

NATIONAL ESSENTIAL MEDICINES LIST 2016



Drug Regulatory Authority of Pakistan
Ministry of National Health Services,
Regulations and Coordination
Government of Pakistan



STATE COMMITMENT

May 2016

Pakistan is committed that its domestic law and policies should be consistent with its obligations in the international treaties.

Access of essential medicines should be relevant to human rights instrument stipulating to the right to health.

Development of National Essential Medicines List (NEML, 2016) is a tool to provide access of medicine to the people of Pakistan.

Drug Regulatory Authority of Pakistan (DRAP)

4th Floor, TF Complex, 7th Mauve Area, Sector G-9/4, Islamabad Pakistan
directoratepharmacyservices@gmail.com
www.dra.gov.pk

CONTENTS

Acronyms	05
Foreword	07
Preface	09
Acknowledgment	11
Explanatory Notes	13
Executive Summary	15
Salient Features National Essential Medicines List 2016	17
Procedure	19
Using the Essential Medicines Lists	21
National Essential Medicine List of 2016	23
1. Supplementary List	85
2. Alphabetical List	89
3. Annexures	97
Annex-1 List of medicines added in the WHO EML 2015	99
Annex-2 Medicines with age and weight restriction	101
Annex-3 Participants of National Consultation	103
4. References	109
5. Index	111
Figures	
Figure 1: Drug Selection	16
Figure 2: WHO Access to Medicines Framework	16
Figure 3: Health Systems in Pakistan	18
Figure 4: WHO Process for Developing the National EML	20
Table	
Table 1: Medicines with Age and Weight Restriction	101

ACRONYMS

3TC	lamivudine
ABC	abacavir
API	active pharmaceutical ingredient
ATRA	all-trans retinoid acid
CD	communicable disease
D4T	stavudine
DRAP	Drug Regulatory Authority of Pakistan
EML	WHO Model Essential Medicines List (EML)
FDC	fixed-dose combination
FMOH	Federal Ministry of Health
FTC	emtricitabine
INN	international non-proprietary names
IU	international unit
IV	intravenous
JSI	John Snow, Inc.
mg	milligram
ml	milliliter
MNCH	maternal, neonatal, and child health
NCD	non-communicable disease
NEML	National Essential Medicines List
NTP	National TB Control Program
P	primary health care level
PPRA	Public Procurement Regulatory Authority
S	secondary health care level
STG	standard treatment guideline
T	tertiary health care level
TDF	tenofovir disoproxil fumarate
USAID	United States Agency for International Development
U.S.P.	U.S. Pharmacopeial Convention
WHO	World Health Organization

FOREWORD

National Essential Medicine List (NEML) is an important element of National Health system policies and practices and has proven to be useful tool to help country in selecting quality, safe, efficacious and affordable medicines. Availability of NEML is important task and quality assurance systems benchmark at the national level.



I congratulate to the whole team of Drug Regulatory Authority of Pakistan (DRAP), stakeholders USAID | DELIVER PROJECT, WHO and health experts who managed to develop this national document of public importance.

It is expected that current activity will help stakeholders to ensure their spending effective utilization of their resources for the provision of those essential medicines that are most needed and offer best value of money. The list is of vital importance especially for a resource limited country like Pakistan.

Pakistan is committed that its domestic laws and policies should be consistent with its obligations in the international treaties and is aspirant of complying to international best practices.

Access of Essential Medicines is part of right to health and important tool to provide access of quality medicines to the people of Pakistan.

Cost effectiveness is an important concern for the poor masses. It is expected that the current National Essential Medicine List will cater this important aspect too.

The list is a guiding document for provinces to develop their own lists, formularies for its effective implementation.

It is expected that this august forum will maintain its continuity biannually with same zest and zeal to achieve sustainable development goals and objectives underlined by the current political government as one of the priorities of public health concerns.



Mrs. Saira Afzal Tarrar

Minister of State for Ministry of National Health Services,
Regulations and Coordination Islamabad.

PREFACE

The right to health is a fundamental human right and providing essential medicines is one of the essential building blocks of the health systems. Improving the pharmaceutical sector is key to achieving better health. Essential medicines are ***“those that satisfy the priority health care needs of the population.”*** These are intended to be available within the context of functioning health system at all times, in adequate amounts, in the appropriate dosage forms, with assured quality, and at a price that the individuals and the communities can afford. Careful selection of a limited range of essential medicines results in higher quality of care for patients, better management, use and cost effectiveness of health resources. National standard treatment guidelines and lists of essential medicines are expected to improve the availability and proper use of medicines within health care system. Selection of medicines follow market approval of a pharmaceutical product that defines the availability of a medicine in a country. It is matter of great pride that we are presenting this National Essential Medicines List of Pakistan, 2016, which is a critical document for the quality of health services across the country.



After the 18th Constitutional Amendment in June 2011, the Department of Pharmacy services, the Drug Regulatory Authority of Pakistan revises and update *National Essential Medicines List (NEML)*. The Drug Regulatory Authority of Pakistan, Ministry of National Health Services, Regulations and Coordination was assisted by the USAID | DELIVER PROJECT to finalize *NEML* for the primary-, secondary-, and tertiary-level health facilities. An essential medicines list thus developed is based on disease

prevalence, evidence on efficacy and safety, and comparative cost effectiveness. The *NEML 2016* includes the medicines needed to adequately address the priority health problems identified in the National and Provincial Health Strategies.

The health sector, in general, and the pharmaceutical sector in particular, are expected to seriously consider adopting this list as a way forward to guide the government in medicine and pharmaceutical sector policies, which will determine its access and availability. Pharmaco-economics parameters in drug selection will guide in drafting health reimbursement strategy and devising reimbursement lists. The provincial governments can play a pivotal role by encouraging procurement and supply chain management policies based on essential medicine concepts to promote the rational use of public resources. The drug regulatory authority will make all efforts to improve patient care by making available the reasonably priced, efficacious, safe, and quality medicines in Pakistan.

This Ministry acknowledges and appreciates Ms. Sangita Patel, Director, Health Office, USAID Pakistan, Dr. Muhammad Tariq, Country Director, USAID | DELIVER PROJECT, Pakistan (John Snow, Inc.) and Dr. Muhammad Aslam, Chief Executive Officer, Drug Regulatory Authority of Pakistan (DRAP), for their leadership support and devoted efforts in developing the *NEML*. The project's tangible support in upgrading the supply chain management and development of *NEML* will contribute towards ensuring the governance and accountability within health systems. Adapting the national list will increase transparency and will ensure the best value for the money in procurement, leading to increased availability and access to health products in Pakistan.



Muhammad Ayub Sheikh

Secretary,
Ministry of National Health Services,
Regulations and Coordination
Islamabad.

ACKNOWLEDGMENT

The prime objective of Drug Regulatory Authority of Pakistan (DRAP), after enacting the DRAP Act 2012 is to improve patient safety by ensuring that the medicines and health products marketed in Pakistan meet the standards of quality, safety, and efficacy. DRAP has adopted a patient-focused approach and has implemented a risk-based evaluation and enforcement strategy with a vision for access of quality and affordable medicines for the masses. The *National Essential Medicine List* (NEML) will enable the new drugs registration to meet the public health demand, based on the disease burden of the country; and will guide the new treatment opportunities to be available for effective health interventions. DRAP notified a technical committee of experts and consultants of medical specialties, and clinical pharmacists, World Health Organization, USAID, DELIVER Project and regulators to initiate the revision process and finalize the *NEML*. The USAID, DELIVER Project furnished technical support to the process of revising/updating the *NEML*. The Division of Pharmacy Services, DRAP, developed the concept note, inclusion/exclusion criteria, and customized *NEML*, based on the *WHO Model List of Essential Medicines, 2015* and the *NEML 2013* for discussion during the consultative process.



The consultations involved various stakeholders, including renowned experts of various disciplines from the best public/private hospitals serving the fields of medicine, surgery, pharmacy along with the DRAP regulators. Provincial health secretaries of different provinces, USAID, WHO high-level delegates also participated in this consultative workshop to revise the *NEML*. The technical

committee deliberations led to a consensus to classify medicines according to the WHO defined therapeutic classification and it is also based on the health facility-level category (i.e. primary, secondary, and tertiary). Now, DRAP is pleased to share the final *National Essential Medicines List of Pakistan, 2016*, which will guide the federal government policies on medicine selection, procurement, reimbursement, distribution, and use.

I would like to express my sincere appreciation for the experts / consultants of various medical specialties and pharmacy profession; especially, Dr. Syed Khalid Saeed Bukahri, (WHO), Mr. Sheikh Ansar Ahmed, Dr. Ahmad Mahmood Mumtaz, Mr. Ahmad Din Ansari (Division of Pharmacy Services, DRAP), Mr. Sayyad Hussain Khan and Mr. Waqas Ahmad Zaibi (DRAP), Mr. Inamullah Khan, Dr. Tariq Majid and Mrs. Alia Zafar of USAID | DELIVER PROJECT, Pakistan (John Snow, Inc.) in particular who managed the complicated process of revising the NEML.

The Drug Regulatory Authority of Pakistan is grateful to national and international stakeholders particularly the sustained technical and financial assistance from the U.S. Agency for International Development (USAID) through its DELIVER Project in Pakistan and to WHO's country office in Pakistan, which facilitated the successful revision process and finalized the document for printing and its use. DRAP strongly encourages the health personnels at various levels of health care to use this as reference to promote production, procurement, distribution, and the rational use of medicines in Pakistan.



Dr. Muhammad Aslam
Chief Executive Officer,
Drug Regulatory Authority of Pakistan,
Ministry of National Health Services,
Regulation and Coordination
Islamabad.

EXPLANATORY NOTES

The following symbols, used throughout the *National Essential Medicines List of Pakistan 2016*, are taken from the *WHO Model List of Essential Medicines, 19th List* explanatory notes, April 2015.

The core list is the minimum medicine needs for a basic healthcare system—they are the most efficacious, safe, and cost-effective medicines for priority conditions. Priority conditions are the current and the potential future public health relevance for safe and cost-effective treatment.

The square box symbol (□), primarily indicates similar clinical performance within a pharmacological class. The listed medicine should exemplify the class with the best evidence for effectiveness and safety. In some cases, this may be the first medicine licensed for marketing; in other instances, subsequently licensed compounds may be safer or more effective. If the medicines are not different in terms of efficacy and safety data, the listed medicine should be generally available at the lowest price, based on international drug price information sources. Therapeutic equivalence is indicated only on the basis of reviews of efficacy and safety and when consistent with World Health Organization (WHO) clinical guidelines.

The [a] symbol indicates that there is an age or weight restriction for the medicine; see table I for the details for each medicine.

The [D] symbol means that molecules are listed, in duplicate, against various therapeutic categories.

The [c] symbol, placed next to the complementary list, signifies that the medicine(s) requires specialist diagnostic or monitoring facilities, and/or specialist medical care,

and/or specialist training when used for children.

The **[c]** symbol placed next to an individual medicine, or strength of medicine, signifies that it is specifically restricted when used for children.

Letters 'P', 'S', 'T', means the product is recommended for use at Primary or / and Secondary or / and Tertiary service delivery levels.

It is the responsibility of the drug regulatory authority to ensure that each product has the appropriate pharmaceutical quality (including stability); and that, when relevant, the different products are interchangeable. Medicines and dosage forms are listed in alphabetical order within each section; there is no implication of preference for one form over another. Consult standard treatment guidelines for information on appropriate dosage forms.

EXECUTIVE SUMMARY

Since its inception, the *WHO Model Essential Medicines List* (EML) has evolved and matured into a critically important part of the national health system policies and practices; it has proven to be a useful tool to help countries select essential medicines. The World Health Organization (WHO) recommends that countries select essential drugs; this is one of the core principles of a national drug policy because it helps set priorities for all aspects of the pharmaceutical systems (see figure 1).

WHO defines essential medicines as those “that satisfy the needs of the majority of the population.” (http://www.who.int/medicines/services/essmedicines_def/en/)

Every country defines its own list of essential medicines, in accordance with the health status and requirements of its population. The list is revised periodically to take into account the changing prevalence of new, emerging, or re-emerging diseases, and new therapeutic developments; ensures drug quality; and provides for the continued development of better medicines and medicines to meet changing resistance patterns.

According to WHO, because many people in developing countries do not have access to essential medicines, the EML can be used as an advocacy tool for governments to develop their national lists with the goal of making medicines accessible. This will enable them to spend their resources on medicines that are most needed and offer the best value for the money (see figure 2).

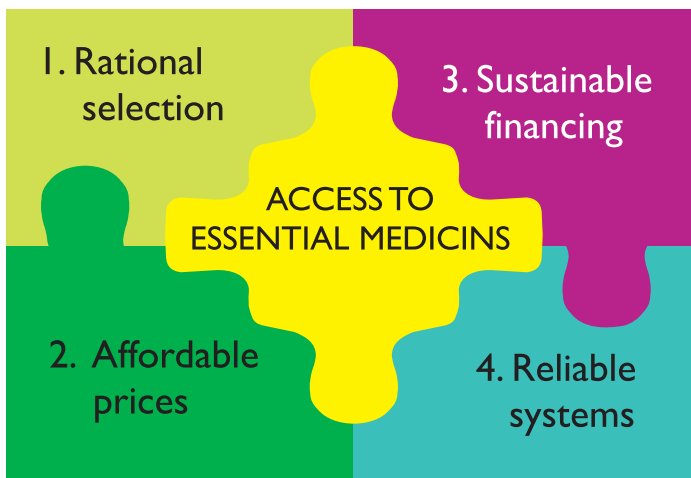
Key Policy Issues

Drug selection, preferably linked to national clinical guidelines, is a crucial step in ensuring access to essential drugs and in promoting rational drug use, because no public sector or health insurance system can afford to supply or reimburse all the drugs available on the market. Key policy issues are the adoption of the essential drugs concept to identify priorities for government involvement in the pharmaceutical sector, especially for drug supply in the public sector, and for reimbursement schemes; procedures to define and update the national list(s) of essential drugs; and selection mechanisms for traditional and herbal medicines.

Figure 1: Drug Selection



Figure 2: WHO Access to Medicines Framework



SALIENT FEATURES NATIONAL ESSENTIAL MEDICINES LIST 2016

This list is especially important for Pakistan—the country's availability of medicines in public sector facilities is reportedly only 39 percent.¹ The former Ministry of Health (MOH) previously published and disseminated this list to healthcare professionals as part of an effort to increase the acceptability of the concept envisioned in the National Drug Policy.

The *National Essential Medicines List* (NEML) of Pakistan was first prepared in 1994, after consultations with experts in the field. The Ministry of Health (defunct) reviewed the list in 1995, 2000, 2003 and 2007. After devolution and the promulgation of the Drug Regulatory Authority of Pakistan (DRAP) ACT 2012, the Division of Pharmacy Services under the DRAP is to develop and periodically review the NEML. National EML 2013 was developed by Division of Pharmacy Services. The development of NEML will be based on Pakistan's disease burden, priority health conditions, and affordability concerns.

Features of the National Essential Medicine List (2016)

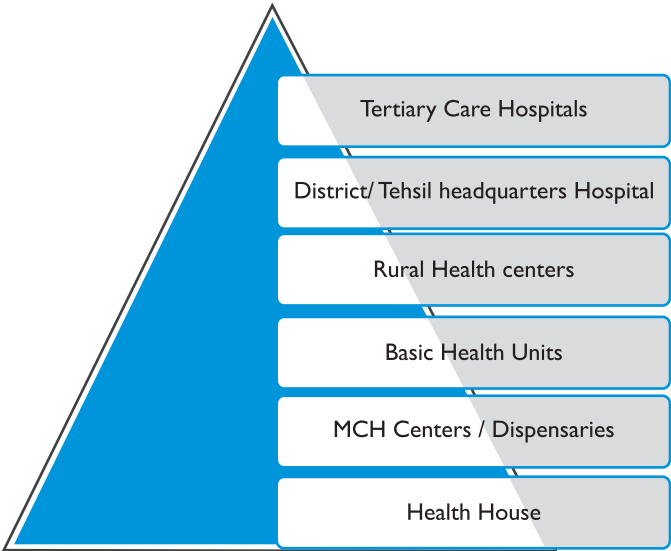
The *National Essential Medicine List, 2016*, lists 415 total molecules. The list was developed from the *NEML 2013* and the *WHO Model List of Essential Medicines, 19th list* 2015, which ensures the criteria for the selection of essential medicines i.e safe, efficacious, affordable and accessible. The 23 medicines added as a supplementary list were based on technical expert groups recommendations and the idea is that it will be desirable to have a wider range of supplementary medicines available to meet widespread or urgent needs—to the extent allowed by the economic situation. This

¹World Health Organization country office; Pakistan. (2014). *Pakistan Pharmaceutical Situation Assessment Level II*. Islamabad

addition to the main list will be discussed further when the national core list will be revised.

Another feature added to *NEML 2016* is that the medicines are categorized based on their level of availability in healthcare: primary (P), secondary (S), and tertiary (T) (MOH, Government of Pakistan 2003). The service levels in the Pakistan health systems are highlighted in figure 3. The NEML may not include the specialty requirements for the national and specialized hospitals. These facilities can prepare a limited list of specialist requirements and attach the list to their formulary list after they are approved by the national regulatory authorities.

Figure 3: Health Systems in Pakistan



PROCEDURE

The NEML is based on the *WHO Model List of Essential Medicines 19th list*, April 2015, and the *NEML 2013*. The approach adopted was according to working principles, notified by DRAP for the review/revision of the NEML. An inclusion and exclusion criterion of the medicine selection and removal in NEML was finalized keeping in view the disease burden (see figure 4).

A multidisciplinary expert committee was selected and notified to coordinate the NEML development and finalization. Experts from relevant backgrounds, including previous experiences—without any conflict of interest—were selected as technical committee members (see annex). Extensive research was carried out to collect data and specific resource material were developed using other available information, including websites: WHO, United Nations Children's Fund (UNICEF), Centers for Disease Control and Prevention (US-CDC), provincial Departments of Health (DOH), Health Sector Reform Unit (HSRU), National programs for tuberculosis, malaria, HIV and AIDS, and EPI, and many other relevant resource organizations. DRAP with the USAID I DELIVER PROJECT (John Snow, Inc.), and WHO Pakistan essential medicines team held preliminary meetings to start the consultative process.

All the material/information collected was reviewed and a resource list was developed to guide the national consultation process, based on the *WHO Model List of Essential Medicines 2015*; WHO treatment guidelines; and feedback and current situation analysis, surveys, and reports (Zaidi 2013).

The draft list was developed in consensus of stakeholders and shared with WHO

and DRAP authority endorsed a final draft, which was then shared in National consultations. During the consultations organized, experts groups were divided in four groups: (1) communicable diseases (CD), (2) noncommunicable diseases (NCDS), (3) maternal, neonatal, and child health (MNCH), and (4) rare diseases groups. Similarly, plenary discussions were conducted to finalize the NEML list. The experts groups recommendations put forth in the consultative workshop were incorporated as supplementary list. The finalized list will be circulated for implementation across the country. It is envisioned that the contents of the NEML and its utility will be reviewed biannually, and the revision and updating process would ensue after two years. The current methodology formulates a systems establishment for revisions, dissemination, and training on the NEML.

Figure 4: WHO Process for Developing the National EML



USING THE ESSENTIAL MEDICINES LISTS

Practical implications for the *NEML 2016* are envisioned to provide safe and cost-effective guidelines that will lead to the national medicine and health insurance/reimbursement policies; more rational prescribing; and, therefore, to a higher quality of care and better value for the money. Moreover, procuring fewer items in larger quantities results in price competition and economies of scale.

The *NEML* uses the international non-proprietary names (INN) classification. INN is the official shortened scientific name or generic name, based on the active pharmaceutical ingredient (API). Using the INN reduces the risk of duplication, confusion, or errors in identifying a product. For example, cotrimoxazole (the official or generic name) is easier to recognize and remember than the many alternatives—Septran, Bactrim, etc.—and avoids mistakes in prescribing, dispensing, and ordering. Generic drugs/medicines are usually much cheaper than proprietary drugs. Pakistan Public Procurement Regulatory Authority (PPRA) Rule 10 of PPR-2004 follows the guidelines to avoid using proprietary or brand names.

Moreover, the *NEML* helps simplify the quantification of drug requirements and the training of those responsible for prescribing and dispensing drugs. Drug information, in general, can be more focused if only a limited number of drugs are available. Health workers will be more familiar with indications, dosages, side effects, and contraindications. Prescribers will have more experience with fewer drugs, and they will recognize drug interactions and adverse reactions more easily. Quality assurance, procurement, storage, distribution, and dispensing are all easier with a reduced number of drugs.

NATIONAL ESSENTIAL MEDICINE LIST 2016

Therapeutic Category	Generic Name	Formulations	Service Level Category
I. Anesthetics			
I.1. General anesthetics and oxygen			
I.1.1 Inhalational medicines	halothane	inhalation	S, T
	isoflurane	inhalation	S, T
	nitrous oxide	inhalation	P, S, T
	oxygen	inhalation (medicinal gas)	P, S, T
I.1.2 Injectable medicines	thiopentone	powder for injection 500 mg; 1.0 gm (sodium salt) in ampoules	P, S, T
	ketamine	injection containing ketamine hydrochloride: 50 mg/ml in 10-ml vial	P, S, T
	propofol	injection: 10 mg/ml; 20 mg/ml	P, S, T
I.2. Local anesthetics			
	☐ bupivacaine	injection: 0.25%; 0.5% (hydrochloride) in vial	S, T
		injection for spinal anesthesia: 0.5% (hydrochloride) in 4-ml ampoule to be mixed with 7.5% glucose solution	S, T
	☐ lidocaine (D)	injection: 1%; 2% (hydrochloride) in vial	P, S, T
		injection for spinal anesthesia: 5% (hydrochloride) in 2-ml ampoule mixed with 7.5% glucose solution	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	lidocaine + epinephrine (adrenaline)	gel lidocaine HCL 2% w/v 15 gm tube	P, S, T
		dental cartridge: 2% (hydrochloride) + epinephrine 1:80 000	P, S, T
	ephedrine	injection: 1%; 2% (hydrochloride or sulfate) + epinephrine 1:200 000 in vial	P, S, T
		injection: 30 mg (hydrochloride)/ml in 1-ml ampoule (for use in spinal anesthesia during delivery, to prevent hypotension)	S, T
1.3.	Preoperative medication and sedation for short-term procedures		
	atropine (D)	injection: 1 mg (sulfate) in 1-ml ampoule	P, S, T
	□ midazolam	injection: 1 mg/ml	P, S, T
		oral liquid: 2 mg/ml [c]	P, S, T
	morphine (D)	tablet: 7.5 mg; 15 mg injection: 10 mg (sulfate or hydrochloride) in 1-ml ampoule	P, S, T S, T
2.	Medicines for Pain and Palliative Care		
2.1.	Non-opioids analgesics, antipyretics, and non-steroidal anti-inflammatory medicine (NSAIM)		
	acetylsalicylic acid (D)	suppository: 50 mg to 150 mg	P, S, T
		tablet: aspirin 75 mg enteric coated tab/blister	P, S, T
	ibuprofen (a) (D)	suspension: ibuprofen 100 mg/5 ml bottle	P, S, T
		tablet: ibuprofen 400 mg blister	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	paracetamol* (D)	(not for children less than 3 months old)	
		syrup: paracetamol 120 mg/5 ml bottle	P, S, T
		suppository: 100 mg	P, S, T
		injection: 150 mg/ml	P, S, T
	diclofenac sodium	tablet: paracetamol 500 mg blister *not recommended for anti-inflammatory use, has no proven benefit	P, S, T
		tablet: 50 mg	S, T
2.2. Opioid analgesics		injection: 75 mg/5 ml	S, T
		codeine (D)	T
		□ morphine (D)*	S, T
		tablet: 30 mg (phosphate)	
		granules (slow release; mix with water): 20 mg–200 mg (morphine sulfate)	
		injection: 10 mg (morphine hydrochloride or morphine sulphate in 1 ml ampoule)	
		oral liquid: 10 mg (morphine hydrochloride or morphine sulfate)/5 ml	
		tablet (slow release): 10 mg–200 mg (morphine hydrochloride or morphine sulfate)	
		tablet (immediate release): 10 mg (morphine sulfate)	
		*Alternatives limited to hydromorphone and oxycodone.	

Therapeutic Category	Generic Name	Formulations	Service Level Category
2.3. Medicines for other common symptoms in palliative care	amitriptyline	tablet: amitriptyline HCl 10 mg, 25 mg	T
	cyclizine [c]	injection: 50 mg/ml tablet: 50 mg	P, S, T P, S, T
	dexamethasone (D)	injection: 4 mg/ml in 1-ml ampoule (as disodium phosphate salt) oral liquid: 2 mg/5 ml tablet: 2 mg [c]; 4 mg	P, S, T P, S, T P, S, T
	diazepam (D)	injection: 5 mg/ml oral liquid: 2 mg/5 ml rectal solution: 2.5 mg, 5 mg, 10 mg tablet: 5 mg, 10 mg	P, S, T P, S, T P, S, T P, S, T
	docusate sodium	capsule: 100 mg oral liquid: 50 mg/5 ml	S, T S, T
	fluoxetine (a) (D)	solid oral dosage form: 20 mg (as hydrochloride); (a) >8 years	P, S, T
	haloperidol (D)	injection: 5 mg in 1-ml ampoule oral liquid: 2 mg/ml solid oral dosage form: 0.5 mg, 2 mg, 5 mg	S, T S, T S, T
	hyoscine butylbromide	injection: 20 mg/ml tablet: 10 mg	P, S, T P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	hyoscine hydrobromide [c]	injection: 400 micrograms/ml; 600 micrograms/ml	P, S, T
		trans-dermal patches: 1 mg/72 hours	P, S, T
	lactulose [c]	oral liquid: 3.1–3.7 grams/5 ml	P, S, T
	loperamide	solid oral dosage form: 2 mg	P, S, T
	metoprolamide	injection: 5 mg (hydrochloride)/ml in 2-ml ampoule	P, S, T
		oral liquid: 5 mg/5 ml	P, S, T
		solid oral form: 10 mg (hydrochloride)	P, S, T
	midazolam (D)	injection: 1 mg/ml, 5 mg/ml	S, T
		solid oral dosage form: 7.5 mg, 15 mg	S, T
		oral liquid: 2 mg/ml [c]	S, T
	ondansetron [c] (a)	injection: 2 mg base/ml in 2-ml ampoule (as hydrochloride)	S, T
		oral liquid: 4 mg base/5 ml. [c]	S, T
		solid oral dosage form: equivalent to 4 mg base; equivalent to 8 mg base; (a) > 1 month	S, T
	bisacodyl	tablet: 5 mg	P, S, T
3. Anti-Allergics and Medicines Used in Anaphylaxis			
	chlorpheniramine	tablets: 4 mg (hydrogen maleate)	P, S, T
		injection: 10 mg/ml (hydrogen maleate in 1-ml ampoule)	P, S, T
	dexamethasone (D)	injection: 4 mg/ml in 1-ml ampoule (as disodium phosphate salt)	P, S, T
	epinephrine	injection: 1 mg (as hydrochloride or hydrogen tartrate)	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	(adrenaline) (D)	in 1-ml ampoule	
	hydrocortisone (D)	powder for injection: 100 mg, 250 mg, 1 gram (as sodium succinate) in vial	P, S, T
	□ loratadine *	oral liquid: 1 mg/ml	P, S, T
		tablet: 10 mg	
		<i>*There may be a role for sedating antihistamines for limited indications (EMLC)</i>	P, S, T
	promethazine	elixir: 25 mg/5 ml, 120 ml bottle	P, S, T
	□ prednisolone (D)	oral liquid: 5 mg/ml [c]	P, S, T
		tablet: 5 mg, 25 mg	P, S, T
4. Antidotes and Other Substances Used in Poisoning			
4.1. Non-specific			
	charcoal, activated	powder	P, S, T
4.2. Specific			
	acetyl/cysteine	injection: 200 mg/ml in 10-ml ampoule	P, S, T
		oral liquid: 10% [c]; 20% [c]	
	atropine	injection: 1 mg (sulfate) in 1-ml ampoule	P, S, T
	calcium gluconate (D)	injection: 100 mg/ml in 10-ml ampoule	P, S, T
	methylthioninium chloride (methylene blue)	injection: 10 mg/ml in 10-ml ampoule	S, T
	naloxone	injection: 400 micrograms (hydrochloride) in 1-ml ampoule	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	penicillamine (D)	solid oral dosage form: 250 mg	S, T
	potassium ferric hexacyano-ferrate (II)-2H ₂ O (prussian blue)	powder for oral administration	S, T
	sodium nitrite	injection: 30 mg/ml in 10-ml ampoule	S, T
	sodium thiosulfate (D)	injection: 250 mg/ml in 50-ml ampoule	S, T
	deferoxamine	powder for injection: 500 mg (mesilate) in vial	S, T
	dimercaprol	injection in oil: 50 mg/ml in 2-ml ampoule	S, T
	fomepizole	injection: 5 mg/ml (sulfate) in 20-ml ampoule or 1 g/ml (base) in 1.5-ml ampoule	S, T
	sodium calcium edetate	injection: 200 mg/ml in 5-ml ampoule	S, T
	succimer	solid oral dosage form: 100 mg	S, T
	5. Anticonvulsants/Antiepileptics		
	carbamazepine (D)	oral liquid: 100 mg/5 ml	P, S, T
		tablet (chewable): 100 mg, 200 mg	P, S, T
		tablet (scored): 100 mg, 200 mg	P, S, T
	diazepam (D)	gel or rectal solution: 5 mg/ml in 0.5-ml, 2-ml, 4-ml tubes	P, S, T
	□ bromazepam	tablet: 3 mg	S, T
	magnesium sulfate*	injection: 0.5g/ml in 2-ml ampoule (equivalent to 1 gram in 2-ml; 50% weight/volume); 0.5g/ml in 10-ml ampoule (equivalent to 5 gram in 10-ml; 50% weight/volume) *For use in eclampsia and severe preeclampsia, but not for	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	midazolam (D)	other convulsant disorders.	
		solution for oromucosal administration: 5 mg/ml; 10 mg/ml	P, S, T
	phenobarbital	ampoule*: 1 mg/ml, 10 mg/ml *For buccal administration when solution for oromucosal administration is not available.	P, S, T
		injection: 200 mg/ml (sodium)	P, S, T
	phenytoin	oral liquid: 15 mg/5 ml	P, S, T
		tablet: 15 mg to 100 mg	P, S, T
		injection: 50 mg/ml in 5-ml vial (sodium salt)	P, S, T
		oral liquid: 25 mg to 30 mg/5 ml.*	P, S, T
		solid oral dosage form: 25 mg, 50 mg, 100 mg (sodium salt)	P, S, T
	valproic acid (sodium valproate) (D)	tablet (chewable): 50 mg *having both 25 mg/5 ml and 30 mg/5 ml strengths in the same market would be confusing in prescribing and dispensing and should be avoided	P, S, T
		oral liquid: 200 mg/5 ml	P, S, T
	ethosuximide	tablet (enteric coated): 200 mg, 500 mg as sodium valproate	P, S, T
		injection: 100 mg/ml in 4-ml ampoule; 100 mg/ml in 10-ml ampoule	T
		capsule: 250 mg oral liquid: 250 mg/5 ml	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
6. Anti-Infective Medicines			
6.1. Anthelmintics			
6.1.1 Intestinal anthelmintics	albendazole (D)	tablet (chewable): 400 mg	P, S, T
		oral liquid: 100 mg/5ml	P, S, T
	levamisole (D)	tablet: 50 mg, 150 mg (as hydrochloride)	P, S, T
	mebendazole	tablet (chewable): 100 mg, 500 mg	P, S, T
	niclosamide	tablet (chewable): 500 mg	P, S, T
6.1.2 Antifilarials	pyrantel	oral liquid: 50 mg (as embonate or pamoate)/ml	P, S, T
		tablet (chewable): 250 mg (as embonate or pamoate)	P, S, T
	diethylcarbamazine	tablet: 50 mg, 100 mg (dihydrogen citrate)	P, S, T
6.1.3 Antischistosomes and other antitrepatode medicines	praziquantel (D)	tablet: 150 mg, 600 mg	S, T
6.2. Antibacterials			
6.2.1 Beta-lactam medicines	amoxicillin	powder for oral liquid: 125 mg (as trihydrate)/5 ml; 250 mg (as trihydrate)/5 ml [c]	P, S, T
		injection 250 mg, 500 mg	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	amoxicillin + clavulanic acid	solid oral dosage form: 250 mg, 500 mg (as trihydrate)	P, S, T
		oral liquid: 125 mg amoxicillin + 31.25 mg clavulanic acid/5 ml and 250 mg amoxicillin + 62.5 mg clavulanic acid/5 ml [c]	S, T
		tablet: 500 mg (as trihydrate) + 125 mg (as potassium salt)	S, T
	ampicillin	powder for injection: 500 mg, 1 gram (as sodium salt) in vial	P, S, T
		capsules: 250 mg, 500 mg	P, S, T
		syrups: 125 mg, 250 mg/ml	P, S, T
	benzathine benzylpenicillin	powder for injection: 900 mg benzylpenicillin (= 1.2 million IU) in 5-ml vial [c]; 1.44 g benzylpenicillin (= 2.4 million IU) in 5-ml vial	P, S, T
	benzylpenicillin	powder for injection: 600 mg (= 1 million IU); 3 grams (= 5 million IU) (sodium or potassium salt) in vial	P, S, T
	cephradine	capsules: 250 mg, 500 mg	P, S, T
		injection: 250 mg, 500 mg and 1 gram	P, S, T
		syrup: 125 mg/5 ml, 250 mg/5ml	P, S, T
	cefalexin [c]	powder for reconstitution with water: 125 mg/5 ml, 250 mg/5 ml (anhydrous)	P, S, T
		solid oral dosage form: 250 mg (as monohydrate)	P, S, T
	□ cefazolin (a)*	powder for injection: 1 g (as sodium salt) in vial	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	cefixime*	*for surgical prophylaxis: (a) > 1 month. capsule: 400 mg (as trihydrate) *listed only for single-dose treatment of uncomplicated anogenital gonorrhea	S, T
		suspension: 100 mg/5 ml, 200 mg/5 ml.	S, T
		powder for injection: 250 mg; 500 mg; 1 gram (as sodium salt) in vial *do not administer with calcium and avoid in infants with hyperbilirubinaemia. (a) >41 weeks corrected gestational age	S, T
	ceftriaxone (a)*	injection: cefuroxime 250 mg vial	S, T
		capsule: 500 mg; 1 gram (as sodium salt)	P, S, T
		powder for injection: 500 mg (as sodium salt) in vial powder for oral liquid: 125 mg (as sodium salt)/5 ml	P, S, T
	phenoxymethylpenicillin	powder for oral liquid: 250 mg (as potassium salt)/5 ml	P, S, T
		tablet: 250 mg (as potassium salt)	P, S, T
		powder for injection: 1 gram (=1 million IU); 3 grams (=3 million IU) in vial *procaine benzylpenicillin is not recommended as first-line treatment for neonatal sepsis, except in settings with high neonatal mortality, and when given by trained health workers if hospital care is not possible	P, S, T
	cefotaxime [c]*	powder for injection: 250 mg/1 gram per vial (as	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		sodium salt) *third generation cephalosporin of choice for hospitalized neonates	
	cefazidime	powder for injection: 250 mg/500 mg/1 gram (as pentahydrate) in vial	S, T
	meropenem	injection: 500 mg in vial	T
	imipenem* + cilastatin*	powder for injection: 250 mg (as monohydrate) + 250 mg (as sodium salt); 500 mg (as monohydrate) + 500 mg (as sodium salt) in vial *listed only for the treatment of life-threatening hospital-based infection from suspected or proven multi-drug resistant infection.	T
	azithromycin*	capsule: 250 mg; 500 mg (anhydrous) oral liquid: 200 mg/5 ml *only listed for single-dose treatment of genital chlamydia trachomatis and trachoma	P, S, T
6.2.2 Other antibacterials	□ ciprofloxacin* [c] (D)	oral liquid: 250 mg/5 ml (anhydrous) [c]	S, T
		solution for IV infusion: 2 mg/ml (as hyclate) [c]	S, T
		tablet: coated, 250 mg/500 mg (as hydrochloride) *square box is for adults only	S, T
	clarithromycin*	oral liquid: 125 mg/5ml	S, T
		solid oral dosage form: 500 mg *for use in combination regimens to eradicate H. pylori in adults	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	doxycycline (a) (D)	oral liquid: 25 mg/5 ml [c]; 50 mg/5 ml (anhydrous) [c]	P, S, T
		solid oral dosage form: 50 mg [c]; 100 mg (as hyclate) (a) use in children <8 years only for life-threatening infections when there is no alternative	P, S, T
	□ gentamicin (D) □ metronidazole (D)	injection: 10 mg, 40 mg (as sulfate)/ml in 2-ml vial	P, S, T
		injection: 500 mg in 100-ml vial	P, S, T
	nitrofurantoin	oral liquid: 200 mg (as benzoate)/5 ml	P, S, T
		tablet: 400 mg	P, S, T
		oral liquid: 25 mg/5 ml [c]	P, S, T
		tablet: 100 mg	
	sulfamethoxazole + trimethoprim (D)	injection: 80 mg + 16 mg/ml in 5-ml ampoule, 80 mg + 16 mg/ml in 10-ml ampoule	P, S, T
		oral liquid: 200 mg + 40 mg/5ml	P, S, T
		tablet: 100 mg + 20 mg, 400 mg + 80 mg, 800 mg + 160 mg	P, S, T
		oral liquid: 50 mg/5 ml tablet: 100 mg; 200 mg: (a) >6 months [c]	P, S, T
	clindamycin	oral liquid: 200 mg + 40 mg/5ml	P, S, T
		capsule: 150 mg/300 mg (as hydrochloride)	S, T
		injection: 150 mg (as phosphate)/ml	S, T
		oral liquid: 75 mg/5 ml (as palmitate) [c]	S, T
	vancomycin	powder for injection: 250 mg/500 mg (as	T

Therapeutic Category	Generic Name	Formulations	Service Level Category	
6.2.3 Antileprosy medicines		hydrochloride) in vial	Only use combination medicines to treat leprosy. Combination therapy is essential to prevent the emergence of drug resistance. Use the color-coded blister packs (MDT blister packs) containing the standard two-medicine (paucibacillary leprosy) or three-medicine (multibacillary leprosy) combinations for adult and childhood leprosy.	
	clofazimine	capsule: 50 mg, 100 mg		As per NTP guidelines (National TB Control Program, Jan. 2015).
	dapsone	tablet: 25 mg, 50 mg, 100 mg		
	rifampicin (D)	solid oral dosage form: 150 mg; 300 mg		
	6.2.4 Antituberculosis medicines	WHO recommends and endorses the use of fixed-dose combinations and the development of appropriate new fixed-dose combinations, including modified dosage forms, non-refrigerated products, and pediatric dosage forms of assured pharmaceutical quality.		
ethambutol		oral liquid: 25 mg/ml [c]	As per NTP guidelines.	
		tablet: 100 mg to 400 mg (hydrochloride)		
		tablet: 400 mg + 150 mg		
		tablet: 275 mg + 75 mg + 400 mg + 150 mg		
ethambutol + isoniazid + rifampicin		tablet: 275 mg + 75 mg + 150 mg		
isoniazid		oral liquid: 50 mg/5 ml [c]		
		tablet: 100 mg to 300 mg		
		tablet (scored): 50 mg		
isoniazid + pyrazinamide + rifampicin		tablet: 75 mg + 400 mg + 150 mg, 150 mg + 500 mg + 150 mg (for intermittent use three times weekly)	As per NTP guidelines.	
isoniazid + rifampicin	tablet: 75 mg + 150 mg; 150 mg + 300 mg 60 mg + 60 mg (for intermittent use three times a week)			

Therapeutic Category	Generic Name	Formulations	Service Level Category
		150 mg + 150 mg (for intermittent use three times a week)	
	pyrazinamide	oral liquid: 30 mg/ml [c]	
		tablet: 400 mg	
		tablet (dispersible): 150 mg	
		tablet (scored): 150 mg	
	rifabutin	capsule: 150 mg.* *only use in patients who are receiving protease inhibitors.	
	rifampicin (D)	oral liquid: 20 mg/ml [c]	
		solid oral dosage form: 150 mg, 300 mg	
	rifapentine*	tablet: 150 mg *for treatment of latent TB infection (LTBI) only	S, T
	streptomycin	powder for injection: 1 gram (as sulfate) in vial	
	amikacin	powder for injection: 100 mg, 500 mg, 1 gram (as sulfate) in vial	
	bedaquiline	tablet: 100 mg	
	capreomycin	powder for injection: 1 gram (as sulfate) in vial	As per NTP guidelines.
	cycloserine*	solid oral dosage form: 250 mg *can use terizidone as an alternative	
	delamanid	tablet: 50 mg	
	ethionamide*	tablet: 125 mg, 250 mg *can use protonamide as an alternative	

Therapeutic Category	Generic Name	Formulations	Service Level Category
	kanamycin	powder for injection: 1 gram (as sulfate) in vial	S, T
	levofloxacin*	tablet: 250 mg/500 mg/750 mg *can use ofloxacin and moxifloxacin as alternatives, depending on availability and program considerations	
	linezolid	injection for intravenous administration: 2 mg/ml in 300 ml bag	As per NTP guidelines.
	p-aminosalicylic acid	powder for oral liquid: 100 mg/5 ml	
		tablet: 400 mg, 600 mg	
		granules: 4 grams in sachet	
		tablet: 500 mg	
6.3. Antifungal medicines			
	amphotericin B (D)	powder for injection: 50 mg in vial (as sodium deoxycholate or liposomal complex)	S, T
	clotrimazole	vaginal cream: 1%, 10%	P, S, T
	□ fluconazole*	vaginal tablet: 100 mg, 500 mg with applicator	P, S, T
		capsule: 50 mg, 150 mg, 200 mg	P, S, T
		injection: 2 mg/ml in vial	S, T
	flucytosine	oral liquid: 50 mg/5 ml	P, S, T
		capsule: 250 mg	P, S, T
	griseofulvin	infusion: 2.5 grams in 250 ml	P, S, T
		oral liquid: 125 mg/5 ml [c]	P, S, T
		solid oral dosage form: 125 mg, 250 mg	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
6.4. Anti-herpes medicines	nystatin	lozenge: 100 000 IU	P, S, T
		oral liquid: 50 mg/5 ml [c]; 100 000 IU/ml [c]	P, S, T
		pessary: 100 000 IU	P, S, T
		tablet: 100 000 IU; 500 000 IU	P, S, T
	potassium iodide (D)	saturated solution	S, T
6.4. Antiviral medicines			
Based on current evidence and experience, medicines in the following three classes of antiretrovirals are included as essential medicines for treatment and prevention of HIV (prevention of mother-to-child transmission and post-exposure prophylaxis). WHO emphasizes the importance of following the global and national guidelines for these products. WHO recommends and endorses the use of fixed-dose combinations (FDCs) and the development of appropriate new FDCs, including modified dosage forms, non-refrigerated products, and pediatric dosage forms of assured pharmaceutical quality. Scored tablets can be used for children; they can be included in the list of tablets, if adequate quality products are available.			
6.4.2.1 Nucleoside/nucleotide reverse transcriptase inhibitors	□ aciclovir [c] (D)	oral liquid: 200 mg/5 ml	P, S, T
		powder for injection: 250 vial (as sodium salt) in vial	P, S, T
		tablet: 200 mg	P, S, T
	abacavir (ABC)	oral liquid: 100 mg as sulfate/5 ml	S, T
	lamivudine (3TC)	oral liquid: 50 mg/5 ml	S, T
	stavudine (d4T)	tablet: 150 mg	S, T
		capsules: 15 mg, 20 mg, 30 mg	S, T
		powder for oral liquid 5 mg/5 ml	S, T
	tenofovir disoproxil fumarate (TDF)	tablets: 300 mg (tenofovir disoproxil fumarate—equivalent to 245 mg tenofovir disoproxil)	S, T
	zidovudine (ZDV or AZT).	capsule: 100 mg	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
6.4.2.2 Non-nucleoside reverse transcriptase inhibitors	efavirenz (EFV or EFZ) (a)	oral liquid: 50 mg/5 ml	S, T
		solution for iv infusion: 10 mg /ml in 20 ml vial	
		tablet: 300 mg	S, T
	nevirapine (NVP)	tablet: 200 mg (scored), 600 mg (a) >3 years or >10 kg weight	S, T
		oral liquid: 50 mg/5 ml	S, T
6.4.2.3 Protease inhibitors	atazanavir (a)	tablet: 50 mg (dispersible), 200 mg	S, T
		solid oral dosage form: 100 mg, 150 mg, 300 mg (as sulfate), (a)>25 kg	S, T
	darunavir (a)	tablet: 75 mg, 400 mg, 600 mg, 800 mg (a) >3 years	S, T
		oral liquid: 400 mg + 100 mg/5 ml	S, T
	lopinavir + ritonavir (LPV/r)	tablet (heat stable): 100 mg + 25 mg, 200 mg + 50 mg	S, T
Fixed-dose combinations	ritonavir*	oral liquid: 400 mg/5 ml * ritonavir is recommended for use in combination as a pharmacological booster, not as an antiretroviral. All other protease inhibitors should be used in boosted forms (e.g., with ritonavir).	S, T
		tablet (heat stable): 25 mg, 100 mg	S, T
	saquinavir (SQV) (a)	solid oral dosage form: 200 mg, 500 mg (as mesilate); (a) >25 kg	S, T
	abacavir + lamivudine	tablet (dispersible, scored): 60 mg (as sulfate) + 30 mg	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
6.4.3 Other antivirals	efavirenz + emtricitabine* + tenofovir	tablet: 600 mg + 200 mg + 300 mg (disoproxil fumarate equivalent to 245 mg tenofovir disoproxil) *Emtricitabine (FTC) is an acceptable alternative to 3TC, based on knowledge of the pharmacology, the resistance patterns, and clinical trials of antiretrovirals.	S, T
	emtricitabine* + tenofovir	tablet: 200 mg + 300 mg (disoproxil fumarate equivalent to 245 mg tenofovir disoproxil)	S, T
	lamivudine + nevirapine + stavudine	tablet: 150 mg + 200 mg + 30 mg	S, T
		tablet (dispersible): 30 mg + 50 mg + 6 mg [c]	S, T
	lamivudine + nevirapine + zidovudine	tablet: 30 mg + 50 mg + 60 mg [c]. 150 mg + 200 mg + 300 mg	S, T
	oseltamivir*	tablet: 30 mg + 60 mg [c]. 150 mg + 300 mg	S, T
		capsule: 30 mg. 45 mg. 75 mg (as phosphate)	S, T
		oral powder: 12 mg/ml	S, T
		* Potentially severe or complicated illness from confirmed or suspected influenza virus infection, in accordance with WHO treatment guidelines.	
	ribavirin*	injection for intravenous administration: 800 mg and 1 gram in 10-ml phosphate buffer solution	S, T
		solid oral dosage form: 200 mg. 400 mg. 600 mg *For treatment of viral hemorrhagic fevers.	
	valganciclovir*	tablet: 450 mg *For the treatment of cytomegalovirus retinitis (CMVr).	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
6.4.4 Antihepatitis medicines			
6.4.4.1 Medicines for hepatitis B			
6.4.4.1.1 Nucleoside/nucleotide reverse transcriptase inhibitors	entecavir	oral liquid: 0.05 mg/ml tablet: 0.5 mg, 1 mg	S, T
	tenofovir disoproxil fumarate (TDF)	tablet: 300 mg (tenofovir disoproxil fumarate—equivalent to 245 mg tenofovir disoproxil)	S, T
			S, T
6.4.4.2 Medicines for hepatitis C			
<i>Based on current evidence, medicines in the following classes of direct acting antiviral medicines are included as essential medicines for treatment of hepatitis C virus infections. WHO guidelines recommend specific combination therapy using medicines from different classes.</i>			
6.4.4.2.1 Nucleotide polymerase inhibitors	sofosbuvir	tablet: 400 mg.	S, T
6.4.4.2.2 Protease inhibitors	simeprevir	capsule: 150 mg.	S, T
6.4.4.2.3 NS5A inhibitors	daclatasvir	tablet: 30 mg; 60 mg (as hydrochloride)	S, T
6.4.4.2.4 Non-nucleoside polymerase inhibitors	dasabuvir	tablet: 250 mg	S, T
6.4.4.2.5 Other antivirals	ribavirin*	injection for intravenous administration: 800 mg and 1 gram in 10-ml phosphate buffer solution solid oral dosage form: 200 mg, 400 mg, 600 mg *To treat hepatitis C, in combination with peginterferon and/or direct acting antiviral medicines.	S, T
			S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	pegylated interferon alfa (2a or 2b)*	vial or prefilled syringe: 180 micrograms (peginterferon alfa-2a), 80 micrograms, 100 micrograms (peginterferon alfa-2b) *Use in combination with ribavirin.	T
	ledipasvir + sofosbuvir	tablet: 90 mg + 400 mg	T
	ombitasvir + paritaprevir + ritonavir	tablet: 12.5 mg + 75 mg + 50 mg	T
6.5. Antiprotozoal medicines			
6.5.1 Antiamoebic and anti giardiasis medicines	diloxanide (a)	tablet: 500 mg (furoate); (a) >25 kg	P, S, T
	□ metronidazole (D)	injection: 500 mg in 100-ml vial	P, S, T
		oral liquid: 200 mg (as benzoate)/5 ml	P, S, T
		tablet: 400 mg	P, S, T
6.5.2 Anti-leishmaniasis medicines	amphotericin B (D)	powder for injection: 50 mg in vial (as sodium deoxycholate or liposomal complex)	S, T
	miltefosine	solid oral dosage form: 10 mg, 50 mg	P, S, T
	paromomycin*	solution for intramuscular injection: 750 mg of paromomycin base (as the sulfate)	P, S, T
	meglumine antimoniate	injection 30%, equivalent to approximately 8.1% antimony (pentavalent) in 5-ml ampoule	S, T
6.5.3 Antimalarial medicines	sodium stibogluconate	injection: 100 mg/ml, 1 vial = 30 ml	S, T
	Use medicines in combination to treat <i>P. falciparum</i> malaria cases. The list currently recommends combinations based on treatment guidelines. WHO recognizes that not all the FDCs are listed in the WHO treatment guidelines. They encourage the development and rigorous testing for new FDCs. WHO also encourages the development and testing of rectal dosage formulations.		

Therapeutic Category	Generic Name	Formulations	Service Level Category
	amodiaquine*	tablet: 153 mg or 200 mg (as hydrochloride) *Use in combination with artesunate 50 mg.	As per Malaria control Program guidelines.
	artemether*	oily injection: 80 mg/ml in 1-ml ampoule *Use to manage severe malaria.	
	artemether + lumefantrine*	tablet: 20 mg + 120 mg tablet (dispersible): 20 mg + 120 mg [c] *Not recommended in the first trimester of pregnancy or in children below 5 kg.	
	artesunate*	Injection: ampoules, containing 60 mg anhydrous artesunic acid with a separate ampoule of 5% sodium bicarbonate solution. Use to manage severe malaria.	
		Rectal dosage form: 50 mg [c], 200 mg capsules (for pre-referral treatment of severe malaria only; take patients to an appropriate health facility for follow-up care) [c].	
		tablet: 50 mg *Use in combination with either amodiaquine, mefloquine, or sulfadoxine + pyrimethamine.	
	artesunate + amodiaquine*	tablet: 25 mg + 67.5 mg, 50 mg + 135 mg, 100 mg + 270 mg *Can use other combinations that deliver the target doses required—such as 153 mg or 200 mg (as hydrochloride) with 50 mg artesunate—as alternatives.	
	artesunate + mefloquine	tablet: 25 mg + 55 mg, 100 mg + 220 mg	
	chloroquine (D)*	oral liquid: 50 mg (as phosphate or sulfate)/5 ml	

Therapeutic Category	Generic Name	Formulations	Service Level Category
		tablet: 100 mg, 150 mg (as phosphate or sulfate) *For use only for the treatment of <i>P. Vivax</i> infection.	
	doxycycline (D)*	capsule: 100 mg (as hydrochloride or hyclate) tablet (dispersible): 100 mg (as monohydrate) *Use only in combination with quinine.	
	mefloquine (D)*	tablet: 250 mg (as hydrochloride) *To be used in combination with artesunate 50 mg.	
	primaquine*	tablet: 7.5 mg, 15 mg (as diphosphate). *Use only to achieve radical cure of <i>P. Vivax</i> and <i>P. Ovale</i> infections; give for 14 days.	
	quinine*	injection: 300 mg quinine hydrochloride/ml in 2 ml ampoule tablet: 300 mg (quinine sulfate) or 300 mg (quinine bisulfate) *Use only to manage severe malaria; use in combination with doxycycline.	
	artesunate + sulphadoxine and pyrimethamine*	co-blister of (6 + 2) tablets, 2 large tablets; each large tablet contains sulfadoxine 500 mg U.S.P. + pyrimethamine 25 mg U.S.P and 6 small tablets. Each small tablet contains artesunate 50 mg U.S.P. co-blister of (6 + 3) tablets, 3 large tablets, each contains sulfadoxine 500 mg U.S.P. + pyrimethamine 25 mg U.S.P.; 6 small tablets; each tablet contains artesunate 100 mg U.S.P.	
	chloroquine (D)*	oral liquid: 50 mg (as phosphate or sulfate)/5 ml	
6.5.3.2 For			P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
prophylaxis		tablet: 150 mg (as phosphate or sulfate) *For use only in central American regions, for <i>P. Vivax</i> infections.	P, S, T
	doxycycline (a)	solid oral dosage form: 100 mg (as hydrochloride or hyclate) (a) >8 years.	P, S, T
	mefloquine (a) (D)	tablet: 250 mg (as hydrochloride) (a) >5 kg or >3 months	As per malaria control program guidelines.
	proguanil*	tablet: 100 mg (as hydrochloride) *Use only in combination with chloroquine.	
6.5.4 Antipneumocystosis and antitoxoplasmosis medicines	pyrimethamine	tablet: 25 mg.	P, S, T
	sulfadiazine	tablet: 500 mg.	
	sulfamethoxazole + trimethoprim	injection: 80 mg + 16 mg/ml in 5-ml ampoule; 80 mg + 16 mg/ml in 10-ml ampoule	P, S, T
		oral liquid: 200 mg + 40 mg/5 ml [c]	P, S, T
		tablet: 100 mg + 20 mg, 400 mg + 80 mg [c]	P, S, T
7. Antimigraine Medicines	pentamidine (D)	tablet: 200 mg, 300 mg (as isethionate)	S, T
7.1. For treatment of acute attack			
	acetylsalicylic acid	tablet: 300 mg to 500 mg	P, S, T
	ibuprofen [c] (D)	tablet: 200 mg, 400 mg	P, S, T
	paracetamol	oral liquid: 125 mg/5 ml [c]	P, S, T
		tablet: 300 mg to 500 mg	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
7.2.	For prophylaxis		
	☐ propranolol	tablet: 20 mg, 40 mg (hydrochloride)	P, S, T
8.	Anti-Neoplastic and Immunosuppressives		
Use the medicines listed below only according to the protocols for treating the diseases.			
8.1.	Immunosuppressive medicines		
	azathioprine (D)	powder for injection: 100 mg (as sodium salt) in vial	T
		tablet (scored): 50 mg	T
	ciclosporin	capsule: 25 mg.	T
		concentrate for injection: 50 mg/ml in 1-ml ampoule for organ transplantation	T
8.2.	Cytotoxic and adjuvant medicines		
	all-trans retinoid acid (ATRA)	capsule: 10 mg <i>acute promyelocytic leukemia.</i>	T
	allopurinol [c] (D)	tablet: 100 mg, 300 mg	S, T
	asparaginase	powder for injection: 10 000 IU in vial - <i>acute lymphoblastic leukemia.</i>	T
	bendamustine	injection: 45 mg/0.5 ml, 180 mg/2 ml - <i>chronic lymphocytic leukemia</i> - <i>follicular lymphoma.</i>	T
	bleomycin	powder for injection: 15 mg (as sulfate) in vial - <i>Hodgkin lymphoma</i> - <i>Kaposi sarcoma</i>	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		-Ovarian germ cell tumor ☐ -Testicular germ cell tumor.	
	calcium folinate	injection: 3 mg/ml in 10-ml ampoule tablet: 15 mg -early stage colon cancer -early stage rectal cancer -early stage breast cancer -gestational trophoblastic neoplasia -metastatic colorectal cancer -osteosarcoma -Burkitt lymphoma	T
	capecitabine	tablet: 150 mg, 500 mg -early stage colon cancer -early stage rectal cancer -metastatic breast cancer -metastatic colorectal cancer	T
	carboplatin	injection: 50 mg/5 ml, 150 mg/15 ml, 450 mg/45 ml, 600 mg/60 ml -early stage breast cancer -epithelial ovarian cancer - nasopharyngeal cancer, non-small cell lung cancer - osteosarcoma - retinoblastoma.	T
	chlorambucil	tablet: 2 mg -chronic lymphocytic leukemia.	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	cisplatin	injection: 50 mg/50 ml, 100 mg/100 ml -cervical cancer (as a radiosensitizer) -head and neck cancer (as a radiosensitizer) -nasopharyngeal cancer (as a radio-sensitizer) -non-small cell lung cancer -osteosarcoma -ovarian germ cell tumor -testicular germ cell tumor	T
	cyclophosphamide	powder for injection: 500 mg in vial tablet: 25 mg - chronic lymphocytic leukemia - diffuse large b-cell lymphoma - early stage breast cancer - gestational trophoblastic neoplasia - hodgkin lymphoma - follicular lymphoma - rhabdomyosarcoma - ewing sarcoma -acute lymphoblastic leukemia - burkittlymphoma -metastatic breast cancer.	T
	cytarabine	powder for injection: 100 mg in vial -acute myelogenous leukemia - acute lymphoblastic leukemia - acute promyelocytic leukemia	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		- burkitt lymphoma.	
	dacarbazine	powder for injection: 100 mg in vial -hodgkin lymphoma.	T
	dactinomycin	powder for injection: 500 micrograms in vial -gestational trophoblastic neoplasia - rhabdomyosarcoma - wilms tumor.	T
	daunorubicin	powder for injection: 50 mg (hydrochloride) in vial - acute lymphoblastic leukemia -acute myelogenous leukemia - acute promyelocytic leukemia.	T
	docetaxel	injection: 20 mg/ml, 40 mg/ml -early stage breast cancer -metastatic breast cancer -metastatic prostate cancer.	T
	doxorubicin	powder for injection: 10 mg, 50 mg (hydrochloride) in vial -diffuse large b-cell lymphoma -early stage breast cancer -hodgkin lymphoma -kaposi sarcoma, -follicular lymphoma -metastatic breast cancer -osteosarcoma	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		-ewing sarcoma -acute lymphoblastic leukemia -wilms tumor -burkitt lymphoma	
	etoposide	capsule: 100 mg. injection: 20 mg/ml in 5-ml ampoule: -testicular germ cell tumor -gestational trophoblastic neoplasia -hodgkin lymphoma -non-small cell lung cancer -ovarian germ cell tumor -retinoblastoma -ewing sarcoma -acute lymphoblastic leukemia -burkitt lymphoma.	T
	fludarabine	powder for injection: 50 mg (phosphate) in vial tablet: 10 mg -chronic lymphocytic leukemia.	T
	fluorouracil (D)	injection: 50 mg/ml in 5-ml ampoule -early stage breast cancer -early stage colon cancer -early stage rectal cancer -metastatic colorectal cancer nasopharyngeal cancer.	T
	filgrastim	injection: 120 micrograms/0.2 ml; 300 micrograms/0.5 ml; 480 micrograms/0.8 ml in pre-filled syringe; 300	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		micrograms/ml in 1-ml vial; 480 mg/1.6 ml in 1.6-ml vial. - as primary prophylaxis in patients at high risk for developing febrile neutropenia associated with myelotoxic chemotherapy. - as secondary prophylaxis for patients who experienced neutropenia following prior myelotoxic chemotherapy. - to facilitate administration of dose-dense chemotherapy regimens.	
	gemcitabine	powder for injection: 200 mg in vial, 1 g in vial -epithelial ovarian cancer -non-small cell lung cancer.	T
	hydroxycarbamide	solid oral dosage form: 200 mg, 250 mg, 300 mg, 400 mg, 500 mg, 1 gram -chronic myeloid leukemia	T
	ifosfamide	powder for injection: 500 mg vial, 1-gram vial, 2-gram vial -ovarian and testicular germ cell tumor -osteosarcoma -rhabdomyosarcoma -ewing sarcoma.	T
	imatinib	tablet: 100 mg, 400 mg -chronic myeloid leukemia -gastrointestinal stromal tumor.	T
	irinotecan	injection: 40 mg/2 ml in 2-ml vial; 100 mg/5 ml in 5-ml vial; 500 mg/25 ml in a 25-ml vial	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	mercaptopurine	-metastatic colorectal cancer. tablet: 50 mg - acute lymphoblastic leukemia -acute promyelocytic leukemia.	T
	mesna	injection: 100 mg/ml in 4-ml and 10-ml ampoules tablet: 400 mg, 600 mg -testicular germ cell tumor -ovarian germ cell tumor -osteosarcoma -rhabdomyosarcoma -ewing sarcoma.	T
	methotrexate (D)	powder for injection: 50 mg (as sodium salt) in vial tablet: 2.5 mg (as sodium salt) - early stage breast cancer -gestational trophoblastic neoplasia -osteosarcoma -acute lymphoblastic leukemia - acute promyelocytic leukemia.	T
	oxaliplatin	injection: 50 mg/10 ml in 10-ml vial, 100 mg/20 ml in 20-ml vial, 200 mg/40 ml in 40-ml vial -early stage colon cancer -metastatic colorectal cancer.	T
	paclitaxel	powder for injection: 6 mg/ml - epithelial ovarian cancer	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		-early stage breast cancer - metastatic breast cancer - kaposi sarcoma -nasopharyngeal cancer -non-small cell lung cancer -ovarian germ cell tumor.	
	procarbazine	capsule: 50 mg (as hydrochloride)	T
	rituximab	injection: 100 mg/10 ml in 10-ml vial; 500 mg/50 ml in 50-ml vial - diffuse large b-cell lymphoma - chronic lymphocytic leukemia -follicular lymphoma.	T
	thioguanine [c]	solid oral dosage form: 40 mg -acute lymphoblastic leukemia.	T
	trastuzumab	powder for injection: 60 mg; 40 mg in vial -early stage HER2 positive breast cancer -metastatic HER2 positive breast cancer.	T
	vinblastine	powder for injection: 10 mg (sulfate) in vial -hodgkin lymphoma -kaposi sarcoma -testicular germ cell tumor. -ovarian germ cell tumor.	T
	vincristine	powder for injection: 1 mg, 5 mg (sulfate) in vial -diffuse large b-cell lymphoma	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		-gestational trophoblastic neoplasia -hodgkin lymphoma -kaposi sarcoma -follicular lymphoma -retinoblastoma -rhabdomyosarcoma, -ewing sarcoma -acute lymphoblastic leukemia -wilms tumor -burkitt lymphoma.	
	vinorelbine	injection: 10 mg/ml in 1-ml vial; 50 mg/5 ml in 5-ml vial - non-small cell lung cancer. - metastatic breast cancer	T
8.3. Hormones and antihormones			
	☐ anastrozole	tablet: 1 mg - early stage breast cancer - metastatic breast cancer	T
	☐ bicalutamide	tablet: 50 mg - metastatic prostate cancer	T
	dexamethasone (D)	injection: 4 mg/ml in 1-ml ampoule (as disodium phosphate salt) oral liquid: 2 mg/5 ml [c] -acute lymphoblastic leukemia	P, S, T
	☐ leuprorelin	Dose form:	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		- early stage breast cancer - metastatic prostate cancer	
	hydrocortisone (D)	powder for injection: 100 mg (as sodium succinate) in vial - acute lymphoblastic leukemia	P, S, T
	methylprednisolone [c]	Injection: 40 mg/mL (as sodium succinate) in 1-mL single-dose vial and 5-mL multi-dose vials; 80 mg/mL (as sodium succinate) in 1-mL single-dose vial. - acute lymphoblastic leukemia.	S, T
	□ prednisolone (D)	oral liquid: 5 mg/mL [c] tablet: 5 mg, 25 mg - chronic lymphocytic leukemia - diffuse large b-cell lymphoma - hodgkin lymphoma - follicular lymphoma - acute lymphoblastic leukemia - burkitt lymphoma.	S, T
	tamoxifen	tablet: 10 mg, 20 mg (as citrate) - early stage breast cancer - metastatic breast cancer.	T
9. Anti Parkinsonism Medicines			
	□ biperiden	injection: 5 mg (lactate) in 1-mL ampoule	S, T
		tablet: 2 mg (hydrochloride)	S, T
	levodopa + carbidopa	tablet: 100 mg + 10 mg; 100 mg + 25 mg; 250 mg + 25 mg	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
10.	Medicines Affecting the Blood		
10.1.	Antianaemia medicines		
	ferrous salt	oral liquid: equivalent to 25 mg iron (as sulfate)/ml	P, S, T
		tablet: equivalent to 60 mg iron	P, S, T
	ferrous salt + folic acid	tablet: equivalent to 60 mg iron + 400 micrograms folic acid (nutritional supplement for use during pregnancy)	P, S, T
	folic acid	tablet: 400 micrograms*, 1 mg, 5 mg. *use for periconceptual to prevent the first occurrence of neural tube defects.	P, S, T
	hydroxocobalamin	injection: 1 mg (as acetate, as hydrochloride or as sulfate) in 1-ml ampoule	P, S, T
10.2.	Medicines affecting coagulation		
	☐ enoxaparin*	injection: ampoule or pre-filled syringe 20 mg/0.2 ml; 40 mg/0.4 ml; 60 mg/0.6 ml; 80 mg/0.8 ml; 100 mg/1 ml; 120 mg/0.8 ml; 150 mg/1 ml *alternatives are limited to nadroparin and dalteparin.	T
	clopidogrel	tablet: 75 mg	S, T
	heparin sodium (D)	injection: 1000 IU/ml; 5000 IU/ml; 20 000 IU/ml in 1-ml ampoule	S, T
	phytomenadione	injection: 1 mg/ml ampoule; [c] 10 mg/ml in 5-ml tablet: 10 mg	P, S, T
			P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	protamine sulfate (D)	injection: 10 mg/ml in 5-ml ampoule	S, T
	tranexamic acid	injection: 100 mg/ml in 10-ml ampoule capsules: 250 mg, 500 mg	P, S, T
	□ warfarin (D)	tablet: 1 mg, 2 mg, 5 mg (sodium salt)	P, S, T
	desmopressin	injection: 4 micrograms/ml (as acetate) in 1-ml ampoule nasal spray: 10 micrograms (as acetate) per dose	S, T
10.3.	Other medicines for haemoglobinopathies		
	deferoxamine*	powder for injection: 500 mg (mesilate) in vial *deferasirox oral form may be an alternative, depending on cost and availability.	S, T
	hydroxycarbamide	solid oral dosage form: 200 mg, 500 mg, 1 gram	S, T
11.	Blood Products of Human Origin and Plasma Substitutes		
11.1.	Blood and blood components		
In accordance with the World Health Assembly resolution (WHA63.12), WHO recognizes that achieving self-sufficiency—unless special circumstances prevent it—in the supply of safe blood components, based on voluntary, non-remunerated blood donation; and the security of that supply, are important national goals to prevent blood shortages and to meet the transfusion requirements for the patient population. All preparations should comply with the WHO requirements.			
	fresh-frozen plasma		T
	platelets		T
	red blood cells		S, T
	whole blood		T

Therapeutic Category	Generic Name	Formulations	Service Level Category
11.2.	Plasma-derived medicines		
All human plasma-derived medicines should comply with WHO requirements			
11.2.1 Human immunoglobulins	anti-D immunoglobulin	injection: 250 micrograms in a single-dose vial	S, T
	anti-rabies immunoglobulin	injection: 150 IU/ml in vial	S, T
	anti-tetanus immunoglobulin	injection: 500 IU in vial	S, T
	normal immunoglobulin	intramuscular administration: 16% protein solution * indicated for primary immune deficiency. intravenous administration: 5%, 10% protein solution *indicated for primary immune deficiency and kawasaki disease subcutaneous administration: 15% 16% protein solution * indicated for primary immune deficiency.	T
11.2.2 Blood coagulation factors	☐ coagulation factor VIII	powder for injection: 500 IU/vial	S, T
	☐ coagulation factor IX	powder for injection: 500 IU/vial, 1000 IU/vial	S, T
11.3.	Plasma substitutes		
	☐ dextran 70*	injectable solution: 6% *polygeline, injectable solution; 3.5% is considered as equivalent.	P, S, T
12.	Cardiovascular Medicines		
12.1.	Antianginal medicines		
	☐ atenolol (D)	tablet: 50 mg and 100 mg.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
12.2. Antiarrhythmic medicines	glyceryl trinitrate	tablet (sublingual): 500 micrograms.	P, S, T
	☐ isosorbide dinitrate	tablet (sublingual): 5 mg.	P, S, T
	verapamil (D)	tablet: 40 mg, 80 mg (hydrochloride).	S, T
12.3. Antihypertensive medicines	☐ bisoprolol (D)	tablet: 1.25 mg, 5 mg. * includes metoprolol and carvedilol as alternatives.	P, S, T
	digoxin (D)	injection: 250 micrograms/ml in 2-ml ampoule.	S, T
		oral liquid: 50 micrograms/ml.	S, T
		tablet: 62.5 micrograms, 250 micrograms.	S, T
	epinephrine (adrenaline) (D)	injection: 100 micrograms/ml (as acid tartrate or hydrochloride) in 10-ml ampoule.	P, S, T
	lidocaine	injection: 20 mg (hydrochloride)/ml in 5-ml ampoule.	P, S, T
		injection: 2.5 mg (hydrochloride)/ml in 2-ml ampoule.	S, T
	verapamil (D)	tablet: 40 mg, 80 mg (hydrochloride).	S, T
	amiodarone	injection: 50 mg/ml in 3-ml ampoule (hydrochloride).	S, T
		tablet: 100 mg, 200 mg, 400 mg (hydrochloride).	S, T
12.3. Antihypertensive medicines			
	☐ amlodipine	tablet: 5 mg (as maleate, mesylate, or besylate).	P, S, T
	☐ bisoprolol (D)*	tablet: 1.25 mg, 5 mg. *includes atenolol, metoprolol, and carvedilol as alternatives. do not use atenolol as a first line agent in uncomplicated hypertension in patients >60 years.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	propranolol	tablets: 10 mg, 40 mg, 80 mg.	P, S, T
	☐ enalapril (D)	tablet: 2.5 mg, 5 mg (as hydrogen maleate).	P, S, T
	hydralazine*	powder for injection: 20 mg (hydrochloride) in ampoule.	P, S, T
		tablet: 25 mg, 50 mg (hydrochloride). *Use hydralazine only for acute management of severe pregnancy-induced hypertension. Using it to treat essential hypertension is not recommended because other medicines have shown evidence of greater efficacy and safety.	S, T
	☐ hydrochlorothiazide (D)	oral liquid: 50 mg/5 ml.	P, S, T
		solid oral dosage form: 12.5 mg, 25 mg.	P, S, T
		injection: 20 mg.	P, S, T
	methyldopa*	tablet: 250 mg.	P, S, T
		injection: 250 mg. *Use methyldopa only to manage pregnancy-induced hypertension. Using it to treat essential hypertension is not recommended because other medicines have shown greater efficacy and safety.	P, S, T
	sodium nitropruside	powder for infusion: 50 mg in ampoule.	T
12.4.	Medicines used in heart failure		
	☐ bisoprolol* (D)	tablet: 1.25 mg, 5 mg. *includes metoprolol and carvedilol as alternatives.	P, S, T
	digoxin (D)	injection: 250 micrograms/ml in 2-ml ampoule.	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		oral liquid: 50 micrograms/ml.	S, T
		tablet: 62.5 micrograms, 250 micrograms.	S, T
	☐ enalapril (D)	tablet: 2.5 mg, 5 mg (as hydrogen maleate).	P, S, T
		injection: 10 mg/ml in 2-ml ampoule.	S, T
	☐ furosemide (D)	oral liquid: 20 mg/5 ml [c].	P, S, T
		tablet: 40 mg.	P, S, T
	☐ hydrochlorothiazide (D)	oral liquid: 50 mg/5 ml.	P, S, T
		solid oral dosage form: 25 mg.	P, S, T
	spironolactone	tablet: 25 mg.	P, S, T
	dopamine	injection: 40 mg/ml(hydrochloride) in 5-ml vial	S, T
12.5. Antithrombotic medicines	dobutamine	250 mg injection.	S, T
	12.5.1 Anti-platelet medicines	tablet: 100 mg.	P, S, T
	acetylsalicylic acid		
	clopidogrel	tablet: 75 mg, 300 mg.	T
	12.5.2 Thrombolytic medicines	streptokinase	S, T
		powder for injection: 1.5 million IU in vial.	
	12.6. Lipid-lowering agents		
	☐ simvastatin*	tablet: 5 mg, 10 mg, 20 mg, 40 mg. *use in high-risk patients.	

Therapeutic Category	Generic Name	Formulations	Service Level Category
13. Dermatological Medicines (topical)			
13.1. Antifungal medicines			
	□ miconazole	cream or ointment: 2% (nitrate).	P, S, T
	selenium sulfide	detergent-based suspension: 2%.	P, S, T
	sodium thiosulfate	solution: 15%.	P, S, T
	terbinafine	cream: 1% or ointment: 1% terbinafine hydrochloride.	P, S, T
13.2. Anti-infective medicines			
	mupirocin	cream (as mupirocin calcium): 2%.	P, S, T
		ointment: 2%.	P, S, T
	neomycin sulphate + bacitracin zinc	250 IU/gram.	P, S, T
	potassium permanganate	aqueous solution: 1:10 000.	P, S, T
	silver sulfadiazine (a)	cream: 1% (a) >2 months.	P S T , ,
13.3. Anti-inflammatory and antipruritic medicines			
	□ betamethasone (a)	cream or ointment: 0.1% (as valerate). a hydrocortisone is preferred for neonates.	P, S, T
	□ calamine	lotion.	P, S, T
	□ hydrocortisone	cream or ointment: 1% (acetate).	P, S, T
13.4. Medicines affecting skin differentiation and proliferation			
	benzoyl peroxide	cream or lotion: 5%.	P, S, T
	coal tar	solution: 5%.	P, S, T
	fluorouracil (D)	ointment: 5%.	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	☐ podophyllum resin	solution: 10% to 25%.	S, T
	salicylic acid	solution: 5%.	P, S, T
	urea	cream or ointment: 5%, 10%.	P, S, T
13.5. Scabicides and pediculicides			
	☐ benzyl benzoate (a)	lotion: 25% (a) >2 years.	P, S, T
	permethrin	cream: 5%.	P, S, T
		lotion: 1%.	P, S, T
14. Diagnostic Agents			
14.1. Ophthalmic medicines			
	fluorescein	eye drops: 1% (sodium salt).	S, T
	☐ tropicamide	eye drops: 0.5%.	S, T
14.2. Radio-contrast media			
	☐ amidotrizoate	injection: 140 mg to 420 mg iodine (as sodium or meglumine salt)/ml in 20-ml ampoule.	S, T
	barium sulfate	aqueous suspension.	S, T
	☐ iohexol	injection: 140 mg to 350 mg iodine/ml in 5-ml; 10ml, 20-ml ampoules.	S, T
	barium sulfate [c] ☐ meglumine iotroxate	aqueous suspension. solution: 5 grams to 8 grams iodine in 100 ml to 250 ml.	S, T S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
15.	Disinfectants and Antiseptics		
15.1.	Antiseptics		
	☐ chlorhexidine	solution: 5% digluconate.	P, S, T
	☐ ethanol	solution: 70% (denatured).	P, S, T
	☐ povidone iodine	solution: 10% (equivalent to 1% available iodine).	P, S, T
15.2.	Disinfectants		
	alcohol-based hand rub	solution containing ethanol 80% volume /volume. solution containing isopropyl alcohol 75% volume/volume.	P, S, T
	☐ chlorine base compound	powder: (0.1% available chlorine) for solution.	P, S, T
	☐ chloroxylenol	solution: 4.8%.	P, S, T
	glutaral	solution: 2%.	P, S, T
16.	Diuretics		
	amiloride	tablet: 5 mg (hydrochloride).	S, T
	☐ furosemide (D)	injection: 10 mg/ml in 2-ml ampoule. oral liquid: 20 mg/5 ml [c].	P, S, T
		tablet: 10 mg [c], 20 mg [c], 40 mg.	P, S, T
	☒ hydrochlorothiazide (D)	solid oral dosage form: 25 mg. injection: 20 mg.	P, S, T
	<i>mannitol</i> (D)	injectable solution: 10%, 20%.	P, S, T
	spironolactone	oral liquid: 5 mg/5 ml, 10 mg/5 ml, 25 mg/5 ml.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		tablet: 25 mg.	P, S, T
17. Gastrointestinal Medicines			
	☐ pancreatic enzymes	Age-appropriate formulations and doses including lipase, protease, and amylase.	T
17.1. Antiulcer medicines			
	☐ omeprazole	powder for injection: 40 mg in vial.	P, S, T
		powder for oral liquid: 20 mg, 40 mg sachets	P, S, T
		solid oral dosage form: 10 mg, 20 mg, 40 mg.	P, S, T
	☐ ranitidine	injection: 25 mg/ml (as hydrochloride) in 2-ml ampoule.	P, S, T
		oral liquid: 75 mg/5 ml (as hydrochloride).	P, S, T
		tablet: 150 mg (as hydrochloride).	P, S, T
17.2. Antiemetic medicines			
	dexamethasone (D)	injection: 4 mg/ml in 1-ml ampoule (as disodium phosphate salt).	P, S, T
		oral liquid: 0.5 mg/5 ml, 2 mg/5 ml.	P, S, T
		solid oral dosage form: 0.5 mg, 0.75 mg, 1.5 mg, 4 mg.	P, S, T
	metoclopramide (a)	injection: 5 mg (hydrochloride)/ml in 2-ml ampoule.	P, S, T
		oral liquid: 5 mg/5 ml [c].	P, S, T
		tablet: 10 mg (hydrochloride).	P, S, T
		(a) Do not use in neonates.	
	ondansetron (a)	injection: 2 mg base/ml in 2-ml ampoule (as hydrochloride).	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		oral liquid: 4 mg base/5 ml.	S, T
		solid oral dosage form: equivalent to 4 mg base, equivalent to 8 mg base, equivalent to 24 mg base. (a) > 1 month.	S, T
17.3. Anti-inflammatory medicines			
	☐ sulfasalazine (D)	retention enema.	
		suppository: 500 mg.	
		tablet: 500 mg.	
	☐ hydrocortisone	retention enema.	
		suppository: 25 mg (acetate). (the ☐ only applies to hydrocortisone retention enema.)	
17.4. Laxatives			
	☐ senna	tablet: 7.5 mg (sennosides) (or traditional dosage forms).	P, S, T
17.5. Medicines used in diarrhea			
	oral rehydration salts (D)	dry mixture (low osmolality formula) in sachet for 1 liter of solution; each sachet contains glucose anhydrous 13.5gm B.P., trisodium citrate dihydrate 2.9 gm B.P., potassium chloride 1.5gm B.P., sodium chloride 2.6gm B.P.	P, S, T
	zinc sulfate*	solid oral dosage form: 20 mg. *For acute diarrhea, use zinc sulfate as an adjunct to oral rehydration salts.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
18. Hormones, other Endocrine Medicines and Contraceptives			
18.1.	Adrenal hormones and synthetic substitutes		
	fludrocortisone	tablet: 100 micrograms (acetate).	T
	hydrocortisone (D)	tablet: 5 mg, 10 mg, 20 mg.	S, T
18.2.	Androgens		
	testosterone	injection: 200 mg (enanthate) in 1-ml ampoule.	S, T
18.3. Contraceptives			
18.3.1 Oral hormonal	☐ ethinylestradiol + ☐ levonorgestrel	tablet: 30 micrograms + 150 micrograms.	P, S, T
	☐ ethinylestradiol + ☐ norethisterone	tablet: 35 micrograms + 1 mg.	P, S, T
	levonorgestrel (D)	tablet: 30 micrograms, 750 micrograms (pack of 2), 1.5 mg.	P, S, T
18.3.2 Injectable hormonal contraceptives	estradiol cypionate + medroxyprogesterone acetate	injection: 5 mg + 25 mg.	S, T
	medroxyprogesterone acetate (D)	depot injection: 150 mg/ml in 1-ml vial.	S, T
	norethisterone enantate	oily solution: 200 mg/ml in 1-ml ampoule.	S, T
	copper-containing device		P, S, T
18.3.3 Intrauterine devices	levonorgestrel-releasing intrauterine system	intrauterine system with reservoir with 52 mg of levonorgestrel.	T
18.3.4 Barrier methods	condoms		P, S, T
	diaphragm		P, S, T
18.3.5 Implantable contraceptives	etonogestrel-releasing implant	single-rod etonogestrel-releasing implant with 68 mg of etonogestrel.	S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
18.3.6 Intravaginal contraceptive	levonorgestrel-releasing implant (D)	two-rod levonorgestrel-releasing implant; each rod contains 75 mg of levonorgestrel (150 mg total).	S, T
	progesterone vaginal ring*	progesterone-releasing vaginal ring with 2.074 grams of micronized progesterone. *use for women actively breastfeeding at least 4 times per day.	S, T
18.4. Estrogen			
18.5. Insulin and other medicines used for diabetes			
	☐ glizalide*	solid oral dosage form: (controlled release tablets) 30 mg, 60 mg, 80 mg. *glibenclamide not suitable above 60 years.	S, T
	glucagon	injection: 1 mg/ml.	T
	insulin injection (soluble)	injection: 40 iu/ml in 10-ml vial, 100 iu/ml in 10-ml vial.	P, S, T
	intermediate-acting insulin	injection: 40 iu/ml in 10-ml vial, 100 iu/ml in 10-ml vial (as compound insulin zinc suspension or isophane insulin).	P, S, T
	metformin	tablet: 500 mg (hydrochloride).	P, S, T
18.6. Ovulation inducer			
	clomifene	tablet: 50 mg (citrate).	S, T
18.7. Progestogen			
	☐ medroxyprogesterone	tablet: 5 mg acetate.	P, S, T
18.8. Thyroid hormone and antithyroid medicine			
	levothyroxine	tablet: 25 micrograms [c], 50 micrograms, 100 micrograms (sodium salt)	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	potassium iodide	tablet: 60 mg.	P, S, T
	□ propylthiouracil	tablet: 50 mg.	S, T
	lugol's solution	oral liquid: about 130 mg total iodine/ml.	P, S, T
	carbimazole	tablet: 5 mg/10 mg.	P, S, T
19. Immunologicals			
19.1. Diagnostic agents			
	tuberculin, purified protein derivative (PPD)	injection All tuberculin should comply with the WHO requirements for tuberculin.	P, S, T
19.2. Sera and immunoglobulins			
All plasma fractions should comply with the WHO requirements.	anti-D immunoglobulin (human)	injection: 250 microgram in single-dose vial.	P, S, T
	anti-venom immunoglobulin*	injection: *exact type to be defined locally.	P, S, T
	anti-hepatitis B immunoglobulin	injection	P, S, T
	anti-rabies immunoglobulin (human)	injection: 150 IU/ml in vial.	P, S, T
	anti-tetanus immunoglobulin (human)	injection: 500 IU in vial.	P, S, T
	diphtheria antitoxin	injection: 10 000 IU, 20 000 IU in vial.	S, T
19.3. Vaccines			
All vaccines under the Expanded Program on Immunization (EPI) of Pakistan will be included in the NEML. All vaccines must comply with the WHO requirements for biological substances and should be administered under WHO guidelines. WHO stated that vaccines used in children should be polyvalent. The new vaccines, which the National Technical Advisory Group on Immunization (NTAGI) approved, and planned to be given under the EPI, will be included in the NEML as and when listed in the EPI. In the future, the vaccines under consideration, if and when they are included in the EPI, will also be included in the NEML, from the date of inclusion.			

Therapeutic Category	Generic Name	Formulations	Service Level Category
	BCG vaccine		Recommendations for all
	diphtheria vaccine		
	Haemophilus influenzae type b vaccine		
	hepatitis B vaccine		
	HPV vaccine		
	measles vaccine		
	pertussis vaccine		
	pneumococcal vaccine		
	poliomyelitis vaccine		
	rotavirus vaccine		
	rubella vaccine		
	tetanus vaccine		
	yellow fever vaccine		
	cholera vaccine		
	hepatitis A vaccine		
	meningococcal meningitis vaccine		Recommendations for some high-risk populations
	rabies vaccine		
	typhoid vaccine		
	influenza vaccine (seasonal)		
	mumps vaccine		Recommendations for immunization

Therapeutic Category	Generic Name	Formulations	Service Level Category
	varicella vaccine		programs with certain characteristics
20. Muscle Relaxants			
	☐ atracurium	injection: 10 mg/ml (besylate).	S, T
	neostigmine	injection: 500 micrograms in 1-ml ampoule, 2.5 mg (metilsulfate) in 1-ml ampoule.	S, T
		tablet: 15 mg (bromide).	S, T
	suxamethonium	injection: 50 mg (chloride)/ml in 2-ml ampoule.	S, T
		powder for injection (chloride) in vial.	S, T
	☐ vecuronium [c]	powder for injection: 10 mg (bromide) in vial.	P, S, T
	pyridostigmine	injection: 1 mg in 1-ml ampoule, tablet: 60 mg (bromide).	S, T
	pancuronium	injection: contains pancuronium bromide 2mg/ml, 2 ml.	S, T
21. Ophthalmological Preparations			
21.1. Anti-infective agents			
	acidovir (D)	ointment: 3% w/w.	S, T
	moxifloxacin	eye drops 0.5% w/v.	P, S, T
	sodium cromoglycate	eye drop 4% w/v.	S, T
	☐ gentamicin (D)	solution (eye drops): 0.3% (sulfate).	P, S, T
	☐ ofloxacin	solution (eye drops): 0.3%.	P, S, T
	☐ tetracycline	eye ointment: 1% (hydrochloride).	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
21.2.	Anti-inflammatory agents		
	☐ prednisolone	solution (eye drops): 0.5% (sodium phosphate).	P, S, T
21.3.	Local anesthetics		
	☐ tetracaine (a)	solution (eye drops): 0.5% (hydrochloride). (a) not in preterm neonates.	P, S, T
21.4.	Miotics and antiglaucoma medicines		
	acetazolamide	tablet: 250 mg.	S, T
	latanoprost	solution (eye drops): latanoprost 50 micrograms/ml.	S, T
	☐ pilocarpine	solution (eye drops): 2%, 4% (hydrochloride or nitrate).	S, T
	☐ timolol	solution (eye drops): 0.25%, 0.5% (as hydrogen maleate).	P, S, T
21.5.	Mydriatics		
	atropine (a)*	solution (eye drops): 0.1%, 0.5%, 1% (sulfate). *[c] or homatropine (hydrabromide), or cyclopentolate (hydrochloride). (a) > 3 months	P, S, T
	epinephrine (adrenaline) (D)	Solution (eye drops): 2% (as hydrochloride).	P, S, T
21.6.	Anti-vascular endothelial growth factor (VEGF) preparations		
	bevacizumab	injection: 25 mg/ml.	T
22.	Oxytocics and Anti-Oxytocics		
22.1.	Oxytocics		
	☐ ergometrine	injection: 200 micrograms (hydrogen maleate) in 1ml ampoule.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	misoprostol	tablet: 200 micrograms. - to manage incomplete abortion and miscarriage. - to prevent and treat postpartum hemorrhage if oxytocin is not available or cannot be safely used. vaginal tablet: 25 micrograms.* *only use to induce labor if appropriate facilities are available.	S, T
	oxytocin	injection: 10 IU in 1-ml.	S, T
	mifepristone* misoprostol* Where permitted under national law and where culturally acceptable.	tablet: 200 micrograms. * requires close medical supervision.	S, T
22.2.	Antioxytocics (tocolytics)		
	nifedipine	capsule: immediate release, 10 mg. tablet: slow release, 20 mg.	S, T T
23.	Peritoneal Dialysis Solution		
	intraperitoneal dialysis solution (of appropriate composition).	parenteral solution.	S, T
24.	Medicines for Mental and Behavioral Disorder		
24.1.	Medicines used in psychotic disorders		
	☐ chlorpromazine (D)	injection: 25 mg (hydrochloride)/ml in 2-ml ampoule.	P, S, T
		oral liquid: 25 mg (hydrochloride)/5 ml.	P, S, T
		tablet: 10 mg, 25 mg, 50 mg, 100 mg (hydrochloride).	P, S, T
		injection: 25 mg (decanoate or enantate) in 1-ml	
	☐ fluphenazine		

Therapeutic Category	Generic Name	Formulations	Service Level Category
	□ haloperidol (D)	ampoule.	
		injection: 5 mg in 1-ml ampoule.	S, T
		oral liquid: 2 mg/ml.	
		tablet: 0.5 mg, 2 mg, 5 mg.	
	risperidone	solid oral dosage form: 0.25 mg to 6.0 mg.	S, T
	clozapine	solid oral dosage form: 25 to 200 mg.	S, T
24.2. Medicines used in mood disorders			
24.2.1 Medicines used in depressive disorders	□ amitriptyline	tablet: amitriptyline hcl 10 mg, 25 mg.	P, S, T
	fluoxetine (D) (a)	solid oral dosage form: 20 mg (as hydrochloride). (a) >8 years	P, S, T
24.2.2 Medicines used in bipolar disorders	carbamazepine (D)	tablet (scored): 100 mg, 200 mg.	P, S, T
	lithium carbonate	syrup: 100 mg/5 ml.	P, S, T
		solid oral dosage form: 300 mg.	T
	valproic acid (sodium valproate) (D)	tablet (enteric-coated): 200 mg, 500 mg (sodium valproate).	S, T
24.3. Medicines for anxiety disorders			
	□ diazepam	tablet (scored): 2 mg, 5 mg.	P, S, T
24.4. Medicines used for obsessive compulsive disorders			
	clomipramine	capsule: 10 mg, 25 mg (hydrochloride).	P, S, T
24.5. Medicines for disorders due to psychoactive substance use			
	nicotine replacement therapy (NRT)	chewing gum: 2 mg, 4 mg (as polacrilex).	T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		transdermal patch: 5 mg to 30 mg/16 hours, 7 mg to 21 mg/24 hours.	
	☐ methadone*	concentrate for oral liquid: 5 mg/ml, 10 mg/ml (hydrochloride). oral liquid: 5 mg/5 ml, 10 mg/5 ml (hydrochloride). <i>*the square box is added to include buprenorphine. use the medicines only within an established support program.</i>	T
25. Medicines Acting on the Respiratory Tract			
25. I. Anti-asthmatic and medicines for chronic obstructive pulmonary disease			
	☐ beclomethasone	inhalation (aerosol): 50 micrograms (dipropionate) per dose, 100 micrograms (dipropionate) per dose (as cfc free forms).	S, T
		respirator solution for use in nebulizers: 800 micrograms /2 ml.	S, T
	☐ budesonide [c] (D)	inhalation (aerosol): 100 micrograms per dose, 200 micrograms per dose.	S, T
	epinephrine (adrenaline) (D)	injection: 1 mg (as hydrochloride or hydrogen tartrate) in 1-ml ampoule.	P, S, T
	ipratropium bromide	inhalation (aerosol): 20 micrograms/metered dose.	P, S, T
	☐ salbutamol	inhalation (aerosol): 100 micrograms (as sulfate) per dose.	P, S, T
		injection: 50 micrograms (as sulfate)/ml in 5-ml ampoule.	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		metered dose inhaler (aerosol): 100 micrograms (as sulfate) per dose.	P, S, T
		respirator solution for use in nebulizers: 5 mg (as sulfate)/ml.	P, S, T
		tablets: 100 mg.	P, S, T
	montelukast	sachet: 4 mg/sachet.	P, S, T
		tablet: 4 mg, 5 mg, 10 mg.	P, S, T
	aminophylline	injection: 25 mg/ml.	P, S, T
		tablets: 100 mg, 200 mg.	P, S, T
		syrup: 32 mg/5 ml	P, S, T
		tablet: slow release, 125 mg, 270 mg, 350 mg.	T
		syrup: 120 mg/5 ml.	
26.	Solution Correcting, Water, Electrolyte, and Acid Base Balance		
26.1.	Oral		
	oral rehydration salts	powder for solution.	P, S, T
26.2.	Parenteral		
	glucose	injectable solution: 5% (isotonic), 10% (hypertonic), 50% (hypertonic).	P, S, T
	glucose with sodium chloride	Injectable solution: 4% glucose, 0.18% sodium chloride (equivalent to Na+ 30 mmol/L, Cl- 30 mmol/L). Injectable solution: 5% glucose, 0.9% sodium chloride (equivalent to Na+ 150 mmol/L and Cl- 150 mmol/L), 5% glucose, 0.45% sodium chloride (equivalent to Na+ 5% glucose, 0.45% sodium chloride (equivalent to Na+	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
		75 mmol/L and Cl ⁻ 75 mmol/L) [c].	
	potassium chloride (D)	solution: 11.2% in 20-ml ampoule (equivalent to K ⁺ 1.5 mmol/ml, Cl ⁻ 1.5 mmol/ml). solution for dilution: 7.5% (equivalent to K ⁺ 1 mmol/ml and Cl ⁻ mmol/ml) [c]. 15% (equivalent to K ⁺ 2 mmol/ml and Cl ⁻ 2 mmol/ml) [c]	P, S, T
	sodium chloride	injectable solution: 0.9% isotonic (equivalent to Na ⁺ 154 mmol/l, Cl ⁻ 154 mmol/l).	P, S, T
	sodium hydrogen carbonate	injectable solution: 1.4% isotonic (equivalent to Na ⁺ 167 mmol/l, HCO ₃ ⁻ 167 mmol/l). solution: 8.4% in 10-ml ampoule (equivalent to Na ⁺ 1000 mmol/l, HCO ₃ ⁻ 1000 mmol/l).	P, S, T
	sodium lactate, compound solution (□)	injectable solution	P, S, T
26.3.	mannitol	injectable solution: 20% W/V (500 ml).	P, S, T
	Miscellaneous		
	water for injection	2-ml, 5-ml, 10-ml ampoules.	
27. Vitamins and Minerals			
	ascorbic acid	tablet: 50 mg.	P, S, T
	calcium	tablet: 500 mg (elemental).	P, S, T
	Cholecalciferol* [c]	oral liquid: 400 IU/ml. solid oral dosage form: 400 IU, 1000 IU. *use ergocalciferol as an alternative.	P, S, T
	□ ergocalciferol	oral liquid: 250 micrograms/ml (10 000 IU/ml).	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	iodine	solid oral dosage form: 1.25 mg (50 000IU). capsule: 200 mg. iodized oil: 1 ml (480 mg iodine), 0.5 ml (240 mg iodine) in ampoule (oral or injectable), 0.57 ml (308 mg iodine) in dispenser bottle.	P, S, T
	☐ nicotinamide	tablet: 50 mg.	P, S, T
	pyridoxine	tablet: 25 mg (hydrochloride).	P, S, T
	retinol	capsule: 50 000 IU, 100 000 IU, 200 000 IU (as palmitate).	P, S, T
		oral oily solution: 100 000 IU (as palmitate)/ml in multidose dispenser.	P, S, T
		tablet (sugar-coated): 10 000 IU (as palmitate).	P, S, T
		water-miscible injection: 100 000 IU (as palmitate) in 2-ml ampoule.	P, S, T
	riboflavin	tablet: 5 mg.	P, S, T
	sodium fluoride	in any appropriate topical formulation.	P, S, T
	thiamine	tablet: 50 mg (hydrochloride).	P, S, T
28. Ear, Nose, and Throat Medicines [c]	calcium gluconate (D)	injection: 100 mg/ml in 10-ml ampoule.	P, S, T
	acetic acid	topical: 2% in alcohol.	P, S, T
	☐ budesonide (D)	nasal spray: 100 micrograms per dose.	P, S, T
	☐ ciprofloxacin (D)	topical: 0.3% drops (as hydrochloride).	P, S, T
	maggot oil (turpentine oil)		S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
	☐ xylometazoline (a)	nasal spray: 0.05%. (a) Do not use in children less than 3 months old.	S, T
	☐ gentamicin	gentamicin 0.3%+hydrocortisone acetate 1%.	P, S, T
29. Specific Medicines for Neonatal Care			
29.1. Medicines administered to the neonate [c]			
	caffeine citrate	injection: 20 mg/ml (equivalent to 10 mg caffeine base/ml).	S, T
		oral liquid: 20 mg/ml (equivalent to 10 mg caffeine base/ml).	S, T
	chlorhexidine	solution or gel: 7.1% (digluconate) delivering 4% chlorhexidine (for umbilical cord care) [c].	P, S, T
	☐ ibuprofen (D)	solution for injection: 5 mg/ml.	P, S, T
	☐ prostaglandin E	solution for injection: prostaglandin E1: 0.5 mg/ml in alcohol.	S, T
		prostaglandin E 2: 1 mg/ml.	S, T
29.2. Medicines administered to the mother	surfactant	suspension for intratracheal instillation: 25 mg/ml or 80 mg/ml.	S, T
29.2. Medicines administered to the mother			
	dexamethasone (D)	injection: 4 mg/ml dexamethasone phosphate (as disodium salt).	P, S, T

Therapeutic Category	Generic Name	Formulations	Service Level Category
30. Medicines for Diseases of the Joint			
30.1. Medicines used to treat gout			
	allopurinol	tablet: 50 mg.	S, T
30.2. Disease-modifying agents used in rheumatoid disorders (DMARDs)			
	azathioprine (D)	tablet: 50 mg.	S, T
	hydroxychloroquine [C]	solid oral dosage form: 200 mg (as sulfate).	S, T
	methotrexate (D)	tablet: 2.5 mg (as sodium salt).	S, T
	penicillamine (D)	solid oral dosage form: 250 mg.	S, T
	sulfasalazine (D)	tablet: 500 mg.	S, T
30.3. Juvenile joint diseases			
	acetylsalicylic acid* (acute or chronic use)	suppository: 50 mg to 150 mg. tablet: 100 mg to 500 mg. *use for rheumatic fever, juvenile arthritis, kawasaki disease.	S, T S, T

I. SUPPLEMENTARY LIST NEML 2016

(based on expert group recommendations)

Therapeutic Category	Name	Formulation	Service Level
1. Anesthetics	sevoflurane	liquid for inhalation.	T
	glycopyrrolate	injection: 0.2 mg/ml.	S, T
	pregabalin	capsules: 75 mg, 150 mg, 300 mg.	S, T
	tramadol	capsules: 50 mg.	S, T
3. Anti-allergics and medicines used in anaphylaxis	pheniramine	injection: 50 mg/ml.	S, T
		injection: pheniramine (maleate): 22.7 mg/ml in 2 ml ampoule equivalent to 25 mg pheniramine salicylate.	P, S, T
		tablet: 25 mg, 50 mg.	P, S, T
		elixir/syrup: 15 mg/5 ml.	P, S, T
6. Anti-infective medicines	aztreonam	injection: contains aztreonam 500 mg, 1 g vial.	T
	moxifloxacin	tablet: 200 mg/400 mg.	S, T
	dihydroartemisinin + piperquine	film-coated tablet: contains piperquin tetraphosphate (as tetrahydrate + dihydroartemisinin; 320 + 40 mg and 160 mg + 20 mg.	As per Malaria Control Program guidelines.
7. Anti-migraine medicines	cinnarizine	tablets: contains cinnarizine 25 mg.	S, T
	sumatriptan	injection: 6 mg.	S, T
		tablets: 50 mg.	S, T

Therapeutic Category	Name	Formulation	Service Level
9. Anti-Parkinsonism medicines	selegine	tablets: contains selegine 5 mg (as HCl).	S, T
	tirofiban	injection: 0.25 mg/ml.	T
10. Medicines affecting the blood	iron sucrose	injection: 20 mg/ml.	S, T
	dextran 40	injection: 10%.	S, T
11. Blood products of human origin and plasma substitutes	adenosine	injection: 3 mg/ml.	S, T
	labetalol	intravenous injection: 5 mg/ml.	P, S, T
12.2 Anti-arrhythmic medicines	sildenafil citrate	0.5 mg–1 mg/kg body weight.	T
	isoprenaline	injection 1mg/ml (IV):	T
12.3 Anti-hypertensive medicines	ephedrine	injection: 30 mg/ml.	S, T
12.4 Medicines used in heart failure	atorvastatin	tablet: 10 mg, 20 mg, 40 mg.	S, T
	risovastatin	tablet: 10 mg, 20 mg, 40 mg.	S, T
16. Diuretics	sodium polystyrene sulfonate	powder	T
18. Hormones, other endocrine medicines, and contraceptives	glibenclamide	tablet: 5 mg.	P, S, T

2. ALPHABETICAL LIST NEML 2016

- | | |
|------------------------------------|--|
| 1. abacavir (ABC) | 26. Anti hepatitis B immunoglobulin |
| 2. abacavir + lamivudine | 27. anti-D immunoglobulin |
| 3. acetazolamide | 28. anti-rabies immunoglobulin |
| 4. acetic acid | 29. anti-tetanus immunoglobulin |
| 5. acetylcysteine | 30. Anti-venom immunoglobulin |
| 6. acetylsalicylic acid | 31. artemether artemether + lumefantrine |
| 7. aciclovir | 32. artesunate |
| 8. adenosine | 33. artesunate + amodiaquine |
| 9. albendazole | 34. artesunate + mefloquine |
| 10. alcohol based hand rub | 35. artesunate Plus Sulphadoxine and pyrimethamine |
| 11. allopurinol | 36. ascorbic acid |
| 12. all-trans retinoid acid (ATRA) | 37. asparaginase |
| 13. amidotrizoate | 38. atazanavir |
| 14. amikacin | 39. atenolol |
| 15. amiloride | 40. atracurium |
| 16. aminophylline | 41. atropine |
| 17. amiodarone | 42. azathioprine |
| 18. amitriptyline | 43. azithromycin |
| 19. amlodipine | 44. barium sulfate |
| 20. amodiaquine | 45. BCG vaccine |
| 21. amoxicillin | 46. beclometasone |
| 22. amoxicillin + clavulanic acid | 47. bedaquiline |
| 23. amphotericin B | 48. bendamustine |
| 24. ampicillin | |
| 25. anastrozole | |

- | | | | |
|-----|-----------------------------|------|--------------------------|
| 49. | benzathine benzylpenicillin | 81. | chlorhexidine |
| 50. | benzoyl peroxide | 82. | chlorine base compound |
| 51. | benzyl benzoate | 83. | chloroquine |
| 52. | benzylpenicillin | 84. | chloroxylenol |
| 53. | betamethasone | 85. | chlorpheniramine |
| 54. | bevacizumab | 86. | chlorpromazine |
| 55. | bicalutamide | 87. | cholecalciferol |
| 56. | biperiden | 88. | cholera vaccine |
| 57. | bisacodyl | 89. | ciclosporin |
| 58. | bleomycin | 90. | ciprofloxacin |
| 59. | bromazepam | 91. | cisplatin |
| 60. | budesonide | 92. | clarithromycin |
| 61. | bupivacaine | 93. | clindamycin |
| 62. | caffeine citrate | 94. | clofazimine |
| 63. | calamine | 95. | clomifene |
| 64. | calcium | 96. | clomipramine |
| 65. | calcium folinate | 97. | clopidogrel |
| 66. | calcium gluconate | 98. | clotrimazole |
| 67. | capecitabine | 99. | cloxacillin |
| 68. | capreomycin | 100. | clozapine |
| 69. | carbamazepine | 101. | coagulation factor IX |
| 70. | carbimazole carboplatin | 102. | coagulation factor VIII |
| 71. | cefalexin | 103. | coal tar |
| 72. | cefazolin | 104. | codeine |
| 73. | cefixime | 105. | condoms |
| 74. | cefotaxime | 106. | copper-containing device |
| 75. | Cefradine | 107. | cyclizine |
| 76. | ceftazidime | 108. | cyclophosphamide |
| 77. | ceftriaxone | 109. | cycloserine |
| 78. | cefuroxime Sodium | 110. | cytarabine |
| 79. | charcoal, activated | 111. | dacarbazine |
| 80. | chlorambucil | 112. | daclatasvir |

- | | |
|--|--|
| 113. dactinomycin | 145. epinephrine (adrenaline) |
| 114. dapsone | 146. ergocalciferol |
| 115. darunavir | 147. ergometrine |
| 116. dasabuvir | 148. estradiol cypionate + medroxyprogesterone acetate |
| 117. daunorubicin | 149. ethambutol |
| 118. deferoxamine | 150. ethambutol + isoniazid |
| 119. delamanid | 151. ethambutol + isoniazid + pyrazinamide |
| 120. desmopressin | 152. ethambutol + isoniazid + rifampicin |
| 121. dexamethasone | 153. ethanol |
| 122. dextran 70 | 154. ethinylestradiol + norethisterone |
| 123. diaphragms | 155. ethinylestradiol + o levonorgestrel |
| 124. diazepam | 156. ethionamide |
| 125. diclofenac sodium | 157. etonogestrel-releasing implant |
| 126. diethylcarbamazine | 158. etoposide |
| 127. digoxin | 159. evonorgestrel-releasing intrauterine system |
| 128. diloxanide Furoate | 160. ferrous salt |
| 129. dimercaprol | 161. ferrous salt + folic acid |
| 130. diphtheria antitoxin | 162. filgrastim |
| 131. diphtheria vaccine | 163. fluconazole |
| 132. dobutamine | 164. flucytosine |
| 133. docetaxel | 165. fludarabine |
| 134. docusate sodium | 166. fludrocortisone |
| 135. dopamine | 167. fluorescein |
| 136. doxorubicin | 168. fluorouracil |
| 137. doxycycline | 169. fluoxetine |
| 138. efavirenz (EFV or EFZ) | 170. fluphenazine |
| 139. efavirenz + emtricitabine + tenofovir | 171. folic acid |
| 140. emtricitabine + tenofovir | 172. fomepizole |
| 141. enalapril | 173. fresh frozen plasma |
| 142. enoxaparin | |
| 143. entecavir | |
| 144. ephedrine | |

- | | | | |
|------|---------------------------------------|------|---------------------------------------|
| 174. | furosemide | 206. | iodine |
| 175. | gemcitabine | 207. | iohexol |
| 176. | gentamicin | 208. | ipratropium bromide |
| 177. | gliclazide | 209. | irinotecan |
| 178. | glucagon | 210. | isoflurane |
| 179. | glucose | 211. | isoniazid |
| 180. | glucose with sodium chloride | 212. | isoniazid + pyrazinamide + rifampicin |
| 181. | glutaral | 213. | isoniazid + rifampicin |
| 182. | glyceryl trinitrate | 214. | Isoprenaline |
| 183. | griseofulvin | 215. | isosorbide dinitrate |
| 184. | Haemophilus influenzae type b vaccine | 216. | kanamycin |
| 185. | haloperidol | 217. | ketamine |
| 186. | halothane | 218. | lactulose |
| 187. | heparin sodium | 219. | lamivudine + nevirapine + stavudine |
| 188. | hepatitis A vaccine | 220. | lamivudine + nevirapine + zidovudine |
| 189. | hepatitis B vaccine | 221. | lamivudine + zidovudine |
| 190. | HPV vaccine | 222. | lamivudine(3TC) |
| 191. | hydralazine | 223. | latanoprost |
| 192. | hydrochlorothiazide | 224. | ledipasvir + sofosbuvir |
| 193. | hydrocortisone | 225. | leuporelin |
| 194. | hydroxocobalamin | 226. | levamisole |
| 195. | hydroxycarbamide | 227. | levodopa + carbidopa |
| 196. | hyoscine butylbromide | 228. | levofloxacin |
| 197. | hyoscine hydrobromide | 229. | levonorgestrel |
| 198. | ibuprofen | 230. | levonorgestrel-releasing implant |
| 199. | ifosfamide | 231. | levothyroxine |
| 200. | imatinib | 232. | lidocaine |
| 201. | imipenem + cilastatin | 233. | lidocaine + epinephrine (adrenaline) |
| 202. | influenza vaccine (seasonal) | 234. | linezolid |
| 203. | insulin injection (soluble) | 235. | lithium carbonate |
| 204. | intermediate-acting insulin | | |
| 205. | intraperitoneal dialysis solution | | |

- | | |
|--|---|
| 236. loperamide | 268. moxifloxacin |
| 237. lopinavir + ritonavir (LPV/r) | 269. mumps vaccine |
| 238. loratadine | 270. mupirocin |
| 239. lugol's solution | 271. naloxone |
| 240. maggot Oil (Turpentine oil | 272. neomycin sulphate +bacitracin
zinc |
| 241. magnesium sulfate | 273. neostigmine |
| 242. mannitol | 274. nevirapine (NVP) |
| 243. measles vaccine | 275. niclosamide |
| 244. mebendazole | 276. nicotinamide |
| 245. medroxyprogesterone acetate | 277. nicotine replacement therapy
(NRT) |
| 246. mefloquine | 278. nifedipine |
| 247. meglumine antimoniate | 279. nitrofurantoin |
| 248. meglumine iotroxate | 280. nitrous oxide |
| 249. meningococcal meningitis vaccine | 281. norethisterone enantate |
| 250. mercaptopurine | 282. normal immunoglobulin |
| 251. meropenem | 283. nystatin |
| 252. mesna | 284. ofloxacin |
| 253. metformin | 285. ombitasvir + paritaprevir +
ritonavir |
| 254. methadone | 286. omeprazole |
| 255. methotrexate | 287. ondansetron |
| 256. methyl dopa | 288. oral rehydration salts |
| 257. methylprednisolone | 289. oseltamivir |
| 258. methylthioninium chloride
(methylene blue) | 290. oxaliplatin |
| 259. metoclopramide | 291. oxygen |
| 260. metronidazole | 292. oxytocin |
| 261. miconazole | 293. paclitaxel |
| 262. midazolam | 294. p-aminosalicylic acid |
| 263. mifepristone | 295. Pancreatic enzymes |
| 264. miltefosine | 296. pancuronium |
| 265. misoprostol | 297. paracetamo |
| 266. montelukast | |
| 267. morphine | |

- | | |
|---|-----------------------------|
| 298. paromomycin | 329. prostaglandin E |
| 299. pegylated interferon alfa (2a or 2b) | 330. protamine sulfate |
| 300. penicillamine | 331. pyrantel |
| 301. pentamidine | 332. pyrazinamide |
| 302. permethrin | 333. pyridostigmine |
| 303. pertussis vaccine | 334. pyridoxine |
| 304. phenobarbital | 335. pyrimethamine |
| 305. phenoxymethylpenicillin | 336. quinine |
| 306. phenytoin | 337. rabies vaccine |
| 307. phytomenadione | 338. ranitidine |
| 308. pilocarpine | 339. red blood cells |
| 309. platelets | 340. retinol |
| 310. pneumococcal vaccine | 341. ribavirin |
| 311. podophyllum resin | 342. riboflavin |
| 312. poliomyelitis vaccine | 343. rifabutin |
| 313. potassium chloride | 344. rifampicin |
| 314. potassium ferric hexacyano $2H_2O$ (Prussian lue) -ferrate(II) - | 345. rifampicin |
| 315. potassium iodide | 346. rifapentine |
| 316. potassium permanganate | 347. risperidone |
| 317. povidone iodine | 348. ritonavir |
| 318. praziquantel | 349. rituximab |
| 319. prednisolone | 350. rotavirus vaccine |
| 320. primaquine | 351. rubella vaccine |
| 321. procaine benzylpenicillin | 352. salbutamol |
| 322. procarbazine | 353. salicylic acid |
| 323. progesterone vaginal ring | 354. saquinavir |
| 324. proguanil | 355. selenium sulfide |
| 325. promethazine | 356. sena |
| 326. propofol | 357. silver sulfadiazine |
| 327. propranolol | 358. simeprevir |
| 328. propylthiouracil | 359. simvastatin |
| | 360. sodium calcium edetate |

- | | |
|--|--|
| 361. sodium chloride | 392. tioguanine |
| 362. sodium cromoglycate | 393. tranexamic acid |
| 363. sodium fluoride | 394. trastuzumab |
| 364. Sodium hydrogen carbonate | 395. trimethoprim |
| 365. sodium lactate, compound solution | 396. tropicamide |
| 366. sodium nitrite | 397. tuberculin, purified protein derivative (PPD) |
| 367. sodium nitroprusside | 398. typhoid vaccine |
| 368. sodium stibogluconate | 399. urea |
| 369. sodium thiosulfate | 400. valganciclovir |
| 370. sofosbuvir | 401. valproic acid (sodium valproate) |
| 371. spironolactone | 402. vancomycin |
| 372. stavudine(d4T) | 403. varicella vaccine |
| 373. streptokinase | 404. vecuronium |
| 374. streptomycin | 405. verapamil |
| 375. succimer | 406. vinblastine |
| 376. sulfadiazine | 407. vincristine |
| 377. sulfamethoxazole + trimethoprim | 408. vinorelbine |
| 378. sulfasalazine | 409. warfarin |
| 379. surfactant | 410. water for injection |
| 380. suxamethonium | 411. whole blood |
| 381. tamoxifen | 412. xylometazoline |
| 382. tenofovir disoproxil fumarate (TDF) | 413. yellow fever vaccine |
| 383. terbinafine | 414. zidovudine (ZDV or AZT) |
| 384. testosterone | 415. zinc sulfate |
| 385. tetanus vaccine | |
| 386. tetracaine | |
| 387. tetracycline | |
| 388. theophylline | |
| 389. thiamine | |
| 390. thiopentone | |
| 391. timolol | |

3. ANNEXURES

ANNEX-I

LIST OF MEDICINES ADDED IN THE WHO EML 2015

Sr.#	Medicine	Indication
1.	rifapentine	LTBI
2.	bedaquiline	MDR-TB
3.	terizidone	MDR-TB
4.	delamanid	MDR-TB
5.	linezolid	MDR-TB
6.	darunavir	HIV
7.	valganciclovir.	CMV retinitis
8.	entecavir	hepatitis B
9.	sofosbuvir	chronic hepatitis C
10.	simeprevir	chronic hepatitis C
11.	daclatasvir	chronic hepatitis C
12.	dasabuvir	chronic hepatitis C
13.	ledipasvir + sofosbuvir	chronic hepatitis C
14.	ombitasvir + paritaprevir + ritonavir	chronic hepatitis C
15.	all-trans retinoid acid (atra)	cancer
16.	bendamustine	cancer
17.	capecitabine	cancer
18.	cisplatin	cancer
19.	fludarabine	cancer
20.	filgrastim	cancer
21.	gemcitabine	cancer

22.	imatinib	cancer
23.	irinotecan	cancer
24.	oxaliplatin	cancer
25.	rituximab	cancer
26.	trastuzumab	cancer
27.	vinorelbine	cancer
28.	anastrozole	cancer
29.	bicalutamide	cancer
30.	leuporelin	cancer
31.	desmopressin	bleeding disorders
32.	enoxaparin	VTE and ACS
33.	clopidogrel	ACS
34.	alcohol-based hand rub	hand hygiene
35.	etonogestrel□releasing implant	contraception
36.	progesterone vaginal ring	contraception
	new indication for medicines on EML	
37.	misoprostol	treatment of PPH
38.	tenofovir disoproxil fumarate	tepatitis B
	new formulations added to EML	
39.	abacavir+lamivudine	FDC table
40.	efavirenz	scored tablet 200 mg
41.	folic acid	400 mcg tablet
42.	levonorgestrel	intrauterine system
43.	midazolam	oromucosal solution
44.	nevirapine	dispersible tablet
45.	omeprazole	powder for injection
46.	valproic acid	injection
47.	hydrochlorothiazide (new dosage form)	injection: 20mg

ANNEX-2

MEDICINES WITH AGE AND WEIGHT RESTRICTION

Table 1: Medicines with Age and Weight Restriction

atazanavir	>25 kg
atropine	>3 months
benzyl benzoate	>2 years
betamethasone topical preparations	hydrocortisone preferred in neonates
cefazolin	>1 month
ceftriaxone	>41 weeks corrected gestational age
darunavir	> 3 years
diloxanide	>25 kg
doxycycline	>8 years (except for serious infections e.g. cholera)
efavirenz	>3 years or >10 kg
emtricitabine	>3months
fluoxetine	>8 years
ibuprofen	>3 months (except IV form for patent ductus arteriosus)
mefloquine	>5 kg or >3 months
metoclopramide	Not in neonates
nevirapine	> 6 weeks
ondansetron	>1 month
saquinavir	>25 kg
silver sulfadiazine	>2 months
tetracaine	Not in preterm neonates
trimethoprim	>6 months
xylometazoline	>3 months

ANNEX-3

PARTICIPANTS OF NATIONAL CONSULTATION

Consultative meeting for review/revision of National Essential Medicine List of Pakistan 9th March, 2016			
Sr.#	Names	Location	Specialty
Government officials & Development partners representatives			
1.	Mrs Saira Afzal Tarrar	Minister of state for Health	Ministry Of National Health services, Regulation & Coordination, Islamabad
2.	Ms. Sangeta Patel	Director Health	USAID Office
3.	Ms. Monica Villaneauva	MCH team leader	USAID Office
4.	Dr. Muhammad Aslam	Chief executive officer	DRAP
5.	Dr. Muhammad Tariq	Country Director	USAID DELIVER PROJECT
6.	Dr. Muhammad Safiullah	Director Programs	Ministry Of National Health services, Regulation & Coordination, Islamabad
7.	Dr. Samrah Mazhar	M/oNHSR&C	M/ONHSR&C
8.	Dr. Syed Khalid Saeed Bukhari	Country Advisor Essential Medicines	WHO
9.	Mr. Inamullah Khan	Director Field Operations & LMIS	USAID DELIVER PROJECT
10.	Mrs. Alia Zafar Rao	Expert Pharmaceuticals Quality Assurance	USAID DELIVER PROJECT
11.	Mr. Najam Ahmed Shah The Secretary, Health Department, Government of Punjab, Lahore or his representative	Health Deptt. Punjab	Provincial Representation

Consultative meeting for review/revision of National Essential Medicine List of Pakistan 9th March, 2016

Sr.#	Names	Location	Specialty
12.	Mr.Ali Jan Khan The Secretary Primary Health Service & Health Care Government of Punjab, Lahore or his representative	Health Deptt. Punjab	Provincial Representation
13.	Dr.Aslam Pechuho TheAdditional Secretary, Health Department, Government of Sindh, Karachi or his representative	Health Deptt. Sindh	Provincial Representation
14.	Dr. Jamal Yousaf The Secretary, Health Department, Government of KPK, Peshawar or his representative	Health Deptt. KPK	Provincial Representation
15.	Mr.Asif.Ikram The Additional Secretary, Health Department, Government of Baluchistan, Quetta	Health Deptt. Baluchistan	Provincial Representation
16.	Mr. Rasheed Ali The Secretary, Health Department, Government of GB, Gilgit. or his representative	Health Department, Gilgit Baltistan, Gilgit	Provincial Representation
17.	Syed Zulfiqar Ali Shah, Representative, Health Department, Government of AJK, Muzaffabad.	Health Department, Government of AJK	Provincial Representation
18.	Muhammad Tariq Secretary (Health) Social Sector, FATA or his representative	Health Department FATA	Provincial Representation
19.	Dr. Mirza Ali Azhar	Secretary General, Pakistan Medical Association	Provincial Representation
20.	Mr. Kifayatullah, Chief Drug Inspector GB	Health Department, GB	Chief Drug Inspector; GB
21.	Mr.Ayaz Ali Khan Chief Operating Officer	Representatives of PPA	Representatives of PPA

Consultative meeting for review/revision of National Essential Medicine List of Pakistan 9th March, 2016

Sr.#	Names	Location	Specialty
Drug Regulatory Authority			
22.	Mr. Sheikh Ansar Ahmad	Director, Pharmacy Services	DRAP
23.	Mr. Muhammad Arshad Khan	Director (Legal Affairs),	DRAP
24.	Mr. Gulam Rasool Dutani	Director, PE&R	DRAP
25.	Dr. A. Q. Javed Iqbal,	Director Admn, DRAP	DRAP
26.	Dr. ObaidUllah Malik	Secretary Registration Board	DRAP
27.	Mr. Faqeer Muhammad Shaikh	Director, Licensing & Quality Assurance	DRAP
28.	Dr. Ahmad Mahmood Mumtaz	Deputy Director General (Pharmacy Services)	DRAP
29.	Dr. Abdul Rashid	Chairman, Quality Control Board	DRAP
30.	Mr. Ahmad Din Ansari	Deputy Drugs Controller, Pharmacy Services	DRAP
31.	Mr. Sayyad Hussain Khan	Deputy Drugs Controller	DRAP
Consultants/Experts (Physician/Surgeon/Pharmacists)			
ICT			
32.	Professor Habib Ur Rehman	Shifa International Hospital, Islamabad.	Cardiology
33.	Professor Brig. Dr. Mohammad Aslam	Military Hospital, Rawalpindi.	Medicine
34.	Professor Dr. Tahira Batool,	KRL Hospital	Obs/Gynae
35.	Mohamad Fahem consultant	NORI, PAEC hospital, Islamabad.	Oncology
36.	Professor Dr. Muzamil Hassan Najmi	Army Medical College, Rawalpindi.	Pharmacology
37.	Mrs. Amina Bibi	Chief Pharmacist, Poly Clinic Hospital, Isd.	Hospital Pharmacy
38.	Mr. Sardar Shabbir Ahmad,	Drugs Inspector, (ICT)	Senior Pharmacist

Consultative meeting for review/revision of National Essential Medicine List of Pakistan 9th March, 2016

Sr.#	Names	Location	Specialty
Consultants/Experts (Physician/Surgeon/Pharmacists)			
Sindh			
39.	Dr.Abdul latif Sheikh	Director,Aga Khan University Hospital	Director Pharmacy
40.	Mr.Aslam Shah,	Pharmacy Services, Indus Hospital, Karachi	Chief Pharmacist
41.	Professor Dr. Rufina Soomro	Liaquat National Hospital Karachi	Surgery
42.	Professor Dr. Farzana Adnan	Liaquat National Hospital, Karachi	Nephrology
43.	Professor Dr.Akhtar Waheed Khan	SIUT Karachi	Anesthetist
KPK			
44.	Brigadier Dr.Waqar	CMH, Peshawar,	Surgery
45.	Mr.Abid Hayat	Health Department, KPK	Chief Pharmacist
46.	Assistant Professor . Dr Asghar ulah Khan	LRH, Peshawar	ENT Specialist
47.	Professor Dr. Nasir Saeed	HMC, Peshawar	Ophthalmology
48.	Professor Dr. Javed Akram	Vice Chancellor, Shaheed Zulfiqar Ali Bhutto Medically University, Islamabad	Internal Medicine
49.	Professor Dr.Ahsan Waheed Rathore	Medical Director, Children Hospital & Institute of Child Health (CH& ICH), Lahore.	Pediatrics
50.	Professor Dr.Arshad Kamal Butt	Shaikh Zayed Hospital, Lahore	Gastroenterologist
51.	Professor Dr. Nadeem Mallick.	CH & ICH, Lahore	Neurology
52.	Professor Dr. Iqbal Bhutta,	Shaukat Khanum Memorial Hospital Lahore	Clinical Pharmacist
Balochistan			
53.	Professor Dr.Abdul Baqi Durrani	Bolan Medical College (BMC), Quetta.	Medicine

Consultative meeting for review/revision of National Essential Medicine List of Pakistan 9th March, 2016			
Sr.#	Names	Location	Specialty
Consultants/Experts (Physician/Surgeon/Pharmacists)			
54.	Dr.Uzma Tareen	BMC, Quetta.	Dermatology
55.	Professor Dr. Javeid Iqbal	Vice Chancellor, University of Baluchistan Quetta	Pharmacy
56.	Prof. Ghulam Razaque	University of Baluchistan, Quetta.	Head of Pharmacy, Department.

4. REFERENCES

1. PPRA website: <http://www.ppra.org.pk/Rules.asp>.
2. Ministry of National Health Services, Regulations and Coordination
Comprehensive Multiyear Plan; Immunization Programme in Pakistan.
(2014-2018). [Islamabad]
3. Directorate of Malaria; Ministry of Health (MOH), Pakistan. 2007.
Malaria Case Management; Desk guide for clinician and Health care providers. Islamabad: MOH.
4. Ministry of Health (MOH), Government of Pakistan. 2003. *National Essential Drugs List of Pakistan.* Islamabad: MOH.
5. National TB Control Programme, Islamabad. (Jan 2015). *National Guidelines for the control of Tuberculosis in Pakistan.*
6. World Health Organization (WHO). 2015. *WHO Model List of Essential Medicines 19th list* WHO Geneva .
7. World Health Organization country office; Pakistan. (2014). *Pakistan Pharmaceutical Situation Assessment Level II.* Islamabad:
8. Zaidi, S. 2013. Access to Essential Medicines in Pakistan: Policy and Health Systems Research Concerns. *PLoS ONE* 8(5):e63515.
doi:10.1371/journal.pone.0063515.

5. INDEX

A

- abacavir, 41
- abacavir + lamivudine, 42
- acetazolamide, 75
- acetic acid, 81
- acetylcysteine, 30
- acetylsalicylic acid, 26, 47, 64, 83
- aciclovir, 41, 74
- Adrenal hormones and synthetic substitutes, 70
- albendazole, 33
- alcohol based hand rub, 67
- allopurinol, 49, 83
- all-trans retinoid acid, 49
- amidotrizoate, 66
- amikacin, 39
- amiloride, 67
- aminophylline, 79
- amiodarone*, 62
- amitriptyline, 28, 77
- amlodipine, 62
- amodiaquine, 46
- amoxicillin, 33
- amoxicillin + clavulanic acid, 34
- amphotericin B, 40, 45
- ampicillin, 34
- anastrozole, 57
- Androgens, 70
- Anesthetics, 25
- Anthelmintics, 33
- Anti hepatitis B immunoglobulin, 72
- Anti neoplastic & immunosuppressant, 48
- Anti Parkinsonism Medicines, 58
- Anti rabies immunoglobulin(human, 72
- Anti-Allergics and Medicines Used in Anaphylaxis, 29
- Antiamoebic and anti giardiasis medicines, 45
- Antianaemia medicines, 59
- Antianginal medicines, 61
- Antiarrhythmic medicines, 62
- Anti-asthmatic and medicines for chronic obstructive pulmonary disease, 78
- Antibacterials, 33

Anticonvulsants/Antiepileptics, 31
 anti-D immunoglobulin, 61
 anti-D immunoglobulin (human), 72
 Antidotes and other substances used in poisoning, 30
 Antiemetic medicines, 68
 Antifilarials, 33
 Antifungal medicines, 40, 65
 Antihepatitis medicines, 44
 Antiherpes medicines, 41
 Antihypertensive medicines, 62
 Anti-infective agents, 74
 Anti-infective medicines, 65
 Anti-Infective Medicines, 33
 Anti-inflammatory agents, 75
 Anti-inflammatory and antipruritic medicines, 65
 Anti-inflammatory medicines, 69
 Antileishmaniasis medicines, 45
 Antileprosy medicines, 38
 Antimalarial medicines, 45
 Antimigraine Medicines, 48
 Antioxytocics (tocolytics), 76
 Anti-platelet medicines, 64
 Antipneumocystosis and antitoxoplasmosis medicines, 47
 Antiprotozoal medicines, 45
 anti-rabies immunoglobulin, 61
 Antischistosomes and other antitrematode medicines, 33
 Antiseptics, 67
 anti-tetanus immunoglobulin, 61
 anti-tetanus immunoglobulin (human), 72
 Antithrombotic medicines, 64
 Antituberculosis medicines, 38
 Antiulcer medicines, 68
 Anti-vascular endothelial growth factor (VEGF) preparations, 75
 Anti-venom immunoglobulin, 72
 Antiviral medicines, 41
 artemether, 46
 artemether + lumefantrine, 46
 artesunate, 46
 artesunate + amodiaquine, 46
 artesunate + mefloquine, 46
 artesunate + sulphadoxine and pyrimethamine, 47
 ascorbic acid, 60
 asparaginase, 49
 atazanavir, 42
 atenolol, 61
 atracurium, 74
 atropine, 26, 30, 75
 azathioprine, 49, 83
 azithromycin, 36

B
 barium sulfate, 66
 Barrier methods, 70
 BCG vaccine, 73
 beclometasone, 78
 bedaquiline, 39

bendamustine, 49
 benzathine benzylpenicillin, 34
 benzoyl peroxide, 65
 benzyl benzoate, 66
 benzylpenicillin, 34
 Beta-lactam medicines, 33
 betamethasone, 65
 bevacizumab, 75
 bicalutamide, 57
 biperiden, 58
 bisacodyl, 29
 bisoprolol, 23
 bleomycin, 49
 Blood coagulation factors, 61
 Blood Products of Human Origin and Plasma Substitutes, 60
 bromazepam, 31
 budesonide, 78, 81
 bupivacaine, 25

C

caffeine citrate, 82
 calamine, 65
 calcium, 80
 calcium folinate, 50
 calcium gluconate, 30, 81
 capecitabine, 50
 capreomycin, 39
 carbamazepine, 31, 77
 carbimazole, 72
 carboplatin, 50

Cardiovascular Medicines, 61
 cefalexin, 34
 cefazolin, 34
 cefixime, 35
 cefotaxime, 35
 cefradine, 34
 ceftazidime, 36
 ceftriaxone, 35
 cefuroxime Sodium, 35
 charcoal, activated, 30
 chlorambucil, 50
 chlorhexidine, 67, 82
 chlorine base compound, 67
 chloroquine, 45, 47
 chloroxylenol, 67
 chlorpheniramine, 29
 chlorpromazine, 76
 cholecalciferol, 80
 cholera vaccine, 73
 ciclosporin, 49
 ciprofloxacin, 36, 81
 cisplatin, 51
 clarithromycin, 36
 clindamycin, 37
 clofazimine, 38
 clomifene, 71
 clomipramine, 77
 clopidogrel, 59, 64
 clotrimazole, 40
 cloxacillin, 35

clozapine, 77
coagulation factor IX, 61
coagulation factor VIII, 61
 coal tar, 65
 codeine, 27
 Communicable Disease, 4
 condoms, 70
 Contraceptives, 70
 copper-containing device, 70
 cyclizine, 28
 cyclophosphamide, 51
 cycloserine, 39
 cytarabine, 51
 Cytotoxic and adjuvant medicines, 49

D

dacarbazine, 52
 daclatasvir, 44
 dactinomycin, 52
 dapson, 38
 darunavir, 42
 dasabuvir, 44
 daunorubicin, 52
 deferoxamine, 31, 60
 delamanid, 39
 Dermatological Medicines, 655
desmopressin, 60
 dexamethasone, 28, 29, 57, 68, 82
 dextran 70, 61
 Diagnostic Agents, 72

diaphragms, 70
 diazepam, 28, 31, 77
 diclofenac sodium, 27
 diethylcarbamazine, 33
 digoxin, 63
 diloxanide Furoate, 45
 dimercaprol, 31
 diphtheria antitoxin, 72
 diphtheria vaccine, 73
 Disease-modifying agents used in
 rheumatoid disorders (DMARDs), 83

Disinfectants and Antiseptics, 67

Disinfectants, 67

Diuretics, 67

dobutamine, 64

docetaxel, 52

docusate sodium, 28

dopamine, 64

doxorubicin, 52

doxycycline, 37, 48

DRAP

Drug Regulatory Authority of Pakistan, 1

E

Ear,Nose & Throat Medicines, 81

efavirenz (EFV or EFZ), 42

efavirenz + emtricitabine* + tenofovir, 43

elenium sulfide, 63

emtricitabine + tenofovir,43

enalapril, 61, 64

enoxaparin, 59

entecavir, 44

ephedrine, 26

EPI

Expanded Programme of Immunization, 71

epinephrine, 29

epinephrine (adrenaline), 62, 75, 78

ergocalciferol, 80

ergometrine, 75

estradiol cypionate, 70

Estrogen, 71

ethambutol, 38

ethambutol + isoniazid, 38

ethambutol + isoniazid + pyrazinamide + rifampicin, 38

ethambutol + isoniazid + rifampicin, 38

ethanol, 67

ethinylestradiol + norethisterone, 70

ethinylestradiol + o levonorgestrel, 70

ethionamide, 39

ethosuximide, 32

etonogestrel-releasing implant, 70

etoposide, 53

F

ferrous salt, 59

ferrous salt + folic acid, 59

filgrastim, 53

Fixed-dose combinations, 42

fluconazole, 40

flucytosine, 40

fludarabine, 53

fludrocortisone, 70

fluorescein, 66

fluorouracil, 53, 65

fluoxetine, 28, 77

fluphenazine, 76

folic acid, 59

fomepizole, 31

For prophylaxis, 47

For treatment of acute attack, 47

fresh–frozen plasma, 60

furosemide, 64, 67

G

Gastrointestinal Medicines, 68

gemcitabine, 54

General anesthetics and oxygen, 25

gentamicin, 37, 74, 82

gliclazide, 71

glucagon, 71

glucose, 79

glucose with sodium chloride, 79

glutaryl, 67

glyceryl trinitrate, 62

griseofulvin, 40

H

Haemophilus influenzae type b vaccine, 73

haloperidol, 28, 77

halothane, 25

heparin sodium, 59

hepatitis A vaccine, 73

hepatitis B vaccine, 73

Hormones and antihormones, 57

Hormones, other Endocrine Medicines
and Contraceptives, 70

HPV vaccine, 73

Human immunoglobulins, 61

hydralazine, 63

hydrochlorothiazide, 61, 64, 67

hydrocortisone, 30, 58, 65, 69, 70

hydroxocobalamin, 59

hydroxycarbamide, 54, 60

hydroxychloroquine, 83

hyoscine butylbromide, 28

hyoscine hydrobromide, 29

I

ibuprofen, 26, 48, 82

ifosfamide, 54

imatinib, 54

Imipenem * + cilastatin, 36

Immunologicals, 72

Immunosuppressive medicines, 49

Implantable contraceptives, 70

influenza vaccine (seasonal), 73

Inhalational medicines, 25

Injectable hormonal contraceptives, 70

Injectable medicines, 25

Insulin and other medicines used for
diabetes, 71

insulin injection (soluble), 71

intermediate-acting insulin, 71

Intestinal anthelmintics, 33

intraperitoneal dialysis solution, 76

Intrauterine devices, 70

Intravaginal contraceptive, 71

iodine, 81

iohexol, 66

ipratropium bromide, 78

irinotecan, 54

isoflurane, 25

isoniazid, 38

isoniazid + pyrazinamide + rifampicin, 38

isoniazid + rifampicin, 38

isosorbide dinitrate, 62

J

Juvenile joint diseases, 83

K

kanamycin, 40

ketamine, 25

L

lactulose, 29

lamivudine, 41

lamivudine +, 42

lamivudine + zidovudine, 43

latanoprost, 75

Laxatives, 69

ledipasvir + sofosbuvir, 45

leuprorelin, 57

levamisole, 33
 levodopa + carbidopa, 58
 levofloxacin, 40
 levonorgestrel, 70
 levonorgestrel-releasing implant, 71
 levonorgestrel-releasing intrauterine system, 70
 levothyroxine, 71
 lidocaine, 25, 62
 lidocaine + epinephrine, 26
 linezolid, 40
 Lipid-lowering agents, 64
 lithium carbonate, 77
 Local anesthetics, 25, 75
 loperamide, 30
 lopinavir + ritonavir (LPV/r), 42
 loratadine, 29
 lugol's solution, 72

M

maggot Oil (Turpentine oil), 81
 magnesium sulfate, 31
mannitol, 80
 measles vaccine, 73
 mebendazole, 33
 Medicines acting on the Respiratory Tract, 78
 Medicines administered to the mother, 82
 Medicines affecting coagulation, 59
 Medicines affecting skin differentiation and proliferation, 65

Medicines Affecting the Blood, 59
 Medicines for anxiety disorders, 77
 Medicines for Diseases of the Joint, 83
 Medicines for disorders due to psychoactive substance use, 77
 Medicines for hepatitis B, 44
 Medicines for hepatitis C, 44
 Medicines for Mental and Behavioral Disorder, 76
 Medicines for Pain and Palliative Care, 26
 Medicines used for obsessive compulsive disorders, 77
 Medicines used in bipolar disorders, 77
 Medicines used in depressive disorders, 77
 Medicines used in diarrhea, 69
 Medicines used in heart failure, 63
 Medicines used in mood disorders, 77
 Medicines used in psychotic disorders, 76
 Medicines used to treat gout, 83
 medroxyprogesterone acetate, 71
 mefloquine, 48
 meglumine antimoniate, 45
meglumine iotroxate, 66
 meningococcal meningitis vaccine, 73
 mercaptopurine, 55
 meropenem, 36
 mesna, 55
metformin, 71
 methadone, 78
 methotrexate, 55, 83

methyl dopa, 63
 methylprednisolone, 58
 methylthioninium chloride (methylene blue), 30
 metoclopramide, 29, 68
 metronidazole, 37, 45
 miconazole, 65
 midazolam, 26, 29, 32
 mifepristone – misoprostol, 76
 miltefosine, 45
 Miotics and antiglaucoma medicines, 75
 Miscellaneous, 80
 misoprostol, 76
 MNCH
 Maternal Neonatal & Child Health, 4
 montelukast, 79
 morphine, 26, 27
 moxifloxacin, 74
 mumps vaccine, 73
 mupirocin, 65
 Muscle Relaxants, 74
 Mydriatics, 75

N
 naloxone, 30
 NEML
National Essential Medicine List, 3
 neomycin sulphate + bacitracin zinc, 65
 neostigmine, 74
 nevirapine (NVP), 42, 43
 niclosamide, 33

nicotinamide, 81
 nicotine replacement therapy (NRT), 77
 nifedipine, 76
 nitrofurantoin, 37
 nitrous oxide, 25
 noncommunicable diseases, 4
 Non-nucleoside polymerase inhibitors, 44
 Non-nucleoside reverse transcriptase inhibitors, 42
 Non-opioids analgesics, antipyretics, and non-steroidal anti-inflammatory medicine (NSAID), 26
 Non-specific, 30
 norethisterone enantate, 70
normal immunoglobulin, 61
 NS5A inhibitors, 44
 Nucleoside/nucleotide reverse transcriptase inhibitors, 44
 Nucleotide polymerase inhibitors, 44
 nystatin, 41

O

ofloxacin, 74
 ombitasvir, 45
 omeprazole, 68
 ondansetron, 29, 68
 Ophthalmic medicines, 66
 Opioid analgesics, 27
 Ophthalmological Preparations, 74
 Oral, 79
 Oral hormonal, 70
 oral rehydration salts, 69, 79

oseltamivir, 43
 Other antibacterials, 36
 Other antivirals, 43,44
 Other medicines for haemoglobinopathies, 59
 Ovulation inducer, 71
 oxaliplatin, 55
 oxygen, 25
 Oxytocics, 75
 Oxytocics and Anti-Oxytocics, 75
 oxytocin, 76

P

Primary level, 25
 paclitaxel, 55
p-aminosalicylic acid, 40
pancreatic enzymes, 68
 pancuronium, 74
 paracetamol, 27, 48
 Parenteral, 79
 paromomycin, 45
*pegylated interferon alfa (2a or 2b) **, 45
 penicillamine, 31, 83
 pentamidine , 48
 Peritoneal Dialysis Solution, 76
 permethrin, 66
 pertussis vaccine, 73
 phenobarbital, 32
 phenoxymethylpenicillin, 35
 phenytoin, 32
 phytomenadione, 59

pilocarpine, 75
 Plasma substitutes, 61
 Plasma-derived medicines, 59
 platelets, 60
 pneumococcal vaccine, 73
 podophyllum resin, 66
 poliomyelitis vaccine, 73
 potassium iodide, 41, 72
 potassium chloride, 80
 potassium ferric hexacyano-ferrate(II), 31
 potassium permanganate, 65
 povidone iodine, 67
 praziquantel, 33
 prednisolone, 30, 58, 75
 Preoperative medication and sedation for short-term procedures, 26
 primaquine, 47
 procaine benzyl penicillin, 35
 procarbazine, 56
 progesterone vaginal ring, 71
 Progestogen, 71
 proguanil, 48
 promethazine, 30
 propofol, 25
 propranolol, 49, 63
 propylthiouracil, 72
 protamine sulfate, 60
 prostaglandin E, 82
 Protease inhibitors, 42,44
 pyrantel, 33

pyrazinamide, 39
pyridostigmine, 74
pyridoxine, 81
pyrimethamine, 48

Q

quinine, 47

R

rabies vaccine, 73
Radio-contrast media, 66
ranitidine, 68
red blood cells, 60
retinol, 81
ribavirin, 44
riboflavin, 81
rifabutin, 39
rifampicin, 39
rifapentine, 39
risperidone, 77
ritonavir, 42
rituximab, 56
rotavirus vaccine, 73
rubella vaccine, 73

S

salbutamol, 78
salicylic acid, 66
saquinavir (SQV), 42
Scabicides and pediculicides, 66
Secondary, 25

senna, 69
selenium sulfide, 65
Sera and immunoglobulins, 72
silver sulfadiazine, 65
simeprevir, 44
simvastatin, 64
sodium calcium edetate, 31
sodium chloride, 80
sodium cromoglycate, 74
sodium fluoride, 81
sodium hydrogen carbonate, 80
sodium lactate, compound solution, 80
sodium nitrite, 31
sodium nitroprusside, 63
sodium stibogluconate, 45
sodium thiosulfate, 31, 65
sofosbuvir, 44
Solution Correcting Water, Electrolyte, and Acid Base Balance, 79
Specific, 30
Specific Medicines for Neonatal Care, 82
spironolactone, 64, 67
stavudine(d4T), 41
streptokinase, 64
streptomycin, 39
succimer, 31
sulfadiazine, 48
sulfamethoxazole + trimethoprim, 37, 48
sulfasalazine, 69, 83
surfactant, 82

suxamethonium, 74

T

Tertiary level, 25

tamoxifen, 58

tenofovir disoproxil fumarate (TDF), 41, 44

terbinafine, 65

testosterone, 70

tetanus vaccine, 71

tetracaine, 75

tetracycline, 74

theophylline, 79

thiamine, 81

thioguanine, 56

thiopentone, 25

Thrombolytic medicines, 64

Thyroid hormone and antithyroid medicine, 71

timolol, 75

tranexamic acid, 60

trastuzumab, 56

trimethoprim, 37

tropicamide, 66

tuberculin, purified protein derivative (PPD), 72

typhoid vaccine, 73

U

urea, 66

V

Vaccines, 72

valganciclovir, 43

valproic acid (sodium valproate), 32, 77

vancomycin, 37

varicella vaccine, 74

vecuronium, 74

verapamil, 62

vinblastine, 56

vincristine, 56

vinorelbine, 57

Vitamins and Minerals, 80

W

warfarin, 60

water for injection, 80

WHO

World Health Organization, xvi

whole blood, 60

X

xylometazoline, 82

Y

yellow fever vaccine, 73

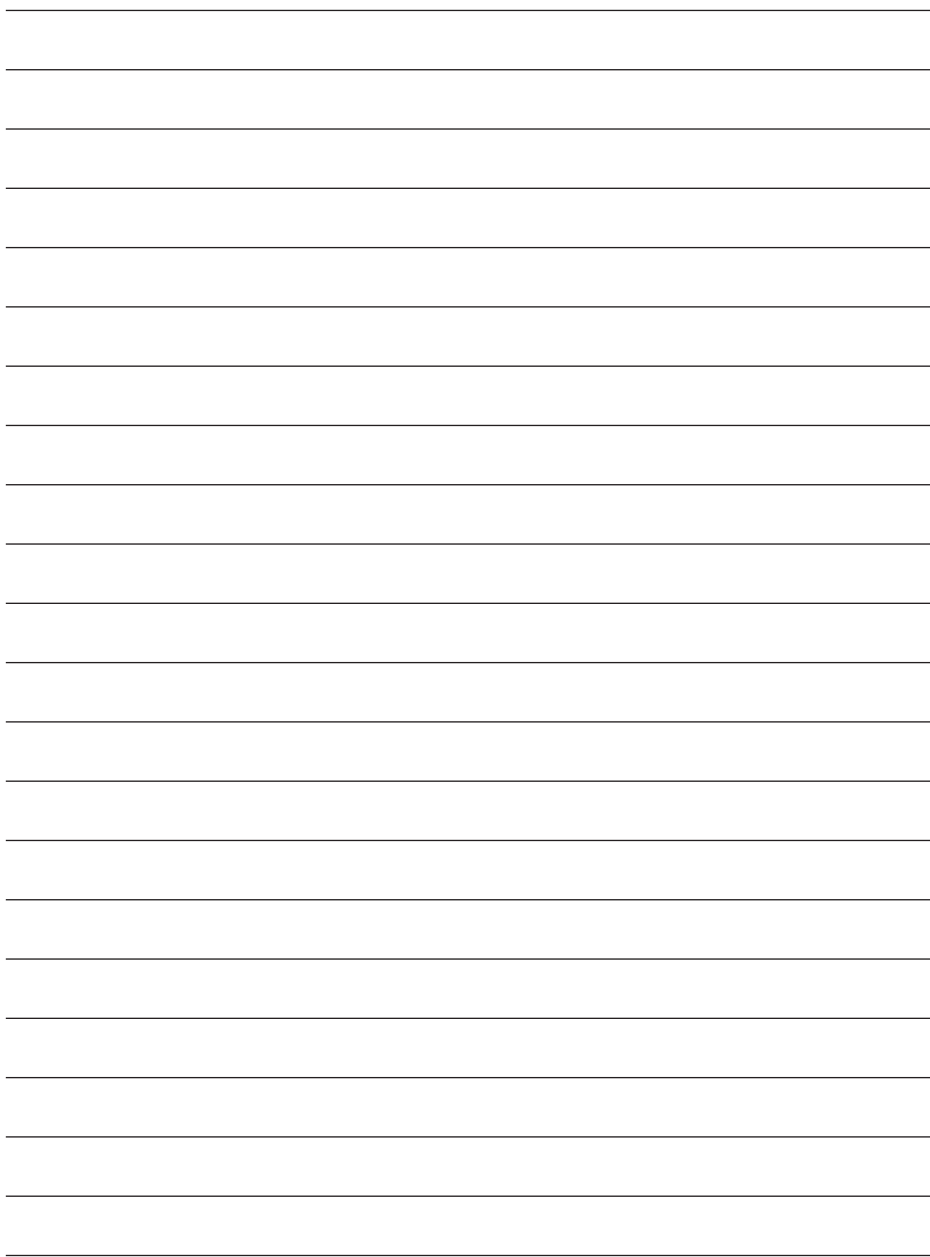
Z

zidovudine (ZDV or AZT), 41

zinc sulfate, 69

NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.





USAID | **DELIVER PROJECT**
FROM THE AMERICAN PEOPLE



**World Health
Organization**

USAID | DELIVER PROJECT / Pakistan
Building Square 11, Mezzanine Floor, Street # 1
MPCHS, Sector E-11/1,
Islamabad, Pakistan

