



PHARMACY DEPARTMENT  
HOSPITAL ENCHE' BESAR HAJJAH KHALSOM, KLUANG  
MINISTRY OF HEALTH MALAYSIA

# *GUIDELINE ON MEDICATION SAFETY*

2021



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## Introduction

Medication safety is an important element in providing the right treatments to patients and considered as a practice policy in Hospital Enche' Besar Hajjah Khalsom (HEBHK). All personnel involved in the process of providing treatment to patients should practise medication safety. A variety of methods and strategies introduced in order to increase the level of medication safety, for example the introduction to list of Look Alike Sound Alike Medications, High Alert Medications, Drug Allergy Cards and others.

This Guideline on Medication Safety serves as a guidance and provides the healthcare professionals in HEBHK information regarding the aspect of medication safety. It is a compilation of guidelines and references from the Ministry of Health Malaysia as well as the workflow of Pharmacy Department HEBHK.

## Medication Error (ME)

Medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the healthcare professional, patient or consumer.

Such events may be related to professional practice, healthcare products, procedures and systems, including prescribing, order communication, product labelling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring and use.

Medication error that may cause harm to patient but was detected before administration is classified as near miss and need to be reported in Medication Error Reporting System (MERS) and analysed for future improvement.

Medication error that was detected by patient or already administered to patient is categorized as actual error. Investigation must be done and remedial actions taken, as well as incident report have to be made and included in MERS.

The primary objective of medication error reporting is to obtain information on the occurrence of medication errors, maintain a database of medication errors, analyse reports, propose remedial actions and monitor the situations in an effort to minimise the reoccurrence of such errors and, ultimately, to improve patient safety.

## ERROR OUTCOME CATEGORY

NO ERROR	
CATEGORY A	<p>Circumstances or events that have the capacity to cause error.</p> <p>Example: Illegible handwriting, use of abbreviation, incorrect quantity wrongly fill floor stock (error did not happen but might happen if no checking or clarification made)</p>
ERROR, NO HARM	
CATEGORY B	<p>An error occurred but the error did not reach the patient (an "error of omission" does reach the patient).</p> <p>Example: Error detected before dispensing to the patient.</p>
CATEGORY C	<p>An error occurred that reached the patient but did not cause patient harm.</p> <ul style="list-style-type: none"> <li>• Medication reaches the patient and is administered.</li> <li>• Medication reaches the patient but not administered.</li> </ul> <p>Example: Pharmacist dispensed incorrect medication to the patient. But the patient realized that the medicine is incorrect and return it back to pharmacy.</p>
CATEGORY D	<p>An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm to the patient and/or required intervention to preclude harm.</p> <p>Example: Other patient's profile was accidentally placed inside patient's file which has lead to wrong medications prescribed during previous visit. MO was informed. Close glucose monitoring was planned for this patient. Blood glucose level was reported as mild elevation only.</p>
ERROR, HARM	
CATEGORY E	<p>An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention.</p>
CATEGORY F	<p>An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalisation.</p>
CATEGORY G	<p>An error occurred that may have contributed to or resulted in permanent patient harm.</p>
CATEGORY H	<p>An error occurred that required intervention necessary to sustain life.</p>
ERROR, DEATH	
CATEGORY I	<p>An error occurred that may contributed to or resulted in the patient's death.</p>

## TYPES OF MEDICATION ERROR

TYPE	DEFINITION
1. Prescribing Error	Incorrect drug product selection (based on indications, contraindications, known allergies, existing drug therapy, and other factors), dose, dosage form, quantity, route, concentration, rate of administration, or instructions for use of a drug product ordered or authorized by physician (or other legitimate prescriber); illegible prescriptions or medication orders that lead to errors that reach the patient.
2. Omission error	The failure to administer an ordered dose to a patient before the next scheduled dose or failure to prescribe a drug product that is indicated for the patient. The failure to administer an ordered dose excludes patient's refusal and clinical decision or other valid reason not to administer.
3. Wrong time error	Administration of medication outside a predefined time interval from its scheduled administration time (this interval should be established by each individual healthcare facility).
4. Unauthorised drug error	Dispensing or administration to the patient of medication not authorised by a legitimate prescriber.
5. Dose error	Dispensing or administration to the patient of a dose that is greater than or less than the amount ordered by the prescriber or administration of duplicate doses to the patient, i.e. one or more dosage units in addition to those that were ordered or prescribing more or less than standard dose defined in practice.
6. Dosage-form error	Dispensing or administration to the patient of a drug product in a different dosage form than that ordered by the prescriber.
7. Drug-preparation error	Drug product incorrectly formulated or manipulated before administration.
8. Route of administration error	Use of wrong route of administration of the correct drug.
9. Administration-technique error	Inappropriate procedure or improper technique in the administration of a drug other than wrong route.
10. Deteriorated drug error	Dispensing or administration of a drug that has expired or for which the physical or chemical dosage-form integrity has been compromised.

TYPE	DEFINITION
11. Monitoring error	Failure to review a prescribed regimen for appropriateness and detection of problems, or failure to use appropriate clinical or laboratory data for adequate assessment of patient response to prescribed therapy.
12. Compliance error	Inappropriate patient behaviour regarding adherence to a prescribed medication regimen.
13. Other medication error	Any medication error that does not fall into one of the above predefined categories.





17 Reports are most useful when relevant materials such as product label, copy of prescription/order, etc., can be reviewed. Can these materials be provided?

- No  
 Yes, Please specify

\_\_\_\_\_

\_\_\_\_\_

18 Suggest any recommendations, or describe policies or procedures you instituted or plan to institute to prevent future similar errors. If available, kindly attach investigational report e.g. Root Cause Analysis (RCA).

**Reporter's Details**

Name :	
Profession :	
Facility and Address :	
	Postcode : <input type="text"/>
E-mail :	
Telephone number :	Fax Number :

**For official use :**

Date report received :  
 dd/mm/yy

Ref. No.

ME Type

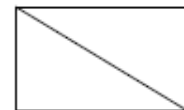
ME Category

(Fold here)

*Medication Safety  
Is Everyone's Responsibility*

(Fold here)

NO STAMP REQUIRED




SETEM POS TIDAK DIPERLUKAN


**REPLY PAID / JAWAPAN BERBAYAR  
MALAYSIA  
No. Lesen : BRS 0915 SEL**

Medication Safety Section  
Pharmacy Practice and Development Division  
Pharmaceutical Services Programme  
Ministry of Health Malaysia  
P.O. Box 924, Jalan Sultan,  
46790 Petaling Jaya, Selangor.

# INCIDENT REPORTING FORM

SULIT


MINISTRY OF HEALTH MALAYSIA  
**PATIENT SAFETY INCIDENT REPORTING FORM**


IR 2.0/2017

DATE OF REPORTING: \_\_\_/\_\_\_/\_\_\_

*\*Borang boleh diisi dalam Bahasa Malaysia*

**SECTION A: TO BE COMPLETED BY THE REPORTER OF THE INCIDENT**

**INCIDENT DESCRIPTION** (Please fill in the blanks)

1.	NAME OF FACILITY/ INSTITUTION	PATIENT'S NAME																									
2.	DATE OF INCIDENT	<input type="text"/> / <input type="text"/> / <input type="text"/>	IF UNCERTAIN APPROXIMATE DATE: ___/___/___																								
3.	TIME OF INCIDENT	<input type="text"/> : <input type="text"/> AM/ PM	IF UNCERTAIN APPROXIMATE TIME: ___:___ AM /PM																								
4.	PATIENT'S RN/ OTHER IDENTIFICATION NUMBER : _____ AGE: _____ ETHNIC: _____ GENDER : MALE / FEMALE / UNKNOWN (please circle)      STATUS : ALIVE / DECEASED      LANGUAGE BARRIER: YES / NO DIAGNOSIS : _____																										
5.	TYPE OF PATIENT (please tick one) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> INPATIENT</td> <td><input type="checkbox"/> DAY CARE</td> </tr> <tr> <td><input type="checkbox"/> OUTPATIENT</td> <td><input type="checkbox"/> OTHERS: SPECIFY _____</td> </tr> <tr> <td><input type="checkbox"/> A&amp;E</td> <td><input type="checkbox"/> _____</td> </tr> </table>		<input type="checkbox"/> INPATIENT	<input type="checkbox"/> DAY CARE	<input type="checkbox"/> OUTPATIENT	<input type="checkbox"/> OTHERS: SPECIFY _____	<input type="checkbox"/> A&E	<input type="checkbox"/> _____	DEPARTMENT(S) INVOLVED (please tick) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> MEDICAL</td> <td><input type="checkbox"/> O&amp;G</td> <td><input type="checkbox"/> ONCOLOGY</td> </tr> <tr> <td><input type="checkbox"/> SURGICAL</td> <td><input type="checkbox"/> PHARMACY</td> <td><input type="checkbox"/> GERIATRIC</td> </tr> <tr> <td><input type="checkbox"/> ORTHOPAEDIC</td> <td><input type="checkbox"/> RADIOLOGY &amp; IMAGING</td> <td><input type="checkbox"/> REHABILITATION</td> </tr> <tr> <td><input type="checkbox"/> PAEDIATRIC</td> <td><input type="checkbox"/> A&amp;E</td> <td><input type="checkbox"/> ICU/ CCU</td> </tr> <tr> <td><input type="checkbox"/> LABORATORY</td> <td><input type="checkbox"/> PSYCHIATRY</td> <td></td> </tr> <tr> <td colspan="3">OTHERS: SPECIFY _____</td> </tr> </table>	<input type="checkbox"/> MEDICAL	<input type="checkbox"/> O&G	<input type="checkbox"/> ONCOLOGY	<input type="checkbox"/> SURGICAL	<input type="checkbox"/> PHARMACY	<input type="checkbox"/> GERIATRIC	<input type="checkbox"/> ORTHOPAEDIC	<input type="checkbox"/> RADIOLOGY & IMAGING	<input type="checkbox"/> REHABILITATION	<input type="checkbox"/> PAEDIATRIC	<input type="checkbox"/> A&E	<input type="checkbox"/> ICU/ CCU	<input type="checkbox"/> LABORATORY	<input type="checkbox"/> PSYCHIATRY		OTHERS: SPECIFY _____		
	<input type="checkbox"/> INPATIENT	<input type="checkbox"/> DAY CARE																									
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<input type="checkbox"/> ORTHOPAEDIC	<input type="checkbox"/> RADIOLOGY & IMAGING	<input type="checkbox"/> REHABILITATION																									
<input type="checkbox"/> PAEDIATRIC	<input type="checkbox"/> A&E	<input type="checkbox"/> ICU/ CCU																									
<input type="checkbox"/> LABORATORY	<input type="checkbox"/> PSYCHIATRY																										
OTHERS: SPECIFY _____																											
LOCATION/ WARD / CLINIC : _____																											
6.	TYPE OF INCIDENT <input type="checkbox"/> Actual <input type="checkbox"/> Near Miss (please tick one)																										

**Examples of incidents that need to be reported: (Note that this list is not exhaustive)**

i.	Wrong surgery/procedure –wrong site, side or patient
ii.	Unintended retained foreign body in patient after an operation/procedure
iii.	Error in transfusion of blood/blood products
iv.	Medication error (please fill in MERS form as well)
v.	Patient fall in the facility
vi.	Obstetric related incidents
vii.	Adverse outcome of clinical procedure
viii.	Pre-hospital care and ambulance service related incident
ix.	Radiotherapy related incident
x.	Patient suicide / attempted suicide
xi.	Patient discharged to wrong family members / next-of-kin
xii.	Assault/ battery of patient
xiii.	Unanticipated Fire – Fire, flame, or unanticipated smoke, heat, or flashes occurring in the facility
xiv.	Others type of incident : _____

7. **BRIEF DESCRIPTION OF WHAT HAPPENED** (Please fill in the blanks)  
 The description should explain what happen prior and during the incident and how it occurred. Do include any additional information which you think may lead to the incident.

| 1

PATIENT SAFETY UNIT  
 MEDICAL CARE QUALITY SECTION, MEDICAL DEVELOPMENT DIVISION, MINISTRY OF HEALTH MALAYSIA  
 2017

SULIT

**PATIENT OUTCOME (please tick one) & IMMEDIATE ACTION – ONLY FOR ACTUAL INCIDENT**

8. OUTCOME OF INCIDENT	<input type="checkbox"/>	NONE
	<input type="checkbox"/>	MILD
	<input type="checkbox"/>	MODERATE
	<input type="checkbox"/>	SEVERE
	<input type="checkbox"/>	DEATH
	<input type="checkbox"/>	CURRENTLY CANNOT BE DETERMINED

## 9. IMMEDIATE ACTION FOLLOWING INCIDENT

**REPORTED BY**

10. DESIGNATION: (please tick one)

SIGNATURE OF REPORTER:

<input type="checkbox"/>	NURSE	<input type="checkbox"/>	SPECIALIST
<input type="checkbox"/>	HOUSE OFFICER	<input type="checkbox"/>	PHARMACIST
<input type="checkbox"/>	MEDICAL OFFICER	<input type="checkbox"/>	OTHERS:

NAME:  
DATE:

Note: As part of good leadership and clinical governance, please inform the incident to your Head of Department(s) immediately.

**SECTION B : TO BE COMPLETED BY THE RISK MANAGER/ QUALITY MANAGER OF HOSPITAL**

## 1. ACTION TAKEN:

*Mandatory Root Cause Analysis:*  
 1) Incident with Severe or Death outcome  
 2) Other incident/near miss based on the Risk Manager/ Quality Manager assessment  
 3) Directive from State Health Department / Ministry.

(Please tick)

<input type="checkbox"/>	"PRESCRIPTION SLIP"
<input type="checkbox"/>	MONITOR THE TREND FIRST
<input type="checkbox"/>	RCA
<input type="checkbox"/>	MIRCA (Multi-incident Root Cause Analysis)

Additional comments :

## 2. e-IR SUBMITTED?

Please submit to e-IR **within 5 days** from the date of the incident.

Date of Submission: \_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_

## 3. RISK MANAGER/ QUALITY MANAGER OF HOSPITAL

(please fill in the blanks)

NAME:  
SIGNATURE:  
DESIGNATION:  
DATE:

## FLOW CHART OF MEDICATION ERROR REPORTING IN HEBHK

### Responsibility

Doctor/Pharmacist/Pharmacist Assistant/Nurse/Medical Assistant/Patient

Doctor/Pharmacist/Pharmacist Assistant/Nurse/Medical Assistant

Doctor/Pharmacist/Pharmacist Assistant/Nurse/Medical Assistant

Pharmacist

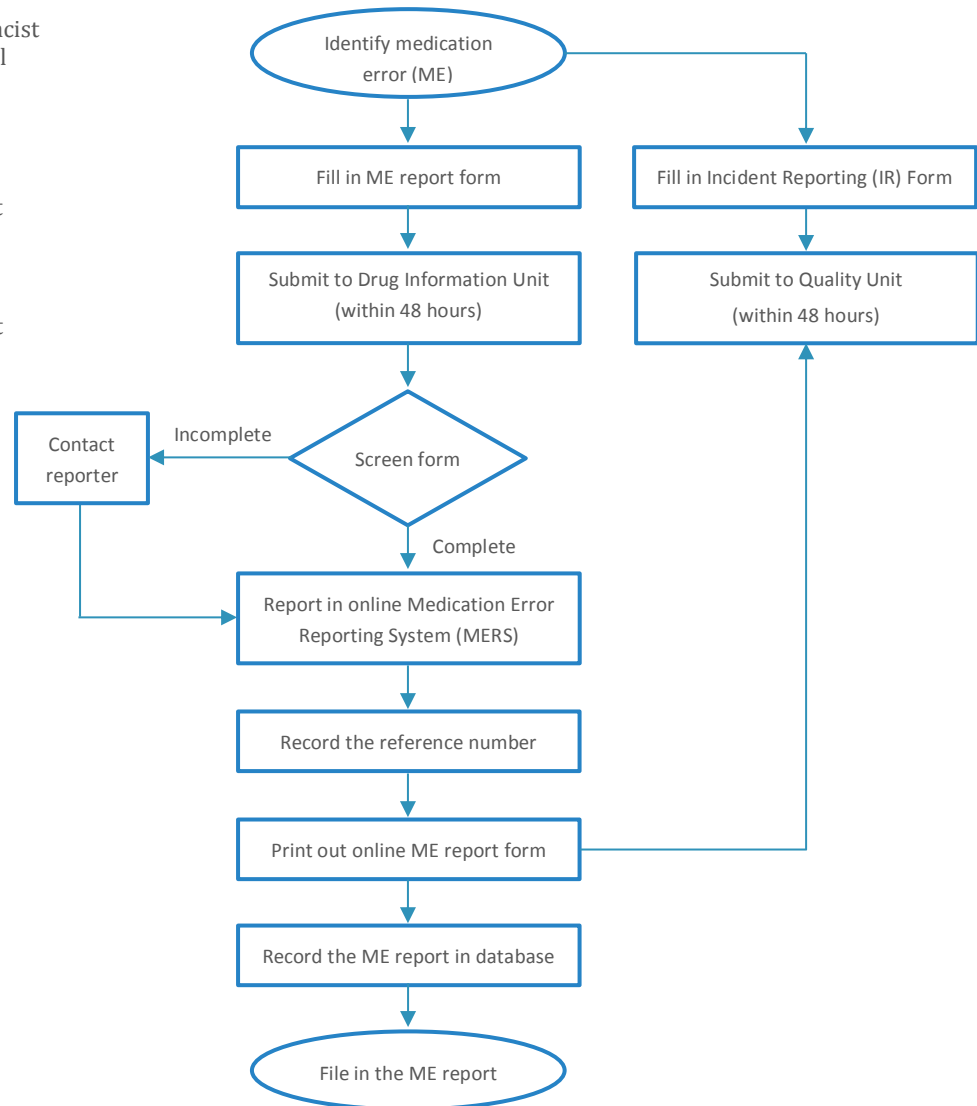
Pharmacist

Pharmacist

Pharmacist

Pharmacist

Pharmacist





## REFERENCES

1. Guideline on Medication Error Reporting System, 2<sup>nd</sup> Edition, 2019. Pharmacy Practice and Development Division, Pharmaceutical Services Programme, Ministry of Health Malaysia.



## High Alert Medications (HAMs)

High alert medications (HAMs) are defined as medications that bear a heightened risk of causing significant patient harm when these medications are used in error. HAMs or high-risk medications, in the context of safe use relating to certain situations, are associated with a significant risk of harm. Though medication mishaps with high alert medications may or may not be more common than other medications, the consequences following an error with these medications can be serious to the patient. The inherent risk of using HAMs, work environment (e.g. in the case of hospital inpatient settings), organizational culture and clinical scenarios (e.g. emergency and anaesthesia settings) could impose difficulties for healthcare professionals in ensuring patient safety while delivering health services. Similarly, there are also some conditions inherent to vulnerable groups, such as pregnant women, children and elderly, and clinical risk areas such as cancer patients. These are just some examples of high-risk situations.

## HIGH ALERT MEDICATION LIST IN HEBHK

NO	CATEGORY	MEDICATIONS
1.	Adrenergic agonists, IV	<ul style="list-style-type: none"> <li>➤ Adrenaline (Epinephrine) 1 in 1000 (1mg/ml) Inj</li> <li>➤ Noradrenaline (Norepinephrine) 4mg/4ml Inj</li> <li>➤ Phenylephrine 10mg/ml Inj</li> <li>➤ Ephedrine 30mg/ml Inj</li> </ul>
2.	Adrenergic antagonists, IV	<ul style="list-style-type: none"> <li>➤ Propranolol 1mg/ml Inj</li> <li>➤ Labetalol 25mg/5ml Inj</li> <li>➤ Esmolol 10mg Inj</li> </ul>
3.	Anaesthetic Agents (General, Inhaled, IV)	<ul style="list-style-type: none"> <li>➤ Etomidate 20mg/10ml Inj</li> <li>➤ Ketamine 500mg/10ml Inj</li> <li>➤ Propofol 200mg/20ml Inj</li> <li>➤ Dexmedetomidine HCl 100mcg/ml Inj</li> <li>➤ Desflurane Liquid</li> <li>➤ Sevoflurane Liquid</li> </ul>
4.	Antiarrhythmics, IV	<ul style="list-style-type: none"> <li>➤ Amiodarone 150mg/3ml Inj</li> <li>➤ Digoxin 0.5mg/2ml Inj</li> <li>➤ Lignocaine 100mg/5ml Inj</li> </ul>
5.	Antithrombotic Agents	<ul style="list-style-type: none"> <li>➤ Warfarin Sodium 1mg, 2mg, 3mg, 5mg</li> <li>➤ Heparin 5000IU/ml</li> <li>➤ Heparinised Saline 5000IU/ml</li> <li>➤ Enoxaparin 40mg, 60mg Inj</li> <li>➤ Fondaparinux 2.5mg/0.5ml Inj, 7.5mg/0.6ml Inj</li> <li>➤ Tenecteplase 10,000 unit (50mg) Injection</li> <li>➤ Streptokinase 1,500,000 IU Injection</li> <li>➤ Urokinase 60,000 IU injection</li> </ul>
6.	Antivenom	<ul style="list-style-type: none"> <li>➤ Polyvalent Antivenom (Hemato, Neuro)</li> </ul>
7.	Chemotherapeutic Agents, Parental and Oral	<ul style="list-style-type: none"> <li>➤ <i>** All preparations that are clearly labelled as <b>CYTOTOXIC</b> agents</i></li> </ul>
8.	Dialysis Solutions, Peritoneal and Hemodialysis	<ul style="list-style-type: none"> <li>➤ <i>** All kind of dialysis solutions, peritoneal and hemodialysis</i></li> </ul>
9.	Dextrose, Hypertonic, 20% or Greater	<ul style="list-style-type: none"> <li>➤ Dextrose 20% (500ml)</li> <li>➤ Dextrose 50% (10ml)</li> <li>➤ Dextrose 50% (500ml)</li> </ul>
10.	Epidural or Intrathecal Medications	<ul style="list-style-type: none"> <li>➤ Bupivacaine Inj (Bupivacaine 0.5% Heavy Inj, Bupivacaine 0.5% Inj, Bupivacaine 0.5% with Adrenaline 1:200,000 Inj)</li> </ul>

		<ul style="list-style-type: none"> <li>➤ Bupi/Fentanyl Inj</li> <li>➤ Ropivacaine Injection (2mg/ml Inj, 7.5mg/ml Inj)</li> <li>➤ Levobupivacaine 5mg/ml Inj</li> <li>➤ Ropi/Fentanyl Inj</li> </ul>
11.	<b>Glyceryl Trinitrate 50mg/10ml Inj</b>	
12.	<b>Immunosuppressant Agents</b>	➤ All kind immunosuppressant agent
13.	<b>Inotropic Medications, IV</b>	<ul style="list-style-type: none"> <li>➤ Dobutamine 250mg/20ml Inj</li> <li>➤ Dopamine 200mg/5ml Inj</li> </ul>
14.	<b>Insulin, Subcutaneous and IV</b>	<ul style="list-style-type: none"> <li>➤ Insugen R / Actrapid</li> <li>➤ Insugen N / Insulatard</li> <li>➤ Insugen 30/70 / Mixtard</li> </ul>
15.	<b>Magnesium Sulphate 2.49g in 5ml Inj</b>	
16.	<b>Moderate Sedation Agents, IV</b>	➤ Midazolam Inj (5mg/ml, 15mg/3ml)
17.	<b>Neuromuscular Blocking Agent</b>	<ul style="list-style-type: none"> <li>➤ Atracurium Besylate 25mg/2.5ml Inj</li> <li>➤ Rocuronium Bromide 10mg/ml Inj</li> <li>➤ Suxamethonium Chloride 50mg/ml Injection</li> </ul>
18.	<b>Opiates and Narcotics</b>	<ul style="list-style-type: none"> <li>➤ Alprazolam 0.5mg Tab</li> <li>➤ Clonazepam 2mg Tab</li> <li>➤ Diazepam 5mg Rectal Supp</li> <li>➤ Diazepam 5mg Tab</li> <li>➤ Fentanyl 0.1mg/ml Inj</li> <li>➤ Midazolam 7.5mg Tab</li> <li>➤ Midazolam 15mg/3ml, 5ml/ml Inj</li> <li>➤ Morphine 10mg Inj</li> <li>➤ Morphine Sulphate 30mg SR Tab</li> <li>➤ Morphine 10mg/5ml Syrup</li> <li>➤ Pethidine 50mg, 100mg Inj</li> <li>➤ Phenobarbitone 200mg Inj</li> <li>➤ Phenobarbitone 30mg Tab</li> <li>➤ Zolpidem Tartrate 10mg Tab</li> <li>➤ <b>**And all other drugs clearly labelled as Dangerous Drug (DD)</b></li> </ul>
19.	<b>Parenteral Nutrition Preparations</b>	<ul style="list-style-type: none"> <li>➤ Smof Kabiven Central</li> <li>➤ Smof Kabiven Peripheral</li> <li>➤ Nutriflex Lipid Special</li> </ul>



- SMOF Lipid 20%
- *\*\*And all other preparations clearly labelled as TPN*

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**20. Potassium Salt Injections**

- Potassium Chloride 1g/10ml Inj
- Potassium Dihydrogen Phosphate 1.361g/10ml Inj

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**21. Sodium Chloride Solution (Greater than 0.9%)**

- Sodium Chloride 20% Inj (10ml)
- Sodium Chloride 3% Inj (500ml)

---

**22. Oxytocin 10 unit/ml Injection**

---

**23. Moderate and Minimal Sedation Agent, Oral, for Children**

- Chloral Hydrate, Midazolam, Ketamine [using the parenteral form]



KEMENTERIAN KESIHATAN MALAYSIA  
HOSPITAL ENCHE' BESAR HAJJAH KHALSOM, KLUANG

MEMO JABATAN FARMASI DAN BEKALAN

Ruj. Tuan: Tarikh: 21 Julai 2021  
Ruj. kami: ( 47 ) HEBHK/FARM/98/100-5-11

TAJUK	EDARAN 1) POLICY ON MANAGEMENT OF HIGH ALERT MEDICATIONS (HAMS) 4th EDITION, 2021 & 2) LIST OF LOOK ALIKE SOUND ALIKE MEDICATIONS IN HEBHK (APRIL 2021)	
DARIPADA	Ketua Pegawai Farmasi	s.k: Pengarah Hospital PF Y/M Farmasi
KEPADA	KETUA JABATAN KLINIKAL PENYELIA JURURAWAT KETUA JURURAWAT PENOLONG PEGAWAI PERUBATAN	Float DIU

Dengan segala hormatnya saya merujuk kepada perkara di atas.

2. Sukacita dimaklumkan bahawa Jabatan Farmasi & Bekalan telah menerbitkan *Policy on Management of High Alert Medications (HAMS) 4<sup>th</sup> Edition, 2021* dan Senarai HAMS di HEBHK bagi menggantikan *Policy on Management of High Alert Medications 3<sup>rd</sup> Edition, 2019*. Sehubungan itu, pihak Y.Brs. Dr/tuan/puan dimohon untuk menggunakan garis panduan yang terkini dalam pengurusan ubat-ubatan HAMS.

3. Selain itu, Jabatan Farmasi & Bekalan juga telah mengemaskini *Senarai Ubat-ubatan Look Alike, Sound Alike (LASA)*. *Policy on Management of High Alert Medications (HAMS)*, Senarai HAMS di HEBHK dan Senarai Ubat-ubatan LASA versi terkini boleh diakses melalui:-

Laman web Hospital Enche' Besar Hajjah Khalsom

<https://hklg.moh.gov.my/> >> Garis Panduan Farmasi >> Policy on Management of High Alert Medications 2021 / High Alert Medication List 2021 / List of Look Alike Sound Alike Medications in HEBHK (April 2021)

4. Mohon kerjasama Y.Brs. Dr/tuan/puan memaklumkan pengemaskinian polisi dan senarai HAMS berserta senarai LASA terkini kepada semua anggota bawah seliaan. Diharap polisi dan senarai ini dapat membantu anggota penjagaan kesihatan dalam pengurusan ubat-ubatan HAMS dan LASA yang selamat.

Sekian, terima kasih.

..2/-

-2-

**“PRIHATIN RAKYAT: DARURAT MEMERANGI COVID-19”**  
**“WAWASAN KEMAKMURAN BERSAMA 2030”**  
**“BERKHIDMAT UNTUK NEGARA”**

Saya yang menjalankan amanah,



**(PERIANAIGEE A/P MUNIANDY) RPh 2434**  
Ketua Pegawai Farmasi  
Hospital Enche' Besar Hajjah Khalsom, Kluang  
Samb. ☎ : 4102  
Emel : [jperia@moh.gov.my](mailto:jperia@moh.gov.my)

Rujukan	Sebutarga / Tender	Kepuasan Sebutarga	Penerbitan CPGs	Pesanan Khidmat Masyarakat	Guids Panduan Farmasi	Formulari Obat-Obatan
1. Policy on Management of High Alert Medications 2021 2. High Alert Medication List 2021 3. List of Look Alike Sound Alike Medications in HEBHK (April 2021) 4. Examples of Medication Name with Tall Man Lettering in HEBHK						

Policy on Management of High Alert Medications can be downloaded from HEBHK official portal <https://hklg.moh.gov.my/#garis-panduan-farmasi>



PHARMACY DEPARTMENT,  
HOSPITAL ENCHE' BESAR HAJJAH KHALSOM, KLUANG



## REFERENCES

1. Guideline on Safe Use of High Alert Medications (HAMs), 2<sup>nd</sup> Edition, 2020. Pharmacy Practice and Development Division, Pharmaceutical Services Programme, Ministry of Health Malaysia.

## Look Alike Sound Alike (LASA) Medications

**Look Alike Sound Alike (LASA)** medications involve medications that are visually similar in physical appearance or packaging and names of medications that have spelling similarities and/or similar phonetics. Confusing medication names and similar product packaging may lead to potentially harmful medication errors.

Common risk factors associated with LASA medications includes:

- Illegible handwriting
- Incomplete knowledge of drug names
- Newly available products
- Similar packaging or labelling
- Similar strengths, dosage forms, frequency of administration
- Similar clinical use

## STRATEGIES TO AVOID ERRORS WITH LOOK ALIKE SOUND ALIKE MEDICATIONS

### 1. Procurement

- a) Minimise the availability of multiple medicines strengths.
- b) Whenever possible, avoid purchase of medicines with similar packaging and appearance. As new products or packages are introduced, compare them with existing packaging.

### 2. Storage

- a) Use Tall Man lettering to emphasise differences in medications with sound-alike names.
- b) Use additional warning labels for look-alike medicines. Warning labels should be uniform throughout the respective facility to facilitate identification.
- c) For sound-alike medications where Tall Man lettering is not applicable, proprietary (brand or trademarked) names may be added to distinguish between the medications.
- d) Store LASA medications separately from their LASA pair. Whenever possible, avoid storing the products in immediate proximity to one another.

### 3. Prescribing

- a) Write legibly. Write clearly whether on an inpatient order or on a prescription.
- b) Prescription should clearly specify name of medication, dosage form, dose and complete direction for use.
- c) Include the diagnosis or medication's indication for use. This information helps to differentiate possible choices in illegible orders.
- d) Whenever possible, drug names in computerised prescriber order entry (CPOE) should incorporate Tall Man lettering.
- e) Communicate clearly. Take your time in pronouncing the drug name whenever an oral order has to be made. Ask that the recipient of the oral communication repeat the medication name and dose. Verbal orders should be limited to emergency situations only.

### 4. Dispensing/ Supply

- a) Identify medicines based on its name and strength and not by its appearance or location.
- b) Check the appropriateness of dose for the medicines dispensed.
- c) READ medication labels carefully at all dispensing stages and perform triangle check. Triangle check is to check actual medicines against the medicines' labels and against the prescription.

- d) Double checking should be conducted during the dispensing and supply process.
- e) Highlight changes in medication appearances to patients upon dispensing.

#### **5. Administration**

- a) READ medication labels carefully during the administration process and perform triangle check. Triangle check is to check actual medicines against the medication labels and against the prescription.
- b) Emphasize the need to read labels rather than relying on visual recognition or location.
- c) Make read back clarification of verbal orders a requirement. The staff receiving the verbal order must repeat the orders and ensure that they are verified.

#### **6. Monitoring**

- a) All facilities need to identify medications that look alike or sound alike in its organisation. The LASA list need to be reviewed and updated periodically at least once a year.
- b) Implement feedback mechanism to inform on look-alike medications.

#### **7. Information**

- a) All relevant personnel have access to the LASA list.
- b) Staff are informed on new medications listed as LASA in the hospital or clinics. Example: Displaying information on LASA in the facility's website.

#### **8. Patient Education**

- a) Inform patients on changes in medication appearances.
- b) Educate patients and their caregivers to alert healthcare providers whenever a medication appears to vary from what is usually taken or administered.
- c) Encourage patients and their caregivers to learn the names of their medications.

#### **9. Evaluation**


Evaluate medication errors related to LASA medications.



List of Look Alike, Sound Alike Medications in HEBHK can be downloaded from HEBHK official portal <https://hklg.moh.gov.my/#garis-panduan-farmasi>



Examples of Medication Name with Tall Man Lettering in HEBHK can be downloaded from HEBHK official portal <https://hklg.moh.gov.my/#garis-panduan-farmasi>



**EXAMPLES OF  
MEDICATION NAME WITH  
TALL MAN LETTERING  
IN HEBHK**



## REFERENCES

1. Guide on Handling Look Alike, Sound Alike Medications, 2012. Pharmaceutical Services Division, Ministry of Health Malaysia.

## Drug Allergy

World Allergy Organization (WAO) defined drug allergy as an immunologically mediated drug hypersensitivity reactions. Meanwhile, the Joint Task Force on Practice Parameters defined drug allergy as an immunologically mediated response to a pharmaceutical and/or formulation (excipient) agent in a sensitized person.

Allergic reaction can happen immediately or after a few days after the administration of medicines. Examples of allergic reactions are:

- Cutaneous reactions such as urticaria, eczema, if severe can be Stevens-Johnson Syndrome (SJS) or Toxic Epidermal Necrolysis (TEN)
- Lips, eyes, tongue or face swelling
- Anaphylaxis

## IMMEDIATE VERSUS DELAYED DRUG HYPERSENSITIVITY REACTIONS

Type	Onset	Clinical features	Examples
Immediate drug hypersensitivity reactions	Onset usually occurs within one hour after drug exposure. Symptoms resolve rapidly with treatment. Previous exposure not always confirmed.	<ul style="list-style-type: none"> <li>• Generalised pruritus</li> <li>• Ocular pruritus and tearing</li> <li>• Sneezing and rhinorrhea</li> <li>• Urticaria, angioedema</li> <li>• Shortness of breath, dyspnoea, wheezing, rhonchi</li> <li>• Abdominal pain (which is usually accompanied by the other cutaneous manifestations listed above)</li> <li>• Anaphylaxis</li> </ul>	Beta-lactam antibiotics, nonsteroidal anti-inflammatory drugs, biological agents, iodinated contrast media, neuromuscular blocking agents
Delayed drug hypersensitivity reactions	Onset usually 7-14 days after first drug exposure, but certain reactions (e.g. drug-induced hypersensitivity syndrome, Stevens-Johnson Syndrome, or Toxic Epidermal Necrolysis) may occur even up to 6 weeks after first drug exposure. Onset usually within 3 days of second exposure.	<ul style="list-style-type: none"> <li>• Maculopapular eruption</li> <li>• Fixed drug eruptions</li> <li>• Drug reaction with eosinophilia and systemic symptoms (DRESS)/ drug induced hypersensitivity syndrome (DIHS). This is characterised by macules/ papules with systemic features, including: <ul style="list-style-type: none"> <li>➢ Fever</li> <li>➢ Lymphadenopathy</li> <li>➢ Eosinophilia</li> <li>➢ Hepatitis</li> <li>➢ Interstitial nephritis</li> <li>➢ Rarely, arthritis, cardiac or pulmonary involvement</li> </ul> </li> <li>• Stevens-Johnson Syndrome (SJS); Toxic Epidermal Necrolysis (TEN) or SJS-TEN overlap, characterised by: <ul style="list-style-type: none"> <li>➢ Target lesions or Erythema multiforme</li> <li>➢ Mucosal or cutaneous erosions</li> <li>➢ Vesicles, blistering, or epidermal detachment</li> </ul> </li> <li>• In SJS, epidermal detachment is between 1-10% body surface area (BSA); SJS-TEN overlap 10-30% and TEN &gt;30% BSA</li> <li>• Acute generalised exanthematous pustulosis (AGEP)</li> <li>• Drug-induced vasculitis</li> <li>• Bullous drug eruptions</li> </ul>	Beta-lactam antibiotics, sulphur drugs, anti-epileptics, allopurinol, nonsteroidal anti-inflammatory drugs, iodinated contrast media



**D. UNTUK KEGUNAAN FARMASI**

No. Siri Kad : DAC-11-01030012- \_\_\_\_\_

Tarikh kad dikeluarkan : \_\_\_\_\_

Nama dan tandatangan :  
Pegawai Farmasi

Cop Jawatan :  
Tarikh :

LULUS

TOLAK

Nyatakan sebab: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**E. PENGESAHAN PENERIMAAN OLEH PESAKIT**

Saya \_\_\_\_\_ pesakit / penjaga

nombor kad pengenalan \_\_\_\_\_ dengan ini telah menerima kad  
alahan dan telah diberi penerangan sewajarnya berkaitan keperluan memaklumkan atau menunjukkan kad alahan  
tersebut apabila berjumpa pegawai perubatan, pegawai farmasi, pegawai pergigian atau anggota kesihatan lain.

Tandatangan  
Pesakit / Penjaga :

Tarikh :

Tandatangan dan cop  
Pegawai Farmasi :

Tarikh :

## DRUG ALLERGY CARD

Drug allergy card with a serial number will be issued out to patient. The format of serial number for HEBHK is shown below:

**DAC – code of facility type – code of state / district / facility – serial number**

**DAC – 11 – 01030012 – xxxx**

The image shows two yellow drug allergy cards. The left card is titled "Kad Alahan Ubat" and contains the following fields: "No. Seri : DAC -", "Nama :", and "No. K/P :". Below these fields is a table with two columns: "Nama Ubat" and "Reaksi Alahan". The right card is titled "Peringatan" and contains the following text: "Sila bawa dan tunjukkan kad ini semasa mendapatkan rawatan atau bekalan ubat-obatan (Please bring and show this card when getting medication or seeking treatment)", "Pemberitahuan : Kad ini adalah untuk makluman dan panduan sahaja. Kementerian Kesihatan Malaysia tidak bertanggungjawab atas sebarang penyalahgunaan yang melibatkan kad ini. Disclaimer: This card is for notification and guidance only. Ministry of Health Malaysia will not hold any responsibility on any misuse of the card.", and a field for "Tarikh kad dibina" with the label "Dibina oleh:" below it.

The card will have the necessary information on the patient's drug allergies to enable healthcare practitioners select the appropriate medicine for the patient.

Information on allergy includes:

- Drug which causes allergic reaction
- Type of allergic reaction occurred

Patients are advised to bring and show their drug allergy cards to healthcare practitioners when seeking treatment or getting medicines.

## DRUG ALLERGY WARNING STICKER

Drug allergy warning sticker will be pasted on patient's file.

The image shows a red-bordered drug allergy warning sticker. It contains the following text: "KEMENTERIAN KESIHATAN MALAYSIA", "Nama", "No. K/P", and "Alahan Ubat".



## DRUG ALLERGY CARD DATABASE

The information of patients who experienced drug allergy need to be recorded in the drug allergy database as shown below:

DRUG INFORMATION UNIT, HOSPITAL ENCHE BESAR HAJIAH KHALSOM, KLUANG (DAC-11-R20R0012-\_\_\_\_\_)

No. Bilakan Fall	Tarikh Kad Dikertuarikan	No. Sesi Kad Alahan	Butiran Pesakit							Nama Ubat	Reskui Alahan	Butiran Perseohon		Pelekat Alahan (Kerosal /Ya/Tidak)
			Nama Pesakit Pesakit	No K/Pasport (Jawaah to -000)	Umur (tahun)	Jantina	Bangsa	Warganegara	Kategori Perseohon (Doktor, Pegawai Seseuai, dll)			Fasiliti/Unit		

Besides, the information will also be recorded into Pharmacy Information System (PHIS).

**PATIENT ALLERGY**

Active Ingredient

Please state if Allergy reported against Non MOH Drug

Brand Name

Reaction Details

Allergen Type

Identification Date

Substance Class

Non Drug

*Applicable if allergy reported against a Specific Brand only*

Allergy Severity

Status:

HOSPITAL ENCHE BESAR HAJIAH KHALSOM Logout

DAC Registry

**DRUG ALLERGY CARD REGISTRY**

Reported Date From:  Reported Date To:

Active Ingredient:

Age From:  Year  Gender:  Status:

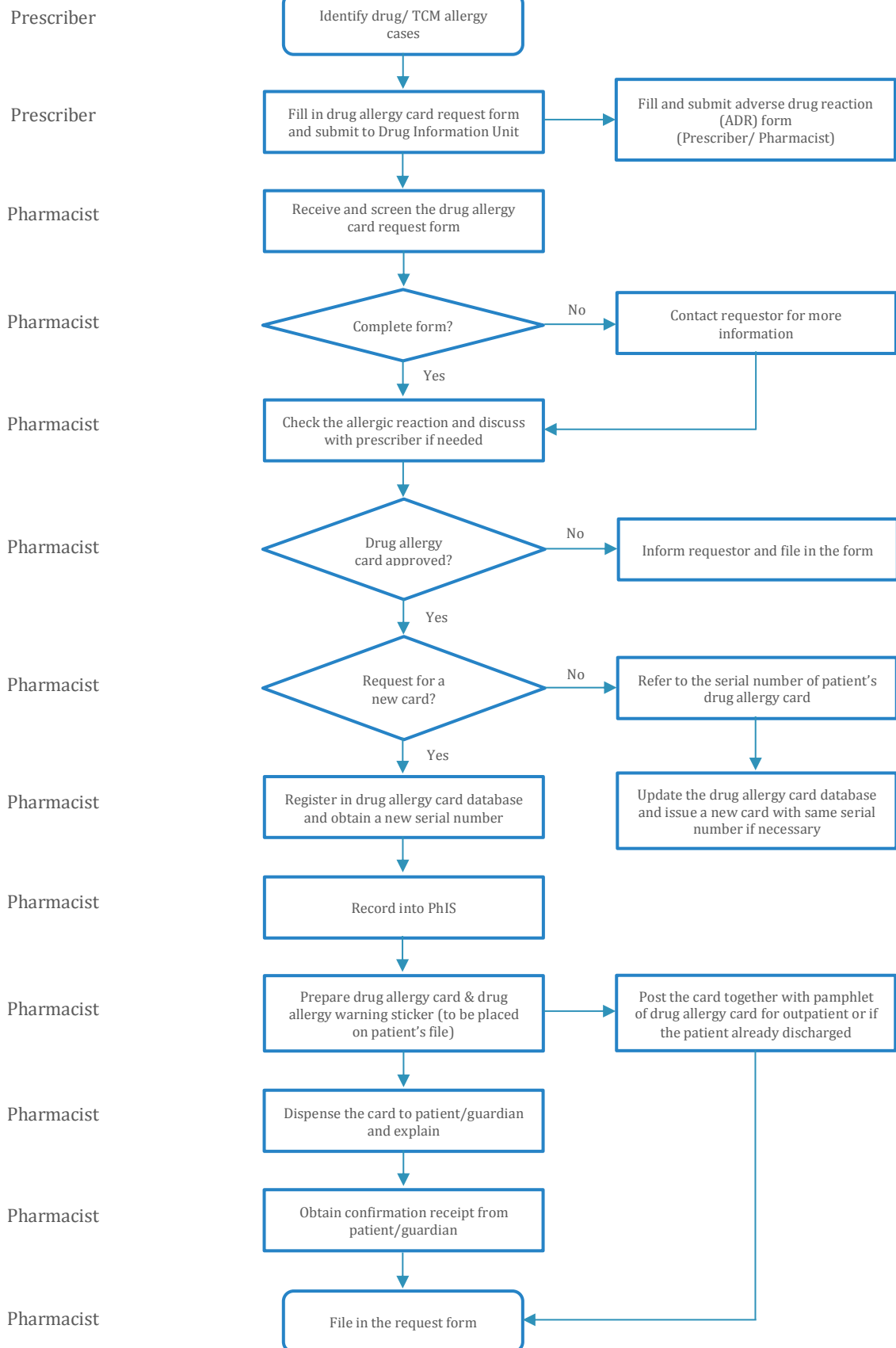
Age To:  Year  Printed:

[ 1 - 10 / 52 ]

No	Date of Issue	DAC Serial No	Patient Name	AGE	Drug	Active Ingredient	Allergic Reaction	Printed	Status
----	---------------	---------------	--------------	-----	------	-------------------	-------------------	---------	--------

## FLOW CHART OF DRUG ALLERGY CARD REQUEST IN HEBHK

### Responsibility





## REFERENCES

1. The National Drug Allergy Reporting Guidelines, 2018. Ministry of Health Singapore.
2. Garis Panduan Pengesanan Pesakit dengan Alahan Ubat, 2011. Bahagian Perkhidmatan Farmasi, Kementerian Kesihatan Malaysia.
3. Joint Task Force of Practice Parameters; representing the American Academy of Allergy, Asthma and Immunology, the American College of Allergy, Asthma and Immunology, and the Joint Council of Allergy, Asthma and Immunology. Drug Allergy: An Updated Practice Parameter. *Annals of Allergy: Asthma & Immunology*. 2010 Oct; 105(4):259-273.

# Adverse Drug Reaction (ADR)

## **DEFINITION OF ADVERSE DRUG REACTION BY WHO, 1972**

A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modifications of physiological function.

## **OBJECTIVES OF ADR REPORTING**

- i. To detect ADRs as early as possible especially serious, unknown and rare reactions;
- ii. To establish the frequency and incidence of adverse reactions, both the well recognised and newly discovered reactions;
- iii. To identify risk factors that may predispose/induce/influence the development, severity and incidence of adverse reactions e.g. genetic/racial factors, drug interactions, underlying conditions, and
- iv. To maintain a database for sharing of information with regards to ADRs in this country.

## **MINIMUM DATA ELEMENTS FOR ADR REPORTING**

- i. A named suspected drug
- ii. A suspected reaction
- iii. An identifiable patient
- iv. An identifiable reporter

## DIFFERENCE BETWEEN ADVERSE DRUG REACTION AND DRUG ALLERGY

### **\*Adverse Drug Reaction**

Definition by WHO, 1972:

'A response to a drug which is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, or therapy of disease, or for the modifications of physiological function.'

It includes all unintended pharmacologic effects of a drug except therapeutic failures, intentional overdose, abuse of the drug, or errors in administration.

### **Type A Reaction (Common and Predictable)**

This reaction is usually dose dependent, are related to the known pharmacologic actions of the drug and occur in otherwise healthy individuals. They are estimated to comprise approximately 85% to 90 % of all ADRs.

Overdose

Drug interactions

Side effects

Secondary or indirect effects

### **Type B Reaction (Rare and Mostly Unpredictable)**

This reaction is generally dose independent, are unrelated to the pharmacologic actions of the drug, and occur only in susceptible individuals. They are estimated to comprise approximately 10% to 15% of all ADRs.

Drug intolerance

Drug idiosyncrasy

### **\*Drug allergy**

An immunologically mediated response to a pharmaceutical and/or formulation (excipient) agent in a sensitized person.

**In conclusion, drug allergy is subset of adverse drug reaction.**

## CLASSIFICATION OF ADVERSE DRUG REACTIONS

Drug Reaction	Examples
<b>Type A: Reactions occurring in most normal patients, given sufficient dose and duration of therapy: Common and predictable</b>	
<i>Overdose</i>	Hepatic failure (acetaminophen) Metabolic acidosis (aspirin)
<i>Side effects</i>	Nausea, headache (with methylxanthines) Oral thrush or vaginal candidiasis (with glucocorticoids) Nephrotoxicity (with aminoglycosides)
<i>Secondary or indirect effects</i>	Diarrhea due to alteration in GI bacteria after antibiotics Phototoxicity (with doxycycline or thiazide diuretics)
<i>Drug interactions</i>	Macrolide antibiotics increasing theophylline, digoxin, or statin blood levels
<b>Type B: Drug hypersensitivity reactions restricted to a small subset of the general population: Rare and mostly unpredictable</b>	
<i>Intolerance*</i>	Tinnitus after a single aspirin tablet
<i>Idiosyncrasy† (pharmacogenetics)</i>	G6PD deficiency: Hemolytic anemia after antioxidant drugs (eg, dapsone) <sup>Δ</sup> TPMT deficiency: Toxicity during azathioprine therapy <sup>Δ</sup> Pseudoallergic reaction (with NSAIDs)
<i>Immunologic drug reactions (allergy)</i>	Anaphylaxis from beta-lactam antibiotics Photoallergy with quinidine Immune-mediated thrombocytopenia (with heparin) Serum sickness (with antivenom preparations) Vasculitis (with phenytoin) Stevens-Johnson syndrome (with trimethoprim-sulfamethoxazole) Drug-induced hypersensitivity syndrome (with allopurinol in HLA-B*58:01 individuals) <sup>Δ</sup>

GI: gastrointestinal; G6PD: glucose-6-phosphate dehydrogenase; TPMT: thiopurine methyltransferase; NSAIDs: nonsteroidal anti-inflammatory drugs.

\* Side effects at subtherapeutic doses.

† Drug effect not attributable to known pharmacologic properties of drug and not immune-mediated.

Δ This is an example of a type B reaction that is predictable.

## METHODS OF ADR REPORTING

Completed ADR form must be dispatched to Drug Information Unit, Pharmacy Department.

**REPORT ON SUSPECTED ADVERSE DRUG REACTIONS**  
**NATIONAL CENTRE FOR ADVERSE DRUG REACTIONS MONITORING**  
 Email: [npra.gov.my](mailto:npra.gov.my) Website: [www.npra.gov.my](http://www.npra.gov.my)

(Please report all suspected adverse drug reactions including those for vaccines, health supplements and traditional products. Do not hesitate to report if some details are not known. Mandatory fields are marked with \*, but please give as much other information as you can. Identities of Reporter, Patient and Institution will remain Confidential.)  
 REPORT No. (for official use only): .....

**PATIENT INFORMATION**

I.C. No. / R/N / Initials  \*Age  \*Gender (please tick) Male  Female  Wt (kg)  \*Ethnic Group  Please tick (if applicable):  
 Initial Report  
 Follow-up Report

**\*ADVERSE REACTION DESCRIPTION (inc. sequence of adverse events, details of rechallenge, interactions)**

Time to onset of reaction :  (mins/ hours/ days/ months/ year) (please circle) Date start of reaction :  DD / MM / YYYY Date end of reaction :  DD / MM / YYYY

Reaction subsided after stopping drug / reducing dose : Yes  No  Unknown  \*N/A (drug continued)

Reaction reappeared after reintroducing drug : Yes  No  Unknown  \*N/A (not reintroduced)

Extent of reaction : Mild  Moderate  Severe

Seriousness of reaction : Life threatening  Caused or prolonged hospitalisation  Caused disability or incapacity  Caused birth defect  \*N/A (not serious)

Treatment of adverse reaction & action taken :

Outcome : Recovered fully  Recovering  Not recovered  Unknown  Fatal:  Date & Cause of death: .....

Drug-reaction relationship : Certain  Probable  Possible  Unlikely  Unclassifiable

\*Suspected Drug(s) :  \*N/A: Not applicable

Product / Generic Name	Dose & Frequency Given	MAL No.	Batch / Lot No.	Therapy Dates		Indication
				Start	Stop	

For Vaccines Only: Vaccine dose (please circle) : 1st/ 2nd/ 3rd/ booster/ others  Diluent Batch / Lot No.

Concomitant Drug(s) / Other Vaccine(s) given just prior to AEFI [adverse events following Immunisation] (please state 'NIL' if none) :

Product / Generic Name	Dose & Frequency Given	MAL No.	Batch / Lot No.	Therapy Dates		Indication
				Start	Stop	

(Please attach additional sheets if necessary)

Relevant Investigations / Laboratory Data	Relevant Medical History (e.g.: hepatic / renal dysfunction, allergies, pregnancy status, etc)

**Reporter Details**

\*Name :  \*Institution Name & Address :

Designation :  \*Tel No :

\*Email Address :  Date of Report :  Signature :

Submission of a report does not constitute an admission that medical personnel or the products caused or contributed to the reaction. *Thank you for reporting.*

## GLOSSARY AND PICTURES OF CLINICAL MANIFESTATION OF CUTANEOUS ADVERSE DRUG REACTIONS

### **Acneiform Eruption**

Rash resembling acne



### **Alopecia**

Excessive hair loss



### **Erythema multiforme**

Target lesions comprising of a dark central spot surrounded by a pale halo which is then surrounded by a red ring, occasionally blister at the centre.



### **Erythema nodosum**

Painful deep red nodules over the legs



### **Fixed drug eruption (FDE)**

A few, round erythematous patch, blisters or erosions over the lips, face, hands, feet and genitalia. FDE recurs at the same sites and may extend to other areas if the drug is taken again.



### **Maculo-papular rash (exanthem)**

Generalised small red macules and papules





**Photosensitivity**

Erythema or rash over sun exposed areas.



**Pigmentary changes**

Colour changes of skin, hair, nails and mucous membranes.



**Pruritus**

Itch of the skin without rash

**Purpura**

Non-blanching, dark red macules or bruises due to bleeding from small blood vessels.



**Toxic epidermal necrolysis**

Life-threatening variant of Stevens-Johnson Syndrome with large areas of denuded skin



**Stevens-Johnson Syndrome**

Serious variant of erythema multiforme with involvement of more than 2 mucous membranes (oral/ eye/ genitalia)



**Urticaria**

Eruption of wheals/ hives lasting less than 24 hours



**Angioedema**

Swelling of the mucous membrane (oral/ eye/ genitalia). May be associated with laryngeal oedema if severe.



**Vasculitis**

Palpable purpura



**Vesiculobullous reaction**

Blistering eruption of the skin



<b>CLINICAL MANIFESTATION OF ADVERSE DRUG REACTION</b>			
1. Type of cutaneous adverse drug reaction (please ✓)			
• You are allowed to choose more than one of the following.			
1. Acneiform Eruption		9. Pruritus only	
2. Alopecia		10. Purpura	
3. Erythema multiforme		11. Toxic Epidermal Necrolysis	
4. Erythema nodosum		12. Stevens-Johnson Syndrome	
5. Fixed drug eruption		13. Urticaria / Angioedema	
6. Maculo-papular rash (exanthem)		14. Vasculitis	
7. Photosensitivity		15. Vesiculobullous reaction	
8. Pigmentary changes		16. Others : .....	
2. Please specify part of the body affected			
_____			
_____			

## DRUG REACTION RELATIONSHIP



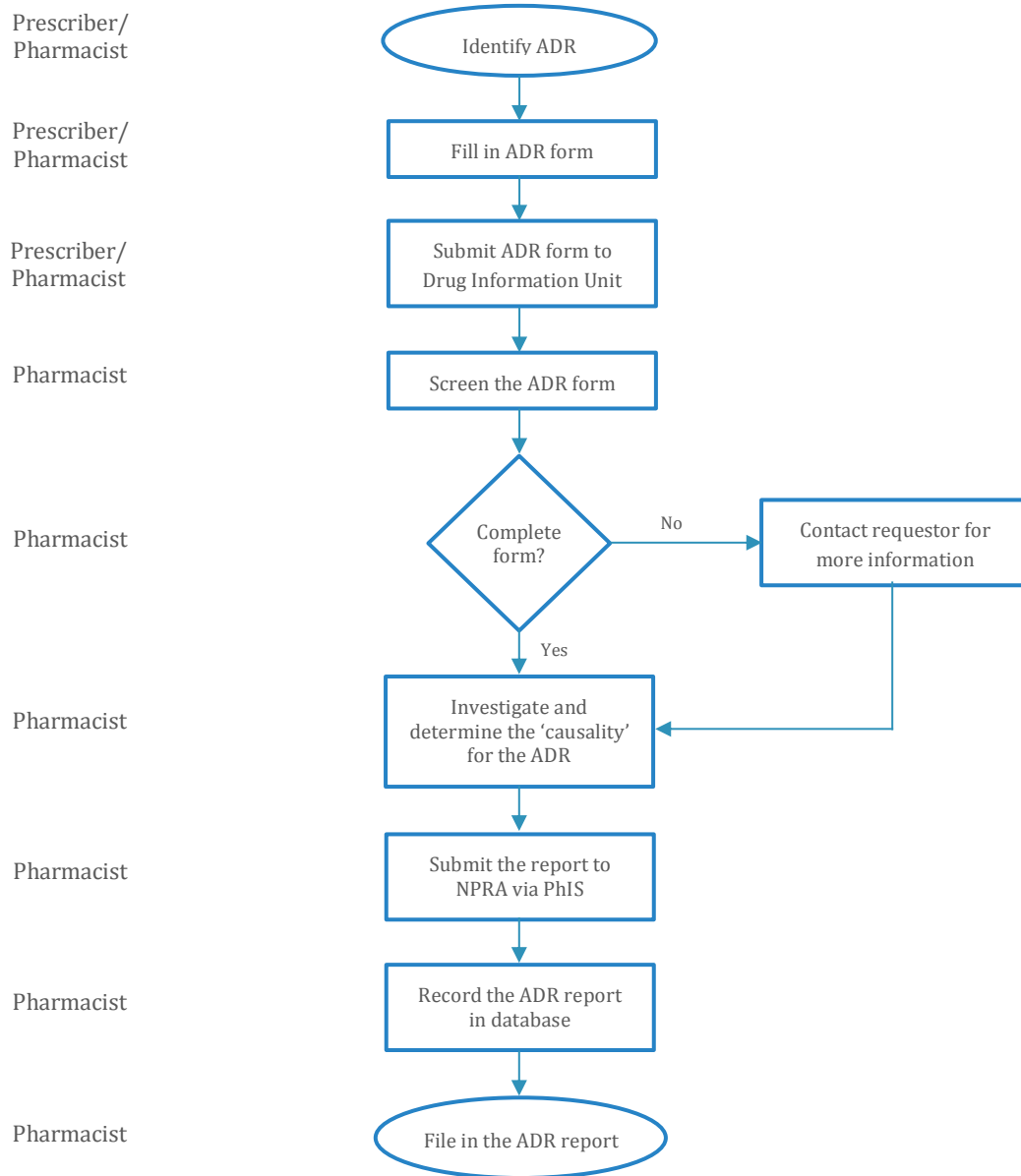
Table 2. WHO-UMC Causality Categories

<i>Causality term</i>	<i>Assessment criteria*</i>
<b>Certain</b>	<ul style="list-style-type: none"> <li>• Event or laboratory test abnormality, with plausible time relationship to drug intake</li> <li>• Cannot be explained by disease or other drugs</li> <li>• Response to withdrawal plausible (pharmacologically, pathologically)</li> <li>• Event definitive pharmacologically or phenomenologically (i.e. an objective and specific medical disorder or a recognised pharmacological phenomenon)</li> <li>• Rechallenge satisfactory, if necessary</li> </ul>
<b>Probable / Likely</b>	<ul style="list-style-type: none"> <li>• Event or laboratory test abnormality, with reasonable time relationship to drug intake</li> <li>• Unlikely to be attributed to disease or other drugs</li> <li>• Response to withdrawal clinically reasonable</li> <li>• Rechallenge not required</li> </ul>
<b>Possible</b>	<ul style="list-style-type: none"> <li>• Event or laboratory test abnormality, with reasonable time relationship to drug intake</li> <li>• Could also be explained by disease or other drugs</li> <li>• Information on drug withdrawal may be lacking or unclear</li> </ul>
<b>Unlikely</b>	<ul style="list-style-type: none"> <li>• Event or laboratory test abnormality, with a time to drug intake that makes a relationship improbable (but not impossible)</li> <li>• Disease or other drugs provide plausible explanations</li> </ul>
<b>Conditional / Unclassified</b>	<ul style="list-style-type: none"> <li>• Event or laboratory test abnormality</li> <li>• More data for proper assessment needed, or</li> <li>• Additional data under examination</li> </ul>
<b>Unassessable / Unclassifiable</b>	<ul style="list-style-type: none"> <li>• Report suggesting an adverse reaction</li> <li>• Cannot be judged because information is insufficient or contradictory</li> <li>• Data cannot be supplemented or verified</li> </ul>

\* All points should be reasonably complied with

## FLOW CHART OF ADR REPORTING IN HEBHK

### Responsibility





## REFERENCES

1. Malaysian Pharmacovigilance Guidelines (2nd Edition), September 2016. Ministry of Health Malaysia.
2. The Uppsala Monitoring Centre. The use of the WHO-UMC system for standardized case causality assessment.
3. World Health Organization (2018). Essential Medicines and Health Products Information Portal: Glossary, Adverse Drug Reaction.
4. Solensky, R., & Khan, D. A. (2010). Drug Allergy: An Updated Practice Parameter.
5. Pichler, W. J. (2019). Drug hypersensitivity: Classification and clinical feature.

## Adverse Event Following Immunization (AEFI)

An adverse event following immunization (AEFI) is any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavourable or unintended sign, abnormal laboratory finding, symptom or disease.

### CLASSIFICATION

NO	CATEGORIES	EXPLANATION
1	Vaccine product-related reaction	An AEFI that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product.  <i>Example: Extensive limb swelling following DTP vaccination.</i>
2	Vaccine quality defect-related reaction	An AEFI that is caused or precipitated by a vaccine that is due to one or more quality defects of the vaccine product including its administration device as provided by the manufacturer.  <i>Example: Failure by the manufacturer to completely inactivate a lot of inactivated polio vaccine (IPV) leads to cases of paralytic polio.</i>
3	Immunization error-related reaction	An AEFI that is caused by inappropriate vaccine handling, prescribing or administration and thus by its nature is preventable.  <i>Example: Transmission of infection by contaminated multidose vial.</i>
4	Immunization-anxiety-related reaction	An AEFI arising from anxiety about the immunization.  <i>Example: Vasovagal syncope in an adolescent during/following vaccination.</i>
5	Coincidental event	An AEFI that is caused by something other than the vaccine product, immunization error or immunization anxiety.  <i>Example: A fever occurs at the time of the vaccination (temporal association) but is in fact caused by malaria.</i>  <i>Coincidental events reflect the natural occurrence of health problems in the community with common problems being frequently reported.</i>

## **TYPES OF AEFI (MINOR REACTIONS)**

### **1. Local Reactions**

- Pain
- Swelling
- Redness at the site of injection

### **2. Systemic Reactions**

- Fever
- Malaise
- Muscle pain
- Headache
- Loss of appetite

## **TYPES OF AEFI (SEVERE REACTIONS)**

- Anaphylaxis
- Seizure
- Sepsis
- Thrombocytopenia
- Severe local reaction

## METHODS OF AEFI REPORTING

AEFI encountered by healthcare professionals needs to be reported using ADR form and submit to Drug Information Unit, Pharmacy Department.

**REPORT ON SUSPECTED ADVERSE DRUG REACTIONS**  
**NATIONAL CENTRE FOR ADVERSE DRUG REACTIONS MONITORING**  
 Email: [n@npra.gov.my](mailto:n@npra.gov.my) Website: [www.npra.gov.my](http://www.npra.gov.my)

(Please report all suspected adverse drug reactions including those for vaccines, health supplements and traditional products. Do not hesitate to report if some details are not known. Mandatory fields are marked with \*, but please give as much other information as you can. Identities of Reporter, Patient and Institution will remain Confidential.)

REPORT No. (for official use only): .....

**PATIENT INFORMATION**

I.C. No. / R/N / Initials  \*Age  \*Gender (please tick) Male  Female  Wt (kg)  \*Ethnic Group  Please tick (if applicable):  
 Initial Report  
 Follow-up Report

**\*ADVERSE REACTION DESCRIPTION (inc. sequence of adverse events, details of rechallenge, interactions)**

Time to onset of reaction :  (mins/ hours/ days/ months/ year) (please circle) Date start of reaction :  DD / MM / YYYY Date end of reaction :  DD / MM / YYYY

Reaction subsided after stopping drug / reducing dose : Yes  No  Unknown  \*N/A (drug continued)

Reaction reappeared after reintroducing drug : Yes  No  Unknown  \*N/A (not reintroduced)

Extent of reaction : Mild  Moderate  Severe

Seriousness of reaction : Life threatening  Caused or prolonged hospitalisation  Caused disability or incapacity  Caused birth defect  \*N/A (not serious)

Treatment of adverse reaction & action taken :

Outcome : Recovered fully  Recovering  Not recovered  Unknown  Fatal:  Date & Cause of death: .....

Drug-reaction relationship : Certain  Probable  Possible  Unlikely  Unclassifiable

\*Suspected Drug(s) : .....

Product / Generic Name	Dose & Frequency Given	MAL No.	Batch / Lot No.	Therapy Dates		Indication
				Start	Stop	

For Vaccines Only: Vaccine dose (please circle): 1st/ 2nd/ 3rd/ booster/ others  Diluent Batch / Lot No.

Concomitant Drug(s) / Other Vaccine(s) given just prior to AEFI [adverse events following immunisation] (please state 'NIL' if none) :

Product / Generic Name	Dose & Frequency Given	MAL No.	Batch / Lot No.	Therapy Dates		Indication
				Start	Stop	

(Please attach additional sheets if necessary)

Relevant Investigations / Laboratory Data	Relevant Medical History (e.g.: hepatic / renal dysfunction, allergies, pregnancy status, etc)

**Reporter Details**

\*Name :  \*Institution Name & Address :

Designation :  \*Tel No :

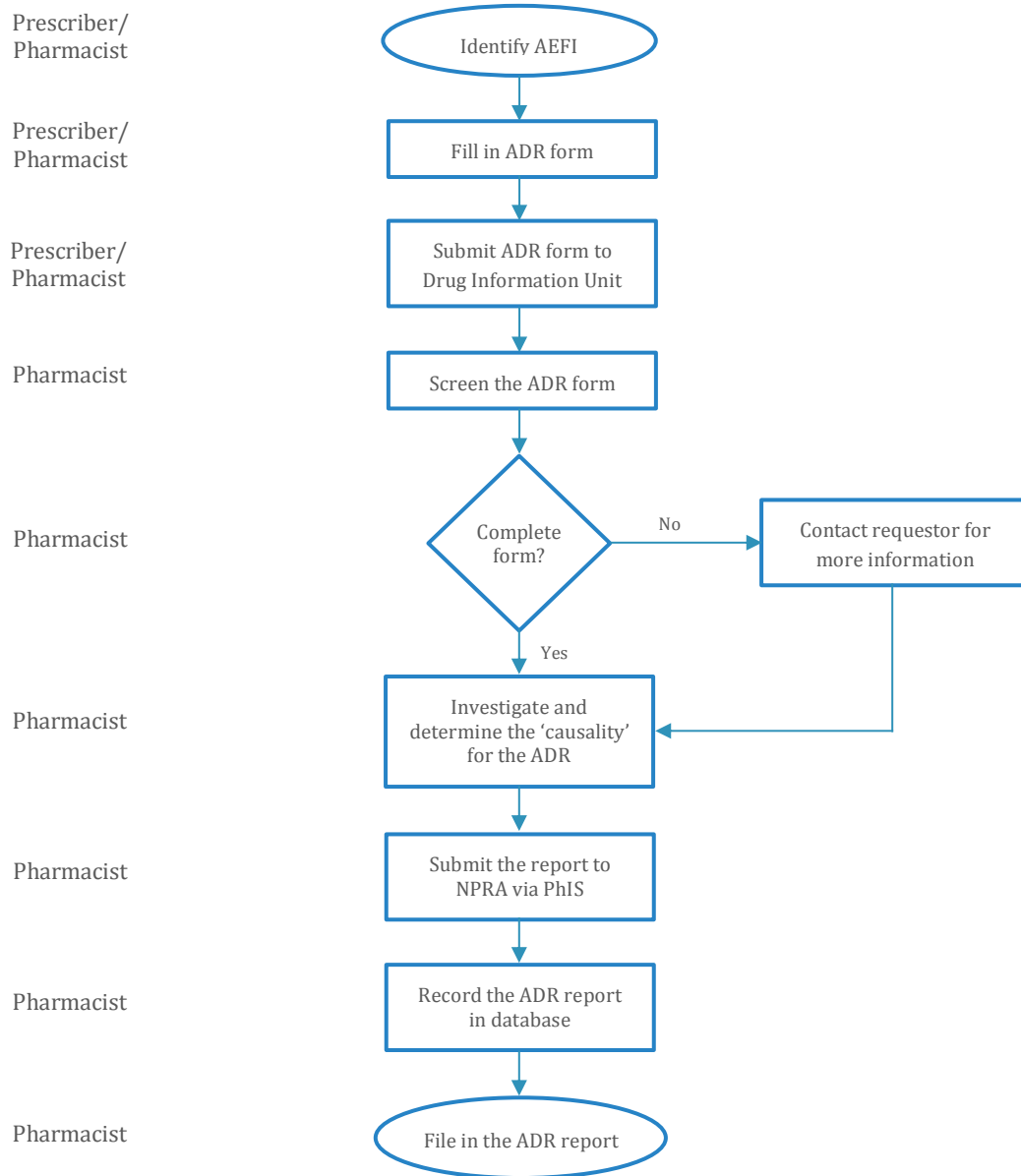
\*Email Address :  Date of Report :  Signature :

Submission of a report does not constitute an admission that medical personnel or the products caused or contributed to the reaction. *Thank you for reporting.*



## FLOW CHART OF AEFI REPORTING IN HEBHK

### Responsibility





## REFERENCES

1. Garispanduan Farmakovigilans Vaksin Untuk Anggota Kesihatan (Edisi Kedua), 2016. Ministry of Health Malaysia.
2. WHO Vaccine Safety Basics. <https://vaccine-safety-training.org/classification-of-aefis.html>