



## Design Of Electronic Perinatal Death Certificate Form At Dr.Soedomo Trenggalek Regional Hospital In 2024

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**Abstract.** Recording death certificates involves documenting various diseases or conditions that lead to a series of deaths, accidents, injuries, and death. RSUD dr. perinatal age, but also the quality of statistical reporting of perinatal infant deaths in hospitals. The aim of carrying out this research is to produce a special electronic-based perinatal death certificate form format at Dr. Soedomo Trenggalek Regional Hospital which can provide a more complete picture regarding the identity of the baby, the baby's mother, diagnosis and other items provided by the doctor in order to increase the accuracy of recording. death at perinatal age. This research method is a qualitative type using data collection techniques in the form of observation, interviews, documentation and brainstorming by exploring 3 variables in the form of physical aspects, anatomical aspects and content aspects. Based on the research results, it can be concluded that the design of the general death certificate at Dr. Soedomo Trenggalek still does not contain more detailed information regarding the baby's condition before death so that it can cause errors in determining UCOD (Underlying Cause of Death) according to ICD 10. Therefore, the preparation of this special perinatal death certificate has three main aspects, namely the physical aspect, the anatomy, and content aspects according to user filling needs. In its implementation, the design of this perinatal death form will be designed electronically so that the information contained in it will be integrated electronically through the hospital's SIMRS to support the transition period towards RME (Electronic Medical Records).

**Keywords:** Form Design, Perinatal Death, RME

### 1. INTRODUCTION

WHO (World Health Organization) relates to regulations regarding procedures for making death certificates based on the International Death Certificate, that every country that prepares and issues death certificates must include instructions for filling them out (Who, 2010). In Indonesia, the Ministry of Health of the Republic of Indonesia regulates that a death certificate is a form that records and documents a person's identity and the most important and supporting causes of death, which is filled out by professional medical personnel who must be responsible for the accuracy and quality of the information contained therein. Medical record files are very important for making precise and accurate health reports, so their quality must be maintained during the process of writing, processing and reporting medical records (Putra, 2021).

*RME* is a type of computerized health service that is integrated with hospital technology systems based on patient identity, clinical condition, diagnosis and patient performance. Everything recorded in the patient's medical history is integrated into the hospital's SIMRS system, therefore in this case a death certificate is an important step in cases of perinatal death which must be registered immediately after the death of the baby with a diagnosis determined by a doctor. Population health trends can be analyzed based on data summarized in cause-specific death profiles in death certificates. (Rusdi, 2022)

Based on a case study at RSUD Dr. Soedomo Trenggalek noted that the recording of perinatal deaths had not been recorded in detail using sheets in a special format which made it possible to explain in detail the child's condition from birth to death and also record the identity of the child's mother as guardian. Therefore, to improve the quality of perinatal death registration in this era of digitalization, a perinatal death certificate format is needed that can not only be used conventionally but also in electronic form.

Incomplete cause of death certificates can affect medical record information and services at hospitals (Simanjuntak, 2019). To overcome this problem, the format of the perinatal death certificate must be clear, targeted and efficient, making it easier for doctors to fill out the form. In this embodiment, the design of the perinatal death form is designed electronically so that the information contained therein is integrated electronically through the hospital's SIMRS.

This is to speed up the transition to RME (Electronic Medical Records) at RSUD Dr. Soedomo Trenggalek. Based on the explanation explained above, the development of a special perinatal death certificate will have a positive impact if the quality of perinatal death recording is clearer, more detailed, integrated with the SIMRS system, and advanced prevention strategies can be better based on available perinatal death statistics. The advantage of this research is the availability of a format for special electronic-based perinatal death certificates at RSUD Dr. Soedomo Trenggalek based on the specified form design aspects. From the explanation above, the researcher chose the title "Designing an Electronic Perinatal Death Certificate at RSUD Dr. Soedomo Trenggalek in 2024

## **2. METHODS**

This method was chosen because it will explain in detail the analysis of the general death certificate form that is currently in effect at Dr. Soedomo Trenggalek Regional Hospital which will later be used as a comparison material in creating a design for a special perinatal death certificate form by identifying 3 main aspects of the form, namely the physical aspect. (Heading, Introduction, Instruction, body), anatomical aspects (material, shape, size, color) content aspects (item completeness, terms, abbreviations, symbols). The subjects in this research were medical records officers who provided death certificate forms at Dr. Soedomo Trenggalek Regional Hospital.

The criteria for selecting subjects in this research are as follows:

- Is an officially certified medical records officer with an educational level equivalent to Diploma 3 in Medical Records (D3 Rmik)
- The sample chosen was a medical records officer at Dr. Soedomo Trenggalek Regional Hospital.
- The officers selected as samples have worked for approximately 10 years at Dr. Soedomo Trenggalek Regional Hospital.
- The officers selected as samples in the research were medical records officers who mastered, understood, or had even designed or revised several medical record forms at Dr. Soedomo Trenggalek Regional Hospital.

The technique that will be used in this research is qualitative, namely describing the data that has been obtained, including physical aspects, anatomy, and the contents of the form on the general death certificate at Dr. observations and interviews with respondents who have been determined up to the brainstorming stage to formulate important and mandatory items to appear in the special death certificate which will later be converted into an electronic medical record at the hospital Simrs.

### **Paper Title**

Design of Electronic Periatl death Certificate Form at Dr.Soeodmo Trenggalek Regional Hospital in 2024.

## **Authorship**

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## **Abstract & Keywords**

Recording death certificates involves documenting various diseases or conditions that lead to a series of deaths, accidents, injuries, and death. RSUD dr. perinatal age, but also the quality of statistical reporting of perinatal infant deaths in hospitals. The aim of carrying out this research is to produce a special electronic-based perinatal death certificate form format at Dr. Soedomo Trenggalek Regional Hospital which can provide a more complete picture regarding the identity of the baby, the baby's mother, diagnosis and other items provided by the doctor in order to increase the accuracy of recording. death at perinatal age. This research method is a qualitative type using data collection techniques in the form of observation, interviews, documentation and brainstorming by exploring 3 variables in the form of physical aspects, anatomical aspects and content aspects. Based on the research results, it can be concluded that the design of the general death certificate at Dr. Soedomo Trenggalek still does not contain more detailed information regarding the baby's condition before death so that it can cause errors in determining UCOD (Underlying Cause of Death) according to ICD 10. Therefore, the preparation of this special perinatal death certificate has three main aspects, namely the physical aspect, the anatomy, and content aspects according to user filling needs. In its implementation, the design of this perinatal death form will be designed electronically so that the information contained in it will be integrated electronically through the hospital's SIMRS to support the transition period towards RME (Electronic Medical Records).

**Keywords** Form Design, Perinatal Death, RME

### 3. RESULTS AND DISCUSSION

Observations and interviews that were carried out to dig up information related to general death certificates at Dr. Soedomo Trenggalek Regional Hospital resulted in data that the analysis related to the physical aspects of the form as explained by (Huffman in Budi, 2011). The anatomical aspect consists of several components including the head of the form (heading), introduction (instruction), and content (body). The results obtained from observing the headings in the design of this special perinatal death certificate form will contain the home logo of Dr. Soedomo Trenggalek Hospital.

The introduction section is a title written in the middle of the form to state the purpose for which the form was created. The instructions on this special perinatal death certificate will also refer to the general death certificate form because the wording of the orders and treatment on this form are also the same. The next section is the body section of the applicable general death certificate consisting of margin size, spacing per item, and procedures for filling it out in an essay or written manually using a writing instrument (pen) by applying pressure so that the written data can be read down to the third sheet (continuous form).

After observing the rm 4.2 form which contains the general death certificate which is valid at Dr. birth, religion, date or time of admission to hospital, date or time of death, diagnosis of death and the doctor in charge (DPJP), and ending with authentication from the patient's family and the doctor who explains the death certificate to the patient's family.

Several important aspects in a form consist of material, shape, color and size, which are physical aspects. (Huffman in Budi, 2011). Based on observations made at Dr. Soedomo Trenggalek Regional Hospital, the type of paper used in general death certificates previously used F4 with Continuous Form type with 3 layers of white paper. red and blue.

Other important components that must be considered in designing this form are paper color (colour), paper weight (weight), and paper quality (grade) (Huffman, 1999). In accordance with research conducted by Puspitasari (2017), it is explained that physical aspects are related to permanence, durability, quality of writing paper and making microfilm. Choosing a quality type of paper is also important so that your form design efforts last a long time.

So the results of observations from respondent interviews require several provisions for the design of special perinatal death certificates as follows:

- 1) Paper Material: Continuous Form/ F4 with 3 colored copies
- 2) Paper Shape: Portrait or Rectangle
- 3) Paper Size: F4 with a length of 33cm and a width of 21.59 cm
- 4) Paper Color: color (white, red, blue)

The introductory section contains further information about the form with the title in the middle, then the body or core of this form contains groups, borders, lines, so that the death certificate form generally consists of a check box (optional), left margin 1.4 cm, top edge 1 cm and right 1.3 cm. from.

This is supported by evidence from respondent interviews which is an important part in planning medical record information needs when making perinatal death certificates, where the F4 paper size was chosen to match other forms of medical records. Another thing that was decisive in designing this form was the location of the selection box according to the interview index of one of the respondents where he directed the placement of the selection box at the front. Regarding the option description, he gave directions: "For other RM forms, we put them at the front of the box so that they are consistent or the same as the other form formats." So in this case the location of the optional box on the perinatal death certificate is at the beginning of the description.


This form uses 1.5 cm space per item, as well as the Close section which contains signature, location, date, time and full name. they also apply to perinatal death certificates. Meanwhile, instructions on how to fill out forms for users and manual filling are provided briefly, clearly and directedly. Based on observations with general death certificates at Dr. Soedomo Trenggalek Regional Hospital, a special perinatal death certificate design was developed which will be explained further as follows:

### **1. Form Head (Heading)**

The heading will contain information from the hospital which will contain the logo and a little information about the hospital location. The location for writing the title in this form is in the middle of the form. On the top left side is the Dr. Soedomo Trenggalek Hospital logo, while on the right side is an explanation of the serial number of the form (4.2), which is the serial number of the form in the medical record folder. In this design it will be identified as RM 4.2.1 for the reason that this form is a branch of the RM 4.2 form regarding general death

certificates at Dr. Soedomo Hospital. Below there are also boxes for filling in the serial number for recording perinatal deaths, medical record number, hospital code and month/year of the event.

RM 4.2.1

 RSUD 6-5000000 <small>RSUD Soedomo Jl. Soedomo No. 1 Kec. Soedomo, Kota Semarang 50132</small>	<b>SERTIFIKAT MEDIS PENYEBAB KEMATIAN PERINATAL</b>
Bulan / Tahun : <input type="text"/> / <input type="text"/>	Kode Rumah Sakit : <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
No. Urut Pencatatan Kematian Perinatal : <input type="text"/> <input type="text"/>	No. Rekam Medis : <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

**Figure 1. Design Heading in Design Form Perinatal Death Certificate**

**Introduction**

The introduction in this form contains the main purpose of this form apart from the title. In this section, a further explanation of the purpose of this form is created/differentiated from the general death certificate form, namely "Made for stillborn babies and live born babies who then die within 168 hours (1 week) of birth". This introduction takes the form of:

1. Margins: Adjusted to the columns in the form contents.
2. Spacing: Adjusted to form requirements
3. Lines (Rules): Use vertical and horizontal lines to limit each item on the form.
4. Font: all contents in this form are written using Times New Roman font, size 11pt, while the title can be adjusted according to needs.

<i>Dibuat untuk bayi lahir meninggal dan lahir hidup kemudian meninggal dalam kurun waktu 168 jam (1 minggu) dari kelahiran.</i>
1. Keadaan Bayi

**Commands (instructions)**

This section of instructions or commands is written briefly for the rules for filling out the form. In the design of this form, orders/instructions are placed at the bottom of the form explaining the use and treatment in filling out the special perinatal death certificate form. Such as an explanation to put a tick (✓) in the box according to the choice

Keterangan :	Berilah tanda (✓) pada tanda <input type="checkbox"/> yang sesuai *) Wajib diisi	Lembar 1 (Putih) : Keluarga Lembar 2 (Merah) : Rekam Medis Lembar 3 (Biru) : Ambulans
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**Figure 2. Design Introduction in Design Form Perinatal Death Certificate**

### Body Form (body)

This body section will contain a lot of important information from the identity of the baby's mother, the baby's condition from the time he was born until he experienced death UCOD (Underlying Cause of Death), primary and secondary diagnoses determined by diagnosis in accordance with ICD 10.

<b>I. Keadaan Bayi</b>	
<input type="checkbox"/> Bayi lahir hidup dan meninggal setelah ..... (Jenis Hari)	
<input type="checkbox"/> Bayi lahir meninggal <input type="checkbox"/> Kematian sebelum persalinan <input type="checkbox"/> Tidak diketahui	
<b>II. Identitas Ibu Bayi</b>	
Nama Lengkap : .....	(HURUF CETAK)
NIK : .....	No. Kartu Keluarga : .....
Tempat/Tanggal Lahir : .....	Tanggal : ..... Bulan : ..... Tahun : .....
Agama : .....	
Alamat Tempat Tinggal : E. .... RT : ..... RW : ..... Desa : .....	Kecamatan : ..... Kabupaten : .....
<b>III. Kondisi Medis Bayi</b>	
Berisi badan : <input type="checkbox"/> <input type="checkbox"/> Laki-laki <input type="checkbox"/> Perempuan	<b>Pembantu Kelahiran</b>
Jam Kelahiran : .....	<input type="checkbox"/> Spontan
<input type="checkbox"/> Kelahiran Tunggal	<input type="checkbox"/> Bantam Dalam
<input type="checkbox"/> Kelahiran Kembar <input type="checkbox"/> Kembar yang lain	<input type="checkbox"/> Bantam pihak lain (Spesifikasi) : .....
<b>Penyebab Kematian</b>	
a. Diagnosa utama bayi : .....	b. Diagnosa lain bayi : .....
Kode ICD 10 : .....	Kode ICD 10 : .....
Trenggalek, .....	Jam : .....

Figure 3. Design Body in Design Form Perinatal Death Certificate

### Close (Closing)

This section will contain authentication information from several interested parties, namely the patient's family and the doctor who will explain this by writing their name and signature. Other parts in this close also contain the location/name of the city (Trenggalek), the date and time the death occurred.

Pihak yang menerima,  Tanda Tangan & Nama Terang	Trenggalek, ..... Jam : ..... Dokter yang menerangkan,  Tanda Tangan & Nama Terang
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Figure 4. Design Close in Design Form Perinatal Death Certificate

In accordance with the current perinatal death regulations, it is necessary to carry out more socialization and joint meetings so that doctors, nurses and other care providers can better understand the nature of death certificates, especially in perinatal cases, so that officers can better understand and improve the quality of implementation and storage. more optimal. RSUD Dr. Soedomo Trenggalek is expected to be able to carry out these important things so that the recording of perinatal death certificates runs smoothly and the quality of death recording increases so that the quality of hospital statistics also improves. The hospital will receive the following benefits, among others:



- 1) Make it easier to analyze important information from infant deaths
- 2) The information recorded is more detailed, because it will contain information on the main cause of death and other underlying causes of death in infants, accompanied by the recording of the ICD code.
- 3) There will be information on recording the serial numbers of infant deaths so that mortality data for infants will be differentiated from the serial numbers of deaths at other general ages.
- 4) The accuracy of recording mortality data and statistics on perinatal age at Dr. Soedomo Trenggalek Regional Hospital has increased.

## Appendix

BM 4.2.1

RSUD SOEDOMO RUMAH SAKIT DAERAH LAYANAN TREGGALÉK		SERTIKAT MEDIS PENYEBAB KEMATIAN PERINATAL	
No. Usul Pemantauan Kesehatan Perinatal : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	No. Kartu Kesehatan : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	No. Usul Pemantauan Kesehatan Perinatal : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	No. Kartu Kesehatan : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
<i>Isilah awal bayi lahir meninggal dan later baby kematian meninggal dalam kurun waktu 150 jam (1 minggu dari kelahiran)</i>			
<b>I. Kematian Bayi</b>			
<input type="checkbox"/> Bayi lahir siap-dia meninggal sesaat ..... (Dum/Hari)			
<input type="checkbox"/> Bayi lahir meninggal ..... <input type="checkbox"/> Kematian sebelum perinatal ..... <input type="checkbox"/> Tidak diketahui			
<b>II. Identitas Ibu Bayi</b>			
Nama lengkap : .....		(HK/DP/CI/PAK)	
NK : .....	NK : .....	NK : .....	NK : .....
Tanggal/Tanggal Lahir : .....	Tanggal : .....	Bulan : .....	Tahun : .....
Agama : .....	Agama : .....	Agama : .....	Agama : .....
Alamat Tempati Tempati : JL. .... RT : .... RW : .... Desa : .....	Kecamatan : .....	Kabupaten : .....	Kabupaten : .....
<b>III. Kematian Medis Bayi</b>			
Berat Badan : ..... gr	<input type="checkbox"/> Laki-laki <input type="checkbox"/> Perempuan	<b>Penyakit Kematian</b>	
Etim Kematian : .....		<input type="checkbox"/> Spontan	
<input type="checkbox"/> Kematian Tersektori		<input type="checkbox"/> Hewan Dahan	
<input type="checkbox"/> Kematian Kemer	<input type="checkbox"/> Kematian yang lain	<input type="checkbox"/> Hewan gigitan lalat (Speid/Endi) : .....	
<b>Penyebab Kematian</b>			
A. Diagnosis utama bayi : .....	B. Diagnosis lain bayi : .....		
Kode ICD 10 : .....	Kode ICD 10 : .....		
<b> Pihak yang meneliti,</b>	<b> Dokter yang menerangkan,</b>		
( .....	( .....		
Tanda Tangan & Nama Terang	Tanda Tangan & Nama Terang		
Keterangan : Berilah tanda of pada semua <input type="checkbox"/> yang sesuai *) Wajib diisi		Contoh TP/GR/1/Kejang Lembar 1 (Merek) : Rumah Sakit Lembar 2 (Merek) : .....	

**Figure 5. Design Form Perinatal Death Certificate**

## 4. CONCLUSION

- a. The physical aspect of this form was chosen to use Continuous Form paper type measuring F4 with a length of 33 cm and a width of 21.59 cm with 3 copies of white, red and blue paper.
- b. The anatomical aspect in this form explains the form according to the user's needs, namely the head (heading) which contains the RSUD Dr. , the closing (close) contains the location and date of the incident, ending with authentication from the family and doctor who explained it.

- c. The content aspects of this form consist of the primary medical diagnosis of the cause of death and secondary diagnoses of death
- d. The planned identification form will be divided into 3 chapters, namely the condition of the baby, the identity of the baby's mother, and the baby's medical condition. Apart from that, the cause of the baby's death was also written down.
- e. RSUD Dr. Soedomo Trenggalek, feels it is necessary to implement a perinatal death certificate in electronic form, because it will enable detailed recording of the cause of a child's death based on UCOD (Underlying Cause Of Death) with the ICD 10 code on the perinatal death certificate form.

Based on this research, it can be concluded that the electronic design of perinatal death certificates at RSUD Dr. Soedomo Trenggalek in 2024 will increase the accuracy of recording perinatal deaths which will also affect the statistical quality of Dr. Soedomo Trenggalek Hospital. The doctor can write a detailed history of the baby's medical diagnosis from birth until death, then determine the correct UCOD and code the diagnosis according to ICD 10. Meanwhile, if necessary, information on the baby's death can easily be found. with special perinatal deaths, and hospitals will be able to serve patients better in the future.

From the results of research conducted, the implementation of recording causes of death in Dr. Soedomo Trenggalek Hospital can be said to be effective, but there are still several things that can be improved, such as: improve the writing of diagnoses of the main cause, other causes of death and then code the diagnoses into ICD 10, reselect UCOD determinations according to the MMDS table, increase officer compliance in carrying out standards and procedures in recording and codifying patient diagnoses.

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