Clinic		
5.	Family Medicine Specialist/ Medical & Health Officer/Sister	• Notify all under 5 deaths to district coordinator. • Fill up the Under Five Mortality Notification form (U5MR-N/pindaan 2013) and send to the district coordinator within 24 hours of death. • Fill up the Stillbirth & Under Five Investigation form (SU5MR-I/2012). • Complete all the information needed after discussion in committee meeting.
District Health Office (Pejabat Kesihatan Daerah)		
6.	District Coordinator	i. Receives notification regarding all deaths from hospitals or clinics. ii. Notify District Health Officer regarding the death within 24 hours of death. iii. Sends the notification to JKN OR redistribute the notification forms to the relevant districts/states according to place of residence.
7.	District Health Officer	• Receives notification regarding all deaths. • Ensure District Stillbirth and Under Five Mortality Committee meeting regularly/as required: i. Discuss all stillbirths and under 5 deaths ii. Determine the cause of death iii. Identify preventable factors and remedial measures iv. Implement and monitor remedial measures v. Data quality assurance • Complete SU5MR-I /2012 form till Section 7 and send to JKN and KKM within 4 weeks from time of death.
STATE HEALTH DEPARTMENT		
8.	State Coordinator	• Receives notification regarding all deaths from PKD • Notify State Family Health Officer regarding all deaths from PKD • Ensure:

		i. All deaths are investigated and data compiled. ii. SU5MR-I/ 2012 are appropriately filled for all deaths. iii. Regular counterchecking with Jabatan Pendaftaran Negeri. iv. Ensure number of deaths in KIB 203A and 203B tally with number of stillbirths and under 5 deaths that have been reported.
9.	State Family Health Officer	Ensure: i. All deaths are investigated, compiled and reported accordingly. ii. Complete and correct data entry iii. Analyze the mortality data iv. Select all the problem cases to be discussed at State Stillbirth and Under 5 Child Mortality Committee meeting. v. Send the completed SU5MR-I/2012 forms after being finalized by State Stillbirth and Under Five Child Mortality Committee meeting to KKM within 4 weeks from time of death.
10.	State Health Director	• Chair State Under Five Mortality Committee meeting as required to: i. Review the data ii. Discuss selected deaths iii. Identify preventable factors and remedial measures iv. Implement and monitor remedial measures v. Periodic review of deaths trend vi. Data quality assurance • Certification of SU5MR-I/2012 forms.
Family Health Development Division		
11.	Head of Child Health Program /Matron / Sister, Family Health Development Division	• Ensure all deaths are reported, compiled and analysed • Data quality assurance • Countercheck notification and investigation forms
12.	Director of Family Health Development Division	National Stillbirth and Child Mortality Technical Committee Meeting as required: i. Periodic review of deaths trend ii. Evaluate effectiveness of prevention and intervention strategies iii. Recommend strategy/program/policy changes

Appendix D

ALGORHYTHM FOR REPORTING OF STILLBIRTH AND UNDER FIVE MORTALITY



Permanent address : latest address AND stay > 6 months

Current Address: latest address regardless duration of stay

Appendix 1

UNDER FIVE DEATH NOTIFICATION FORM U5MR-N Pindaan 2013
(can be downloaded from BPKK website: fh.moh.gov.my)

(see attachment)

Appendix 2

STILLBIRTH AND UNDER FIVE MORTALITY REPORTING

SU5MR-I/2012 FORM

(can be downloaded from BPKK website: fh.moh.gov.my)

(see attachment)

Appendix 3

SUMMARY OF ICD DIAGNOSIS

1. Certain Infectious & Parasitic Diseases	Specific communicable/ transmissible diseases (except intestinal infections & STD) Exclusion: local infections of skin, respiratory system (eg influenza, pneumonia), certain bacterial meningitis, infections in perinatal period (except Tetanus & STD)	Examples: Acute gastroenteritis, Tuberculosis, Meningococcaemia, Viral meningitis, Dengue Haemorrhagic fever, HIV, Tetanus neonatorum
2. Neoplasms	Functional activity, morphology & site. Includes all malignant, in-situ neoplasms & benign neoplasms	Examples: Hepatocellular carcinoma, Retinoblastoma, ALL, Cerebellar tumours, Osteosarcoma
3. Diseases of Blood & Immune system	Excludes autoimmune diseases, certain conditions originating in perinatal period, congenital malformations, endocrine/ metabolic, neoplasms, HIV, poisoning & S/S with abnormal clinical & lab finding Not Elsewhere Classified (N.E.C)	Examples: Beta thalassaemia, Haemolytic Uraemic Syndrome, Haemophilia A & B, Agammaglobulinaemia, Severe Combined Immunodeficiency
4. Endocrine, Nutritional, Metabolic Diseases	Excludes S/S & abnormal clinical & lab findings N.E.C, transitory endocrine & metabolic disorders in newborn	Examples: Congenital Hypothyroidism, Insulin Dependent D. Mellitus, Marasmic Kwashiorkor, Mucopolysaccharidosis, Cystic Fibrosis, Hyperkalaemia, Fliud Overload
5. Nervous System	Excludes perinatal origin, congenital malformations, endocrine/ metabolic causes, neoplasms, S/S with abnormal clinical& lab finding N.E.C, certain infections, injury & external causes	Examples: Haemophilus meningitis, Spinal Muscular Atrophy, Cord Compression, Spastic Cerebral palsy, Acquired Hydrocephalus, Toxic Encephalopathy (specify

		toxic agent)
6. Circulatory System	Excludes perinatal origin, congenital malformations, endocrine/ metabolic causes, neoplasms, S/S with abnormal clinical& lab finding N.E.C, certain infections, injury & external causes, systemic connective tissue disorders, transient cerebral ischaemic attacks	Examples: Rheumatic Valvular Diseases, Hypertension, Primary Pulmonary Hypertension, Infective Pericarditis, Acute Myocarditis, Obstructive Hypertrophic Cardiomyopathy, Cerebral Infarction
7. Respiratory System	Excludes certain infections, perinatal origin, congenital malformations, endocrine/ metabolic causes, neoplasms, injury & external causes, S/S with abnormal clinical& lab finding N.E.C	Examples: Pneumonia due to Strep pneumonia, Retropharyngeal abscess, Pulmonary Oedema, Lung abscess with pneumonia, Adult RDS
8. Gastro-Intestinal (Digestive)	Excludes certain infections, perinatal origin, congenital malformations, endocrine/ metabolic causes, neoplasms, injury & external causes, S/S with abnormal clinical& lab finding N.E.C	Examples: Acute appendicitis with generalised peritonitis ,Intestinal perforation, Intussusception, Toxic liver disease, Acute pancreatitis
9. Genitourinary Tract	Excludes certain infections, perinatal origin, congenital malformations, endocrine/ metabolic causes, neoplasms, injury & external causes, S/S with abnormal clinical& lab finding N.E.C	Examples: Acute Nephritic Syndrome ,Nephrotic Syndrome, Chronic Renal Failure, Obstructive Uropathy, Acute Renal failure
10. Conditions from Perinatal Period	Includes conditions that have their origin in perinatal period though death or morbidity occurs later. Excludes congenital malformations, endocrine/ metabolic, neoplasms, injury/ poisoning & tetanus neonatorum	Examples: Extremely low birth weight, Severe birth asphyxia, Intraventricular haemorrhage, Congenital Rubella Syndrome, Kernicterus, Bronchopulmonary Dysplasia

11. Congenital Malformations, Deformations & Chromosomal Abnormalities	Excludes inborn errors of metabolism Includes congenital heart diseases	Examples: Congenital hydrocephalus, Spina Bifida, Ebstein Anomaly, Diaphragmatic hernia, Biliary atresia, Edwards Syndrome, Epidermolysis Bullosa,
12. Injuries, Poisoning & External Causes	Excludes birth trauma Includes all kinds of injuries, foreign bodies, burns, corrosions, drowning, complications of procedures, MVA, NAI etc	Examples: Fracture of base of skull, Injury of spleen, Burns & corrosions, Carbon Monoxide poisoning, Anaphylactic shock, Bone marrow transplant rejection, Assault, Accidental drowning
13. Symptoms, signs & abnormal findings, NEC (Not elsewhere classified)	Excludes perinatal origin. Symptoms & signs of various organ systems but unspecified	Examples: Cardiogenic shock, Respiratory arrest, Sudden infant death syndrome, Unattended death
14. Others	Mental & behavioural disorders: Severe mental retardation, Developmental dyslexia Diseases of eye & adnexae: Optic neuritis, Purulent endophthalmitis Diseases of ear & mastoid process: Acute mastoiditis, Suppurative otitis media Diseases of skin & & subcutaneous tissue: Staphylococcal scalded skin syndrome Diseases of musculoskeletal & connective tissue: Seropositive rheumatoid arthritis, Systemic lupus erythematosus	

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