

Appendix to Section II: Services, equipment, personnel and drugs required at different levels of health care for non-communicable diseases

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The following schemes are indicative and may be modified as per local requirements and available resources.

Appendix A1

Services, equipment, drugs and personnel required at the district level

Table A1.1 Services to be provided at the district level

Services	Stroke	CVD	Cancer	COPD
Screening and diagnosis	<ul style="list-style-type: none"> • Identification of signs and symptoms of acute stroke, transient ischaemic attack • Screening for hypertension, diabetes, use of oral contraceptive pills, etc. • Detailed investigation: CT scan in all cases, ECG, pulse oximetry, 2D-ECHO, X-ray, lipid profile 	<ul style="list-style-type: none"> • Non-invasive screening (history, tobacco use, BMI, waist circumference, etc.) • Screening for hypertension, diabetes mellitus • Investigations: ECG, X-ray, lipid profile, ECHO 	<ul style="list-style-type: none"> • Opportunistic screening for oral, breast and cervical cancers • Cytology—FNAC, Pap smear • Haematology, biochemistry, ultrasound • Endoscopy, colposcopy, X-ray, mammogram 	<ul style="list-style-type: none"> • Screening by suggestive respiratory signs and symptoms • Rule out TB—examine the sputum for AFB • X-ray spirometry
Management				
Acute/emergency	<ul style="list-style-type: none"> • Inpatient care • Management of blood pressure with parenteral agents • Supportive care • Prophylaxis for DVT • Acute rehabilitation • Refer to a tertiary care centre in case of significant, pressure effects, or surgical candidates with haemorrhage 	<ul style="list-style-type: none"> • Evaluate the haemodynamic status • Thrombolysis • Inpatient care for uncontrolled hypertension with end-organ complications 	<ul style="list-style-type: none"> • Control of bleeding and pain • Superior vena caval obstruction 	<ul style="list-style-type: none"> • Intensive care for acute exacerbations • Antibiotics for suspected infection • Controlled oxygen therapy
Routine	<ul style="list-style-type: none"> • Prescription of multiple drugs and anticoagulants • Tobacco cessation for users 	<ul style="list-style-type: none"> • Tobacco cessation for users • Treatment of hypertension, diabetes 	<ul style="list-style-type: none"> • Tobacco cessation for users • Minimal surgical interventions • Chemotherapy • Pain relief and palliative care 	<ul style="list-style-type: none"> • Start on bronchodilators • Give antibiotics, if needed
Follow-up	Health education, follow-up for compliance, investigations and change of prescriptions if needed, referral of complicated cases to a tertiary-level centre, and rehabilitation			

CVD: cardiovascular disease; COPD: chronic obstructive pulmonary disease; CT: computerized tomography; ECG: electrocardiogram; FNAC: fine-needle aspiration cytology; Pap: Papanicolaou; TB: tuberculosis; AFB: acid-fast bacilli; DVT: deep vein thrombosis

Source: Background papers submitted to NCMH 2005

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The material presented in this Annexure are the views of the authors and do not imply the expression of any opinion whatsoever on the part of the organization they belong to.

Table A1.2 Equipment required for NCD services at the district level*General*

- Thermometer
- Weighing machine
- Height measuring board
- Stethoscope
- Sphygmomanometer
- Oxygen mask
- Oxygen cylinder
- Ambu bag
- Infusion sets
- Sterilizer
- Spotlight
- Laryngoscope
- Endotracheal tube
- Ophthalmoscope
- Otoscope
- Surgical tools
- Electrocardiogram (ECG)
- X-ray machine
- Ultrasound machine

Specialized

- Nebulizer and spacer
- Ventilator
- Cardiac monitor
- External pacemaker
- Defibrillator
- ECHO cardiogram machine
- Mammogram
- Spirometer
- Peripheral Doppler
- Sigmoidoscope
- Proctoscope
- Punch biopsy forceps
- Nasal speculum
- Cusco speculum
- Sim speculum
- Bronchoscope
- Upper gastrointestinal endoscope
- Colonoscope
- Dental chair and accessories

Laboratory equipment

- Microscope
- Glucometer
- Uristix
- Haematology analyser
- Biochemistry autoanalyser

Source: Background papers submitted to NCMH 2005

Table A1.4 Personnel required at the district level

- Specialists (medicine, obstetrics and gynaecology, anaesthesiologist, surgery, ENT, dental surgeon, radiologist, pathologist)
- General duty medical officers
- Technicians: Laboratory technicians, ECG, X-ray
- Cytotechnologist
- Nurses
- Counsellor, dietician, physiotherapist

Source: Background papers submitted to NCMH 2005

Table A1.3 Drugs required at the district level

- 5-Fluorouracil
- ACE inhibitors
- Acid-inhibiting drugs
- Aldactone
- Aminophylline
- Analgesics
- Antibiotics
- Anticoagulants
- Antiepileptics
- Antispastic drugs—Baclofen, Tizanide
- Aspirin
- Atenolol
- Atorvastatin
- Atropine
- Benzathine penicillin
- Biguanides
- Bleomycin
- Calcium-channel blockers
- Chlorambucil
- Cisplatin
- Clopidogrel
- Corticosteroids
- Cyclophosphamide
- Digoxin
- Dobutamine
- Doxorubicin
- Etoposide
- Folic acid
- Formoterol
- Frusemide
- Heparin (Inj.)
- Insulin
- Ipratropium
- Low molecular-weight heparin
- Methotrexate
- Methycobol with alpha lipoic acid
- Metoprolol
- Morphine
- Nitrates (oral, Inj.)
- Nitroglycerine
- Oral anticoagulants
- Salbutamol
- Salmeterol
- Statins
- Streptokinase (Inj.)
- Sulphonylureas
- Tamoxifen
- Terbutaline
- Theophylline
- Thiazides (oral)
- Tiotropium
- Vinblastine
- Vincristine

Source: Background papers submitted to NCMH 2005

Appendix A2

Services, equipment, drugs and personnel required at the subdistrict level

Table A2.1 Services to be provided at the subdistrict level

Services	Stroke	CVD	Cancer	COPD
Screening and diagnosis	<ul style="list-style-type: none"> • Identification of signs and symptoms of acute stroke, transient ischaemic attack • Screening for hypertension, diabetes, use of oral contraceptive pills, etc. • Investigations: ECG, X-ray, lipid profile 	<ul style="list-style-type: none"> • Non-invasive screening (history, tobacco use, BMI, waist circumference, etc.) • Screening for hypertension, diabetes • Investigations: ECG, X-ray, lipid profile 	<ul style="list-style-type: none"> • Opportunistic screening for oral, breast and cervical cancers • Investigations: Haematology, biochemistry, X-ray 	<ul style="list-style-type: none"> • Screening by suggestive respiratory signs and symptoms • Rule out TB—examine the sputum for AFB • Investigation: X-ray
Management				
Acute/emergency	<p>ABC of resuscitation</p> <p>If not equipped to carry out acute management or in case of unstable/deteriorating condition, refer immediately</p>	<ul style="list-style-type: none"> • Evaluate the haemodynamic status • Thrombolysis • Inpatient care for uncontrolled hypertension 	<p>Pain relief and palliative care</p>	<ul style="list-style-type: none"> • Intensive care for acute exacerbations • Antibiotics for suspected infection • Controlled oxygen therapy
Routine	<ul style="list-style-type: none"> • Prescription of multiple drugs and anticoagulants • Tobacco cessation for users 	<ul style="list-style-type: none"> • Tobacco cessation for users • Treatment of hypertension, diabetes 	<ul style="list-style-type: none"> • Tobacco cessation for users • Minimal surgical interventions • Pain relief and palliative care 	<ul style="list-style-type: none"> • Start on bronchodilators • Give antibiotics, if needed
Follow-up	<p>Health education, follow-up for compliance, investigations and change of prescriptions if needed, referral of complicated cases to a tertiary-level centre, and rehabilitation</p>			

CVD: cardiovascular disease; COPD: chronic obstructive pulmonary disease; ECG: electrocardiogram; BMI: body mass index; AFB: acid-fast bacilli

Source: Background papers submitted to NCMH 2005

Table A2.2 Equipment required for NCD services at the subdistrict level

General	Specialized
<ul style="list-style-type: none"> • Thermometer • Weighing machine • Height measuring board • Stethoscope • Sphygmomanometer • Oxygen mask • Oxygen cylinder • Ambu bag • Infusion sets • Sterilizer • Spotlight • Laryngoscope • Endotracheal tube • Ophthalmoscope • Otoscope • Surgical tools • Electrocardiogram (ECG) • X-ray machine 	<ul style="list-style-type: none"> • Nebulizer and spacer • Spirometer • Proctoscope • Indirect laryngoscope (IDL) with light source • Punch biopsy forceps • Nasal speculum • Cusco speculum • Sim speculum • Dental chair and accessories <p><i>Laboratory</i></p> <ul style="list-style-type: none"> • Microscope • Sahli haemoglobinometer • Glucometer • Semi-autoanalyser for biochemistry

Source: Background papers submitted to NCMH 2005

Table A2.3 Drugs required at the subdistrict level

<ul style="list-style-type: none"> • ACE inhibitors • Acid-inhibiting drugs • Aldactone • Aminophylline • Analgesics • Antibiotics • Anticoagulants • Antiepileptics • Antispastic drugs—Baclofen, Tizanide • Aspirin • Atenolol • Atorvastatin • Atropine • Benzathine penicillin • Biguanides • Calcium-channel blockers • Clopidogrel • Corticosteroids • Digoxin 	<ul style="list-style-type: none"> • Dobutamine¹ • Folic acid • Frusemide • Heparin (Inj.) • Insulin • Metoprolol • Morphine • Nitrates (oral and injectables) • Nitroglycerine • Oral anticoagulants • Salbutamol • Salmeterol • Statins • Streptokinase (Inj.) • Sulphonylureas • Terbutaline • Theophylline • Thiazides (oral)
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Source: Background papers submitted to NCMH 2005

Table A2.4 Personnel required at the subdistrict level

<ul style="list-style-type: none"> • Specialists (medicine, obstetrics and gynaecology, anaesthesiologist, surgery, ENT, dental surgeon) • General duty medical officers • Technicians: Laboratory technician, ECG, X-ray • Cytotechnologist • Nurses • Counsellor, dietician, physiotherapist
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Source: Background papers submitted to NCMH 2005

Appendix A3

Services, equipment, drugs and personnel required at the primary health care level

Table A3.1 Services to be provided at the primary health care level

Services	Stroke	CVD	Cancer	COPD
Screening and diagnosis	<ul style="list-style-type: none"> • Identification of signs and symptoms of acute stroke, transient ischaemic attack • Screening for hypertension, diabetes, use of oral contraceptive pills, etc. 	<ul style="list-style-type: none"> • Non-invasive screening (history, tobacco use, BMI, waist circumference, etc.) • Screening for hypertension, diabetes 	Cancer-related physical examination and appropriate referral	<ul style="list-style-type: none"> • Screening by suggestive respiratory signs and symptoms • Rule out TB
Management				
Acute/emergency	ABC of resuscitation If not equipped to carry out acute management or in case of unstable/deteriorating condition, refer immediately	<ul style="list-style-type: none"> • Evaluate the haemodynamic status • Oral nitrates • Aspirin 	Pain relief and palliative care	<ul style="list-style-type: none"> • Management of acute exacerbations • Antibiotics for suspected infection
Routine	Prescription for secondary prevention	<ul style="list-style-type: none"> • Secondary prophylaxis for rheumatic heart disease • Tobacco cessation for users 	Tobacco cessation for users	Bronchodilators and antibiotics
Follow-up	Health education, follow-up for compliance along with refill of medicines, referral of complicated cases, and rehabilitation			

CVD: cardiovascular disease; COPD: chronic obstructive pulmonary disease; BMI: body mass index; TB: tuberculosis

Source: Background papers submitted to NCMH 2005

Table A3.2 Equipment required at the primary health care level*General*

- Thermometer
- Weighing machine
- Height measuring board
- Stethoscope
- Sphygmomanometer
- Oxygen mask
- Oxygen cylinder
- Ambu bag
- Infusion sets
- Sterilizer
- Spotlight
- Laryngoscope
- Endotracheal tube
- Ophthalmoscope
- Otoscope
- Electrocardiogram (ECG), if possible

Specialized

- Nebulizer and spacer
- Cusco speculum
- Sims speculum

Laboratory

- Microscope
- Glucometer
- Uristix

Source: Background papers submitted to NCMH 2005

Table A3.4 Personnel required at the primary care level

- General duty medical officer
- Multipurpose health workers
- Laboratory technician

Source: Background papers submitted to NCMH 2005

Table A3.3 Drugs required at the primary health care level

- ACE inhibitors
- Acid-inhibiting drugs
- Aldactone
- Aminophylline
- Analgesics
- Antibiotics
- Anticoagulants
- Antiepileptics
- Antispastic drugs—Baclofen, Tizanide
- Aspirin
- Atenolol
- Atropine
- Benzathine penicillin
- Biguanides
- Calcium channel blockers
- Corticosteroids
- Digoxin
- Dobutamine
- Folic acid
- Frusemide
- Insulin
- Metoprolol
- Nitrates (oral and injectables)
- Nitroglycerine
- Oral anticoagulants
- Salbutamol
- Sulphonylureas
- Terbutaline
- Theophylline
- Thiazides (oral)

Source: Background papers submitted to NCMH 2005

Note:

Primary level: Health posts, clinics, primary health centres and other basic health units.

Secondary level: Hospitals that deal more with difficult cases and those referred by primary health care centres.

Tertiary level: Hospitals where complicated cases are referred from the secondary level centres and which have more advanced levels of diagnostic and treatment facilities.