MINISTRY OF HEALTH
MALAYSIA

QUALITY MANUAL

CONFIDENTIAL ENQUIRY INTO MATERNAL DEATHS

MOH/P/PAK/31.99 (QAP)

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Evaluation of Quality Improvement Efforts in the Ministry of Health

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Preface

Quality improvement has always been a major focus of the Ministry of Health. To this effect, the Ministry has taken the leadership role of introducing various efforts to upgrade the quality of our health services. The sole purpose of these efforts is to ensure that the best available knowledge concerning the use of health care to improve health outcomes is properly used.

The evaluation conducted on the various quality improvement efforts in 1996 provided valuable information into the acceptance and effectiveness of the current services. This had resulted in the development of the "Strategic Plan for Quality in Health"- an important reference material for use in defining the future course for quality improvement pursuits throughout the health sector. To further amplify our efforts and commitment to improving service quality, manuals have been developed for the use by all Ministry of Health's staff and others with the same interest.

Through the tireless efforts of a dedicated group of people, these manuals attempt to provide pertinent guiding principles at all health care levels. In addition, they also provide valuable information describing the usefulness of each specific quality improvement effort and circumstances they can be applied to. In their development, priority was given to ensure their applicability at all levels. Each of the manuals has been painstakingly reviewed for its content and usefulness. How effective these manuals will be in improving the quality of health services can only be seen once it has been used. Thus it is my sincere hope that with such guidance, a better quality health service can continue to be offered through the new millennium.

TAN SRI DATO' DR. ABU BAKAR SULEIMAN
Director-General of Health, Malaysia
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1. BACKGROUND

The International Conference on Maternal Mortality held in Nairobi, Kenya in 1987 took a major step towards women's health with the introduction of Safe Motherhood Initiative. This was the first time that the attention of the international community was clearly focused on death of women due to pregnancy and childbirth. It was again stressed in 1990, at the World Summit for children where amongst the seven major goals identified was the reduction of the maternal mortality rate by half between 1990 and 2000. This issue was further deliberated during the two International Conferences on Population and Development in 1994 at Cairo and at the Women's Conference in 1995 at Beijing.

In Peninsular Malaysia, maternal mortality figures though grossly under estimated are available as far back as the late 1940's. The maternal mortality ratio has been steadily declining from 530 per 100,000 live births in 1950 to 148 in 1970 and 20 in 1990. In order to sustain the decline in avoidable deaths a system to investigate maternal deaths was instituted in the 70's and all deaths among mothers who delivered at home and in government hospitals were investigated by the Ministry of Health staff.

Following the recommendations of the Maternal and Child Health workshop held in Ipoh in 1987 and the workshop of the Consultant Obstetrician & Gynaecologist of the Ministry of Health held in 1989, it was recognised that much can be done to improve this system. This was necessary in order to obtain more accurate figures so that the maternal mortality ratio could be reduced and therefore the target set at the World Summit for Children could be achieved. During 1989-1990 new formats for the investigation and review of maternal death were developed and pretested.

The System of Confidential Enquiry into Maternal Deaths in Malaysia was introduced in 1991 and a National Technical Committee was established at the Ministry of Health to provide leadership in this effort. The present system of enquiry adopted from the system of Confidential Enquiry conducted in England and Wales is meant to be an audit, no more, no less – herein lies the value of this enquiry.

2. PURPOSE

The purpose of this manual is to:

- To describe the process in the establishment of a System on the Confidential Enquiry into Maternal Deaths
- To provide a tested method in the conduct of enquiries into maternal deaths.
- To describe the process involved in measuring the impact of the system.
- To describe the appropriateness and limitations of this system.

3. DEFINITIONS

3.1 Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Maternal deaths are subclassified into three groups:

- **'Direct deaths'** resulting from obstetric complication of pregnancy, labour and puerperium, from interventions, omissions, inappropriate treatment, or from a chain of events resulting from any of the above.

- **'Indirect deaths'** resulting from pre-existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiological effects of pregnancy.

- **'Fortuitous deaths'** in pregnancy are deaths resulting from causes not related to or influenced by pregnancy.

3.2 Maternal mortality rate:

(Number of maternal deaths in a year ÷ Number of live births in the same year) x 100,000

In the above formula, the denominator using 'live births' rather than the theoretically correct 'number of pregnant women' makes the derived figure a ratio rather than a rate. This compromise is necessary to allow for availability of data and therefore validity of comparison. (A valid comparison [e.g. between countries] also entails the need to specify the numerator i.e. limiting it to direct and indirect deaths, and excluding incidental deaths.)

3.3 Clinical audit is defined as the systematic critical analysis of the quality of care, including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patient. Audit is a way of improving current performance by deciding on the ideal (setting standards), looking at the real situation (measuring current performance) and finding ways of moving from the real to the ideal.

3.4 Confidentiality in this context refers to elimination of identifying characteristics such as name of patient, name of health personnel who attended to the patient, name of hospital and other details referring to the deceased. Only a minimum number of persons are involved in the enquiry. Copies of the investigation formats will not be retained.

4. CONCEPT OF THE ENQUIRY

The principal aim of the investigations carried out is to identify preventable or avoidable factors i.e evidence of remediable factors present in the management of the cases and also the constraints.

The enquiry meant to be an audit of every maternal death enables the health care providers and managers to draw on the experience of others to improve further the quality in the provision of maternal health care. Maternal deaths are investigated through the road to death approach. The integrated approach in the investigation allows for all personnel in various disciplines who were involved in the care of the mothers to justify their management. Shortfalls in quality are identified and remediable actions are taken at the operational levels. Factors of relevance at the national level are identified and appropriate recommendations are made to the relevant programmes and agencies.

5. UNDERLYING PRINCIPLES IN THE INVESTIGATION

- Confidential Enquiry refers to the system of enquiry, where all personal particulars of the patient and the persons involved in the care of the patient is not known to the team who is performing the clinical audit.

- Every attempt must be made to maintain confidentiality of the cases at all times and only a minimum number of persons are to be involved in the investigation

- Establish a system to identify and investigate the death of a pregnant woman or within 42 days of termination of pregnancy.

- A system with the ability for cross-reference between the investigation and various parties the investigation must be comprehensive and rapid.

- A close rapport between hospital and health system as well as between the private and government sector is absolutely essential

- The system is not a fault finding exercise and no punitive action to be taken.

6. ORGANISATION OF INVESTIGATION

For the effective implementation of the system of maternal deaths coordinators are appointed for the investigation at various levels as follows:

- Hospitals (Ministry of Health) - Maternity Ward Sister
- Health District - District Health Sister
- Universities and Armed Forces Hospitals - Appropriate person to be appointed

All maternal deaths in hospitals reported to the Matron or Sister in charge is to be notified

- The Coordinator will collect all information on each maternal death and forward to relevant investigators at all levels.

- Investigators are appointed according to place of occurance of maternal deaths as shown below:

  - Hospital with O&G Specialist - investigation under specialist's supervision
  - Hospitals without Specialist - Director of hospital
  - Home - Health Sister under MOH supervision
  - Universities/ Armed Forces Hospitals - Head of O&G Department
  - Private Hospital/Clinic - Medical Officer of Health

7. SYSTEM OF INVESTIGATION

- A flow chart showing the system of investigation is shown in Appendix A.
- The membership of the committees and Terms of Reference is shown in Appendix B.

- The formats (KIK/KI 1-6) used are shown in Appendix C.

The Matron/Sister in charge of each ward in the hospital is responsible for notifying deaths of women aged 15 - 49 years in their respective ward to the hospital coordinator. The hospital coordinator will then determine whether the death is to be investigated as a maternal death. The coordinator will notify the investigators in the health district and the hospital those have provided care for the patient. At the same time the respective State Family Health Officer is informed by phone followed by the notification format KIK/KI-3.

The investigators either from the hospital or the health district (or both) would carry out an investigation and record the findings in the format KIK/KI-1. The pathologist will fill the format KIK/KI-6 and send to the coordinator at the relevant hospitals for cases where post mortem has been performed.

The completed format is then forwarded to the District Committee on Maternal Death established at district level. This committee is to meet within 2 weeks after the report is received. The district committee will inform the district staff within one week after review to implement remedial actions and submit the format KIK/KI-4 to the State Technical Committee. Every six months the District Technical Committee will give feedback using the format KIK/KI-5 to the District QA Committee. Following relevant discussions a consolidated report is prepared and the format KIK/KI-1 is submitted to the State Family Health Officer.

The State Family Health Officer combines the investigators' reports from all agencies into a single report. Code numbers are given to all cases by the Division of Family Health Development at the National level. The State Family Health Officer detaches Bahagian A from the format and retains it in a confidential file. After deleting all other identifying information like name of doctor, hospital etc. Bahagian B and C are submitted for review to the State Maternal Mortality Review Committee.

The State Maternal Mortality Review Committee which meets within two months from the date of death, reviews the investigation reports and if necessary reviews records, interviews staff, consults relevant specialists and prepares their report in KIK/KI-2 with comments and recommendations. The KIK/KI-1 and KIK/KI-2 forms are submitted to the secretariat of the National Technical Committee on Confidential Enquiry into Maternal Deaths, Division of Family Health Development, Ministry of Health. Specific actions/ remedial measures to be taken at the districts concerned are also conveyed to the districts by the State Review Committee. Strict confidentiality is maintained at levels. The State Technical Committee has to review all KIK/KI-4 formats every 6 months and provide feedback using KIK/KI-5 to the State QA Committee.

The secretariat of the National Technical Review Committee distributes the reports received from the states to the members the national committee two weeks prior to the date of each technical review meeting. The members present their review reports, comments and recommendations at the National Technical Review Committee Meetings. The physician and anaesthetist will present cases with medical and anaesthetic problems respectively. The findings of post mortems if any is also reviewed. If necessary additional information and clarification are obtained in specific cases. After deliberations, the cause of deaths are classified and ICD (International Classification of Diseases) code numbers assigned to each case. Areas of substandard care are identified and recommendations made.

Remediable clinical factors were deemed to be present when the actual care delivered by the health care workers to the patient was considered inappropriate or deficient. This decision is made by the National Technical Committee according to the standards of care applicable in the year the death occurred. It does not include cases where death was considered preventable had the patient or her family acted appropriately nor did it include the

presence of other socio-cultural, physical and geographical factors which were not under the control of the physicians. These were referred to as contributory factors in the Malaysian enquiry.

Analysis of data is done and a copy of the annual report prepared by the National Technical Review Committee is presented to the Director General of Health Services. Discussions are held with all relevant divisions of the Ministry of Health to ensure that recommendations are translated to actions for implementation. When the need arises other agencies like Statistics Department are also invited for discussions in specific areas eg. To tally the reporting system between the Vital Registration Department and the CEMD.

This system of CEMD was further refined to include maternal mortality as a Quality Assurance (QA) Indicator. At the National Maternal Mortality Conference held in October 1994, the linkage of CEMD with the Quality Assurance Approach was worked out together with the development of the formats to be used i.e KlK/Kl-4 & KIK/Kl-5. At the same time the formats KlK/Kl-1 (Investigation formats) were also revised. In January 1995, the protocol for CEMD as a quality assurance indicator together with the revised formats were sent to all the states for implementation.

8. MEASUREMENT OF THE IMPACT OF MMR AS QUALITY IMPROVEMENT EFFORT

A study was conducted to evaluate the effectiveness of MMR as a quality improving activity towards improving maternal health. The objectives of this study was achieved by conducting 4 types of studies involving a descriptive study, clinical audit, analysis of investigation reports and a KAP survey. The study period extended for almost two years from mid 1996 to early 1998. The evaluation study showed that the System of Confidential Enquiry Into Maternal Deaths had received support in improving the quality of maternal health care in the country.

9. APPLICATION OF THE EFFORT

Specific situation or environment where this enquiry would work best will be as follows:

9.1 Establishment of a policy for supporting the enquiry into all maternal deaths.

9.2 Establishment of a good death reporting system between the Vital Registration Department and the Ministry of Health.

9.3 The chairman of the State Review Committee must be a senior health manager responsible for the health care services. This will facilitate the implementation of the recommendations.

9.4 The chairman of the National Technical Committee must be a Senior Obstetrician & Gynaecologist preferably attached to a government hospital. This is to provide leadership and expertise in carrying out the clinical audit.

9.5 Establishment of a good data management system through computerisation, data linkage and networking.

9.6 The principle of confidentiality should be maintained throughout the enquiry in order to investigate all deaths without fear or prejudice.

9.7 Establishment of link between the maternal mortality investigation and the Quality Assurance process to ensure implementation of remediable measures immediately.

9.8 Existence of an investigation system will allow for refinement or development into a System of Confidential Enquiry Into Maternal Deaths.

9.9 Establishment of a full time secretariat.

9.10 Financial support for the conduct of the enquiry and publication of the reports.

9.11 Commitment and support at all levels.

10. SPECIFIC LIMITATION OF THE EFFORT

Several issues which need to be addressed in the establishment and conduct of the Confidential Enquiry Into Maternal Deaths are as follows:

10.1 Adequate and appropriately trained staff to conduct the investigation at all levels to ensure timely and complete enquiry.

10.2 Timeliness of the report.

10.3 The conduct of investigation in the private hospitals which operate with a different structure and organisation.

10.4 Difficulty in obtaining consent for the post mortem which poses problems in concluding the cause of death.

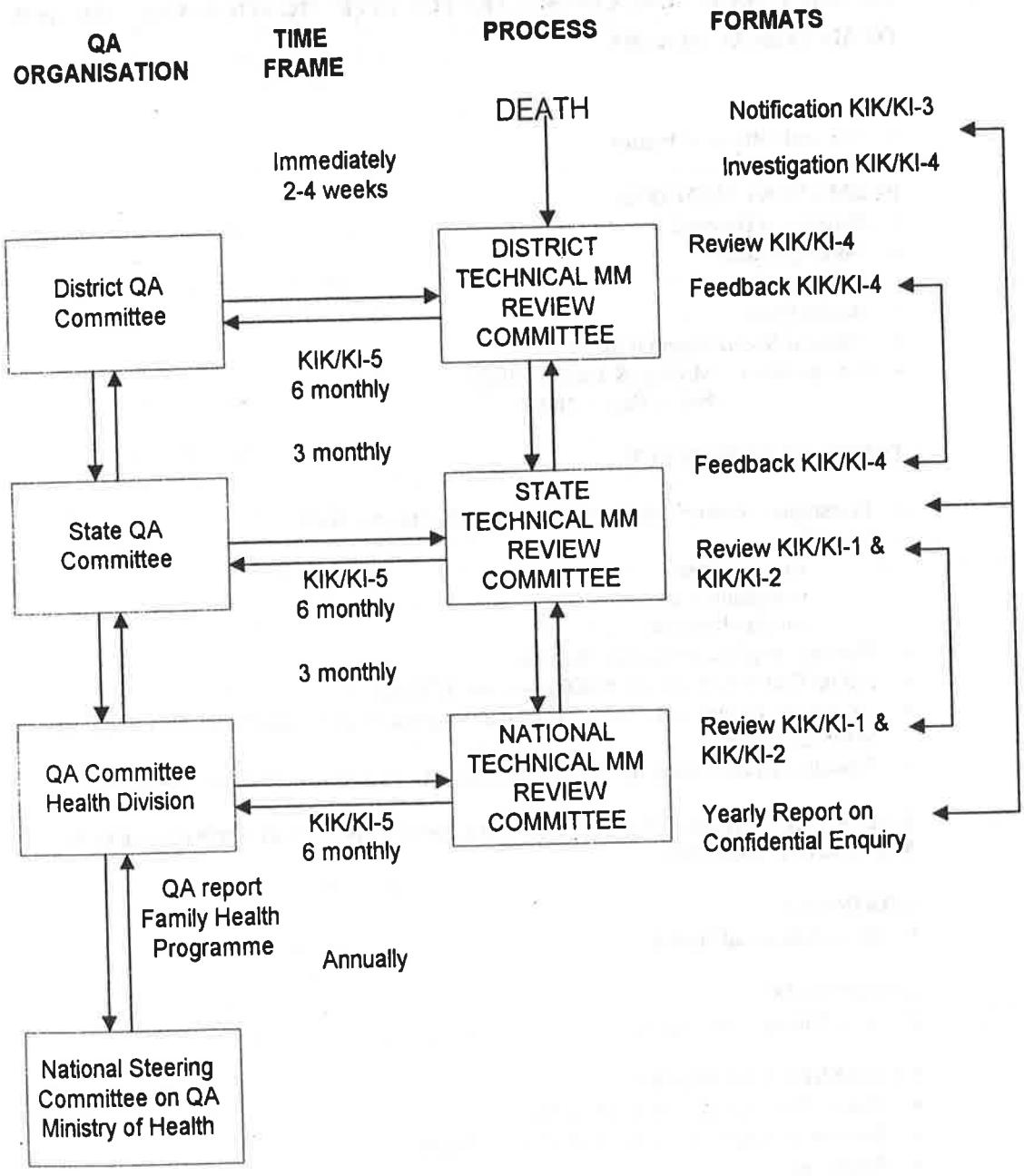
11. FURTHER READING

11.1 Investigation and review of maternal deaths: Pindaan 1995, Bahagian Penjagaan Kesihatan Asas dan Pembangunan Keluarga, KKM.

11.2 Report on the confidential enquiries into maternal deaths in Malaysia 1991-1994, Ministry of Health Malaysia.

11.3 Evaluation of implementation of the confidential enquiry into maternal deaths (CEMD) – in the improvement of quality of maternal health services: *unpublished:* 1998, Family Health Development Division, KKM.

APPENDIX A: FLOW CHART FOR INVESTIGATION AND REVIEW OF MATERNAL DEATH



APPENDIX B: COMPOSITION AND TERMS OF REFERENCE OF THE TECHNICAL COMMITTEE FOR INVESTIGATION AND REVIEW OF MATERNAL DEATHS AT DISTRICT, STATE AND NATIONAL LEVELS

1. DISTRICT TECHNICAL COMMITTEE FOR INVESTIGATION AND REVIEW OF MATERNAL DEATHS

CHAIRMAN
- Medical Officer of Health

PERMANENT MEMBERS
- Director of Hospital
- O&G specialist
- Other specialist
- Health Sister
- Hospital Sister/ Hospital Sister
- Co-operation - Medical & Health Officer
  - Public Health Nurse

TERMS OF REFERENCE

- Investigate maternal death within 2-4 weeks after the death
- Identify
  - cause of death
  - contributory factors
  - substandard care
- Plan and implement remedial factors
- Fill up format KIK/KI - 1, KIK/KI - 3 and KIK/KI - 4
- Submit the format to the State Technical Committee for Investigation and Review of Maternal deaths
- Provide feedback using the format KIK/KI -5 to the District QAP Committee

2. STATE TECHNICAL COMMITTEE FOR INVESTIGATION AND REVIEW OF MATERNAL DEATHS

CHAIRMAN
- State Director of Health

SECRETARY
- State Family Health Officer

PERMANENT MEMBERS
- Deputy Director of Health (Health)
- Senior Consultant Obstetrician & Gynaecologist
- Physician
- Anaesthetist
- Pathologist
- Health Matron
- Co-op - Relevant staff

TERMS OF REFERENCE

- Assess accuracy and completeness of report

- Analyse sequence of events
- Review death entry in death certificate
- Fill in KIK/KI-2
- Give feedback (KIK/KI 4) to the relevant districts
- Evaluate remedial actions taken by the districts
- State Family Health Officer prepares report for submission and maintains confidentiality
- The report is to be despatched after showing it to the State Health Director
- If preventable/ avoidable, identify
  - under what circumstance
  - patient or health provider related
  - at what level
- Format KIK/KI - 1 and KIK/KI - 2, should be sent to the National Maternal Mortality Committee
- Provide feedback using the format KIK/KI - 5 to the State QAP Committee

3. NATIONAL TECHNICAL COMMITTEE FOR INVESTIGATION AND REVIEW MATERNAL DEATHS

CHAIRMAN

- Senior Consultant Obstetrician & Gynaecologist

PERMANENT MEMBERS :

- Director of Division of Family Health Development
- O&G specialist from government hospitals and Universities
- Representative from the Hospital Division
- Senior Consultant Anaesthetist & Head of Department of Anaesthesia and Intensive Care
- Senior Consultant Physician
- Senior Consultant Pathologist & Forensic Medicine
- Principal Assistant Director of Div. of Family Health Dev.
- Assistant Director of Div. Of Family Health Dev.
- Assistant Principal Matron (Health)
- Sister of Div. of Family Health Dev.

SECRETARY

- Division of Family Health Development

TERMS OF REFERENCE

- Review the state reports
- Fill up the format KIK/KI -5 and give feedback to the Committee for QAP for Public Health Services.
- Produce Annual reports including recommendations and circulates to the relevant staff at state and district levels for follow up actions. A copy of this report is to be given to the Director General of Health Services.

APPENDIX C1: FORMAT KIK/KI-1

Format KIK/KI-1
(Pindaan 1996)

SULIT

KEMENTERIAN KESIHATAN
PENYIASATAN KEMATIAN IBU MENGANDUNG

No. Daftar Kebangsaan

☐☐☐ ☐☐
No. Kes Tahun

BAHAGIAN A
(Bahagian ini akan disimpan oleh Pegawai Kesihatan Daerah)

Nama Ibu : _____

Kad Pengenalan : _____

Alamat tetap : _____

_____

Daerah : _____

Tempat kematian: _____

Daerah : _____

Tarikh kematian : _____

Penyiasatan dibuat oleh:

	Bahagian Hospital	**Bahagian Kesihatan**
	1) _____	2) _____
Jawatan :	1) _____	2) _____

SULIT

KEMENTERIAN KESIHATAN
PENYIASATAN KEMATIAN IBU MENGANDUNG

BAHAGIAN B

Arahan:

- ***Bahagian ini akan dihantar kepada Sekretariat Jawatankuasa Kebangsaan Penyiasatan Kematian Ibu, Kementerian Kesihatan***
- ***Isikan data-data atau tandakan (✓) pada kotak-kotak yang berkenaan***
- ***Tuliskan maklumat-maklumat yang diperlukan di ruang yang disediakan***
- ***Jangan beri nama hospital, klinik, daerah dan kakitangan yang terlibat***

PERIHAL IBU

1. Umur ☐☐

2. Kumpulan Etnik _____

2.1. Pendatang Ya ☐
Tidak ☐

3. Persekolahan Ibu _____

4. Pekerjaan Ibu _____

5. Pekerjaan Suami _____

6. Jumlah pendapatan keluarga _____/bulan

7. Taraf Perkahwinan Ya ☐ Tidak ☐

8. Jarak rumah pesakit (kediaman terakhir) ke:

8.1. Pusat kesihatan _____ km

8.2. Hospital kerajaan _____ km

9. Gravida _____ Para _____

10. LMP _____

PERIHAL KEMATIAN

11. Tarikh kematian : _____

12. Kematian berlaku:

Antenatal ☐
Intrapartum ☐
Postnatal ☐
Keguguran ☐

13. Tempat kematian:

Hospital Besar ☐
(termasuk Hospital Universiti)

Hospital Daerah
- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Hospital Swasta
- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Hospital Lain ☐
(Orang Asli, pertahanan dan sebagainya

Rumah ☐
Perjalanan ke hospital ☐
Lain-lain (jelaskan) _____

_____

14. Sebab-sebab kematian (mengikut panduan ICD)

(Soalan ini perlu dijawab oleh Pegawai Kesihatan/Perubatan yang menjaga hospital atau Pakar O&G)

14.1. Penyakit yang menyebabkan _____
kematian secara langsung _____
disebabkan oleh (atau konsekuens dari)

14.2. Sebab atau faktor yang _____
mengakibatkan penyakit di atas._____
Nyatakan penyebab asas pada _____
barisan terbawah disebabkan oleh (atau konsekuens dari)

*Ini tidak bermakna keadaan kematian misalnya heart failure asthma, dll
Ia bermakna penyakit, kecederaan dan komplikasi yang menyebabkan kematian.

14.3. Faktor-faktor lain berkaitan_____
dengan kematian tetapi tidak _____
berkaitan dengan penyakit _____

PERIHAL KANDUNGAN LALU

15. Masalah perubatan dahulu_____

_____

16. Komplikasi semasa kandungan/bersalin dahulu

APH	☐
PPH	☐
Hypertensive Disorders of pregnancy	☐
Lekat Uri	☐
Pembedahan Caesarian	☐

Bayi mati pranatal/perinatal ☐
Sakit bersalin lama (Prolonged labour) ☐
Keguguran ☐
Lain-lain (jelaskan) _____
_____

17. Amalan Perancang Keluarga sebelum kehamilan ini
Ada ☐ Tidak ☐

18. Tahun kelahiran/keguguran terakhir : _____

PERIHAL KANDUNGAN SEMASA

19. Berat badan semasa lawatan pertama _____ kg. _____ minggu
20. Ukuran tinggi _____ cm.
21. Tekanan darah - Lawatan pertama _____
- Lawatan terakhir _____
22. Jangkamasa kehamilan semasa:
22.1 Lawatan pertama ke klinik kerajaan _____ minggu
22.2 Lawatan pertama ke klinik/Hospital swasta _____ minggu
22.3 Pemeriksaan pertama oleh doktor _____ minggu
22.4 Lawatan pertama ke Hospital Kerajaan _____ minggu

23. Tempat jagaan pranatal. (lebih daripada satu ruang boleh diisikan)

Klinik Desa/Klinik Bidan ☐
Pusat Kesihatan/Poliklinik ☐
Klinik pranatal di hospital kerajaan ☐
Klinik/Hospital Swasta ☐
Tiada jagaan pranatal ☐
Lain-lain (jelaskan) _____

24. Jumlah lawatan pranatal : _____

25. Jumlah lawatan ke rumah : _____

26. Masuk hospital semasa pranatal

Ya ☐ Tidak ☐

27. Penyiasatan makmal

27.1 Haemoglobin Lawatan pertama _____ gm%
Lawatan akhir _____ gm%

27.2 Air kencing : pernahkah Albumin/gula positif

Jika ya,

(a) Albumin : _____ jangkamasa mengandung _____ minggu
(b) Gula : _____ jangkamasa mengandung _____ minggu

28. Kod risiko:
(tandakan tidak berkenaan, sekiranya ibu tidak/belum mendapatkan pemeriksaan antenatal)

Merah ☐
Kuning ☐
Hijau ☐
Putih ☐
Tidak berkenaan ☐

28.1 Adakah kod yang diletakkan sesuai dengan risiko yang dikenalpasti pada ibu?

Sesuai ☐ Tidak sesuai ☐ Tidak berkenaan ☐

PERIHAL RUJUKAN KECEMASAN

(Arahan: Isikan di mana berkenaan)

29. Sebab-sebab rujukan

29.1 Ke Klinik Kesihatan

_____

29.2 Ke Hospital

_____

29.3 Lain-lain (termasuk sekiranya Pegawai Perubatan/anggota kesihatan dipanggil ke rumah pesakit)

_____

30. Adakah terdapat masalah untuk mendapatkan pengangkutan?

Ada ☐ Tiada ☐

31. Jika ada, adakah masalah ini merupakan salah satu faktor sampingan yang membawa kepada kematian?

Ada ☐ Tiada ☐

PERIHAL SAMBUTAN KES KECEMASAN DI HOSPITAL

32. Masalah yang dikenalpasti _____

_____

33. Waktu tiba di hospital _____

34. Waktu diperiksa oleh Pembantu Perubatan _____

35. Waktu diperiksa oleh Pegawai Perubatan _____

36. Taraf Pegawai Perubatan/Pakar yang merawat

Doktor Pelatih ☐

Pegawai Perubatan dengan pengalaman

- O&G <6 bulan ☐
- O&G > 6 bulan ☐

Pakar O&G ☐
Pegawai Perubatan
(tiada pengalaman O&G)

37. Waktu Pakar O&G diberitahu _____

38. Waktu pesakit diperiksa oleh Pakar O&G _____

PERIHAL KELAHIRAN

39. Tempat Bersalin

Hospital Besar ☐
(termasuk Hospital Universiti)

Hospital Daerah

- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Hospital Swasta

- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Hospital Lain ☐
(Orang Asli, pertahanan dan sebagainya

Rumah ☐
Perjalanan ke hospital ☐

Lain-lain (jelaskan) _____

_____

40. Kategori anggota yang menyambut kelahiran

Pakar O&G ☐

Pegawai Perubatan dengan pengalaman

- O&G <6 bulan ☐
- O&G > 6 bulan ☐
- tiada pengalaman ☐

Jururawat Perbidanan ☐

Bidan terlatih/Jururawat Masyarakat ☐

Bidan Kampung ☐

Tiada Penyambut ☐

Lain-lain (jelaskan) _____

41. Jenis kelahiran (tandakan)

SVD ☐

Vakum ☐

Forsep ☐

Songsang ☐

Kembar ☐

Keguguran ☐

Pembedahan caesarean ☐

- Kecemasan
- Elektif ☐

42. **Sekiranya pembedahan caesarean dilakukan:**

42.1 Adakah kelewatan dalam melakukan pembedahan tersebut?

Ada ☐ **Tiada** ☐

42.2 Sekiranya ada, nyatakan penyebab kelewatan ini?

_____

43. **Bius**

43.1 Jenis bius yang diberikan:

'General Anaesthesia'	☐
'Spinal'	☐
'Epidural'	☐

43.2 Pegawai yang memberi perkhidmatan bius:

Pakar Bisu	☐
Pegawai Perubatan	☐
Pembantu Perubatan (MA)	☐

43.3 Pengalaman pegawai yang memberi perkhidmatan bius:

< 6 bulan	☐
6 bulan – 1 tahun	☐
> 1 tahun	☐

44. Nyatakan tempoh masa:

44.1 Masuk hospital hingga kematian _____ jam/hari

45. Jika **bersalin di rumah**, nyatakan tempoh masa:

45.1 Bidan Kerajaan dipanggil dan bersalin _____ jam

45.2 Bersalin dan masuk ke hospital _____ jam/hari

45.3. Bersalin dan kematian _____ jam/hari

46. Keadaan bayi baru lahir:

Mati ☐ Hidup ☐

46.1 Jika mati:

Masera si (MSB) ☐
Lahir mati baru (FSB) ☐
Tidak diketahui ☐

46.2 Jika hidup,

Apgar skor semasa 5 min _____

47. Berat badan bayi (lahir hidup/lahir mati) _____ kg.

PERIHAL SELEPAS BERSALIN

48. Masalah dikenalpasti:

Ada ☐ Tiada ☐

48.1 Jika ada, nyatakan masalahnya:

_____

_____

48.2 Jika bersalin di hospital, keadaan pesakit semasa discaj/AOR:

Baik ☐
Kurang memuaskan ☐
Tidak diketahui ☐

48.3 Jumlah lawatan postnatal _____

48.4 Adakah ibu masuk ke hospital (jika bersalin di rumah) dimasukkan semula ke hospital?

Ya ☐ Tidak ☐

48.5 Jika ya, nyatakan sebabnya

_____

_____

48.6 Jenis Hospital

Hospital Besar ☐

Hospital Daerah

- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Hospital Swasta

- Dengan Pakar O&G ☐
- Tanpa Pakar O&G ☐

Lain-lain Hospital ☐

Tidak diketahui ☐

BAHAGIAN C

1. **PRANATAL**

1(a) Jagaan pranatal oleh Perkhidmatan Kesihatan

Arahan : ***Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat***
Panduan: *(i) Nyatakan ciri-ciri utama mengikut jangkamasa mengandung dan tarikh*

(ii)Jelaskan pengendalian pranatal di klinik/lawatan rumah dan rujukan

(iii) Jelaskan semua jenis penyiasatan (termasuk makmal, X-ray, dll), keputusan dan jangkamasa mengandung pada masa penyiasatan dibuat

(iv) Nyatakan samada faktor risiko dikenalpasti dan dikendalikan dengan sewajarnya termasuk rujukan-rujukan yang dibuat dan penerimaan ibu akan semua nasihat dan rujukan.

1(b) Jagaan pranatal di hospital-hospital termasuk di klinik dan di wad

Arahan : ***Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat***

Panduan: *(i) Nyatakan ciri-ciri utama mengikut jangkamasa mengandung dan tarikh*

(ii) Jelaskan pengendalian pranatal termasuk pengenalan dan faktor-faktor berisiko tinggi dan komplikasi dan perihal rawatan dan rujukan

(iii) Jelaskan semua jenis penyiasatan (termasuk makmal, X-ray, dll), keputusannya dan jangkamasa mengandung pada masa penyiasatan dibuat

(iv) Nyatakan samada faktor risiko dikenalpasti dan dikendalikan dengan sewajarnya termasuk rujukan-rujukan yang dibuat dan penerimaan ibu akan semua nasihat dan rujukan.

---

2. KES KECEMASAN

(Diisi bagi kes rujukan kecemasan sahaja)

2(a) Perihal rujukan kecemasan

Panduan: *Nyatakan ciri-ciri utama rujukan termasuk*

- jenis pengangkutan
- jenis resusitasi
- kategori anggota yang memberikan resusitasi

2(b) Perihal sambutan kes kecemasan di hospital

Panduan: *Nyatakan ciri-ciri utama termasuk*

- Waktu masuk
- Waktu diperiksa
- Oleh siapa
- Rawatan yang diberikan
- dan lain-lain

---

3. **KELAHIRAN**

3(a) Jagaan proses kelahiran di perkhidmatan kesihatan

Arahan: Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat
Panduan: (I) Nyatakan ciri-ciri utama kelahiran mengikut waktu dan tarikh
(ii) Jelaskan kemajuan proses bersalin, komplikasi yang berlaku termasuk:

- ***waktu komplikasi dikenalpasti***
- ***rawatan yang diberi***
- ***kakitangan yang memberi rawatan***
- ***keadaan ibu***
- ***perihal rujukan***

3(b) Jagaan proses kelahiran di hospital

Arahan:Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat
Panduan: (i)Nyatakan ciri-ciri utama kelahiran mengikut waktu dan tarikh
(ii)Jelaskan kemajuan proses bersalin, komplikasi yang berlaku termasuk:

- ***waktu komplikasi dikenalpasti***
- ***rawatan yang dibuat***
- ***kakitangan yang memberi rawatan***
- ***keadaan ibu***
- ***perihal rujukan***

(iii) Nyatakan ciri-ciri pembedahan jika ada, termasuk:

- ***jenis pembedahan***
- ***jenis bius***
- ***jangkamasa pembedahan***
- ***jenis kakitangan yang melakukan pembdahan***
- ***komplikasi yang berlaku***
- ***rawatan yang dibuat***

3(c) Pengendalian Bius/Bedah/Perubatan

Arahan : Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat
Panduan: (i) Jelaskan pengendalian dan komplikasi yang berlaku, penyiasatan yang dijalankan (termasuk X-ray, makmal dan lain-lain) dan ubat yang digunakan
(ii) Nyatakan juga pengalaman kakitangan yang terlibat dan lain-lain

4. **Ulasan dan Rumusan daripada Pegawai Kesihatan**

Arahan : Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat
Panduan: (i) Apakah faktor-faktor yang mengakibatkan kematian ibu?
(ii) Apakah faktor-faktor yang boleh dielakkan?
(iii) Apakah tindakan yang disyorkan?

Jawapan Pegawai Kesihatan

5. Ulasan dan Rumusan daripada Pakar O&G atau Pegawai Perubatan yang menjaga Hospital

Arahan : Jangan beri nama pegawai, hospital/klinik dan daerah yang mana terlibat
Panduan: (i) Apakah faktor-faktor yang mengakibatkan kematian ibu?
(ii) Apakah faktor-faktor yang boleh dielakkan?
(iii) Apakah tindakan yang disyorkan?

Jawapan Pakar O&G atau Pegawai Perubatan yang menjaga Hospital Daerah

6. Ulasan dan Rumusan daripada Bedah/Pakar Patalogi (jika berkenaan)

Arahan : Jangan beri nama pegawai, hospital/klinik dan daerah yang terlibat
Panduan: (i) Apakah faktor-faktor yang mengakibatkan kematian ibu?
(ii) Apakah faktor-faktor yang boleh dielakkan?

(iii) Apakah tindakan yang disyorkan?

Jawapan Bedah/Perubatan (jika berkenaan)

_____

_____

_____

BAHAGIAN D

LAPORAN PAKAR BIUS

Note : *This report is to filled by the anaesthetist (specialist, medical officer or medical assistant) who administered anaesthesia to the patient*
All parts to be filled.

Part I : *To be filled whenever an anaesthetic was given, and kindly attached a copy of the anaesthetic record.*

Part II : *To be filled whenever referral to anaesthetists was made including intensive care management*

Part III : *Additional Comments*

Part IV : *Review of Report*

Narrate in greater detail where relevant, particularly on your assessment of the patient circumstances during which patient deteriorated, management taken and patient's response. Also indicate when you called for help and when help arrived.

DO NOT SIGN THIS REPORT

BACKGROUND INFORMATION

Gravida : _____ Para : _____ Period of Amenorrhoea : _____

Date and time referred : _____

Status of anaesthetist : Medical Assistant

(Circle where relevant) MO< 6 month Private/Government
MO< 1 year
MO> 1 year
Registrar in training
Specialist
Consultant

For M.As, M.Os and Registrars, did you consult your specialist about the case? Yes/No

Status of hospital : General/District/Private

Part I

Anaesthetic Management

1. Preoperative Condition
(Circle where relevant)

1.1 Nature of surgery : LSCS Emergency/Elective
MRP
D&C
Others (specify) : _____

1.2. Indication : _____

1.3. Antenatal problems _____

1.4. Relevant past/present medical history:

_____

1.5. Preoperative status

_____

ASA _____

1.6. Relevant investigations

_____

1.7. Opiate give and dosage _____ Time : _____

1.8. Antacids given? Yes/No

1.9. Anticipated difficult intubation? Specify _____

1.10 Resuscitation where relevant

_____

2. The Anaesthetic

i. GA/EPIDURAL /SPINAL /SEDATION/OTHER

ii. Monitoring: EGG/ BP automated / BP manual/Intraaterial BP/ Pulse oximeter/Capnometer/CVP

iii. Assistant : Yes / No

2a. General Anaesthesia

i. Balanced anaesthesia/spontaneous
Time started _____ Time ended _____

ii. Induction : Method and drugs used

_____

_____

iii. Preoxygenation done? Yes/No

iv. Cricoid pressure applied? Yes/No

v. Was there difficult intubation? Yes/No

vi. Where there was failure to intubate, was it easy to ventilate the patient with a mask? Yes/No

vii. Additional narrative report:

_____

_____

_____

2b. Regional Anaesthesia

i. Spinal/Epidural

ii. Needle size _____

iii. Dose of local anaesthetic _____

iv. Preloading, solution and amount used _____

v. Relevant account on performance of block, patient's response and management. Include monitoring and vasopressor used.

_____

_____

3. Intraopeative Problems (For general and regional anaesthesia)

i. Surgical or anaesthetic problems:

_____

ii. Estimated blood loss _____

iii. Amount and type of fluid used _____

4. Recovery/Postoperative Problems

Recovery area

i. Monitoring : Staff available Yes/No

ii. Problems encountered

_____

_____

iii. Outcome : discharged to ward
to ICU
Transfer to another hospital

5. Transfer to another hospital

i. Indication _____

ii. Destination _____

iii. Condition of patient before transfer _____

_____

_____

iv. Mode of transport _____

v. Distance _____

vi. Time of departure _____ Time of arrival _____

vii. Duration of journey _____

viii. Monitoring _____

ix. Status of person accompanying _____

x. Problems encountered during transfer _____

Part II - ICU MANAGEMENT

Note : ***This part is to be fiilled for all cases managed by the anaesthetist in the intensive care unit regardless of the fact whether anesthesia was given or not.***

1. Date and time of referral/admission _____

2. Indication for referral _____

3. Condition of patient when first seen _____
_____
_____
_____

4. Problems in ICU – Indicate major organ involvement, management and patient's progress in ICU.

5. Outcome : (Indicate where relevant)

   Died before transfer to ICU
   Discharge to ward and home
   Discharged to ward and died
   Died in ICU
   Others (specify) _____

6. If died in ICU or ward,
   Cause of death _____
   Date and time of death _____
   Duration of ICU stay _____

Part III – ADDITIONAL COMMENTS

1. What do you think contributed to this patient's death?

   _____
   _____

2. Could it have been prevented? Yes/No

3. Can you suggest ways that this may be avoided in the future?

   _____

Part IV – REVIEW OF REPORT BY STATE ANAESTHETIST AND COMMENT

BAHAGIAN E

LAPORAN KONSOLIDASI (oleh Pegawai Kesihatan)

Arahan : *Jangan beri nama Pegawai, Hospital/Klinik dan daerah yang mana terlibat*

Panduan : *(i) Nyatakan ciri-ciri utama mengenai*

(a) penjagaan pranatal oleh semua agensi mengikut tarikh dan jangkamasa kehamilan

(b) Jagaan proses kehamilan, rujukan dan sebagainya oleh semua pegawai mengikut tarikh dan masa

(ii) Jelaskan komplikasi yang berlaku dan pengendaliannya.

APPENDIX C2: FORMAT KIK-KI-2

Format KIK/KI-2

(Pindaan 1996)

SULIT

KEMENTERIAN KESIHATAN MALAYSIA

PENYIASATAN KEMATIAN IBU MENGANDUNG

No. Daftar Kebangsaan

☐☐☐ ☐☐

No. Kes Tahun

Tarikh kematian : _____

A. PENJAGAAN ANTENATAL

1. Adakah kelewatan pada kedatangan pemeriksaan antenatal pertama?
   (Panduan : Lewat – sekiranya >12 minggu)

   Ya ☐ Tidak ☐

2. Adakah bilangan lawatan antenatal mencukupi?
   (Panduan : Kes biasa – sekurang-kurangnya 8 lawatan
   Kes berisiko tinggi – bergantung kepada jadual/tarikh temujanji)

   Ya ☐ Tidak ☐

3. Adakah terdapat faktor-faktor risiko?

   Ya ☐ Tidak ☐

3.1. Adakah faktor-faktor risiko tersebut dikenalpasti?

Ya ☐ Tidak ☐ Tidak berkenaan ☐
(bagi kes yang tiada penjagaan antenatal)

3.2. Jika ya, adakah faktor risiko dikenalpasti tepat pada masanya?

Ya ☐ Tidak ☐

3.3. Adakah faktor risiko dikendalikan dengan sewajarnya?

Ya ☐ Tidak ☐

4. Sekiranya faktor risiko dikenalpasti

4.1. Adakah rujukan antenatal dibuat?

Ya ☐ Tidak ☐

4.2. Jika rujukan antenatal tidak dibuat, nyatakan sebabnya _____

_____

4.3. Adakah ibu dirawat oleh anggota yang sesuai?

Ya ☐ Tidak ☐

4.4. Adakah ibu mematuhi rujukan yang dibuat?

Ya ☐ Tidak ☐

4.5. Jika tidak, jelaskan kepada ibu enggan dan nyatakan apakah tindakan yang diambil oleh anggota selanjutnya?

_____

_____

5. Adakah lawatan ke rumah dibuat mengikut keperluan?

Ya ☐ Tidak ☐

5.1. Jika ya, adakah tindakan yang sewajarnya diambil oleh kakitangan ketika membuat lawatan tersebut?

Ya ☐ Tidak ☐

B. SEMASA BERSALIN

6. Adakah kealhiran dikendalikan sewajarnya (appropriate)?

Ya ☐ Tidak ☐

7. Adakah komplikasi dikesan?

Ya ☐ Tidak ☐

7.1. Jika ya, adakah dikendalikan tepat pada masanya?

Ya ☐ Tidak ☐

8. Adakah kelewatan dalam mendapatkan khidmat bidan kerjaaan?

Ya ☐ Tidak ☐

8.1. Jika ya, jelaskan mengapa?

_____

_____

9. *Adakah terdapat kelewatan dalam membuat rujukan semasa berlaku komplikasi?*

Ya ☐ Tidak ☐

9.1. Jika ya, jelaskan kenapa

_____

_____

10. *Adakah terdapat masalah untuk mendapatkan kenderaan semasa membuat rujukan?*

Ya ☐ Tidak ☐

10.1. Jika ya, jelaskan kenapa

_____

_____

11. Adakah resusitasi dan penstabilan pesakit dilakukan sebelum dan semasa perjalanan?

Ya ☐ Tidak ☐

11.1 Jika tidak, jelaskan kenapa

_____

_____

12. Adakah pengendalian kelahiran secara operatif/instrumental telah dilaksanakan oleh anggota terlatih?

(Maksud terlatih: Bagi O&G - mempunyai pengalaman sekurang-kurangnya 6 bulan
Bagi bius -mempunyai pengalaman sekurang-kurangnya 6 bulan atau Pembantu Perubatan yang bertauliah)

Ya ☐ Tidak ☐

12.1 Jika tidak, jelaskan?

_____

_____

C. POSTNATAL

13. Adakah komplikasi dikenalpasti?

Ya ☐ Tidak ☐

13.1 Jika ya, adakah dikendalikan dengan sewajarnya?

Ya ☐ Tidak ☐

13.2 Jika tidak, jelaskan kenapa?

_____

_____

14. Adakah jagaan postnatal memuaskan?

(Maksud memuaskan : perawatan postnatal dibuat mengikut jadual pemeriksaan ibu dibuat dan nasihat-nasihat sesuai diberikan).

Ya ☐ Tidak ☐

14. 1 Jika tidak, jelaskan kenapa

_____

D. SEBAB KEMATIAN

15. Sebab-sebab kematian mengikut keputusan Jawatankuasa Peringkat Negeri (mengikut ICD)

_____

_____

E. ULASAN OLEH JAWATANKUASA NEGERI

16. Adakah kematian ini boleh dielakkan?

_____

17. Nyatakan penjagaan 'substandard' jika ada

_____

_____

18. Komen oleh Jawatankuasa Kematian Ibu Peringkat Negeri

_____

_____

_____

_____

19. Cadangan oleh Jawatankuasa Kematian Ibu Peringkat Negeri untuk mengatasi masalah yang dikenalpasti

_____

_____

_____

20. Lain-lain komen

_____

APPENDIX C3: FORMAT KIK/KI-3

KIK/KI-3

BORANG MAKLUMAT KES KEMATIAN IBU

Pegawai Kesihatan Ibu dan Kanak-Kanak Tarikh : _____

Negeri : _____

Adalah dimaklumkan kes KEMATIAN IBU seperti di bawah telah berlaku:-

Nama :_____

Sebab Kematian :_____

Tempat kejadian :_____

Tarikh kematian :_____

Alamat kediaman :_____

_____

_____

.....

Penyelaras Penyiasatan Kematian Ibu

Hospital/Kesihatan

APPENDIX C4: FORMAT KIK/KI-4

FEEDBACK FORMAT ON MATERNAL DEATHS FROM STATE TO THE DISTRICT LEVEL & DISTRICT TO STATE LEVEL

(3 monthly)

STATE : _____

DISTRICT : _____

Period of Report : ..... (month) to ..... (month) ..... year

Case No.	Cause of Death	Substandard Care	Contributory Factors	Remedial Actions to be taken			Feedback on Remedial Actions taken	Comments Indicate 1. State level committee 2. District level committee
				Type	Person/Level	Time Frame		

**To be filled after remedial measures suggested has been taken and send back to State Review Committee*

Definition : (i) Substandard Care - The care patient received or care that was made available to her fell below standard that should have been offered to her.

ii) Contributory Factors - Factors as a result of the actions of women and relatives, other than socio cultural, physical, geographical factors which are not under the control of the clinicians

APPENDIX C5: FORMAT KIK/KI-5

REPORTING FORMAT TO QA HEALTH SERVICES COMMITTEE BY TECHNICAL COMMITTEE FOR INVESTIGATION AND REVIEW OF MATERNAL DEATHS AT DISTRICT, STATE AND NATIONAL LEVEL

(6 monthly)

DISTRICT : ..... **INDICATOR** : **PERIOD OF REPORT**: ....
(month) (month) (month)

STATE : ..... **TOTAL NO. OF CASES COVERED** : .....

Substandard Care and Contributory Factors (Patient Factors)	REMEDIAL ACTIONS SUGGESTED			*Feedback on Remedial Action taken for Previous Period (..... to .....)	COMMENTS
	Type	Person/Level	Time Frame		
0 Substandard Care 1.					
2. 3.					
Contributory Factors (Patient Factors) 1.					

APPENDIX C6: FORMAT KIK/KI-6

CASE SUMMARY

CASE NO. : .....

CASE SUMMARY	CAUSE OF DEATH	CLASSIFATION OF DEATH AND ICD CODE	CONTRIBUTORY FACTORS			COMMENTS
			CLINICAL	PERSONNEL /FACILITY	PATIENT/ OTHERS	

REMEDIABLE/CONTRIBUTORY FACTORS EVALUATION FORMAT

Case No :

Citizenship : Malaysia citizen ☐

Non-citizen ☐

Diagnosis :

Direct/Indirect Death/Fortuitous Death

ICD Code :

1. REMEDIABLE FACTORS

1.1. CLINICAL FACTORS (Present/Absent)

	ANTEPARTUM				INTRAPARTUM				POSTPARTUM			
	HF	DH	GH	PR	HF	DH	GH	PR	HF	DH	GH	PR
Inappropriate delegation of duties												
Failure to inform seniors												
Failure to inform other specialists												
Failure of combined care												
Failure of communication												
Failure to diagnose												
Failure to appreciate severity												
Inadequate, inappropriate or delayed therapy												
Delay/failure of referral												
Failure of home visits/ defaulter tracing												
Failure of adherence to protocols												

2. CONTRIBUTORY FACTORS

2.1. PERSONNEL OR FACILITY FACTORS (Present/Absent)

(Delete the non-applicable response and clarify)

Specialist None Unavailable											
MO with >6/12 Experience in O&G MO experience in anaesthesia None Unavailable											
Theatre staff None Unavailable											
Surgeon/Physician None Unavailable											
Lab None Unavailable											

	ANTEPARTUM				INTRAPARTUM				POSTPARTUM			
	HF	DH	GH	PR	HF	DH	GH	PR	HF	DH	GH	PR
Blood Support None Unavailable Inadequate												
ICU None Unavailable												
Transport None Unavailable												
Inaccessability/ Remoteness Yes No												

2.2. **PATIENT FACTORS** (Present/Absent)

Unbooked case												
Non-compliance Advice Yes No												
Non-compliance Admission Yes No												
Non-compliance Therapy Yes No												

- Do you think the presence of remedial clinical factors identified contributed, substantially to the death of this patient

Yes/No **Comments**

- Which of the following determinants contributed substantials to the death of this patient

Remedial Clinical Factors	Remediable non-clinical Factors	Patient Factors

HF – Health Facility
DH – District Hospital
GH – General Hospital
PR – Private