



**PHARMACEUTICAL SERVICES PROGRAMME**  
**MINISTRY OF HEALTH**



**NATIONAL ESSENTIAL  
MEDICINES LIST**

*6<sup>th</sup> Edition*

**2023**



## TABLE OF CONTENTS

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|  |    |
|--|----|
| ACKNOWLEDGEMENTS.....  | 4  |
| THE NATIONAL ESSENTIAL MEDICINES LIST (NEML).....                              | 1  |
| BACKGROUND .....   | 1  |
| REVIEW PROCESS .....   | 1  |
| HOW TO USE THE NATIONAL ESSENTIAL MEDICINES LIST .....                         | 2  |
| THE NEML 6 <sup>TH</sup> EDITION.....  | 3  |
| 1. ANAESTHETICS, PREOPERATIVE MEDICINES AND MEDICAL GASES.....                 | 3  |
| 2. MEDICINES FOR PAIN AND PALLIATIVE CARE.....                                 | 4  |
| 3. ANTIALLERGICS AND MEDICINES USED IN ANAPHYLAXIS.....                        | 5  |
| 4. ANTIDOTES AND OTHER SUBSTANCES USED IN POISONINGS .....                     | 5  |
| 5. ANTICONVULSANTS/ANTIEPILEPTICS .....  | 6  |
| 6. ANTI-INFECTIVE MEDICINES .....  | 7  |
| 7. ANTIMIGRAINE MEDICINES .....  | 11 |
| 8. IMMUNOMODULATORS AND ANTINEOPLASTICS .....                                  | 12 |
| 9. ANTIPARKINSONISM MEDICINES.....   | 15 |
| 10. MEDICINES AFFECTING THE BLOOD .....  | 15 |
| 11. BLOOD PRODUCTS OF HUMAN ORIGIN AND PLASMA SUBSTITUTES .....                | 16 |
| 12. CARDIOVASCULAR MEDICINES.....  | 17 |
| 13. DERMATOLOGICAL MEDICINES (topical).....                                    | 19 |
| 14. Diagnostic AGENTS.....   | 20 |
| 15. ANTISEPTICS AND DISINFECTANTS.....   | 20 |
| 16. DIURETICS.....   | 20 |
| 17. GASTROINTESTINAL MEDICINES .....   | 21 |
| 18. MEDICINES FOR ENDOCRINE DISORDERS .....                                    | 22 |
| 19. IMMUNOLOGICALS .....   | 23 |
| 20. MUSCLE RELAXANTS (PERIPHERALLY-ACTING) AND CHOLINESTERASE INHIBITORS ..... | 24 |



|  |    |
|--|----|
| 21. OPHTHALMOLOGICAL PREPARATIONS.....                                       | 25 |
| 22. MEDICINES FOR REPRODUCTIVE HEALTH AND PERINATAL CARE .....               | 26 |
| 23. PERITONEAL DIALYSIS SOLUTION.....  | 26 |
| 24. MEDICINES FOR MENTAL AND BEHAVIOURAL DISORDERS                           | 27 |
| 25. MEDICINES ACTING ON THE RESPIRATORY TRACT.....                           | 28 |
| 26. SOLUTIONS CORRECTING WATER, ELECTROLYTE AND ACID-BASE DISTURBANCES ..... | 29 |
| 27. VITAMINS AND MINERALS .....  | 29 |
| 28. EAR, NOSE AND THROAT MEDICINES .....                                     | 29 |
| 29. MEDICINES FOR DISEASES OF THE JOINTS.....                                | 30 |
| 30. MEDICINES FOR ALZHEIMER'S DISEASE .....                                  | 30 |
| APPENDIXES.....  | 31 |
| NEML STATISTICS .....  | 31 |
| INDEX.....   | 33 |

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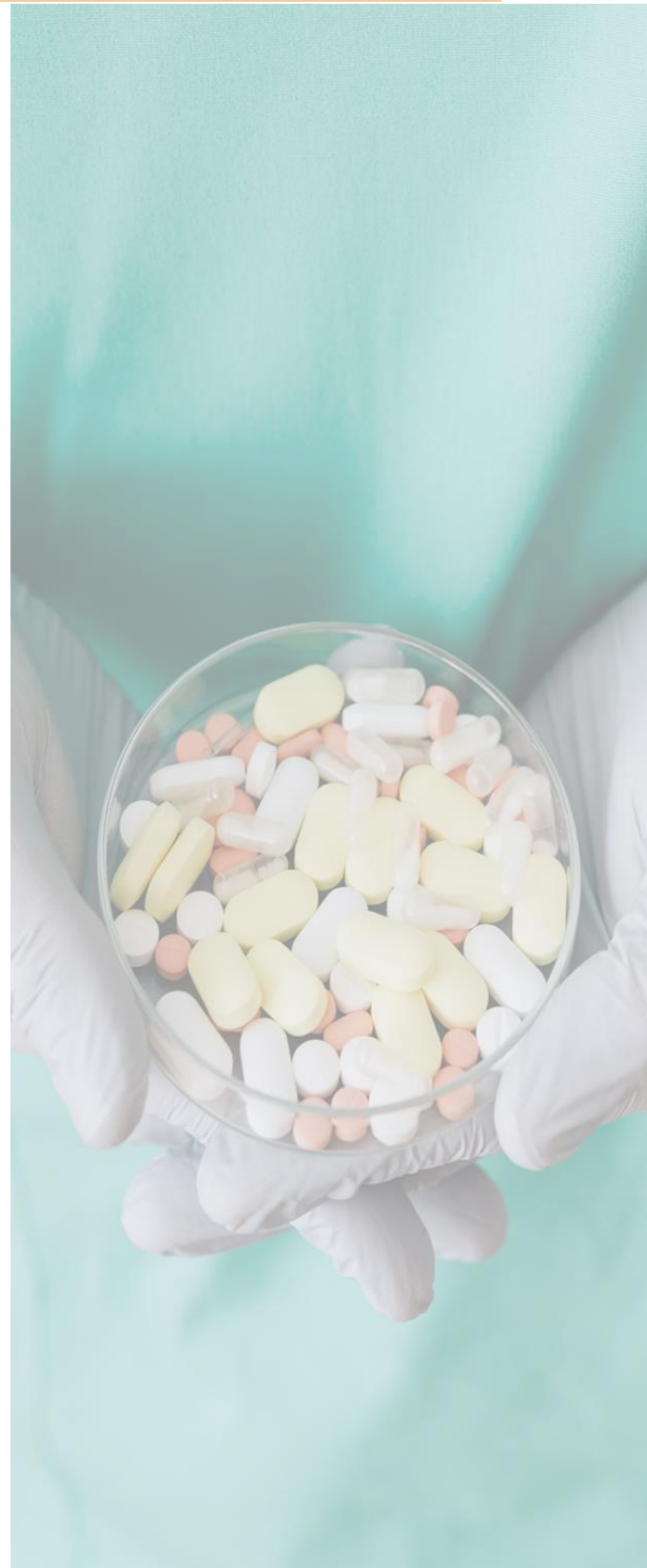
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# THE NATIONAL ESSENTIAL MEDICINES LIST (NEML)

## BACKGROUND

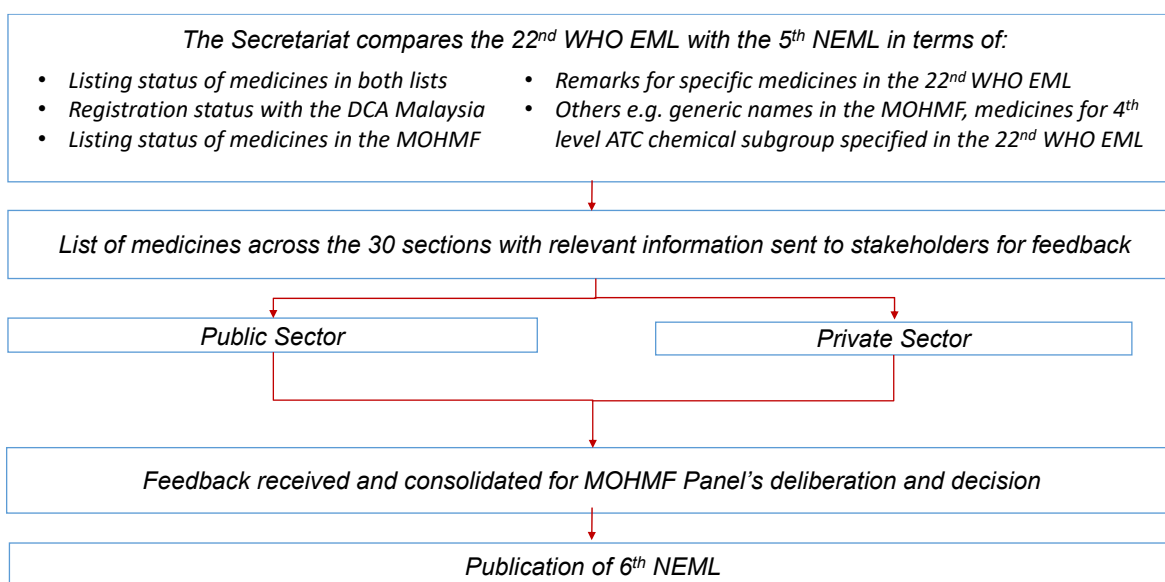
The Malaysian National Essential Medicines List (NEML) was first approved by the Ministry of Health (MOH) in January 2000. Since then, in line with the Malaysian National Medicines Policy to ensure universal access to medicines, the NEML has been updated every two to three years following the publication of the World Health Organization Model List of Essential Medicines (WHO EML). The NEML is a list of basic medicines that satisfy the national health care needs of majority of the population. The medicines in the appropriate dosage forms should be made accessible to individuals or the communities, in appropriate quantities with guaranteed quality and at affordable prices.

The main goal is to safeguard the availability and affordability of essential medicines to the Malaysian population. In addition, this list aims to rationalise the procurement of medicines and encourage the rational use of medicines. This NEML aims to act as a uniformed guide for facilities in the public and the private sectors to formulate their essential lists according to their needs.

## REVIEW PROCESS

The NEML is regularly reviewed and updated to ensure the availability, accessibility, affordability and quality of medicines for the population. The NEML review process involves gathering feedback and opinions from healthcare professionals including consultants, specialists, doctors and pharmacists from the Ministry of Health, other ministries and private sector.

Since a full assessment has been carried out by the WHO Expert Committee in terms of disease prevalence, public health relevance, clinical efficacy, safety and cost-effectiveness, the 22<sup>nd</sup> WHO EML was adopted and adapted to national needs. The entire process of reviewing and updating the 6<sup>th</sup> NEML is as shown in **Figure 1**.



**Notes:**

WHO EML – World Health Organisation Model List of Essential Medicines; NEML – National Essential Medicines List; DCA – Drug Control Authority; MOHMF; Ministry of Health Medicines Formulary; ATC – Anatomical Therapeutic Classification

**Figure 1. Review and Update Process of NEML**



## HOW TO USE THE NATIONAL ESSENTIAL MEDICINES LIST

NEML 5<sup>th</sup> edition comprises 359 chemical entities and categorises the medicines into two lists:

- **Core list:** Minimum medicine needs for a basic health care system, listing the most efficacious, safe and cost-effective medicines for priority conditions<sup>1</sup>.
- **Complementary list:** Essential medicines for which specialised diagnostic or monitoring facilities, and/or specialist medical care, and/or specialist training are needed<sup>1</sup>.

Medicines and dosage forms are listed in alphabetical order within each section, and there is no implication of preference for one form over another. Standard treatment guidelines should be consulted for information on appropriate dosage forms.

Dosage forms for each chemical entity listed are defined as below:

| Term                   | Definition   |
|------------------------|--|
| <b>Oral</b>            | All forms of tablet: immediate release and modified release preparation, uncoated or coated, unscored and scored, chewable, dispersible, soluble, crushable, sublingual or others;<br>All forms of capsule: hard or soft capsule, modified release preparation, capsule-shaped tablet or caplet or others;<br>All forms of granule;<br>Oral powder: powder to be taken in or with water or another suitable liquid or others;<br>Oral liquid: oral solution, syrup, suspension, emulsion and oral drop or others |
| <b>Injection</b>       | All forms of injection: solution, suspension, emulsion including those constituted from powder or solution or others   |
| <b>Topical</b>         | All forms of topical: cream, ointment, lotion, paint or others   |
| <b>Eye preparation</b> | All forms of eye preparation: drop, ointment or others   |
| <b>Ear preparation</b> | All forms of ear preparation: drop, ointment or others   |
| <b>Inhalation</b>      | All forms of inhalation  |
| <b>Miscellaneous*</b>  | Other forms: enema, implant, intrauterine device, irrigation, transdermal patch, suppository, parenteral solution, pessary or others   |

\*The specific dosage form will be stated in the list.

The **[a]** symbol indicates that there is an age or weight restriction on the use of the medicine.

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<sup>1</sup> World Health Organization Model List of Essential Medicines, 22nd List, 2021.



## THE NEML 6<sup>TH</sup> EDITION

### I. ANAESTHETICS, PREOPERATIVE MEDICINES AND MEDICAL GASES

| Chemical Entity  | Dosage Form       | Notes  |
|--|-------------------|--|
| <b>1.1. General anaesthetics and oxygen</b>                                |                   |  |
| <b>1.1.1 Inhalational medicines</b>  |                   |  |
| Nitrous oxide  | Inhalation        |  |
| Sevoflurane  | Inhalation        |  |
| <b>1.1.2 Injectable medicines</b>  |                   |  |
| Ketamine   | Injection         |  |
| Propofol<br>Therapeutic alternative(s):<br>- Thiopental*                   | Injection         | * May be used as an alternative depending on availability and cost   |
| Rocuronium   | Injection         |  |
| <b>1.2 Local anaesthetics</b>  |                   |  |
| Bupivacaine  | Injection         |  |
| Lignocaine   | Injection         |  |
| Lidocaine + epinephrine  | Injection         |  |
| <b>Complementary list</b>  |                   |  |
| <i>Ephedrine</i>   | <i>Injection</i>  |  |
| <b>1.3 Preoperative medications and sedation for short-term procedures</b> |                   |  |
| Atropine   | Injection         |  |
| Midazolam  | Injection<br>Oral |  |
| Morphine   | Injection         |  |
| <b>1.4 Medical Gases</b>   |                   |  |
| Oxygen*  | Inhalation        | * No more than 30% oxygen should be used to initiate resuscitation of neonates less than or equal to 32 weeks of gestation |



## 2. MEDICINES FOR PAIN AND PALLIATIVE CARE

| Chemical Entity  | Dosage Form                          | Notes                |
|--|--------------------------------------|----------------------|
| <b>2.1 Non-opioids and non-steroidal anti-inflammatory medicines</b> |                                      |                      |
| Acetylsalicylic acid   | Oral                                 |                      |
| Ibuprofen [a]  | Oral                                 | [a] > 3 months       |
| Paracetamol  | Oral<br>Suppository                  |                      |
| <b>2.2 Opioid analgesics</b>   |                                      |                      |
| Fentanyl   | Transdermal patch                    |                      |
| Morphine<br>Therapeutic alternative(s):<br>– Oxycodone               | Injection<br>Oral                    |                      |
| <b>Complementary lists</b>   |                                      |                      |
| Oxycodone  | Oral                                 |                      |
| Tramadol [a]   | Injection<br>Oral                    | [a] > 12 years       |
| Dihydrocodeine tartrate  | Oral                                 |                      |
| <b>2.3 Medicines for other common symptoms in palliative care</b>    |                                      |                      |
| Amitriptyline  | Oral                                 |                      |
| Dexamethasone  | Injection<br>Oral                    |                      |
| Diazepam   | Injection<br>Oral<br>Rectal solution |                      |
| Fluoxetine [a]   | Oral                                 | [a] > 8 years old    |
| Haloperidol  | Injection<br>Oral                    |                      |
| Hyoscine butylbromide  | Injection                            |                      |
| Hyoscine hydrobromide  | Injection                            |                      |
| Lactulose  | Oral                                 |                      |
| Loperamide   | Oral                                 |                      |
| Lorazepam  | Oral                                 |                      |
| Metoclopramide [a]   | Injection<br>Oral                    | [a] Not for neonates |
| Midazolam  | Injection<br>Oral                    |                      |
| Ondansetron [a]<br>Therapeutic alternative(s):<br>– Granisetron      | Injection<br>Oral                    | [a] > 1 month        |
| <b>Complementary list</b>  |                                      |                      |
| Gabapentin   | Oral                                 |                      |





### 3. ANTIALLERGENICS AND MEDICINES USED IN ANAPHYLAXIS

| Chemical Entity   | Dosage Form       | Notes                    |
|---|-------------------|--------------------------|
| Chlorpheniramine [a]                                      | Injection<br>Oral | [a] > 2 years            |
| Dexamethasone   | Injection         |                          |
| Epinephrine   | Injection         | Also known as Adrenaline |
| Hydrocortisone  | Injection         |                          |
| Loratadine<br>Therapeutic alternative(s):<br>- Cetirizine | Oral              |                          |
| Prednisolone  | Oral              |                          |

### 4. ANTIDOTES AND OTHER SUBSTANCES USED IN POISONINGS

| Chemical Entity           | Dosage Form      | Notes                             |
|---------------------------|------------------|-----------------------------------|
| <b>4.1 Non-specific</b>   |                  |                                   |
| Charcoal, activated       | Oral             |                                   |
| <b>4.2 Specific</b>       |                  |                                   |
| Acetylcysteine            | Injection        |                                   |
| Atropine                  | Injection        |                                   |
| Calcium gluconate         | Injection        |                                   |
| Flumazenil                | Injection        |                                   |
| Methylthioninium chloride | Injection        | Also known as Methylene blue      |
| Naloxone                  | Injection        |                                   |
| Penicillamine             | Oral             |                                   |
| Pralidoxime               | Injection        |                                   |
| Sodium nitrite            | Injection        |                                   |
| Sodium thiosulfate        | Injection        |                                   |
| <b>Complementary list</b> |                  |                                   |
| <i>Desferrioxamine</i>    | <i>Injection</i> | <i>Also known as Deferoxamine</i> |
| <i>Dimercaprol</i>        | <i>Injection</i> |                                   |



## 5. ANTICONVULSANTS/ANTIEPILEPTICS

| Chemical Entity           | Dosage Form                  | Notes  |
|---------------------------|------------------------------|--|
| Carbamazepine             | Oral                         |  |
| Clonazepam                | Oral                         |  |
| Diazepam                  | Injection<br>Rectal solution |  |
| Lamotrigine               | Oral                         |  |
| Levetiracetam             | Injection<br>Oral            |  |
| Magnesium sulphate        | Injection                    |  |
| Midazolam                 | Injection                    |  |
| Phenobarbital             | Injection<br>Oral            |  |
| Phenytoin                 | Injection<br>Oral            |  |
| Valproic acid *           | Oral                         | Also known as Sodium valproate<br><br>* Avoid use in pregnancy and in women and girls of child-bearing potential, unless alternative treatments are ineffective or not tolerated because of the high risk of birth defects and developmental disorders in children exposed to valproate in the womb.               |
| <b>Complementary list</b> |                              |  |
| <i>Valproic acid *</i>    | <i>Injection</i>             | <i>Also known as Sodium valproate</i><br><br><i>* Avoid use in pregnancy and in women and girls of child-bearing potential, unless alternative treatments are ineffective or not tolerated because of the high risk of birth defects and developmental disorders in children exposed to valproate in the womb.</i> |



## 6. ANTI-INFECTIVE MEDICINES

| Chemical Entity  | Dosage Form       | Notes   |
|--|-------------------|---|
| <b>6.1 Anthelmintics</b>   |                   |   |
| <b>6.1.1 Intestinal anthelmintics</b>  |                   |   |
| Albendazole  | Oral              |   |
| Pyrantel   | Oral              |   |
| <b>6.1.2 Anti-filarials</b>  |                   |   |
| Diethylcarbamazine   | Oral              |   |
| <b>6.2 Anti-bacterials</b>   |                   |   |
| <p>Antibiotics are divided into three different categories namely <b>ACCESS, WATCH and RESERVE groups</b> to facilitate the development of tools for antibiotic stewardship at local and national levels and to reduce antimicrobial resistance. These groups were made to emphasize the importance of their proper use.</p> <p><b>ACCESS GROUP ANTIBIOTICS:</b></p> <ul style="list-style-type: none"> <li>Antibiotics that have activity against a wide range of commonly encountered susceptible pathogens</li> <li>Antibiotics that also show lower resistance potential than antibiotics in the other groups</li> </ul> <p>These are essential antibiotics that should be widely available in Malaysian health facilities.</p> <p><b>WATCH GROUP ANTIBIOTICS:</b></p> <ul style="list-style-type: none"> <li>Antibiotics with higher resistance potential when compared with the Access group which includes antibiotics such as third generation cephalosporins, fluoroquinolones and carbapenems</li> <li>These antibiotics should be prescribed only for specific indications</li> </ul> <p>These medicines should be prioritised as key targets of stewardship programs and monitoring.</p> <p><b>RESERVE GROUP ANTIBIOTICS</b></p> <ul style="list-style-type: none"> <li>Antibiotic classes that should be reserved for treatment of confirmed or suspected infections due to multi-drug-resistant organisms</li> </ul> <p>These antibiotics should be treated as “last resort” options</p> |                   |   |
| <b>6.2.1.1 Access group antibiotics</b>  |                   |   |
| Amikacin   | Injection         |   |
| Amoxicillin  | Injection<br>Oral |   |
| Amoxicillin + clavulanic acid  | Injection<br>Oral |   |
| Ampicillin   | Injection         |   |
| Benzathine benzylpenicillin  | Injection         |   |
| Benzylpenicillin   | Injection         |   |
| Cefazolin [a]  | Injection         | [a] > 1 month   |
| Cephalexin   | Oral              |   |
| Clindamycin  | Injection<br>Oral |   |
| Cloxacillin  | Injection<br>Oral |   |
| Doxycycline [a]  | Oral              | [a] Use in children < 8 years only for life-threatening infections when no alternative exists |
| Erythromycin   | Oral              |   |
| Gentamicin   | Injection         |   |



| Chemical Entity  | Dosage Form                      | Notes                                   |
|--|----------------------------------|---|
| Metronidazole  | Injection<br>Oral<br>Suppository |   |
| Nitrofurantoin   | Oral                             |   |
| Phenoxymethylpenicillin  | Oral                             |   |
| Procaine benzylpenicillin  | Injection                        |   |
| Sulphamethoxazole + trimethoprim   | Injection<br>Oral                |   |
| Trimethoprim   | Oral                             |   |
| <b>6.2.1.2 Watch group antibiotics</b>   |                                  |   |
| Azithromycin   | Injection<br>Oral                |   |
| Cefotaxime   | Injection                        |   |
| Ceftriaxone [a]  | Injection                        | [a] >41 weeks corrected gestational age |
| Cefuroxime   | Injection                        |   |
| Ciprofloxacin  | Injection<br>Oral                |   |
| Clarithromycin<br>Therapeutic alternative(s):<br>– Erythromycin  | Injection<br>Oral                |   |
| Piperacillin + tazobactam  | Injection                        |   |
| <b>Complementary list</b>  |                                  |   |
| <i>Ceftazidime</i>   | <i>Injection</i>                 |   |
| <i>Meropenem</i><br>Therapeutic alternative(s):<br>– <i>Imipenem + cilastatin</i>  | <i>Injection</i>                 | [a] > 3 months                          |
| <i>Vancomycin</i>  | <i>Injection</i>                 |   |
| <b>6.2.1.3 Reserve group antibiotics</b>   |                                  |   |
| <b>Complementary list</b>  |                                  |   |
| <i>Cefepime</i>  | <i>Injection</i>                 |   |
| <i>Colistin</i>  | <i>Injection</i>                 |   |
| <i>Linezolid</i>   | <i>Injection</i><br><i>Oral</i>  |   |
| <i>Polymycin B</i>   | <i>Injection</i>                 |   |
| <b>6.2.2 Anti-leprosy medicines</b>  |                                  |   |
| Medicines used in the treatment of leprosy should never be used except in combination. Combination therapy is essential to prevent the emergence of drug resistance. |                                  |   |
| Clofazimine  | Oral                             |   |
| Dapsone  | Oral                             |   |
| Rifampicin   | Oral                             |   |
| <b>6.2.3 Anti-tuberculosis medicines</b>   |                                  |   |
| Ethambutol   | Oral                             |   |
| Ethambutol + isoniazid + pyrazinamide + rifampicin   | Oral                             |   |
| Isoniazid  | Oral                             |   |



| Chemical Entity  | Dosage Form       | Notes                                  |
|--|-------------------|--|
| Isoniazid + rifampicin   | Oral              |  |
| Pyrazinamide   | Oral              |  |
| Rifampicin   | Oral              |  |
| <b>Complementary list</b>  |                   |  |
| <i>Amikacin</i>  | <i>Injection</i>  |  |
| <i>Amoxicillin + clavulanic acid</i>   | <i>Oral</i>       |  |
| <i>Bedaquiline</i>   | <i>Oral</i>       | <b>[a]</b> ≥5 years                    |
| <i>Cycloserine</i>   | <i>Oral</i>       |  |
| <i>Ethionamide</i>   | <i>Oral</i>       |  |
| <i>Kanamycin</i>   | <i>Injection</i>  |  |
| <i>Linezolid</i>   | <i>Injection</i>  |  |
| <i>Streptomycin</i>  | <i>Injection</i>  |  |
| <b>6.3 Antifungal medicines</b>  |                   |  |
| Amphotericin B   | Injection         |  |
| Clotrimazole   | Pessary           |  |
| Fluconazole  | Injection<br>Oral |  |
| Flucytosine  | Injection<br>Oral |  |
| Griseofulvin   | Oral              |  |
| Itraconazole   | Oral              |  |
| Nystatin   | Oral              |  |
| Voriconazole   | Injection<br>Oral |  |
| <b>Complementary list</b>  |                   |  |
| <i>Micafungin</i><br>Therapeutic alternatives:<br>– <i>Anidulafungin</i><br>– <i>Caspofungin</i> | <i>Injection</i>  |  |
| <b>6.4 Antiviral medicines</b>   |                   |  |
| <b>6.4.1 Antiherpes medicines</b>  |                   |  |
| Acyclovir  | Injection<br>Oral |  |
| <b>6.4.2 Antiretrovirals</b>   |                   |  |
| <b>6.4.2.1 Nucleoside/Nucleotide reverse transcriptase inhibitors</b>                            |                   |  |
| Abacavir   | Oral              |  |
| Lamivudine   | Oral              |  |
| Tenofovir disoproxil fumarate  | Oral              |  |
| Zidovudine   | Injection<br>Oral |  |
| <b>6.4.2.2 Non-nucleoside reverse transcriptase inhibitors</b>                                   |                   |  |
| Efavirenz <b>[a]</b>   | Oral              | <b>[a]</b> > 3 years or > 10 kg weight |
| Nevirapine <b>[a]</b>  | Oral              | <b>[a]</b> > 6 weeks                   |



| Chemical Entity   | Dosage Form       | Notes  |
|---|-------------------|--|
| <b>6.4.2.3 Protease inhibitors</b>                                      |                   |  |
| Atazanavir [a]  | Oral              | [a] >25kg  |
| Darunavir [a]   | Oral              | [a] > 3 years  |
| Lopinavir + ritonavir   | Oral              |  |
| Ritonavir   | Oral              |  |
| <b>6.4.2.4 Integrase inhibitors</b>                                     |                   |  |
| Dolutegravir [a]  | Oral              | [a] ≥25kg  |
| <b>FIXED-DOSE COMBINATIONS</b>  |                   |  |
| Abacavir + lamivudine   | Oral              |  |
| Dolutegravir + lamivudine + tenofovir                                   | Oral              |  |
| Efavirenz + emtricitabine + tenofovir                                   | Oral              |  |
| Efavirenz + lamivudine + tenofovir                                      | Oral              |  |
| Emtricitabine + tenofovir   | Oral              |  |
| Lamivudine + zidovudine   | Oral              |  |
| <b>6.4.3 Other antivirals</b>   |                   |  |
| Ribavirin   | Oral              |  |
| Valganciclovir  | Oral              |  |
| <b>Complementary list</b>   |                   |  |
| <i>Oseltamivir</i>  | <i>Oral</i>       |  |
| <i>Valganciclovir</i>   | <i>Oral</i>       |  |
| <b>6.4.4 Antihepatitis medicines</b>                                    |                   |  |
| <b>6.4.4.1 Medicines for hepatitis B</b>                                |                   |  |
| <b>6.4.4.1.1 Nucleoside/Nucleotide reverse transcriptase inhibitors</b> |                   |  |
| Entecavir   | Oral              |  |
| Tenofovir disoproxil fumarate   | Oral              |  |
| <b>6.4.4.2 Medicines for hepatitis C</b>                                |                   |  |
| <b>6.4.4.2.1 Pangenotypic direct-acting antiviral combinations</b>      |                   |  |
| Daclatasvir*  | Oral              | * Pangenotypic when used in combination with sofosbuvir  |
| Sofosbuvir*   | Oral              | * Pangenotypic when used in combination with daclatasvir |
| Sofosbuvir + velpatasvir  | Oral              |  |
| <b>6.4.4.2.2 Non-pangenotypic direct-acting antiviral combinations</b>  |                   |  |
| Ravidasvir  | Oral              |  |
| <b>6.4.4.2.3 Other antivirals for Hepatitis C</b>                       |                   |  |
| Ribavirin   | Oral              |  |
| <b>Complementary list</b>   |                   |  |
| <i>Pegylated interferon alfa 2a or 2b</i>                               | <i>Injection</i>  |  |
| <b>6.5 Antiprotozoal medicines</b>                                      |                   |  |
| <b>6.5.1 Antiamoebic and anti giardiasis medicines</b>                  |                   |  |
| Metronidazole   | Injection<br>Oral |  |





| Chemical Entity  | Dosage Form       | Notes   |
|--|-------------------|---|
| <b>6.5.2 Antileishmaniasis medicines</b>                         |                   |   |
| Amphotericin B   | Injection         |   |
| <b>6.5.3 Antimalarial medicines</b>                              |                   |   |
| <b>6.5.3.1 For curative treatment</b>                            |                   |   |
| Artemether + lumefantrine*                                       | Oral              | * Not recommended in the first trimester of pregnancy or children < 5 kg. |
| Artesunate   | Injection         |   |
| Artesunate + mefloquine  | Oral              |   |
| Chloroquine  | Oral              |   |
| Doxycycline  | Oral              |   |
| Mefloquine   | Oral              |   |
| Primaquine   | Oral              |   |
| Quinine  | Injection<br>Oral |   |
| <b>6.5.3.2 For prophylaxis</b>                                   |                   |   |
| Chloroquine  | Oral              |   |
| Doxycycline [a]  | Oral              | [a] > 8 years   |
| <b>6.5.4 Antipneumocystosis and anti-toxoplasmosis medicines</b> |                   |   |
| Sulfamethoxazole + trimethoprim                                  | Oral              |   |
| <b>Complementary list</b>  |                   |   |
| Pentamidine  | Oral              |   |

## 7. ANTIMIGRAINE MEDICINES

| Chemical Entity                             | Dosage Form | Notes |
|---|-------------|-------|
| <b>7.1 For treatment of an acute attack</b> |             |       |
| Ibuprofen                                   | Oral        |       |
| Paracetamol                                 | Oral        |       |
| Sumatriptan                                 | Oral        |       |
| <b>7.2 For prophylaxis</b>                  |             |       |
| Propranolol                                 | Oral        |       |



## 8. IMMUNOMODULATORS AND ANTINEOPLASTICS

| Chemical Entity   | Dosage Form       | Notes                       |
|---|-------------------|-----------------------------|
| <b>8.1 Immunomodulators for non-malignant disease</b>   |                   |                             |
| <b>Complementary list</b>   |                   |                             |
| Adalimumab*<br>Therapeutic alternative(s)*:<br>– Etanercept<br>– Golimumab<br>– Infliximab<br>* including quality assured biosimilars | Injection         |                             |
| Azathioprine  | Oral              |                             |
| Ciclosporin   | Injection<br>Oral |                             |
| Interferon beta 1a  | Injection         |                             |
| Interferon beta 1b  | Injection         |                             |
| Mycophenolate mofetil   | Oral              |                             |
| Secukinumab   | Injection         |                             |
| Tacrolimus  | Injection<br>Oral |                             |
| Teriflunomide   | Oral              |                             |
| Tocilizumab   | Injection         |                             |
| <b>8.2 Antineoplastics and supportive medicines</b>   |                   |                             |
| <b>8.2.1 Cytotoxic medicines</b>  |                   |                             |
| <b>Complementary list</b>   |                   |                             |
| Arsenic trioxide  | Injection         |                             |
| Asparaginase  | Injection         |                             |
| Bendamustine  | Injection         |                             |
| Bleomycin   | Injection         |                             |
| Calcium folinate  | Injection<br>Oral |                             |
| Capecitabine  | Oral              |                             |
| Carboplatin   | Injection         |                             |
| Chlorambucil  | Oral              |                             |
| Cisplatin   | Injection         |                             |
| Cyclophosphamide  | Injection<br>Oral |                             |
| Cytarabine  | Injection         |                             |
| Dacarbazine   | Injection         |                             |
| Dactinomycin  | Injection         | Also known as Actinomycin D |
| Daunorubicin  | Injection         |                             |
| Docetaxel   | Injection         |                             |
| Doxorubicin   | Injection         |                             |
| Etoposide   | Injection<br>Oral |                             |



| Chemical Entity  | Dosage Form                     | Notes |
|--|---------------------------------|-------|
| <i>Fludarabine</i>   | <i>Injection</i><br><i>Oral</i> |       |
| <i>Fluorouracil</i>  | <i>Injection</i>                |       |
| <i>Gemcitabine</i>   | <i>Injection</i>                |       |
| <i>Hydroxyurea</i>   | <i>Injection</i>                |       |
| <i>Ifosfamide</i>  | <i>Injection</i>                |       |
| <i>Irinotecan</i>  | <i>Injection</i>                |       |
| <i>Melphalan</i>   | <i>Injection</i><br><i>Oral</i> |       |
| <i>Mercaptopurine</i>  | <i>Oral</i>                     |       |
| <i>Methotrexate</i>  | <i>Injection</i><br><i>Oral</i> |       |
| <i>Oxaliplatin</i>   | <i>Injection</i>                |       |
| <i>Paclitaxel</i>  | <i>Injection</i>                |       |
| <i>Pegaspargase</i><br><i>* including quality assured biosimilars</i>                              | <i>Injection</i>                |       |
| <i>Procarbazine</i>  | <i>Oral</i>                     |       |
| <i>Tioguanine</i>  | <i>Oral</i>                     |       |
| <i>Vinblastine</i>   | <i>Injection</i>                |       |
| <i>Vincristine</i>   | <i>Injection</i>                |       |
| <i>Vinorelbine</i>   | <i>Injection</i>                |       |
| <b>8.2.2 Targeted therapies</b>  |                                 |       |
| <b>Complementary list</b>  |                                 |       |
| <i>All-trans retinoid acid (ATRA)</i>  | <i>Oral</i>                     |       |
| <i>Bortezomib</i>  | <i>Injection</i>                |       |
| <i>Erlotinib*</i><br><i>Therapeutic alternative(s):</i><br>- <i>Afatinib</i><br>- <i>Gefitinib</i> | <i>Oral</i>                     |       |
| <i>Everolimus</i>  | <i>Oral</i>                     |       |
| <i>Ibrutinib</i>   | <i>Oral</i>                     |       |
| <i>Imatinib</i>  | <i>Oral</i>                     |       |
| <i>Nilotinib</i>   | <i>Oral</i>                     |       |
| <i>Ribociclib</i>  | <i>Oral</i>                     |       |
| <i>Rituximab*</i><br><i>* Including quality assured biosimilars</i>                                | <i>Injection</i>                |       |
| <i>Ruxolitinib</i>   | <i>Oral</i>                     |       |
| <i>Trastuzumab*</i><br><i>* Including quality assured biosimilars</i>                              | <i>Injection</i>                |       |
| <b>8.2.3 Immunomodulators</b>  |                                 |       |
| <b>Complementary list</b>  |                                 |       |
| <i>Filgrastim*</i><br><i>* Including quality assured biosimilars</i>                               | <i>Injection</i>                |       |
| <i>Lenalidomide*</i>   | <i>Oral</i>                     |       |



| Chemical Entity   | Dosage Form                     | Notes |
|---|---------------------------------|-------|
| <i>Pembrolizumab*</i><br><i>* Including quality assured biosimilars</i>   | <i>Injection</i>                |       |
| <i>Thalidomide</i>  | <i>Oral</i>                     |       |
| <b>8.2.4 Hormones and antihormones</b>  |                                 |       |
| <b>Complementary list</b>   |                                 |       |
| <i>Abiraterone</i><br><i>Therapeutic alternative(s):</i><br>– <i>Enzalutamide</i>   | <i>Oral</i>                     |       |
| <i>Anastrozole</i><br><i>Therapeutic alternative(s):</i><br>– <i>4th level ATC chemical subgroup (L02BG Aromatase inhibitors)</i> | <i>Oral</i>                     |       |
| <i>Bicalutamide</i>   | <i>Oral</i>                     |       |
| <i>Dexamethasone</i>  | <i>Injection</i><br><i>Oral</i> |       |
| <i>Hydrocortisone</i>   | <i>Injection</i>                |       |
| <i>Leuprorelin</i><br><i>Therapeutic alternative(s):</i><br>– <i>Goserelin</i><br>– <i>Triptorelin</i>                            | <i>Injection</i>                |       |
| <i>Methylprednisolone</i>   | <i>Injection</i>                |       |
| <i>Prednisolone</i>   | <i>Oral</i>                     |       |
| <i>Tamoxifen</i>  | <i>Oral</i>                     |       |
| <b>8.2.5 Supportive medicines</b>   |                                 |       |
| <b>Complementary list</b>   |                                 |       |
| <i>Allopurinol</i>  | <i>Oral</i>                     |       |
| <i>Mesna</i>  | <i>Injection</i><br><i>Oral</i> |       |
| <i>Zoledronic acid</i>  | <i>Injection</i>                |       |



## 9. ANTIPARKINSONISM MEDICINES

| Chemical Entity  | Dosage Form | Notes                   |
|--|-------------|-------------------------|
| Entacapone   | Oral        |                         |
| Levodopa + carbidopa<br>Therapeutic alternative(s):<br>– Benserazide (for carbidopa) | Oral        |                         |
| Pramipexole  | Oral        |                         |
| Ropinirole   | Oral        |                         |
| Trihexyphenidyl  | Oral        | Also known as benzhexol |

## 10. MEDICINES AFFECTING THE BLOOD

| Chemical Entity  | Dosage Form       | Notes   |
|--|-------------------|---|
| <b>10.1 Antianaemia medicines</b>  |                   |   |
| Ferrous salt   | Oral<br>Injection |   |
| Ferrous salt + folic acid  | Oral              |   |
| Folic acid   | Oral              |   |
| <b>Complementary list</b>  |                   |   |
| <i>Erythropoiesis-stimulating agents*</i><br>Therapeutic alternative(s):<br>– epoetin alfa<br>– epoetin beta<br>– epoetin theta<br>– darbepoetin alfa<br><i>*Including quality assured biosimilars</i> | <i>Injection</i>  |   |
| <b>10.2 Medicines affecting coagulation</b>  |                   |   |
| Dabigatran<br>Therapeutic alternative(s):<br>– Apixaban<br>– Rivaroxaban   | Oral              |   |
| Enoxaparin   | Injection         |   |
| Heparin sodium   | Injection         |   |
| Phytomenadione   | Injection         |   |
| Protamine sulfate  | Injection         |   |
| Tranexamic acid  | Injection<br>Oral |   |
| Warfarin   | Oral              |   |
| <b>Complementary list</b>  |                   |   |
| <i>Desmopressin</i>  | <i>Injection</i>  |   |
| <b>10.3 Other medicines for haemoglobinopathies</b>  |                   |   |
| <b>Complementary list</b>  |                   |   |
| <i>Emicizumab</i>  | <i>Injection</i>  |   |
| <i>Desferrioxamine</i><br>Therapeutic alternative(s):<br><i>Deferasirox (oral)*</i>  | <i>Injection</i>  | <i>Also known as Deferoxamine</i><br><i>*May be used as an alternative depending on availability and cost</i> |



## 11. BLOOD PRODUCTS OF HUMAN ORIGIN AND PLASMA SUBSTITUTES

| Chemical Entity                         | Dosage Form      | Notes |
|---|------------------|-------|
| <b>11.1 Blood and blood components</b>  |                  |       |
| Fresh frozen plasma                     | Transfusion bag  |       |
| Platelets                               | Transfusion bag  |       |
| Red blood cells                         | Transfusion bag  |       |
| Whole blood                             | Transfusion bag  |       |
| <b>11.2 Plasma-derived medicines</b>    |                  |       |
| <b>11.2.1 Human immunoglobulins</b>     |                  |       |
| Anti-D immunoglobulin                   | Injection        |       |
| Anti-rabies immunoglobulin              | Injection        |       |
| Anti-tetanus immunoglobulin             | Injection        |       |
| <b>Complementary list</b>               |                  |       |
| <i>Normal immunoglobulin</i>            | <i>Injection</i> |       |
| <b>11.2.2 Blood coagulation factors</b> |                  |       |
| <b>Complementary list</b>               |                  |       |
| <i>Coagulation factor VIII</i>          | <i>Injection</i> |       |
| <i>Coagulation factor IX</i>            | <i>Injection</i> |       |
| <b>11.3 Plasma substitutes</b>          |                  |       |
| Human Albumin                           | Injection        |       |
| Modified fluid gelatin                  | Injection        |       |



**12. CARDIOVASCULAR MEDICINES**

| Chemical Entity   | Dosage Form               | Notes  |
|---|---------------------------|--|
| <b>12.1 Antianginal medicines</b>   |                           |  |
| Bisoprolol<br>Therapeutic alternative(s):<br>– Metoprolol<br>– Carvedilol                                   | Oral                      |  |
| Glyceryl trinitrate   | Oral                      |  |
| Isosorbide dinitrate  | Oral                      |  |
| Verapamil   | Oral                      |  |
| <b>12.2 Antiarrhythmic medicines</b>  |                           |  |
| Bisoprolol<br>Therapeutic alternative(s):<br>– Carvedilol<br>– Metoprolol<br>– Propranolol (Injection)      | Oral                      |  |
| Digoxin   | Injection<br>Oral         |  |
| Epinephrine   | Injection                 | Also known as Adrenaline   |
| Lignocaine  | Injection                 |  |
| Verapamil   | Injection<br>Oral         |  |
| <b>Complementary list</b>   |                           |  |
| <i>Amiodarone</i>   | <i>Injection<br/>Oral</i> |  |
| <i>Norepinephrine</i>   | <i>Injection</i>          | <i>Also known as Noradrenaline</i>   |
| <b>12.3 Antihypertensive medicines</b>  |                           |  |
| Amlodipine  | Oral                      |  |
| Bisoprolol<br>Therapeutic alternative(s):<br>– Atenolol*<br>– Carvedilol<br>– Metoprolol                    | Oral                      | *Atenolol should not be used as a first-line agent in uncomplicated hypertension in patients > 60 years. |
| Enalapril<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup (C09AA ACE inhibitors, plain) | Oral                      |  |
| Esmolol   | Injection                 |  |
| Hydralazine   | Injection                 | * Use only in the acute management of severe pregnancy-induced hypertension.                             |
| Hydrochlorothiazide   | Oral                      |  |
| Losartan  | Oral                      |  |
| Labetalol   | *Oral<br>**Injection      | * for pregnancy<br>**for hypertension crisis   |
| Methyldopa*   | Oral                      | * Use only in the management of pregnancy-induced hypertension.  |



| Chemical Entity  | Dosage Form       | Notes                           |
|--|-------------------|---------------------------------|
| <b>12.4 Medicines used in heart failure</b>  |                   |                                 |
| Bisoprolol<br>Therapeutic alternative(s):<br>– Carvedilol<br>– Metoprolol                                      | Oral              |                                 |
| Digoxin  | Injection<br>Oral |                                 |
| Enalapril<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup<br>(C09AA ACE inhibitors, plain) | Oral              |                                 |
| Frusemide<br>Therapeutic alternative(s):<br>– Bumetanide   | Injection<br>Oral |                                 |
| Losartan   | Oral              |                                 |
| Sacubitril + Valsartan   | Oral              |                                 |
| Spironolactone   | Oral              |                                 |
| <b>Complementary list</b>  |                   |                                 |
| <i>Dopamine</i>  | <i>Injection</i>  |                                 |
| <b>12.5 Antithrombotic medicines</b>   |                   |                                 |
| <b>12.5.1 Anti-platelet medicines</b>  |                   |                                 |
| Acetylsalicylic acid   | Oral              |                                 |
| Clopidogrel  | Oral              |                                 |
| <b>12.5.2 Thrombolytic medicines</b>   |                   |                                 |
| <b>Complementary list</b>  |                   |                                 |
| <i>Alteplase</i>   | <i>Injection</i>  |                                 |
| <i>Streptokinase</i>   | <i>Injection</i>  |                                 |
| <b>12.6 Lipid-lowering agents</b>  |                   |                                 |
| Gemfibrozil  | Oral              |                                 |
| Simvastatin*<br>Therapeutic alternative(s):<br>– Atorvastatin  | Oral              | * For use in high-risk patients |

**13. DERMATOLOGICAL MEDICINES (topical)**

| Chemical Entity  | Dosage Form   | Notes                         |
|--|---------------|-------------------------------|
| <b>13.1 Antifungal medicines</b>   |               |                               |
| Miconazole<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup (D01AC Imidazole and triazole derivatives) excluding combinations | Topical       |                               |
| Selenium sulfide   | Topical       |                               |
| Terbinafine  | Topical       |                               |
| <b>13.2 Anti-infective medicines</b>   |               |                               |
| Mupirocin  | Topical       |                               |
| Potassium permanganate   | Miscellaneous |                               |
| Silver sulfadiazine [a]  | Topical       | [a] > 2 months                |
| Neomycin   | Topical       |                               |
| <b>13.3 Anti-inflammatory and antipruritic medicines</b>   |               |                               |
| Betamethasone [a]<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup (D07AC Corticosteroids, potent (group III))                | Topical       | [a] not preferred in neonates |
| Calamine   | Topical       |                               |
| Hydrocortisone*  | Topical       | *preferred in neonates        |
| <b>13.4 Medicines affecting skin differentiation and proliferation</b>   |               |                               |
| Aqueous cream  | Topical       |                               |
| Benzoyl peroxide   | Topical       |                               |
| Calcipotriol   | Topical       |                               |
| Coal tar   | Topical       |                               |
| Salicylic acid   | Topical       |                               |
| <b>13.5 Scabicides and pediculicides</b>   |               |                               |
| Benzyl benzoate [a]  | Topical       | [a] > 2 years                 |
| Permethrin   | Topical       |                               |



## 14. DIAGNOSTIC AGENTS

| Chemical Entity  | Dosage Form     | Notes |
|--|-----------------|-------|
| <b>14.1 Ophthalmic medicines</b>   |                 |       |
| Fluorescein  | Miscellaneous   |       |
| Tropicamide<br>Therapeutic alternative(s):<br>– Atropine<br>– Cyclopentolate | Eye Preparation |       |
| <b>14.2 Radiocontrast media</b>  |                 |       |
| Barium sulfate   | Oral            |       |
| Iohexol  | Injection       |       |

## 15. ANTISEPTICS AND DISINFECTANTS

| Chemical Entity           | Dosage Form | Notes |
|---------------------------|-------------|-------|
| <b>15.1 Antiseptics</b>   |             |       |
| Acriflavin                | Topical     |       |
| Alcohol                   | Topical     |       |
| Chlorhexidine             | Topical     |       |
| Povidone iodine           | Topical     |       |
| <b>15.2 Disinfectants</b> |             |       |
| Alcohol-based hand rub    | Topical     |       |
| Chlorine-based hand rub   | Topical     |       |

## 16. DIURETICS

| Chemical Entity   | Dosage Form       | Notes |
|---|-------------------|-------|
| Furosemide<br>Therapeutic alternative(s):<br>– Bumetanide | Injection<br>Oral |       |
| Hydrochlorothiazide                                       | Oral              |       |
| Mannitol  | Injection         |       |
| Spironolactone  | Oral              |       |
| <b>Complementary list</b>                                 |                   |       |
| <i>Mannitol</i>   | <i>Injection</i>  |       |

**17. GASTROINTESTINAL MEDICINES**

| Chemical Entity  | Dosage Form   | Notes               |
|--|---|---------------------|
| <b>Complementary list</b>  |   |                     |
| <i>Pancreatic enzymes</i>  | <i>Age-appropriate formulations and doses including lipase, protease and amylase.</i> |                     |
| <b>17.1 Antiulcer medicines and Antacid</b>  |   |                     |
| Omeprazole<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup (A02BC Proton pump inhibitors) excluding combinations | Injection<br>Oral   |                     |
| Famotidine   | Oral  |                     |
| Magnesium trisilicate  | Oral  |                     |
| <b>17.2 Antiemetic medicines</b>   |   |                     |
| Dexamethasone  | Injection<br>Oral   |                     |
| Metoclopramide [a]   | Injection<br>Oral   | [a] not in neonates |
| Ondansetron [a]<br>Therapeutic alternative(s):<br>– Granisetron  | Injection<br>Oral   | [a] > 1 month       |
| <b>Complementary list</b>  |   |                     |
| <i>Aprepitant</i>  | <i>Oral</i>   |                     |
| <b>17.3 Anti-inflammatory medicines</b>  |   |                     |
| Sulfasalazine<br>Therapeutic alternatives: -<br>– Mesalazine   | Oral<br>Enema<br>Suppository  |                     |
| <b>17.4 Laxatives</b>  |   |                     |
| Bisacodyl  | Oral<br>Suppository   |                     |
| Glycerin 25% and Sodium Chloride 15% Enema   | Enema   |                     |
| Lactulose  | Oral  |                     |
| <b>17.5 Medicines used in diarrhoea</b>  |   |                     |
| Oral rehydration salts   | Oral  |                     |
| <b>17.6 Antispasmodic Medicines</b>  |   |                     |
| Hyoscine   | Injection<br>Oral   |                     |

**18. MEDICINES FOR ENDOCRINE DISORDERS**

| Chemical Entity   | Dosage Form       | Notes |
|---|-------------------|-------|
| <b>18.1 Adrenal hormones and synthetic substitutes</b>  |                   |       |
| Dexamethasone   | Injection<br>Oral |       |
| Fludrocortisone   | Oral              |       |
| Hydrocortisone  | Oral              |       |
| <b>18.2 Androgens</b>   |                   |       |
| <b>Complementary list</b>   |                   |       |
| <i>Testosterone</i>   | <i>Injection</i>  |       |
| <b>18.3 Estrogens</b>   |                   |       |
| <b>18.4 Progestogens</b>  |                   |       |
| Medroxyprogesterone acetate   | Oral              |       |
| <b>18.5 Medicines for diabetes</b>  |                   |       |
| <b>18.5.1 Insulins*</b>   |                   |       |
| *including quality-assured biosimilars  |                   |       |
| Fast-acting insulin:<br>– Insulin aspart  | Injection         |       |
| Insulin injection (soluble)   | Injection         |       |
| Intermediate-acting insulin   | Injection         |       |
| Long-acting insulin analogues:<br>– Insulin detemir<br>– Insulin glargine   |                   |       |
| Premix insulin:<br>– Insulin aspart 30% and protaminated insulin aspart 70%<br>– Insulin degludec/ insulin aspart 70/30 | Injection         |       |
| <b>18.5.2 Oral hypoglycaemic agents</b>   |                   |       |
| Gliclazide  | Oral              |       |
| Metformin   | Oral              |       |
| Vildagliptin  | Oral              |       |
| <b>Complementary list</b>   |                   |       |
| <i>Metformin</i>  | <i>Oral</i>       |       |
| <b>18.6 Thyroid hormones and antithyroid medicines</b>  |                   |       |
| Carbimazole   | Oral              |       |
| Cinacalcet  | Oral              |       |
| Levothyroxine   | Oral              |       |
| Lugol's solution  | Oral              |       |
| Propranolol   | Injection         |       |
| Propylthiouracil  | Oral              |       |



**19. IMMUNOLOGICALS**

| Chemical Entity  | Dosage Form | Notes                        |
|--|-------------|------------------------------|
| <b>19.1 Diagnostic agents</b>  |             |                              |
| Tuberculin, purified protein derivative (PPD)  | Injection   |                              |
| <b>19.2 Sera and immunoglobulins</b>   |             |                              |
| Antirabies Immunoglobulin (Human)  | Injection   |                              |
| Antithymocyte immunoglobulin (rabbit)  | Injection   |                              |
| Antivenene Cobra Injection   | Injection   |                              |
| Antivenene Pit Viper Injection   | Injection   |                              |
| Antivenene Serum (Sea snake) 1000 units Injection  | Injection   |                              |
| Diphtheria antitoxin   | Injection   |                              |
| Hemato Polyvalent Snake Antivenene Injection   | Injection   |                              |
| Hepatitis B Immunoglobulin   | Injection   |                              |
| Neuro Polyvalent Snake Antivenene Injection  | Injection   |                              |
| <b>19.3 Vaccines</b>   |             |                              |
| National Immunisation Policy recommendations are determined by MOH Malaysia. Immunisation schedule is updated periodically and be accessed <a href="http://www.myhealth.gov.my/jadual-imunisasi/">www.myhealth.gov.my/jadual-imunisasi/</a> . The following list of vaccines is in accordance with immunisation schedule 2019. All vaccines should comply to MOH requirements. |             |                              |
| BCG vaccine  | Injection   |                              |
| Cholera vaccine*   | Injection   | * For high-risk population   |
| Diphtheria + Tetanus vaccine   | Injection   |                              |
| Diphtheria, Tetanus, Acellular Pertussis, Inactivated Polio Virus, Haemophilus Influenza Type B Vaccine [DTaP-IPV- Hib]  | Injection   |                              |
| Haemophilus influenzae type b vaccine  | Injection   |                              |
| Hepatitis A vaccine  | Injection   | * For high-risk population   |
| Hepatitis B vaccine  | Injection   |                              |
| HPV vaccine  | Injection   |                              |
| Influenza vaccine (seasonal)   | Injection   |                              |
| Japanese encephalitis vaccine*   | Injection   | *Only applicable for Sarawak |
| Measles vaccine  | Injection   |                              |
| Measles, Mumps & Rubella Vaccine (Live)  | Injection   |                              |
| Meningococcal meningitis vaccine*  | Injection   | * For high-risk population   |
| Pneumococcal vaccine   | Injection   |                              |
| Poliomyelitis vaccine  | Injection   |                              |



| Chemical Entity   | Dosage Form | Notes                      |
|-------------------|-------------|----------------------------|
| Rabies vaccine    | Injection   | * For high-risk population |
| Rubella vaccine   | Injection   |                            |
| Tetanus vaccine   | Injection   |                            |
| Typhoid vaccine   | Injection   | * For high-risk population |
| Varicella vaccine | Injection   |                            |

## 20. MUSCLE RELAXANTS (PERIPHERALLY-ACTING) AND CHOLINESTERASE INHIBITORS

| Chemical Entity           | Dosage Form | Notes |
|---------------------------|-------------|-------|
| Atracurium                | Injection   |       |
| Neostigmine               | Injection   |       |
| Suxamethonium             | Injection   |       |
| <b>Complementary list</b> |             |       |
| <i>Pyridostigmine</i>     | <i>Oral</i> |       |



## 21. OPHTHALMOLOGICAL PREPARATIONS

| Chemical Entity  | Dosage Form            | Notes          |
|--|------------------------|----------------|
| <b>21.1 Anti-infective agents</b>  |                        |                |
| Acyclovir  | Eye Preparation        |                |
| Ciprofloxacin<br>Therapeutic alternative(s):<br>– 4th level ATC chemical subgroup (S01AE Fluoroquinolones) | Eye Preparation        |                |
| Chloramphenicol  | Eye Preparation        |                |
| Gentamicin   | Eye Preparation        |                |
| Natamycin  | Eye Preparation        |                |
| <b>21.2 Anti-inflammatory agents</b>   |                        |                |
| Prednisolone   | Eye preparation        |                |
| <b>21.3 Local anaesthetics</b>   |                        |                |
| Proparacaine   | Eye preparation        |                |
| <b>21.4 Miotics and antiglaucoma medicines</b>   |                        |                |
| Acetazolamide  | Injection<br>Oral      |                |
| Brimonidine  | Eye Preparation        |                |
| Dorzolomide  | Eye Preparation        |                |
| Latanoprost  | Eye Preparation        |                |
| Pilocarpine  | Eye Preparation        |                |
| Timolol  | Eye Preparation        |                |
| <b>21.5 Mydriatics</b>   |                        |                |
| Atropine [a]   | Eye Preparation        | [a] >3 months. |
| <b>Complementary lists</b>   |                        |                |
| <i>Phenylephrine</i>   | <i>Eye Preparation</i> |                |
| <b>21.6 Ocular vascular disorder agents</b>  |                        |                |
| <b>Complementary lists</b>   |                        |                |
| <i>Ranibizumab</i>   | <i>Injection</i>       |                |



## 22. MEDICINES FOR REPRODUCTIVE HEALTH AND PERINATAL CARE

| Chemical Entity                                   | Dosage Form         | Notes  |
|---|---------------------|--|
| <b>22.1 Contraceptives</b>                        |                     |  |
| <b>22.1.1 Oral hormonal contraceptive</b>         |                     |  |
| Ethinylestradiol + levonorgestrel                 | Oral                |  |
| Levonorgestrel                                    | Oral                |  |
| Ulipristal  | Oral                |  |
| <b>22.1.2 Injectable hormonal contraceptives</b>  |                     |  |
| Medroxyprogesterone acetate                       | Injection           |  |
| Norethisterone enanthate                          | Injection           |  |
| <b>22.1.3 Intrauterine devices</b>                |                     |  |
| Copper-containing device                          | Intrauterine Device |  |
| Levonorgestrel-releasing intrauterine system      | Intrauterine Device |  |
| <b>22.1.4 Implantable contraceptive</b>           |                     |  |
| Etonogestrel-releasing implant                    | Implant             |  |
| Levonogestrel-releasing implant                   | Implant             |  |
| <b>22.2 Ovulation inducers</b>                    |                     |  |
| <b>Complementary list</b>                         |                     |  |
| <i>Clomifene</i>                                  | <i>Oral</i>         |  |
| <b>22.3 Uterotonics</b>                           |                     |  |
| Misoprostol*                                      | Pessary             | * Only for use for induction of labour where appropriate facilities are available. |
| Oxytocin  | Injection           |  |
| Oxytocin + Ergometrine maleate                    | Injection           |  |
| <b>22.4 Medicines administered to the mother</b>  |                     |  |
| Dexamethasone                                     | Injection           |  |
| Tranexamic acid                                   | Injection           |  |
| <b>22.5 Medicines administered to the neonate</b> |                     |  |
| Chlorhexidine*                                    | Topical Solution    | *Chlorhexidine 2% in 70% alcohol for umbilical cord care                           |
| <b>Complementary list</b>                         |                     |  |
| <i>Prostaglandin E1</i>                           | <i>Injection</i>    |  |
| <i>Surfactant</i>                                 | <i>Injection</i>    |  |

## 23. PERITONEAL DIALYSIS SOLUTION

| Chemical Entity   | Dosage Form                | Notes |
|---|----------------------------|-------|
| <b>Complementary lists</b>  |                            |       |
| <i>Intraperitoneal dialysis solution (of appropriate composition)</i> | <i>Parenteral solution</i> |       |



## 24. MEDICINES FOR MENTAL AND BEHAVIOURAL DISORDERS

| Chemical Entity  | Dosage Form                     | Notes  |
|--|---------------------------------|--|
| <b>24.1 Medicines used in psychotic disorders</b>                                |                                 |  |
| Chlorpromazine   | Oral                            |  |
| Fluphenazine   | Injection                       |  |
| Haloperidol  | Injection<br>Oral               |  |
| Risperidone  | Oral                            |  |
| <b>Complementary list</b>  |                                 |  |
| <i>Chlorpromazine</i>  | <i>Oral</i>                     |  |
| <i>Clozapine</i>   | <i>Oral</i>                     |  |
| <i>Haloperidol</i>   | <i>Injection</i><br><i>Oral</i> |  |
| <b>24.2 Medicines used in mood disorders</b>                                     |                                 |  |
| <b>24.2.1 Medicines used in depressive disorders</b>                             |                                 |  |
| Amitriptyline  | Oral                            |  |
| Fluoxetine [a]<br>Therapeutic alternative(s):<br>– Escitalopram<br>– Fluvoxamine | Oral                            | [a] > 8 years  |
| Sertraline   | Oral                            |  |
| <b>Complementary list</b>  |                                 |  |
| <i>Fluoxetine [a]</i>  | <i>Oral</i>                     | <i>[a] &gt; 8 years</i>  |
| <b>24.2.2 Medicines used in bipolar disorders</b>                                |                                 |  |
| Lithium carbonate  | Oral                            |  |
| Valproic acid (sodium valproate) *   | Oral                            | * Avoid use in pregnancy and in women and girls of child-bearing potential, unless alternative treatments are ineffective or not tolerated because of the high risk of birth defects and developmental disorders in children exposed to valproate in the womb. |
| <b>24.3 Medicines for anxiety disorders</b>                                      |                                 |  |
| Diazepam   | Oral                            |  |
| Clonazepam   | Oral                            |  |
| <b>24.4 Medicines used for obsessive-compulsive disorders</b>                    |                                 |  |
| Clomipramine   | Oral                            |  |
| <b>24.5 Medicines for disorders due to psychoactive substance use</b>            |                                 |  |
| Nicotine replacement therapy (NRT)   | Oral<br>Patch                   |  |
| Varenicline  | Oral                            |  |
| <b>Complementary list</b>  |                                 |  |
| <i>Methadone*</i>  | <i>Oral</i>                     | <i>*The medicines should only be used within an established support programme.</i>   |



## 25. MEDICINES ACTING ON THE RESPIRATORY TRACT

| Chemical Entity   | Dosage Form             | Notes                    |
|---|-------------------------|--------------------------|
| <b>25.1 Anti-asthmatic and medicines for chronic obstructive pulmonary disease</b>  |                         |                          |
| Aminophylline   | Injection               |                          |
| Budesonide<br>Therapeutic alternative(s):<br>– Beclomethasone<br>– Ciclesonide<br>– Fluticasone   | Inhalation              |                          |
| Budesonide + formoterol<br>Therapeutic alternative(s):<br>– Beclomethasone +<br>Formoterol<br>– Fluticasone +<br>Formoterol<br>– Fluticasone Propionate<br>+ Salmeterol | Inhalation              |                          |
| Epinephrine   | Injection               | Also known as Adrenaline |
| Ipratropium bromide   | Inhalation              |                          |
| Prednisolone  | Oral                    |                          |
| Salbutamol<br>Therapeutic alternative(s):<br>– Terbutaline  | Injection<br>Inhalation |                          |
| Theophylline  | Oral                    |                          |
| Tiotropium<br>Therapeutic alternative(s):<br>– Glycopyrronium   | Inhalation              |                          |
| Umeclidinium + vilanterol   | Inhalation              |                          |
| <b>25.2 Antitussives</b>  |                         |                          |
| Diphenhydramine   | Oral                    | [a] > 2 years            |
| <b>25.3 Mucolytics</b>  |                         |                          |
| Bromhexine  | Oral                    | [a] > 2 years            |





## 26. SOLUTIONS CORRECTING WATER, ELECTROLYTE AND ACID-BASE DISTURBANCES

| Chemical Entity                   | Dosage Form             | Notes |
|-----------------------------------|-------------------------|-------|
| <b>26.1 Oral</b>                  |                         |       |
| Oral rehydration salts            | Oral                    |       |
| Potassium chloride                | Oral                    |       |
| <b>26.2 Parenteral</b>            |                         |       |
| Glucose                           | Injection               |       |
| Glucose with sodium chloride      | Injection               |       |
| Potassium chloride                | Injection               |       |
| Sodium bicarbonate                | Injection               |       |
| Sodium chloride                   | Injection               |       |
| Sodium lactate, compound solution | Solution                |       |
| <b>26.3 Miscellaneous</b>         |                         |       |
| Water for injection               | Injection<br>Irrigation |       |

## 27. VITAMINS AND MINERALS

| Chemical Entity           | Dosage Form      | Notes                   |
|---------------------------|------------------|-------------------------|
| Ascorbic acid             | Oral             |                         |
| Calcium                   | Oral             |                         |
| Cholecalciferol           | Oral             |                         |
| Pyridoxine                | Oral             |                         |
| Retinol                   | Oral             | Also known as Vitamin A |
| Thiamine                  | Oral             |                         |
| <b>Complementary list</b> |                  |                         |
| <i>Calcium gluconate</i>  | <i>Injection</i> |                         |

## 28. EAR, NOSE AND THROAT MEDICINES

| Chemical Entity                         | Dosage Form             | Notes         |
|---|-------------------------|---------------|
| Budesonide                              | Nasal spray             |               |
| Chloramphenicol                         | Ear drops               |               |
| Ofloxacin                               | Ear drops               |               |
| Oxymetazoline                           | Nasal spray/nasal drops | [a] > 6 years |
| Polymyxin B + Neomycin + Hydrocortisone | Ear drops               |               |



## 29. MEDICINES FOR DISEASES OF THE JOINTS

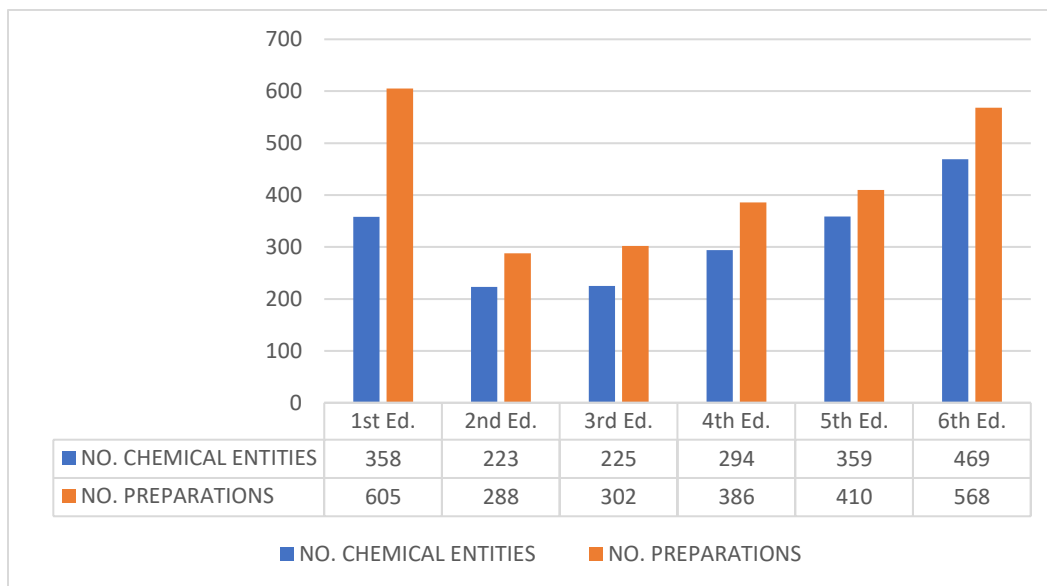
| Chemical Entity  | Dosage Form             | Notes  |
|--|-------------------------|--|
| <b>29.1 Medicines used to treat gout</b>                                   |                         |  |
| Allopurinol  | Oral dosage form        |  |
| Colchicine   | Oral dosage form        |  |
| Indomethacin   | Oral dosage form        |  |
| <b>29.2 Disease-modifying agents used in rheumatoid disorders (DMARDs)</b> |                         |  |
| Chloroquine  | Oral dosage form        |  |
| <b>Complementary list</b>  |                         |  |
| <i>Azathioprine</i>  | <i>Oral dosage form</i> |  |
| <i>Hydroxychloroquine</i>  | <i>Oral dosage form</i> |  |
| <i>Methotrexate</i>  | <i>Oral dosage form</i> |  |
| <i>Sulfasalazine</i>   | <i>Oral dosage form</i> |  |
| <b>29.3 Juvenile joint diseases</b>  |                         |  |
| <b>Complementary list</b>  |                         |  |
| <i>Acetylsalicylic acid* (acute or chronic use)</i>                        | <i>Oral</i>             | <i>*For use for rheumatic fever, juvenile arthritis, Kawasaki disease.</i> |

## 30. MEDICINES FOR ALZHEIMER'S DISEASE

| Chemical Entity | Dosage Form | Notes |
|-----------------|-------------|-------|
| Donepezil       | Oral        |       |
| Rivastigmine    | Patch       |       |

# APPENDIXES

## NEML STATISTICS



**Figure 2: Number of chemical entities and number of preparations in NEML**

**Table 1: Number of chemical entities for each therapeutic group**

| NO. | THERAPEUTIC GROUP  | NO OF CHEMICAL ENTITIES |
|-----|--|-------------------------|
| 1.  | Antidotes and Other Substances Used In Poisonings                    | 13                      |
| 2.  | Anaesthetics, Preoperative Medicines and Medical Gases               | 14                      |
| 3.  | Antiallergics and Medicines Used In Anaphylaxis                      | 7                       |
| 4.  | Anticonvulsants/Antiepileptics                                       | 10                      |
| 5.  | Anti-Infective Medicines   | 90                      |
| 6.  | Antimigraine Medicines   | 4                       |
| 7.  | Antiparkinsonism Medicines   | 6                       |
| 8.  | Antiseptics and Disinfectants  | 6                       |
| 9.  | Blood Products Of Human Origin And Plasma Substitutes                | 12                      |
| 10. | Cardiovascular Medicines   | 35                      |
| 11. | Dermatological Medicines (Topical)                                   | 19                      |
| 12. | Diagnostic Agents  | 6                       |
| 13. | Diuretics  | 5                       |
| 14. | Ear, Nose And Throat Medicines                                       | 5                       |
| 15. | Gastrointestinal Medicines   | 17                      |
| 16. | Immunologicals   | 30                      |
| 17. | Immunomodulators And Antineoplastics                                 | 80                      |
| 18. | Medicines Acting On The Respiratory Tract                            | 18                      |
| 19. | Medicines Affecting The Blood  | 19                      |
| 20. | Medicines for Alzheimer's Disease                                    | 2                       |
| 21. | Medicines For Diseases Of Joints                                     | 9                       |
| 22. | Medicines For Endocrine Disorders                                    | 21                      |
| 23. | Medicines For Mental And Behavioural Disorders                       | 18                      |
| 24. | Medicines For Pain And Palliative Care                               | 23                      |
| 25. | Medicines For Reproductive Health And Perinatal Care                 | 16                      |
| 26. | Muscle Relaxants (Peripherally-Acting) And Cholinesterase Inhibitors | 4                       |
| 27. | Ophthalmological Preparations  | 17                      |
| 28. | Peritoneal Dialysis Solution   | 1                       |
| 29. | Solutions Correcting Water, Electrolyte And Acid-Base Disturbances   | 8                       |
| 30. | Vitamins And Minerals  | 7                       |

*\*Note: One chemical entity may be listed in more than one group.*

# INDEX

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- 4th level ATC chemical subgroup (A02BC Proton pump inhibitors) excluding combinations, 21
- 4th level ATC chemical subgroup (C09AA ACE inhibitors, plain), 17, 18
- 4th level ATC chemical subgroup (D01AC Imidazole and triazole derivatives) excluding combinations, 19
- 4th level ATC chemical subgroup (D07AC Corticosteroids, potent (group III)), 19
- 4th level ATC chemical subgroup (*L02BG Aromatase inhibitors*), 14
- 4th level ATC chemical subgroup (S01AE Fluoroquinolones), 25
- Abacavir, 9
- Abacavir + lamivudine, 10
- Abiraterone, 14
- Acetazolamide, 25
- Acetylcysteine, 5
- Acetylsalicylic acid, 4, 18, 30
- Acriflavin, 20
- Acyclovir, 9, 25
- Adalimumab, 12
- Adrenaline, 5, 17, 28
- Afatinib, 13
- Albendazole, 7
- Alcohol, 20
- Alcohol-based hand rub, 20
- Allopurinol, 14, 30
- All-trans retinoid acid (*ATRA*), 13
- Alteplase, 18
- Amikacin, 7, 9
- Aminophylline, 28
- Amiodarone, 17
- Amitriptyline, 4, 27
- Amlodipine, 17
- Amoxicillin + clavulanic acid, 9
- Amoxicillin, 7
- Amoxycillin + clavulanic acid, 7
- Amphotericin, 9
- Amphotericin B, 9, 11
- Ampicillin, 7
- Anastrozole, 14
- Anidulafungin, 9
- Anti-D immunoglobulin, 16
- Anti-rabies immunoglobulin, 16
- Antirabies Immunoglobulin (Human), 23
- Anti-tetanus immunoglobulin, 16
- Antithymocyte immunoglobulin (rabbit), 23
- Antivenene Cobra Injection, 23
- Antivenene Pit Viper Injection, 23
- Antivenene Serum (Sea snake) 1000 units Injection, 23
- Apixaban, 15
- Aprepitant, 21
- Aqueous cream, 19
- Arsenic trioxide, 12
- Artemether + lumefantrine, 11
- Artesunate, 11
- Artesunate+ mefloquine, 11
- Ascorbic acid, 29
- Asparaginase, 12
- Atazanavir, 10
- Atenolol, 17
- Atorvastatin, 18
- Atracurium, 24
- Atropine, 3, 5, 20, 25
- Azathioprine, 12, 30
- Azithromycin, 8
- Barium sulfate, 20
- BCG vaccine, 23
- beclometasone + formoterol, 28
- Beclomethasone, 28
- Bedaquiline, 9
- Bendamustine, 12
- Benserazide, 15
- Benzathine benzylpenicillin, 7
- benzhexol, 15
- Benzoyl peroxide, 19
- Benzyl benzoate, 19
- Benzylpenicillin, 7
- Betamethasone, 19
- Bicalutamide, 14
- biosimilars, 12, 13, 14, 15, 22
- Bisacodyl, 21
- Bisoprolol, 17, 18
- Bleomycin, 12
- Bortezomib, 13
- Brimonidine, 25
- Bromhexine, 28
- Budesonide, 28, 29
- Budesonide + formoterol, 28
- Bumetanide, 18, 20
- Bupivacaine, 3
- Calamine, 19
- Calcipotriol, 19
- Calcium, 29
- Calcium folinate, 12
- Calcium gluconate, 5, 29
- Capecitabine, 12
- Carbamazepine, 6

Carbimazole, 22  
 Carboplatin, 12  
 Carvedilol, 17, 18  
 Caspofungin, 9  
 Cefazolin, 7  
 Cefepime, 8  
 Cefotaxime, 8  
 Ceftazidime, 8  
 Ceftriaxone, 8  
 Cefuroxime, 8  
 Cephalexin, 7  
 Cetirizine, 5  
 Charcoal, activated, 5  
 Chlorambucil, 12  
 Chloramphenicol, 25, 29  
 Chlorhexidine, 20, 26  
 Chlorine-based hand rub, 20  
 Chloroquine, 11, 30  
 Chlorpheniramine, 5  
 Chlorpromazine, 27  
 Cholecalciferol, 29  
 Cholera vaccine, 23  
 Ciclesonide, 28  
 Ciclosporin, 12  
 Cinacalcet, 22  
 Ciprofloxacin, 8, 25  
 Cisplatin, 12  
 Claritromycin, 8  
 Clindamycin, 7  
 Clofazimine, 8  
 Clomifene, 26  
 Clomipramine, 27  
 Clonazepam, 6, 27  
 Clopidogrel, 18  
 Clotrimazole, 9  
 Cloxacillin, 7  
 Clozapine, 27  
 Coagulation factor IX, 16  
 Coagulation factor VIII, 16  
 Coal tar, 19  
 Colchicine, 30  
 Colistin, 8  
 Copper-containing device, 26  
 Cyclophosphamide, 12  
 Cycloserine, 9  
 Cytarabine, 12  
 Dabigatran, 15  
 Dacarbazine, 12  
 Daclatasvir, 10  
 Dactinomycin, 12  
 Dapsone, 8  
 darbepoetin alfa, 15  
 Darunavir, 10  
 Daunorubicin, 12  
 Deferasirox, 15  
 Deferoxamine, 5, 15  
 Desferrioxamine, 5, 15  
 Desmopressin, 15  
 Dexamethasone, 4, 5, 14, 21, 22, 26  
 Diazepam, 4, 6, 27  
 Diethylcarbamazine, 7  
 Digoxin, 17, 18  
 Dihydrocodeine tartrate, 4  
 Dimercaprol, 5  
 Diphenhydramine, 28  
 Diphtheria + tetanus vaccine, 23  
 Diphtheria antitoxin, 23  
 Diphtheria, Tetanus, Acellular Pertussis, Inactivated Polio  
 Virus, Haemophilus Influenza Type B Vaccine [DTaP-  
 IPV- Hib], 23  
 Docetaxel, 12  
 Dolutegravir, 10  
 Dolutegravir + lamivudine + tenofovir, 10  
 Donepezil, 30  
 Dopamine, 18  
 Dorzolomide, 25  
 Doxorubicin, 12  
 Doxycycline, 7, 11  
 Efavirenz, 9  
 Efavirenz + emtricitabine + tenofovir, 10  
 Efavirenz + lamivudine + tenofovir, 10  
 Emicizumab, 15  
 Emtricitabine + tenofovir, 10  
 Enalapril, 17, 18  
 Enoxaparin, 15  
 Entacapone, 15  
 Entecavir, 10  
 Enzalutamide, 14  
 Ephedrine, 3  
 Epinephrine, 5, 17, 28  
 epoetin alfa, 15  
 epoetin beta, 15  
 epoetin theta, 15  
 Erlotinib, 13  
 Erythromycin, 7  
 Erythropoiesis-stimulating agents, 15  
 Escitalopram, 27  
 Esmolol, 17  
 Estrogens, 22  
 Etanercept, 12  
 Ethambutol, 8  
 Ethambutol + isoniazid + pyrazinamide + rifampicin, 8  
 Ethinylestradiol + levonorgestrel, 26  
 Ethionamide, 9  
 Etoposide, 12  
 Everolimus, 13

Famotidine, 21  
Fentanyl, 4  
Ferrous salt, 15  
Ferrous salt + folic acid, 15  
*Filgrastim*, 13  
Fluconazole, 9  
Flucytosine, 9  
*Fludarabine*, 13  
Fludrocortisone, 22  
Flumazenil, 5  
Fluorescein, 20  
*Fluorouracil*, 13  
Fluoxetine, 4, 27  
Fluphenazine, 27  
Fluticasone, 28  
fluticasone + formoterol, 28  
fluticasone propionate + salmeterol, 28  
Fluvoxamine, 27  
Folic acid, 15  
Fresh frozen plasma, 16  
Frusemide, 18, 20  
*Gabapentin*, 4  
Gefitinib, 13  
*Gemcitabine*, 13  
Gemfibrozil, 18  
Gentamicin, 7, 25  
Gliclazide, 22  
Glucose, 29  
Glucose with sodium chloride, 29  
Glycerin 25% and Sodium Chloride 15% Enema, 21  
Glyceryl trinitrate, 17  
Glycopyrronium, 28  
*Golimumab*, 12  
*Goserelin*, 14  
Granisetron, 4, 21  
Griseofulvin, 9  
Haemophilus influenzae type b vaccine, 23  
Haloperidol, 4, 27  
Hemato Polyvalent Snake Antivenene Injection, 23  
Heparin sodium, 15  
Hepatitis A vaccine, 23  
Hepatitis B Immunoglobulin, 23  
Hepatitis B vaccine, 23  
HPV vaccine, 23  
Human Albumin, 16  
Hydralazine, 17  
Hydrochlorothiazide, 17, 20  
Hydrocortisone, 5, 14, 19, 22  
*Hydroxychloroquine*, 30  
*Hydroxyurea*, 13  
Hyoscine, 21  
Hyoscine butylbromide, 4  
Hyoscine hydrobromide, 4  
*Ibrutinib*, 13  
Ibuprofen, 4, 11  
*Ifosfamide*, 13  
*Imatinib*, 13  
*Imipenem + cilastatin*, 8  
Indomethacin, 30  
*Infliximab*, 12  
Influenza vaccine (seasonal), 23  
Insulin aspart, 22  
Insulin aspart 30% and protaminated insulin aspart 70%, 22  
Insulin degludec/ insulin aspart 70/30, 22  
Insulin detemir, 22  
Insulin glargine, 22  
Insulin injection (soluble), 22  
*Interferon beta 1a*, 12  
*Interferon beta 1b*, 12  
Intermediate-acting insulin, 22  
*Intraperitoneal dialysis solution*, 26  
Iohexol, 20  
Ipratropium bromide, 28  
*Irinotecan*, 13  
Isoniazid, 8  
Isoniazid + rifampicin, 9  
Isosorbide dinitrate, 17  
Itraconazole, 9  
Japanese encephalitis vaccine, 23  
*Kanamycin*, 9  
Ketamine, 3  
Labetalol, 17  
Lactulose, 4, 21  
Lamivudine, 9  
Lamivudine + zidovudine, 10  
Lamotrigine, 6  
Latanoprost, 25  
*Lenalidomide*, 13  
*Leuprorelin*, 14  
Levetiracetam, 6  
Levodopa + carbidopa, 15  
Levonorgestrel-releasing implant, 26  
levonorgestrel, 26  
Levonorgestrel-releasing intrauterine system, 26  
Levothyroxine, 22  
Lidocaine + epinephrine, 3  
Lignocaine, 3, 17  
*Linezolid*, 8, 9  
Lithium carbonate, 27  
Loperamide, 4  
Lopinavir + ritonavir, 10  
Loratadine, 5  
Lorazepam, 4  
Losartan, 17, 18  
Lugol's solution, 22

Magnesium sulphate, 6  
Magnesium trisilicate, 21  
Mannitol, 20  
Measles vaccine, 23  
Measles, Mumps & Rubella Vaccine (Live), 23  
Medroxyprogesterone acetate, 22, 26  
Mefloquine, 11  
*Melphalan*, 13  
Meningococcal meningitis vaccine, 23  
*Mercaptopurine*, 13  
*Meropenem*, 8  
Mesalazine, 21  
*Mesna*, 14  
Metformin, 22  
*Methadone*, 27  
*Methotrexate*, 13, 30  
Methyldopa, 17  
Methylene blue, 5  
*Methylprednisolone*, 14  
Methylthioninium chloride, 5  
Metoclopramide, 4, 21  
Metoprolol, 17, 18  
Metronidazole, 8, 10  
*Micafungin*, 9  
Miconazole, 19  
Midazolam, 3, 4, 6  
Misoprostol, 26  
Modified fluid gelatin, 16  
Morphine, 3, 4  
Mupirocin, 19  
*Mycophenolate mofetil*, 12  
Naloxone, 5  
Natamycin, 25  
Neomycin, 19  
Neostigmine, 24  
Neuro Polyvalent Snake Antivenene Injection, 23  
Nevirapine, 9  
Nicotine replacement therapy (NRT), 27  
*Nilotinib*, 13  
Nitrofurantoin, 8  
Nitrous oxide, 3  
*Noradrenaline*, 17  
*Norepinephrine*, 17  
Norethisterone enanthate, 26  
*Normal immunoglobulin*, 16  
Nystatin, 9  
Ofloxacin, 29  
Omeprazole, 21  
Ondansetron, 4, 21  
Oral rehydration salts, 21, 29  
*Osetamivir*, 10  
*Oxaliplatin*, 13  
Oxycodone, 4  
Oxygen, 3  
Oxymetazoline, 29  
Oxytocin, 26  
Oxytocin + Ergometrine maleate, 26  
*Paclitaxel*, 13  
*Pancreatic enzymes*, 21  
Paracetamol, 4, 11  
*Pegaspargase*, 13  
*Pegylated interferon alfa 2a or 2b*, 10  
*Pembrolizumab*, 14  
Penicillamine, 5  
Pentamidine, 11  
Permethrin, 19  
Phenobarbital, 6  
Phenoxymethylpenicillin, 8  
*Phenylephrine*, 25  
Phenytoin, 6  
Phytomenadione, 15  
Pilocarpine, 25  
Piperacillin + tazobactam, 8  
Platelets, 16  
Pneumococcal vaccine, 23  
Poliomyelitis vaccine, 23  
*Polymyxin B*, 8  
Polymyxin B + Neomycin + Hydrocortisone, 29  
Potassium chloride, 29  
Potassium permanganate, 19  
Povidone iodine, 20  
Pralidoxime, 5  
Pramipexole, 15  
Prednisolone, 5, 14, 25, 28  
Primaquine, 11  
Procaine benzylpenicillin, 8  
*Procarbazine*, 13  
Propranolol, 22  
Proparacaine, 25  
Propofol, 3  
Propranolol, 11, 17  
Propylthiouracil, 22  
*Prostaglandin E1*, 26  
Protamine sulfate, 15  
Pyrantel, 7  
Pyrazinamide, 9  
*Pyridostigmine*, 24  
Pyridoxine, 29  
Quinine, 11  
Rabies vaccine, 24  
*Ranibizumab*, 25  
Ravidasvir, 10  
Red blood cells, 16  
Retinol, 29  
Ribavirin, 10  
*Ribociclib*, 13



Rifampicin, 8, 9  
Risperidone, 27  
Ritonavir, 10  
*Rituximab*, 13  
Rivaroxaban, 15  
Rivastigmine, 30  
Rocuronium, 3  
Ropinirole, 15  
Rubella vaccine, 24  
*Ruxolitinib*, 13  
Sacubitril + Valsartan, 18  
Salbutamol, 28  
Salicylic acid, 19  
*Secukinumab*, 12  
Selenium sulfide, 19  
Sertraline, 27  
Sevoflurane, 3  
Silver sulfadiazine, 19  
Simvastatin, 18  
Sodium bicarbonate, 29  
Sodium chloride, 29  
Sodium lactate, compound solution, 29  
Sodium nitrite, 5  
Sodium thiosulfate, 5  
Sodium valproate, 6  
Sofosbuvir, 10  
Sofosbuvir+ velpatasvir, 10  
Spironolactone, 18, 20  
*Streptokinase*, 18  
*Streptomycin*, 9  
Sulfamethoxazole + trimethoprim, 11  
Sulfasalazine, 21, 30  
Sulphamethoxazole + trimethoprim, 8  
Sumatriptan, 11  
*Surfactant*, 26  
Suxamethonium, 24  
*Tacrolimus*, 12  
*Tamoxifen*, 14  
Tenofovir disoproxil fumarate, 9, 10  
Terbinafine, 19  
Terbutaline, 28  
*Teriflunomide*, 12  
*Testosterone*, 22  
Tetanus vaccine, 24  
*Thalidomide*, 14  
Theophylline, 28  
Thiamine, 29  
Thiopental, 3  
Timolol, 25  
*Tioguanine*, 13  
Tiotropium, 28  
*Tocilizumab*, 12  
*Tramadol*, 4  
Tranexamic acid, 15, 26  
*Trastuzumab*, 13  
Trihexyphenidyl, 15  
Trimethoprim, 8  
*Triptorelin*, 14  
Tropicamide, 20  
Tuberculin, purified protein derivative (PPD), 23  
Typhoid vaccine, 24  
Ulipristal, 26  
Umeclidinium + vilanterol, 28  
Valganciclovir, 10  
Valproic acid, 6  
Valproic acid (sodium valproate), 27  
*Vancomycin*, 8  
Varenicline, 27  
Varicella vaccine, 24  
Verapamil, 17  
Vildagliptin, 22  
*Vinblastine*, 13  
*Vincristine*, 13  
*Vinorelbine*, 13  
Vitamin A, 29  
Voriconazole, 9  
Warfarin, 15  
Water for injection, 29  
Whole blood, 16  
Zidovudine, 9  
*Zoledronic acid*, 14



**PHARMACEUTICAL SERVICES PROGRAMME**

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