



## Equipment Requirements for a PHC Centre Laboratory

The following list has been prepared based on common equipment requirements for a Primary Health Care (PHC) Centre laboratory.

The list is intended to serve as a guideline and would need to be adapted to country specific needs.

## Equipment Requirements for a Primary Healthcare Centre Laboratory

### Major Equipment

No	Description	QTY	Remarks
1	Binocular Microscope, 220V, complete with:	1	
	- Eyepieces, widefield 10x	2	
	- Objectives x 10, 40 and x 100 oil immersion, each	1	
	- Condensor with iris and filter tray	1	
	- Plastic cover	1	
	- Mechanical stag	1	
	- Spare bulbs	3	
2	Centrifuge, electric, cap.:12-24 tubes, timer, speed ajustable up to 4000 rpm	1	
3	Haematocrit centrifuge, timer, one speed	1	
4	Spectrophotometre, Digital or Analogue read	1	
	- Wavelength range about 380 - 900nm, and tungsten bulb		
	- Spare bulbs	3	
	- Acrylic cuvettes 10 mm	20	
	- Glass cuvettes 10mm	4	
5	Ohaus Electronic Toploader Balance CT 600 sens. 0.1g	1	
	- with Battery and AC adapter, 220V	1	
6	Water distillation unit, electric still, 1gal./hr.	1	bigger capacity if shared with other units
7	Hotair oven, 30-200 degree, 0.05 cubic-metre	1	bigger capacity if shared with other units
8	Autoclave, small capacity, (about 12ltr) with	1	bigger capacity if shared with other units
	- Spare safety valves	4	
	- Spare safety gaskets	2	
9	Rotator with timer for agglutination tests, 220V	1	
10	Blood Pipettes Shaker, electical, 220V	1	
11	Refrigerator with freezer compartment, small	1	bigger capacity if shared with other units
12	Incubator for Simple Microbiology, 30 - 60 degree, 0.05 cubic metre	1	

### Minor Equipment

No	Description	QTY	Remarks
1	Neubauer Counting Chamber w/ Cover Glasses	2	
2	Westergreen ESR rack with	1	
	- ESR Glass tubes	20	
3	Interval timer 1 h (steps of 1 min)	2	
4	Stop watch	1	
5	Hand tally counter	1	
6	Water-jet pump to clean pipettes	1	
7	Stainless steel staining rack for a sink	1	
8	Drying rack for glass and plastic ware	2	
9	Manual differential cell counter up to 100 cells	1	
10	Test tube rack, metal to hold 20 tubes/ dia.15mm	6	
11	Pipetting aid rubber ball, Assistant	2	
12	Small rubber tubing w/ mouth piece to fit blood diluting pipettes	4	
13	Spirit lamp, metal with spare wicks	2	
14	Tool kit (screw-driver, pair of pliers, hammer)	1	
15	Tourniquet	2	
16	Diamond pencil for glass writing	1	
17	Grease pencil	10	
18	Test tube clamp, wooden, 13 to 19mm diametre	2	
19	Blood collection tray, organiser tray	1	

## Equipment Requirements for a Primary Healthcare Centre Laboratory

Glassware			
No	Description	QTY	Remarks
1	Beaker, glass		
	100 ml	2	
	250 ml	2	
	500 ml	2	
	1000 ml	1	
2	Erlenmeyer flask, narrow mouth, heat-resistant glass		
	100 ml	3	
	250 ml	3	
	500 ml	2	
	1000 ml	1	
3	Measuring cylinder, graduated, glass		
	50 ml	3	
	250 ml	3	
	500 ml	3	
	1000 ml	2	
4	Volumetric flask, with stopper		
	100 ml	1	
	250 ml	1	
	500 ml	1	
	1000 ml	2	
5	Centrifuge tube, ungraduated, 10 ml conical, thick glass	200	
6	Test tube, glass, heat resistant		
	75 x 11 mm	100	
	100 x 13 mm	50	
	150 x 15 mm	50	
7	Pipette, 20 ul	15	
8	Pipette, WBC Diluting with white bead	10	
9	Pipette, RBC Diluting with white bead	5	
10	Pipette, volumetric, bulb		
	1 ml	4	
	5 ml	4	
11	Pipette, graduated,		
	1 ml	10	
	5 ml	10	
	10 ml	10	
12	Glass rods, 150 x 4 mm	20	
13	Funnel, glass		
	80 mm diameter	3	
	100 mm diameter	3	
	120 mm diameter	1	
14	Dropping Bottles with Lugs and Ground Glass Stoppers		
	30 ml	10	
	50 ml	10	
15	Dropping Bottles with Ground Glass Stopper/Pipette		
	30 ml	6	
	50 ml	6	
16	Amber Glass Reagent Bottles, narrow mouth		
	250 ml	6	
	500 ml	10	
	1000ml	6	
17	Petri dish with lid, glass, 90 mm diameter	3	

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### Consumables

No	Description	QTY	Remarks
1	Microscope slides, 75 x 25 mm, box of 100	20	
2	Cover slips, 22 x 22 x 0.22mm, pack of 10 x 100	10	
3	Lancet, disposable, sterile, box of 200	10	
4	Syringe, Luer, plastic, disposable 2 ml or Vacutainer Brand tube	500	
5	Syringe, Luer, plastic, disposable 5 ml or Vacutainer Brand tube	50	
6	EDTA tubes, Vacutainer Brand	200	
7	Microhaematocrit capillary, with heparin, pack of 100	6	
8	Microhaematocrit capillary, without heparin, pack of 100	10	
9	Capillary tube Sealant Compound	3	
10	Container for Stool specimen collection with lid	1500	
11	Container for Urine Specimen Collection	1500	
12	Container for Sputum collection, wide mouth, plastic with lid	200	
13	Lens paper for Microscope, book of 50 sheets	10	
14	Filter Paper, Whatman No.1, box of 100 sheets		
	90 mm	2	
	150 mm	2	
	240 mm	2	
15	Wooden applicators, box of 1000	4	
16	Autoclave tape, rolls	3	
17	Pipettes, disposable, plastic bulb, 3 ml	200	
18	Cotton Gauze, non-sterile, 500g rolls	5	
19	Cotton wool (absorbent), non-sterile 500g rolls	10	
22	Rubber gloves, autoclavable, size M and L, pairs	4	
23	Gloves, disposable, size M and L, boxes	10	
24	Graph paper, sheets, book	2	
25	Laboratory record books	10	
26	Stock and Inventory index cards	300	
27	Pencils, HB box of 12	2	

### Others

No	Description	QTY	Remarks
1	Broad tipped forceps, Steel about 115mm long	2	
2	Scissors all purpose, 180 mm	1	
3	Buckets, metal, 15 ltr	2	
4	Test tube brush	3	
5	Brush for bottle and flasks	5	
6	Needle collection container,	4	
7	Funnel, polyethylene		
	65 mm diameter	2	
	150 mm diameter	2	
	100 mm diameter	1	
8	Drying rack for glass slides	1	
9	Set of spatula for weighing chemicals	1	
10	Handle for wire loop, metal	2	
11	Wire inoculation loops,	6	
12	Scalpel handle, stainless steel, for No.22 blades	1	
13	Plastic basin, 5 litre	2	
14	Plastic bucket, 15 litre	2	
15	Wash bottle, polyethylene, 250 ml	4	
16	pH Paper, Range 1-12	1	
17	Eppendorf Standard Pipettes		
	20 ul	1	
	50 ul	1	
	100 ul	1	
	500 ul	1	
18	Stand with Storage box for pipetter tips	1	
19	Yellow pipetter tips, pack of 500	2	
20	Blue Pipetter tips, pack of 500	2	

## Equipment Requirements for a Primary Healthcare Centre Laboratory

### Reagents

No	Description	QTY	Remarks
1	Urea, Berthelot Modified Method, Reagent kit	1	
2	Glucose, Reagent kit	2	
3	Creatinine, Reagent Kit	1	
4	GOT, Reagent Kit	1	
5	GPT, Reagent Kit	1	
6	Cholesterol, Reagent Kit	1	
7	Triglyceride, Reagent Kit	1	
8	Rheumatoid Factor, Latex Test Kit, 50 tests	1	
9	Brucella, Latex Test Kit, 50 tests	1	
10	Pregnancy Test - Kit, 50 tests	1	
11	VDRL, Latex Test Kits	1	
12	HIV Spot test		
13	Acetone (Gram stain)	2 ltr	
14	Acetic acid 36% (WBC count)	500ml	
15	EDTA (anticoagulant) not required if Vacutainer used	100g	
16	Ether (concentration of parasites)	2 ltr	
17	Formalin 40% (concentration of parasites, fixative)	2 ltr	
18	Basic fuchsin (Gram and Ziehl Nelson Stain)	100g	
19	Gentian violet ( Gram and Turk solution)	100g	
20	Methanol (Gram & Ziehl Nelson Stain, decolourizer, spirit lamp)	5 ltr	
21	Iodine (Cyst identification, Gram stain )	100g	
22	Methylene blue (ZN stain, WBC stain in stool)	100g	
23	Phenol crystals (Carbon Fuchsin)	500 g	
24	Potassium iodide (Gram Stain)	500 g	
25	Drabkin's solution	2 ltr.	
26	Standard for Cyanmethaemoglobin method	5	
27	Immersion oil (microscope)	250ml	
28	Potassium hydroxide (Fungus examination)	500 g	
29	Eosin powder (Cysts staining)	10 g	
30	Sodium metabisulphite (Sickle Cell Screening)	500 g	
31	Vaseline (Sickle cell screening)	250 g	