OneShot 4.0
Community Medicine

DBMCI one

COMMUNITY MEDICINE

“Hunger for survival, Keep that hunger alive. Let the universe feed you.”

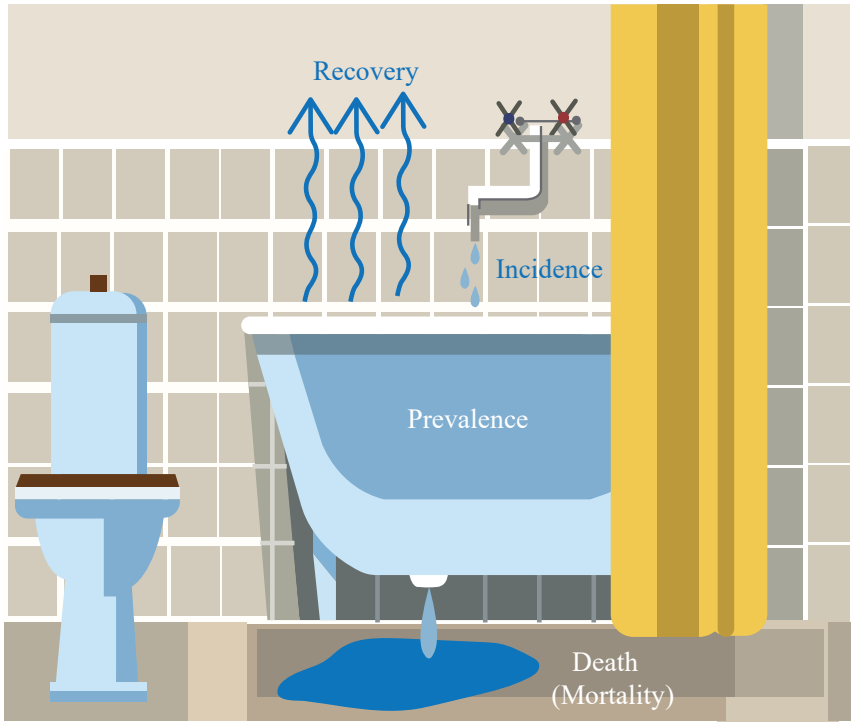
- Dr. Rajeev Shetty

HEALTH INDICATORS

Health Indicators

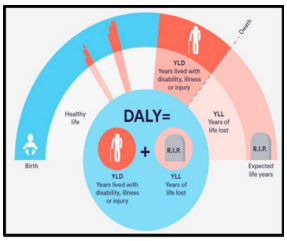
Indicator	Use
Crude death rate **Not age / sex specific**	Deaths during 1 year / MYP
Proportional mortality rate **- To express burden**	Deaths due to disease / Total deaths
Case fatality rate **- To express virulence**	
Age standardised death rate From direct standardisation	Compare mortality pattern between two populations with different age structure
Standardised mortality ratio **= Observed deaths / expected deaths** From indirect standardisation	Compare mortality between occupation vs General population

Incidence	Prevalence
New cases / population at risk	Existing cases at one point of time
Cohort study	Cross sectional study
To study cause to effect relationship	Cannot be used
To study etiological hypothesis	Cannot be used
Risk of developing disease	Indicates burden of disease
Does not depend on duration of illness	Depends on duration of illness $(P = I \times D)$



Intervention	
A new effective treatment for cancer / NCD *Ex: Surgical intervention*	
A new treatment for cancer prolonging survival but no cure *Ex: Chemotherapy*	
A new effective treatment for communicable disease *Ex: TB*	
A new prophylactic intervention	

HDI	PQLI
Knowledge • Mean years of schooling • Expected years of schooling **Income** • Per capita GNI **Longevity** • LE at birth	**IMR** **Literacy rate** **LE at age 1**

DALYs  	**QALYs** ***To express effectiveness of intervention*** • *Consider quantity and quality of life* • *Quality of life – Given by utility value* • *An intervention for cervical cancer prolong life by 8 years with utility value of 0.5*
To express burden of disease **DALY = YLL + YLD**	

INFECTIOUS DISEASE EPIDEMIOLOGY

Incubation period	Time between exposure and first sign/symptoms
Median incubation period	Time required for 50% of cases to occur after exposure
Generation time	Time taken from receipt of infection to develop maximum infectivity
Serial Interval	Gap in onset between primary case and secondary case Indirect estimate of incubation period
Period of communicability	Time during which an infectious agent may spread
Latent period	Period from disease initiation to disease detection Used for NCDs
Secondary attack rate	Communicability in contacts Sec cases / susceptible contacts
Quarantine	Observe exposed till max IP
Epidemic	Point source - all cases within 1 IP Multiple source – cases develop after 1 IP Propogated epidemic

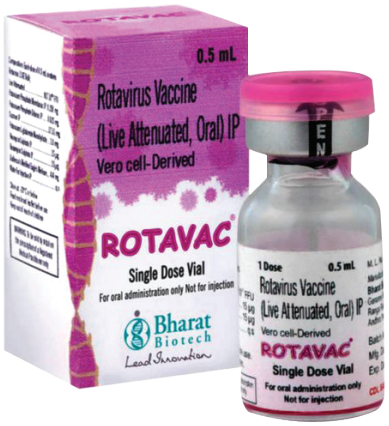
NOTES

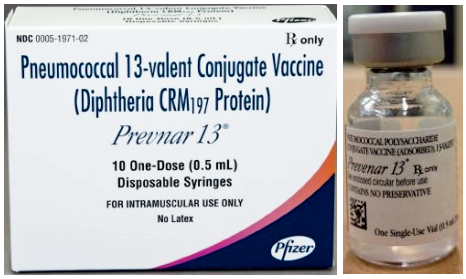
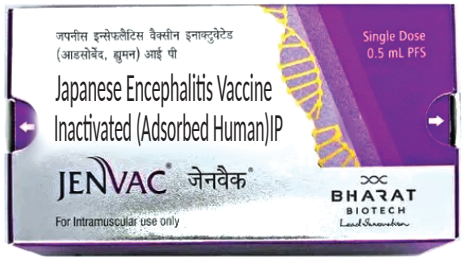
VACCINES

Vaccines

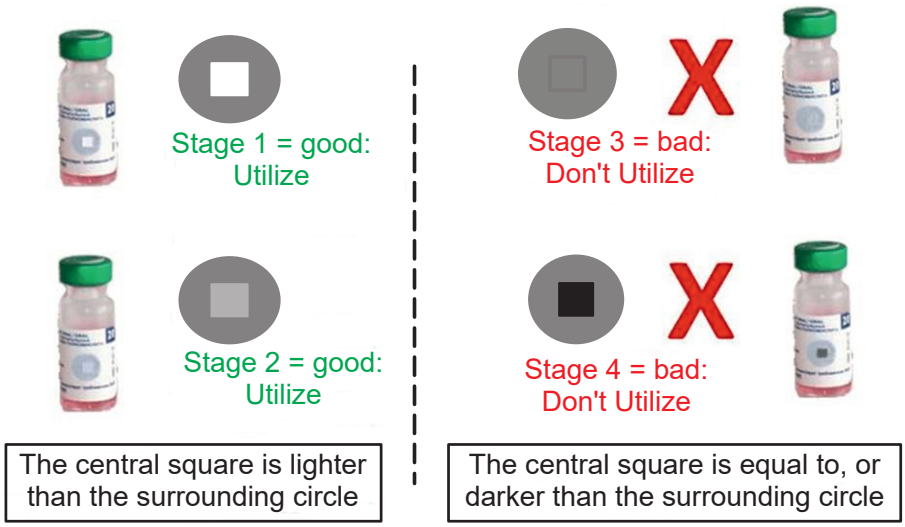
At birth	BCG, OPV-zero dose, Hep B-birth dose
6 weeks	OPV-1, Pentavalent-1, Rota-1*, fIPV-1, PCV-1*
10 weeks	OPV-2, Pentavalent-2, Rota-2*
14 weeks	OPV-3, Pentavalent-3, Rota-3*, FIPV-2, PCV-2*
9 months	Measles-1/MR-1, Vit A, JE-1*, PCV-B*, IPV - 3RD DOSE
16-24 months	DPT first booster dose, OPV-booster dose, Measles-2/ MR-2, JE-2*
5-6 years	DPT second booster dose
10 & 16 years	Td
For pregnant woman	Td-1: early in pregnancy Td-2: 4 weeks after Td-1 Td-B: if pregnancy occur within 3 years of last pregnancy and 2 Td doses were received

Vaccine	Adverse effect
BCG	• Suppurative lymphadenitis • BCG osteitis • Disseminated BCG infection
Measles/MR/MMR	• Febrile seizure • Thrombocytopenia • Encephalopathy • Toxic shock syndrome
OPV	• VAPP (Vaccine associated paralytic polio)
Pertussis (Whole cell)	• Persistent (>3 hours) screaming • Seizures • Hypotonic, hypo responsive episode(HHE) • Encephalopathy
Rotavac	• Intussusception
Influenza (Killed)	• Gullain bairre syndrome
Yellow fever (17D)	• Vaccine associated viscerotropic disease

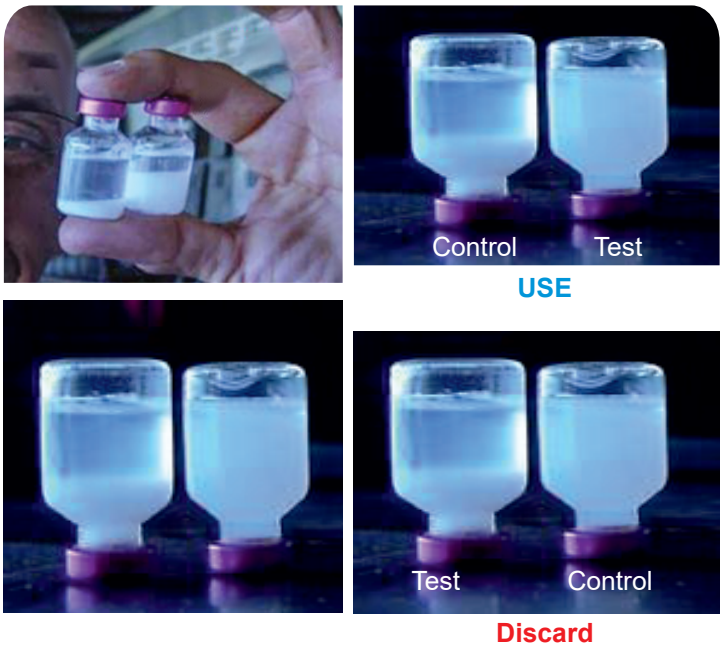
Hep B Within 24 hours If mother is Hbsag + :	Recombinant DNA vaccine
Pentavalent 	
MR	0.5 ml – Subcutaneous – right arm
ROTAVAC 	5 drops oral S/E: Intussusception
Fractional IPV 	Trivalent 0.1 ml, id 6 wk, 14wk – right deltoid 9 th month – left deltoid

PCV 	PCV 13 0.5 ml , im , right thigh
JE  	SA 14-14-2 0.5 ml – Subcutaneous – left arm JENVAC 0.5 ml - im , left thigh

Vaccine Vial Monitor

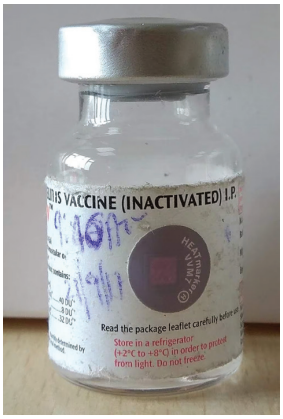


Shake Test

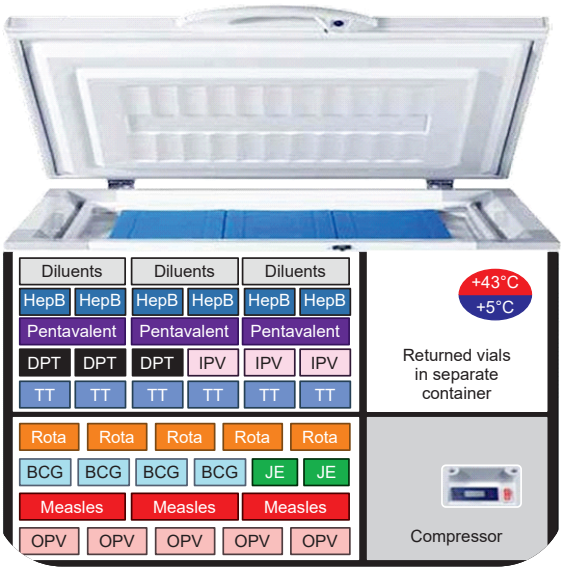


Rate of sedimentation - fast or same as control vial :

Open Vial Policy

Policy :	*Reuse of partially used multi dose vials in subsequent session up to four weeks (28 days)*
	• *Date and time mentioned* • *The expiry date has not passed*
Not applicable to	
Applicable to	

ILR :



Most heat sensitive:

Most freeze sensitive:

NOTES

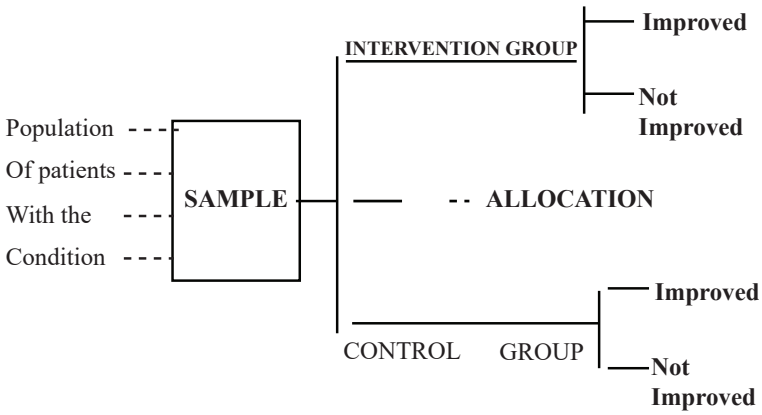
STUDY DESIGNS

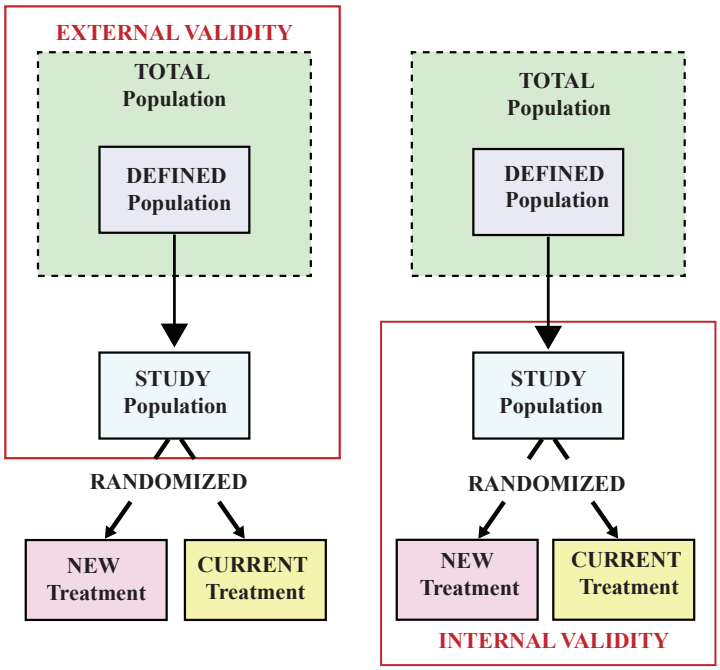
Study Designs

<table>
<tr><td>Case study</td><td></td></tr>
<tr><td>Case series</td><td></td></tr>
<tr><td>Cross sectional study</td><td>At one point of time : Prevalence – Burden of disease</td></tr>
<tr><td>Case control study</td><td>1. Case
2. Control
3. Matching – remove known confounders
4. Exposure assessment –
Interviewer bias – Leading questions/more time
Recall bias + - Cases try to recall more
5. Analysis : odds ratio – strength of association<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
<tr><td>Cohort study</td><td>Exposed group
Non exposed group
Follow up – attrition bias +
Attention bias or Hawthorne effect
Analysis : Incidence , Risk ratio</td></tr>
</table>

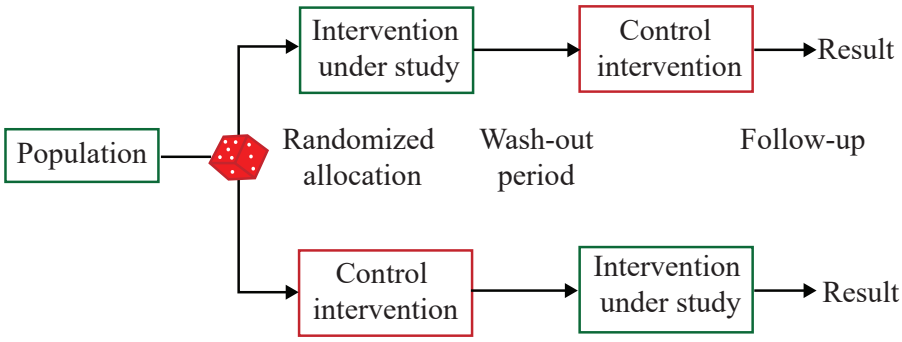
Risk ratio		
Attributable risk		
Population attributable risk		

RCT :

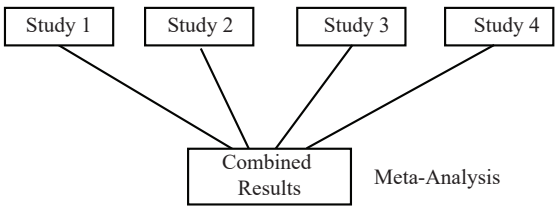




Cross Over RCT :



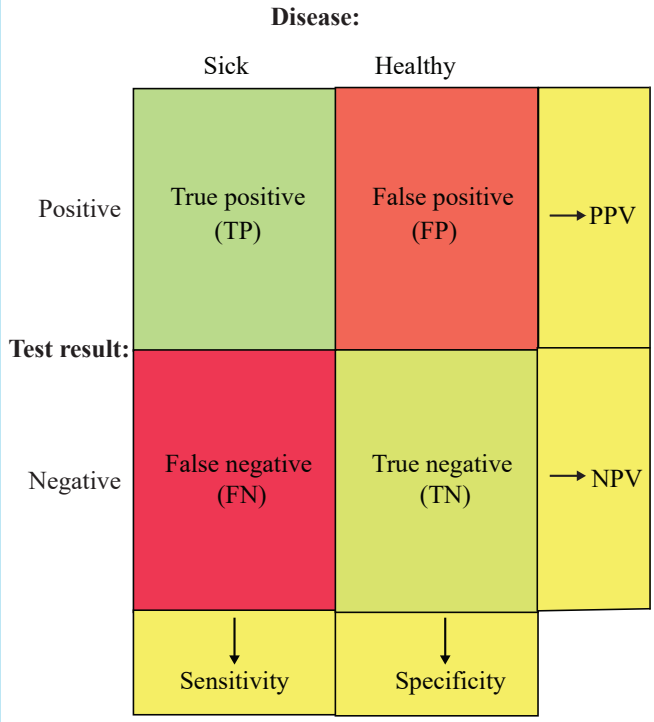
Systematic review and Meta-analysis:



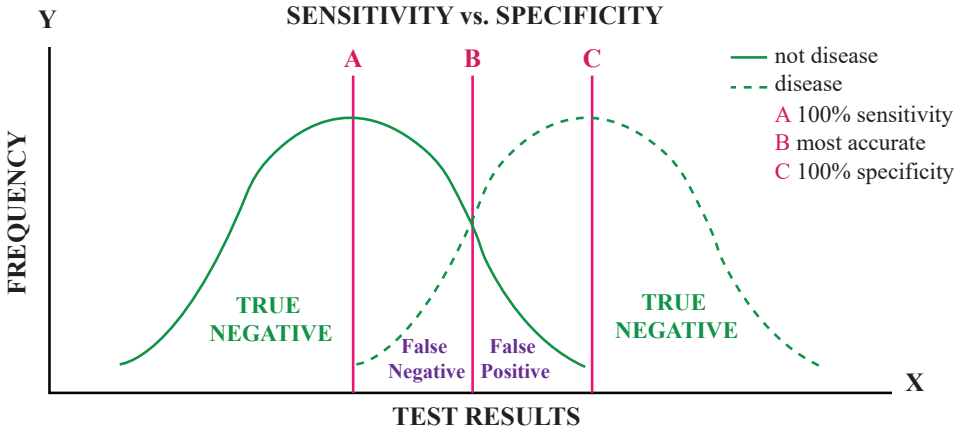
NOTES

SCREENING

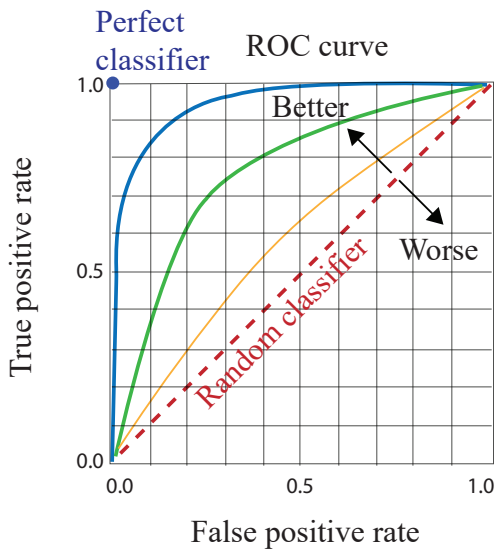
Screening



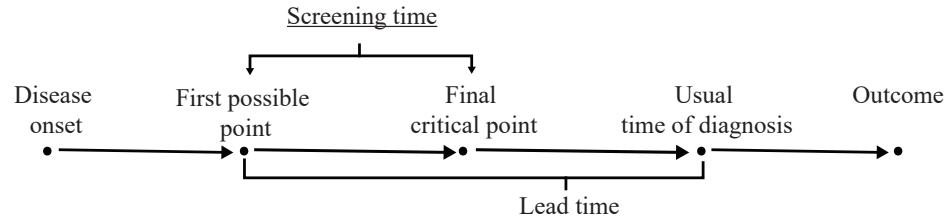
	Diseased	Normal	
Test +	400	200	600
Test −	100	300	400
	500	500	



Roc Curve :



Lead Time Vs Screening Time :



Apparent increase in survival without benefit –

Types of screening :

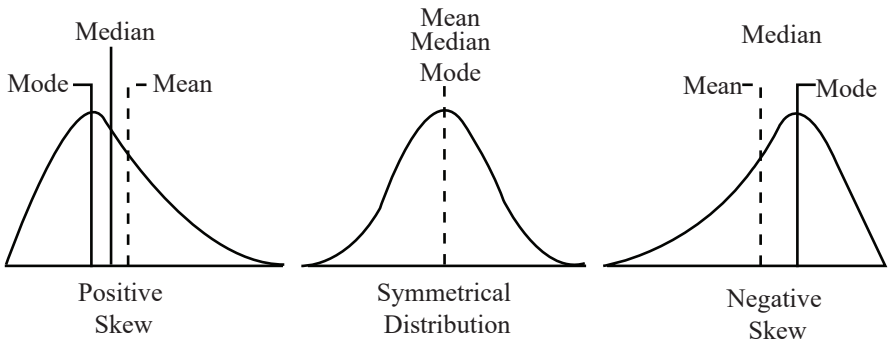
a. Prospective screening –

b. Prescriptive screening –

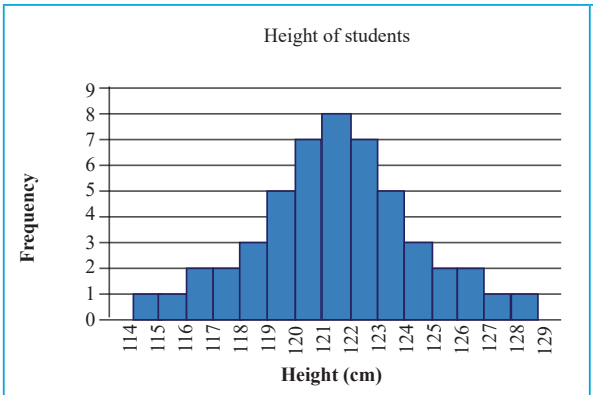
c. Opportunistic screening -

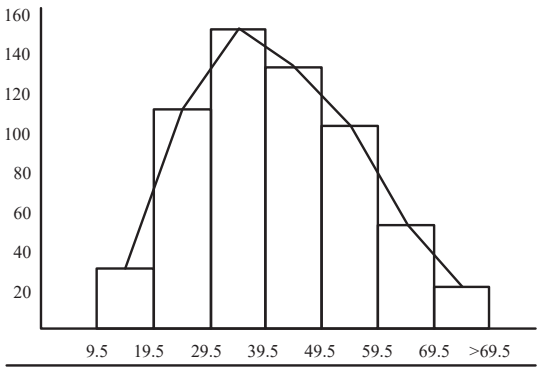
BIOSTATISTICS

Skewed Data :

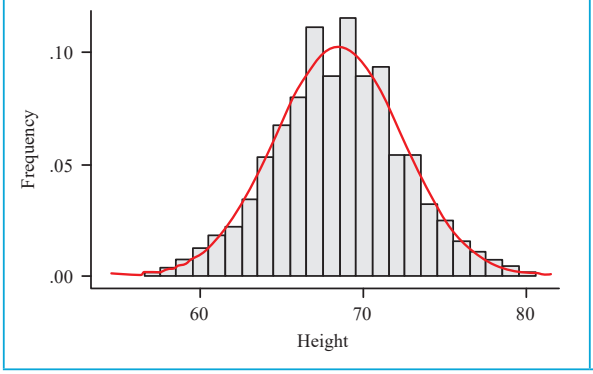


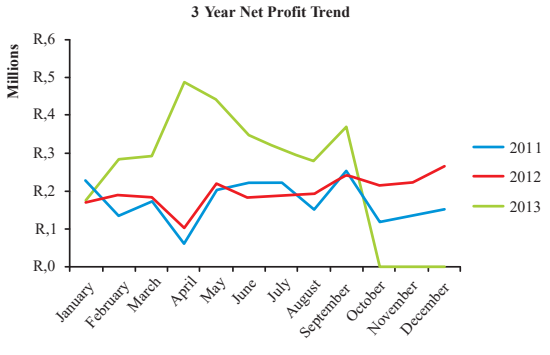
Images :





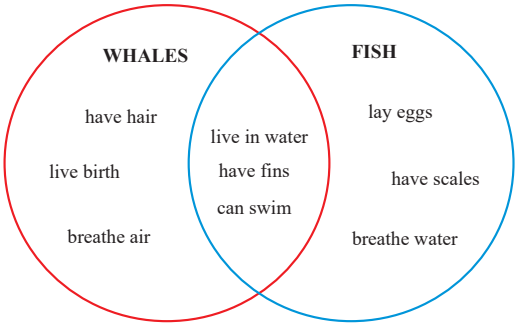
Frequency Polygon. Frequency distribution of duodenal ulcer in different age groups.

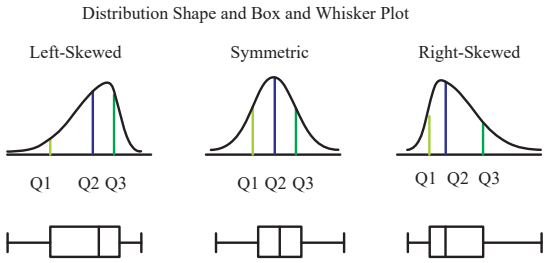


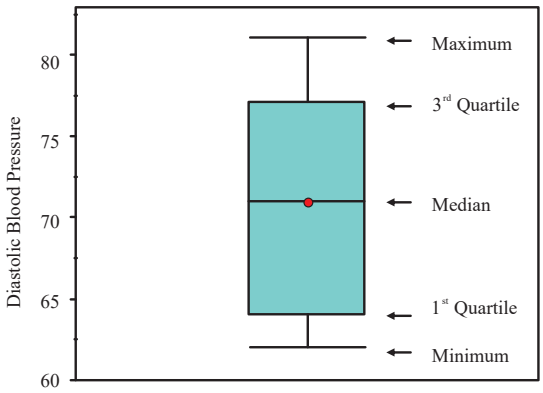


12, 23, 35, 23, 14, 25, 32, 18

Stem	leaf
1	2, 4, 8
2	3, 3, 5
3	2, 5







Z Score

Weight -

Mean : 60 kg

SD : 10 kg

Z score for 70 kg -

Standard Deviation

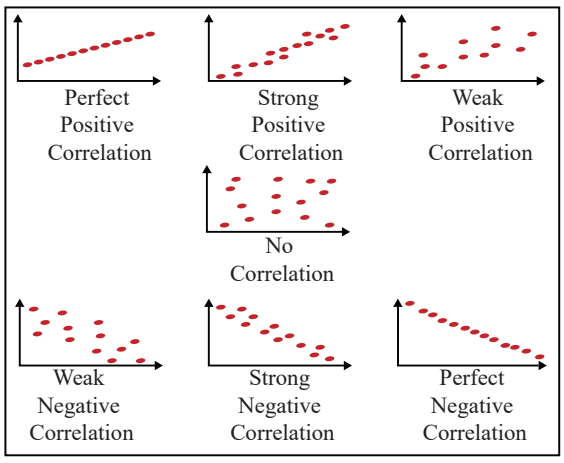
Coefficient of Variation

Compare variation between 2 samples

Mean - 12 kg, SD - 3 kg

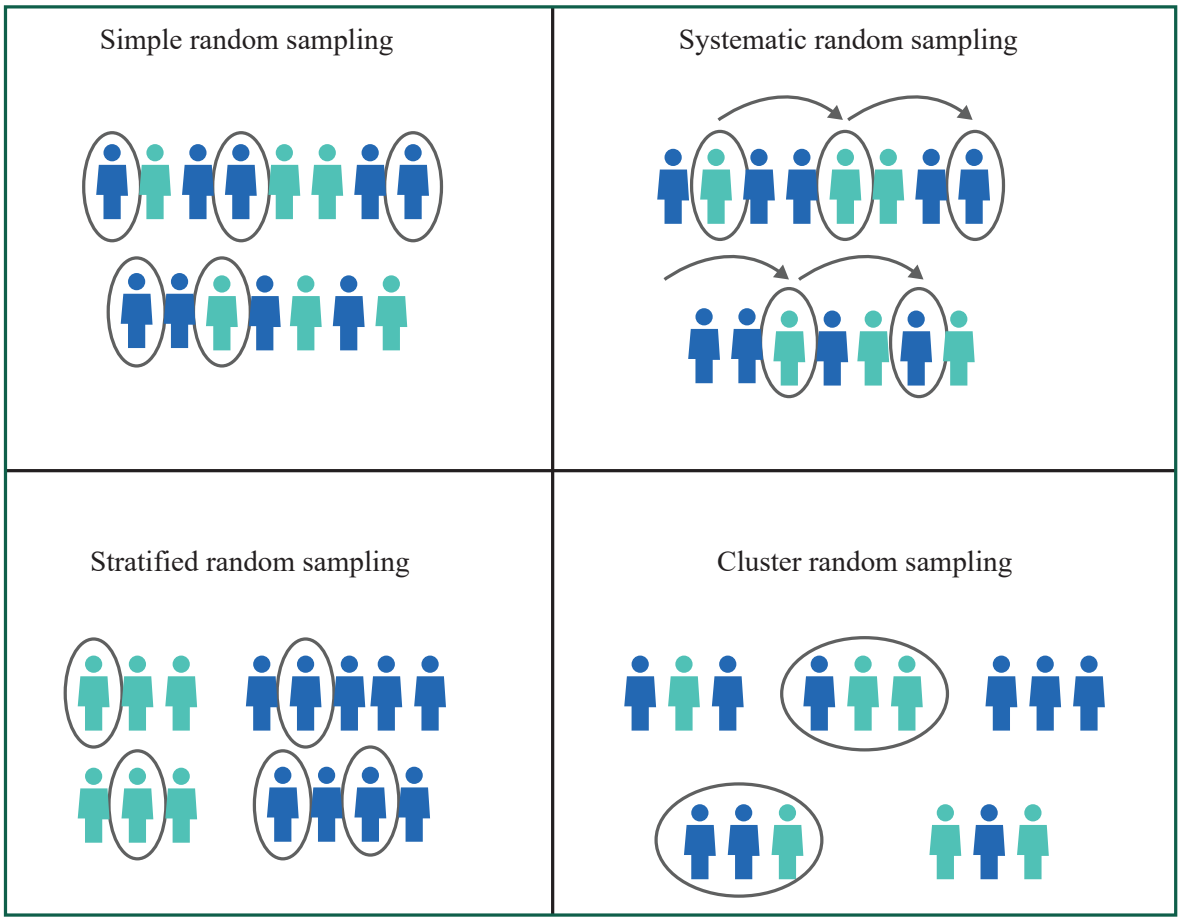
Mean - 12 kg, SD - 4 kg

Corelation Coefficient



Coefficient of Regression	To predict amount of change in y wrt x Y = Dependent variable X = Independent variable a. Constant b. Regression coefficient

SAMPLING :



TESTS :

Parametric Tests

Compare mean between 2 groups	Student t test or unpaired t test
Compare mean – within one group	Paired t test
Compare mean more than 2 groups	ANOVA – Analysis of variance

Non-Parametric Tests

Compare proportion – 2 or > 2 groups	Chi square test
Compare proportion – within 1 group	Mcnemar test

Compare median between 2 groups	Man whittney test or Wilcoxon ranksum test
Compare median – within one group	Wilcoxon sign rank test
Compare median more than 2 groups	Kruskal wallis test

Errors :

Type 1 Error

- False positive error by chance
- Reject a true null hypothesis
- Level of significance – alpha
- P value – Probability of committing type 1 error
- Less than 5 % - Statistically significant

Type 2 Error – Beta Error

- False negative error
- Not able to detect statistical significance
- Because of less sample size
- POWER - able to detect statistical significance

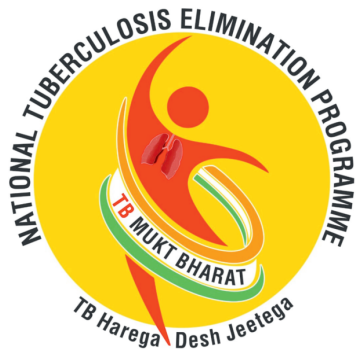
Type I and Type II Error

Null hypothesis is ...	True	False
Rejected	Type I error False positive Probability = α	Correct decision True positive Probability = 1 - β
Not rejected	Correct decision True negative Probability = 1 - α	Type II error False negative Probability = β

NOTES

COMMUNICABLE DISEASES AND HEALTH PROGRAMMES

TB :

Diagnosis 	CBNAAT OR TRUNAAT
Treatment	2 HRZE+ 4 HRE
B-PALM regimen	FOR MDR treatment • Bedaqualine • Pretomanid • Linezolid • Moxiflox
Isoniazid preventive therapy	6 month – Daily isoniazid 3 month – Weekly Isoniazid + Rifapentine
HIV – TB	ATT followed by ART : Gap 2 wks. (Increase dose of dolutegrair)
NIKSHAY	Website for notification – monthly reports
NIKSHAY POSHAN YOJANA	Nutrition support – 1000 rs per month during treatment
99 DOTS	Missed call initiative To monitor adherence

Malaria :

Treatment

FALCIPARUM	ACT 3 days + primaquine 1 dose North east – Artemether + Lumefantrine Other states – Artesunate + sulfadoxine – pyrimethamine
VIVAX	Chloroquine for 3 days + primaquine : 14 days
MIXED INFECTION	
OVALE	
MALARIAE	

Pregnancy

Falciparum

Vivax

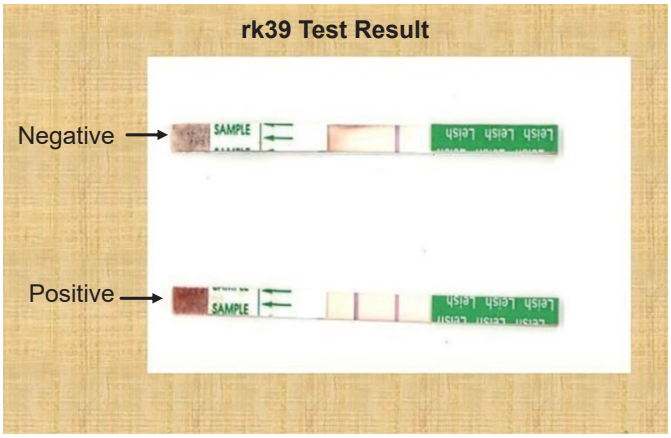
Chemoprophylaxis

Short term _ upto 6 weeks	Doxy
More than 6 weeks	Mefloquine

Indicators

Annual parasite incidence	
Annual blood examination rate	
Infant parasite rate	
Spleen rate	

KALA AZAR :

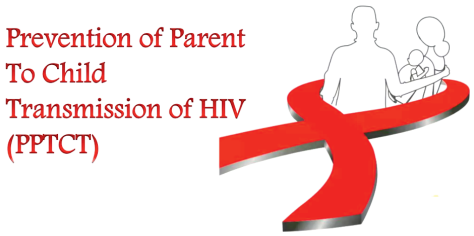


Endemic states	Bihar, Jharkhand, UP, West bengal
Kala azar suspect	Fever, anemia, hepatosplenomegaly
Diagnosis	
Drug of choice	
Post kala azar dermal leishmeniasis	
Vector control	Sand fly : phlebotomous argentipes Indoor residual spray – Synthetic pyretheroids

FILARIASIS :

MAPPING	Prevalence of mf more than 1 % - Endemic area
MASS DRUG ADMINISTRATION	• Triple drug therapy • Ivermectin + DEC + Albendazole • Biannual • For 5 years
Transmission assessment survey	

HIV :

ART : TEST AND TREAT POLICY 	TLD Start treatment irrespective of CD4 counts
PPTCT 	Prophylaxis : 1. Mother on ART – Nevirapine Duration – min : 6 wks and max : 18 months 2. Not on art / less than 6 weeks / viral load more than 1000 copies per ml Dual drug : Nevirapine + Zidovudine Diagnosis 6 wks – 18 months - Feeding – Cotromoxazole prophylaxis
POST EXPOSURE PROPHYLAXIS	
Pre-exposure prophylaxis	

POLIO : AFP surveillance

Component	Details
Purpose	Detect poliovirus circulation and monitor polio eradication
Target Age Group	< 15 years (any acute flaccid paralysis)
Case Investigation	Within 48 hours of notification
Stool Samples	2 samples, 24 hours apart
Time for Stool Collection	Ideal - Within 14 days of onset of paralysis Maximum – within 2 months
Quantity of Stool	8 grams each
Transport	To WHO-accredited polio laboratory (Reverse cold chain)
Follow-up Examination	At 60 days after onset to check residual paralysis
Confirmation	Virological (polio virus isolation)
Classification	Polio, Vaccine-derived polio (VDPV), Non-polio AFP
Key Surveillance Indicator	≥ 2 non-polio AFP cases / 100,000 children
Adequate sample collection	≥ 80% cases Adequate stool sample – 8 gm collected within 2 wks

LEPROSY :

DIAGNOSIS	PB – MB -
TREATMENT 	DAY 1 : RCD Day 2 – 28 : CD
SPARSH CAMPAIGN 	

TRACHOMA :

Syndromic Management : STI – Under Suraksha Clinics

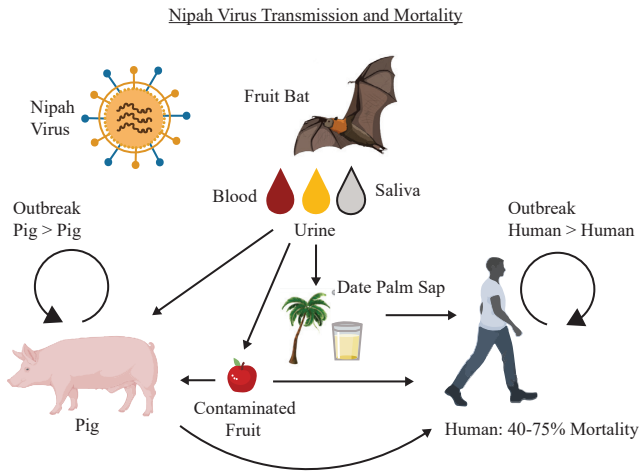
Kit 1: Grey	Urethral Discharge Cervical Discharge Painful Scrotal Swelling	Tab Azithromycin + Tab. Cefixime
Kit 2: Green	Vaginal Discharge	Tab. Secnidazole + Cap. Fluconazole
Kit 3: White	Genital Ulcer-Non herpetic	Inj. Benzathine penicillin + Tab Azithro
Kit 4: Blue	Genital Ulcer-Non herpetic (Allergic to Penicillin)	Doxycycline + Tab Azithromycin
Kit 5: Red	Genital Ulcer- Herpetic	Tab. Acyclovir
Kit 6: Yellow	Lower Abdominal Pain	Tab. Cefixime + Tab. Metronidazole + Tab. Doxycycline
Kit 7: Black	Inguinal Bubo (IB)	Tab. Doxycycline
Kit 8: Brown	Ano-rectal discharge	Tab. Cefixime + Tab. Doxycycline

Rabies :

POST EXPOSURE PROPHYLAXIS	1. Updated thai redcross schedule • 0.1 ml, id, Each deltoid (2 site) • 0, 3, 7, 28 (4 visits) 2. Essen schedule • 0.5ml, im, Deltoid (1 site) • 0, 3, 7, 14, 28 (5 visits)
PRE EXPOSURE PROPHYLAXIS	• 3 visits • 0, 7, 21/28 : im (1 site) or id (1 site)
RE EXPOSURE	• Upto 3 months of completed vaccine : Nothing to be done • After 3 mnths : (0,3) 2 visits – im/id (1 site) No igs

Immunoglobulin	HRIG – 20 IU / Kg 30 kg – Within 7 days from first dose of vaccine
Cost effective strategy to eliminate rabies	Mass vaccination of dogs and eliminate stray dogs
Zero by 30	Zero mortality by 2030

Emerging Infections :

CRIMEAN CONGO HEMORRHAGIC FEVER	Reservoir : Cattle, camel Vector – hard tick C/O – Viral hemorrhagic fever
NIPAH  	Reservoir : Fruit bats BAT --- PIG ---- MAN BAT ---- MAN C/o – Acute encephalitis D/D – JE
EBOLA	Reservoir : Fruit bats BAT ----- MAN c/o – Internal bleed – death D/D – Yellow fever
ZIKA	Vector – Aedes C/O – Viral hemorrhagic fever Pregnancy ------- microcephaly
Hanta virus	Hanta pulmonary syndrome Hanta haemorrhagic fever with renal failure
Rat flea Rat urine	

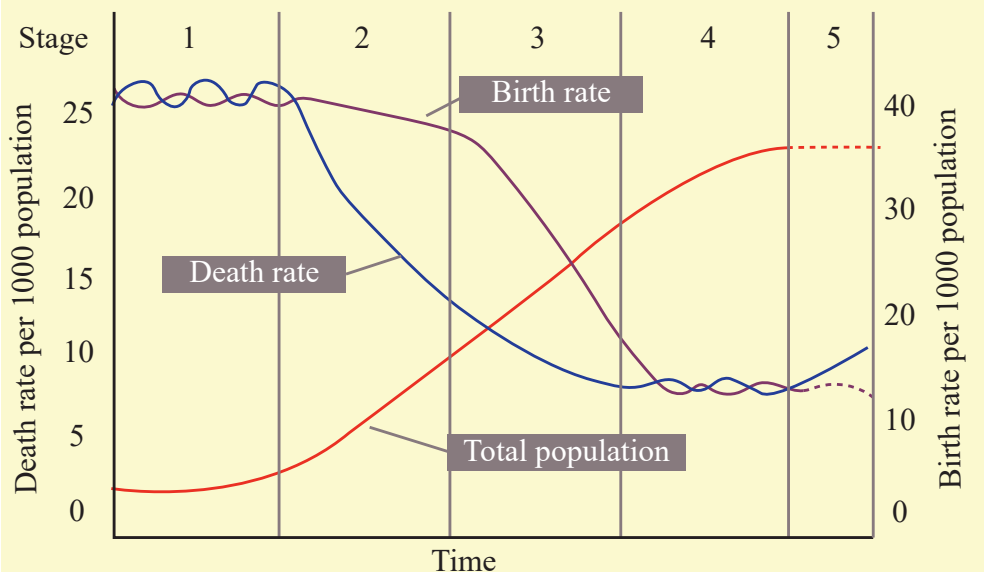
Feature	Epidemic Typhus	Endemic (Murine) Typhus	Scrub Typhus
Causative Agent	Rickettsia prowazekii	Rickettsia typhi	Orientia tsutsugamushi
Vector	Body louse (Pediculus humanus corporis)	Rat flea (Xenopsylla cheopis)	Chigger mite (larval trombiculid mite)
Reservoir	Humans	Rats	Rodents
Geographical Setting	Overcrowding, war, refugee camps	Urban / coastal areas	Rural, scrub vegetation
Mode of Transmission	Louse feces rubbed into skin	Flea feces	Bite of chigger
Rash	Present (trunk → limbs, spares face)	Mild or absent	Variable, often absent
Eschar	X Absent	X Absent	✓ Present (pathognomonic)
Diagnosis (Weil–Felix)	OX19	OX19	OXK
Treatment of Choice	Doxycycline	Doxycycline	Doxycycline / Azithromycin
Prevention	Louse control	Rodent control	Avoid mite exposure

NOTES

NOTES

DEMOGRAPHY AND FAMILY PLANNING

Demographic Cycle :



	Phase I High Stationary Phase	Phase II Early Expanding Phase	Phase III Late Expanding Phase	Phase IV Low Stationary Phase	Phase V Declining Phase
Birth rate	High	No change	Starts declining	Low	Less than death rate
Death rate	High	Starts declining	Declining	Low	-
Growth rate	Zero	Positive	Positive	Zero	Negative
Population	Stationary	Growing	Growing	Stationary	Decreasing
Demographic gap	Narrow	· Starts increasing · Maximum gap	· Starts decreasing	Narrow	Reversal

FERTILITY INDICATORS:

CRUDE BIRTH RATE	**Live births / MYP**
GENERAL FERTILITY RATE	**Live births / Reproductive women**
TOTAL FERTILITY RATE	**Average number of children per woman** **Indicate completed family size**
GROSS REPRODUCTION RATE	**Average number of girls per woman**
NET REPRODUCTION RATE	**Number of daughters a newborn female will have in the future** **Consider both fertility and mortality together**
Couple protection rate	**Couples using contraceptives / total couples** **Proportion of contraceptive practice**

IUD	**OCPs**	**Emergency contraception**
CuT 380 A **Timing :** *Post-placental: Within 10 minutes of placental delivery* *Immediate postpartum: Within 48 hours* *Delayed postpartum: After 6 weeks* *Post-abortion: Immediately after MTP*	**Mala N and Mala D** *Each tablet contains:* *Ethinyl estradiol 30 µg* *Levonorgestrel 150 µg*	**LNG –** • *levonorgestrel 1.5 mg or 0.75 mg two tablets* • *Single oral dose* • *Within 72 hours*
Side effect – *Most common –* *For removal –*	**Side effect –** *Cervical cancer,Breast ca* *Cardiovascular effects* *Liver abnormalities* *Protective for –* *Ovarian ca,* *endometrial ca,* *DUB*	**IUD – Most Effective Method** **Ulipristal acetate – most effective pill**
Contraindications – *Pregnancy* *Active PID* *Pelvic tumours* *Undiagnosed bleeding*		

NOTES

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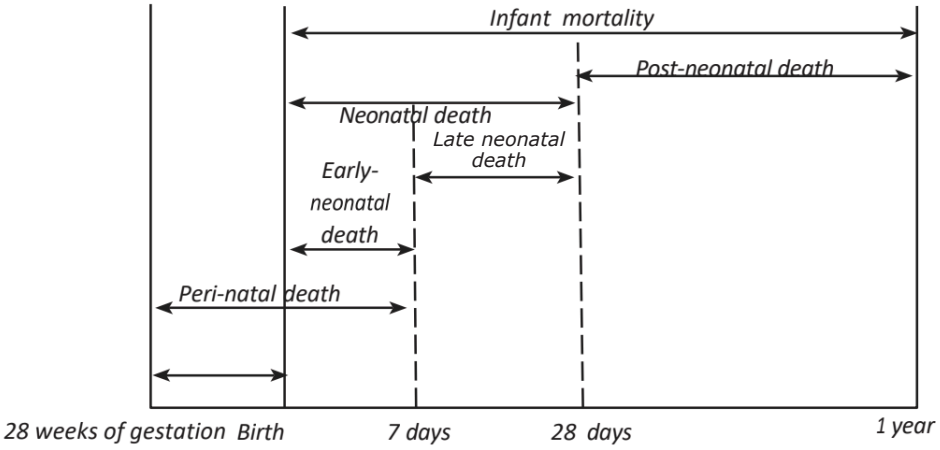
MATERNAL AND CHILD HEALTH



Maternal and Child Health

NEONATAL MORTALITY RATE	Neonatal deaths / live births
INFANT MORTALITY RATE	Infant deaths / live births
MATERNAL MORTALITY RATIO	Maternal deaths / live births
Pregnancy calculation	Live births + 10%

Schemes For : Maternal Health

NISCHAY 	Pregnancy testing kits

JANANI SURAKSHA YOJANA

Incentives for hospital delivery

LPS – UP, Uttarakhand, MP, Chattisgarh, Bihar, Jharkhand, rajasthan, Odisha, Jammu – Kashmir, Assam

	Rural Area		Urban area	
	Mother	ASHA	Mother	ASHA
LPS	1400	600	1000	400
HPS	700	600	600	400

JSSK

FOR PREGNANT AND SICK INFANTS

- D - Diet, drugs, Diagnostics
- T - transport
- C - caesarian section

PMSMA

ANC visit : 9th of every month

Either in 2nd or 3rd trimester

From PHC onwards

Green – No risk factor

Red – High risk pregnancy

Blue – PIH

Yellow – co morbidities (Gestational diabetes, STDs, Hypothyroidism)

SUMAN

- Zero maternal and neonatal deaths
- Free transport
- Service guarantee charter
- Grevieance redressal mechanisms

LAQSHYA LAQSHYA लक्ष्य	*Labour room quality*
DAKSHATA 	*Train MO and ANM – for intra partum acre and immediate post partum care*

SCHEMES FOR : NEWBORN AND CHILD HEALTH

HOME BASED NEWBORN CARE 	*Home visits by ASHA*
HOME BASED CARE OF YOUNG CHILD	*Home visits by ASHA* *5 Visits* *3rd month , 6m , 9m ,12m, 15m*

NAVJAAT SHISHU SURAKSHA KARYAKRAM 	*Train MO and ANM – for neonatal care and resuscitation*
INDIAN NEWBORN ACTION PLAN	*Single digit NMR and still birth rate by 2030*
RASHTRIYA BAL SWASTHYA KARYAKRAM 	*Screen and early intervention* *4Ds –* *Disease* *Defects* *Deficiency – Vitamin A, Anemia, Vit D, Goitre, SAM* *Developmental delay and disabilities*
MAA – Mothers Absolute Affection	*Promote breast feeding*

NOTES

NOTES

NUTRITION

Vitamin Deficiencies

VITAMIN B1	Risk factors – Polished rice, Chronic alchoholic Beri beri Wernickes encephalopathy
VITAMIN B3  	Pellagra – 3Ds Jowar – rich in leucine Maize – lack of tryptophan
VITAMIN B6	Peripheral neuropathy INH – b6 deficiency
VITAMIN B12	Seen in vegetarian Peripheral neuropathy
VITAMIN K	Hemorrhagic disease of newborn
Zinc 	Acrodermatitis enteropathica
Selenium	Keshan disease

FOOD ADULTERATION AND TOXINS :

Neuro-lathyrism

Khesar dal – lathyrus sativus

Beta oxalyl amino alinine – toxin

Prevention -

Epidemic dropsy

Argemone added to mustard

Toxin –

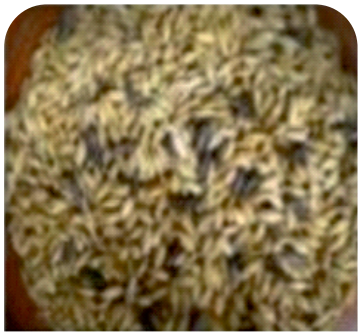
Tests –

Nitric acid test

Paper chromatography test

Endemic ascites

Aspergillus flavus

 	***Ergotism***

IODINE :

RDA	Adult – Pregnant Lactation -
SALT	Production level – Consumer level -
SALT 	
INDICATORS	Urinary iodine excretion – Neonatal hypothyroidism -

FLOURINE :

DEFICIENCY	EXCESS
	 Normal  Questionable  Very mild  Mild  Moderate  Severe

ANEMIA MUKHT BHARAT :

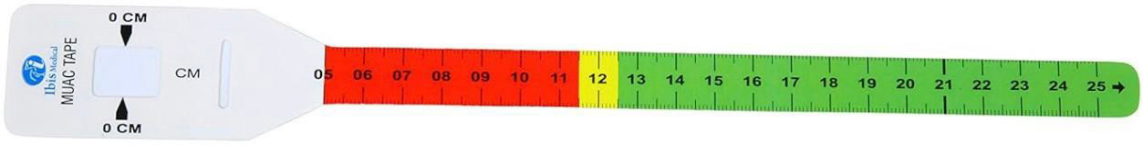
Age	Dose
Children (6m-5 yrs)	
Children (5-10yrs)	
Adolescents (10-19yrs) 	
Pregnant	
Reproductive women (20-49 yrs)	

ICDS:

	Calories (kcal)	Protein
Child : 6m-6 yr	500	12-15 gm
Pregnant and lactating mothers	600	18-20
Severely malnourished child	800	20-25

MID DAY MEAL SCHEME : PM - POSHAN

Shakir's Tape Interpretation



MUAC	Colour	Grading
> 12.5 cm	Green	Normal
11.5 - 12.5 cm	Yellow	Moderate malnourished
< 11.5 cm	Red	Severe malnourished

Global Hunger Index

Dimensions	Indicators
Inadequate food supply	Undernourished population
Child undernutrition	Under 5 wasting Under 5 stunting
Child mortality	Under 5 mortality rate

NOTES

OCCUPATIONAL HEALTH

SILICOSIS 	*Mica mines , stone cutters* *Snow storm appearance* *Egg shell calcification*
ASBESTOSIS	*Shipyards* *Amphibole – crocidolite type* *Ground glass appearance*
ANTHRACOSIS	*Progressive massive fibrosis*
BYSSINOSIS	*Cotton spinners*
BAGASSOSIS	*Cardboard, paper* *Thermoactinomyces sacchari* *Prevention -*

ESI :

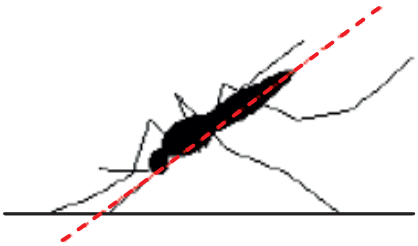
Benefit	Facility
Sickness	70% of daily wage is payable for 91 days (In order to qualify for sickness benefit the worker is required to contribute for 78 days in a contribution period of 6 months.)
Extended sickness	80% of daily wage payable for 2 years (730 days) for 34 diseases
Enhanced sickness	Full wage upto 7 days for vasectomy and 14 days for tubectomy
Maternity	Full daily wages • Up to 26 weeks for confinement • Up to 6 weeks for miscarriage or MTP • Up to 4 weeks for sickness arising out of pregnancy, confinement, premature birth
Temporary disablement	90% of daily wage till recovery
Permanent disablement	90% of daily wage
Dependant	Pension at 90% of wages
Funeral expenses	15000/-

NOTES

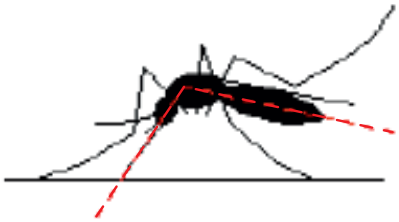
NOTES

VECTORS

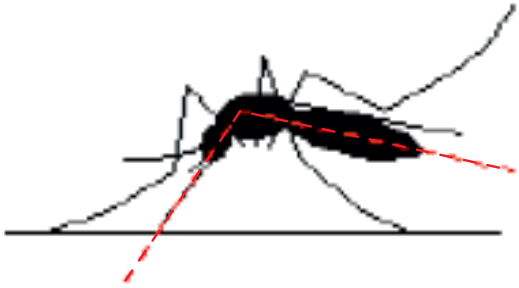
Anopheles



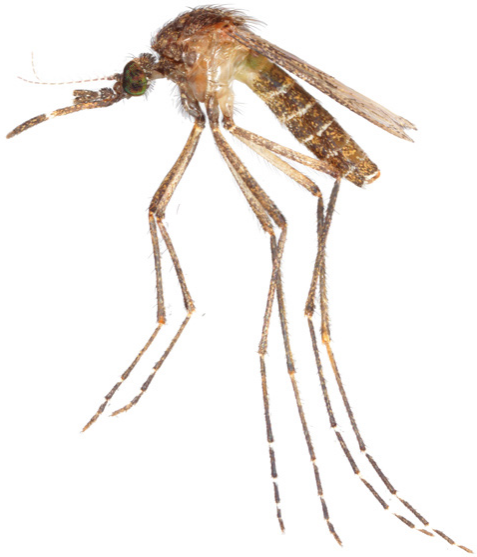
Culex

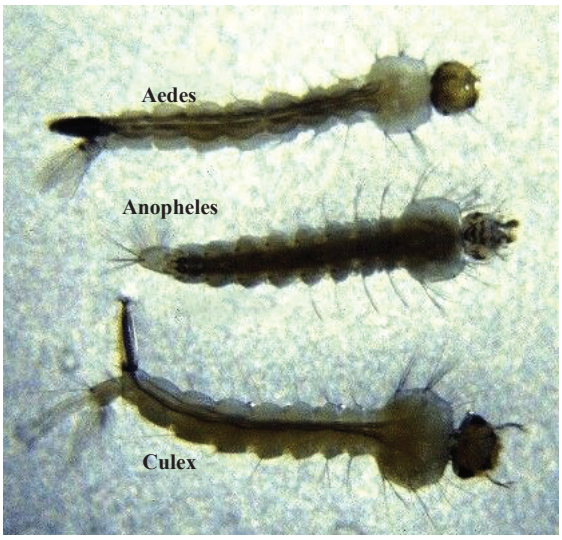


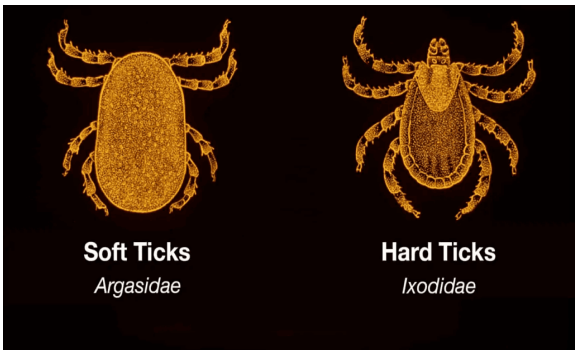
Aedes



Mansonia




Aedes
Anopheles
Culex


Soft Ticks
Argasidae
Hard Ticks
Ixodidae

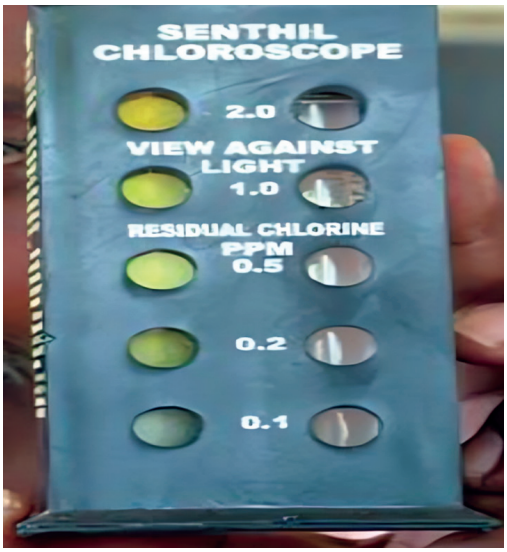
INSTRUMENTS

Kata thermometer

Anemometer

Sling psychrometer

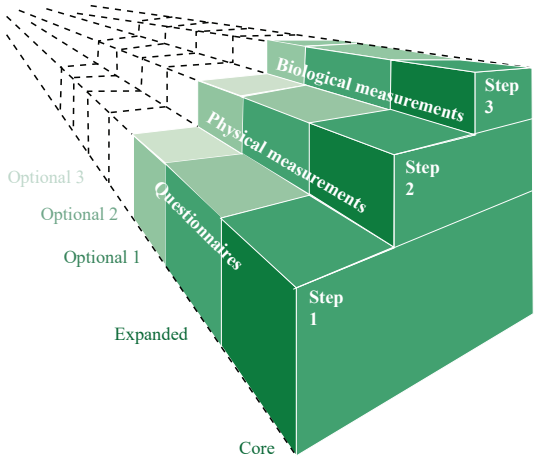
Globe thermometer



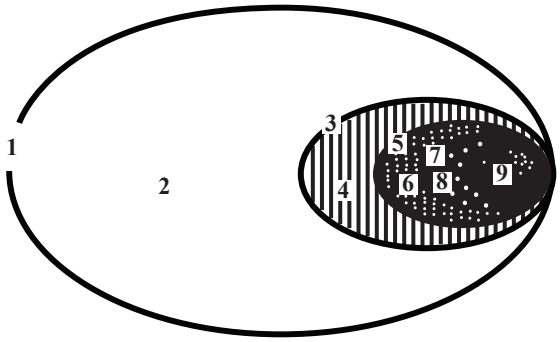
Horrocks apparatus

NON COMMUNICABLE DISEASES

STEPS PROTOCOL

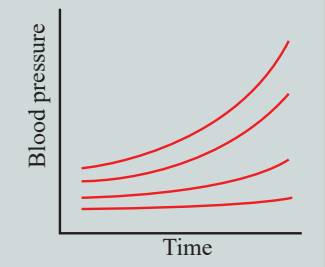


RULE OF HALVES



Hypertension in the community

TRACKING OF BLOOD PRESSURE



MONICA PROJECT

OBESITY

	Indian
Underweight	<18.5
Normal	18.5-22.99
Overweight	23-24.99
Obese	25 and above

Parameters for Obesity Assessment

- BMI (Quetlets index) =
- Broca's index = Height - 100 = Ideal weight

Screening – in more than 30 years

Condition	Screening Method at HWC
Oral cancer	Visual examination of oral cavity
Breast cancer	Clinical Breast Examination (CBE)
Cervical cancer	VIA (Visual Inspection with Acetic Acid)
Diabetes mellitus	Blood glucose estimation (CBG/FBS/RBS)
Hypertension	Blood pressure measurement

CHD

- Total fat: ≤20- 30% of total energy
- Saturated fat: <10% of total energy
- Dietary cholesterol: preferably <200 mg/day
- Salt intake: <5 g/day

Increase complex carbohydrate

Cholesterol/HDL ratio – less than 3.5

COMMUNICATION

GATHER approach Ex : To counsel regarding family planning.	SPIKES protocol : To disclose bad news for patient and family
G – Greet the client	Set up the interview
A – Ask/ascertain – needs/problems	Assess the patient's perception
T – Telling different methods/options to solve problem	Obtain the patient's invitation
H – Help to make voluntary decision	Give knowledge and information to the patient
E – Explain fully the chosen decision/action	Address the patient's emotions with empathy
R – Return for follow up visit	Strategy and summary

Barriers In Communication

- Physiological : Hearing loss
- Psychological : Emotional disturbances
- Environmental : Noise
- Cultural : Beliefs
- Semantic : Misinterpretate the message

Focused group discussion (FGD)	Panel discussion	Symposium
6-12 members in a group Group leader should facilitate the discussion. Sociogram : Graphical representation of interaction among participants in FGD	Experts – discussion no order of speeches audience can raise question	Series of speeches, no discussion among experts, audience can raise question.

Delphi Method : For Decision Making

- Interactive method for obtaining consensus from a panel of independent experts : Conducted in 2-3 rounds.
- Participants are encouraged to revise their earlier answers.
- Till it converge towards the correct consensual answer.
- Most useful to arrive at single decision

NOTES

HEALTH CARE DELIVERY

Subcentre	PHC	CHC
1 per 3k : hilly 1 per 5k : Plains	1 per 20k : hilly 1 per 30k : Plains	1 per 80k : hilly 1 per 1.2L : Plains
No inpatient beds SC-A :No deliveries SC- B: upto 10 deliveries/month	Referral unit for 6 subcentres Inpatient beds: 4-6 PHC-A: upto 20 del / month PHC- B: > 20 del / month	**Referral unit for 4 PHCs** Inpatient beds: 30 FRU (First referral unit) : To conduct emergency CS

Urban Health Care

Urban PHC	Urban CHC
1 per 50,000	1 per 2.5 lakh (per 5 lakh for metro cities)

Primary Health Care

Principles

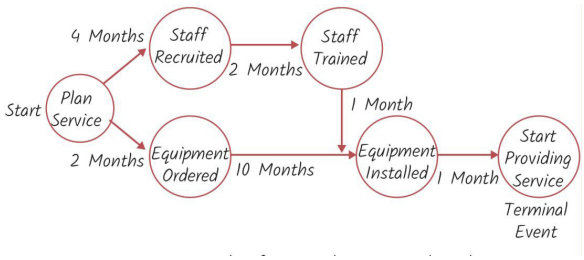
- Appropriate technology
- Community participation
- Equitable distribution
- Intersectoral coordination

Elements of primary health care : Alma Ata declaration

- Health education
- Prevent locally endemic diseases
- Essential drugs
- MCH facilities
- EPI : Expanded programme on immunization
- Nutritional promotion
- Treat common diseases
- Safe water and sanitation

NOTES

HEALTH PLANNING METHODS

COST BENEFIT ANALYSIS	• *Input : Cost* • *Benefits : Are expressed in monetary terms* *Ex : Rs. 100 gained for Rs. 10 spent*
COST EFFECTIVENESS ANALYSIS	• *Input : Cost* • *Benefits : Result achieved* *Ex: Deaths avoided per unit cost*
NETWORK ANALYSIS 	• *A graphic plan of all activities.* • *2 types :* - *PERT (Programme Evaluation & Review Technique) Arrow diagram - representing logical sequence of events.* - *CPM - Longest path of network in critical path.* *If any activity along critical path is delayed, the entire project will be delayed.*
SYSTEM ANALYSIS	*Compare cost effectiveness of different alternatives*
Work sampling	• *Observation of activities at predetermined or random intervals.* *Ex : Medical officer observing immunization session at random intervals.*
ABC ANALYSIS – for stock *management or inventory control*	*A - Always, B - Better, C - Control* *A : 10% of items account for 70% of budget* *B : 20% of items account for 20% of budget* *C : 70% of items account for 10% of budget*

NOTES

BMW MANAGEMENT

Red Bag	i.v. Tubes, catheters, Urine bags, Syringes without needles, Hazmet suit, Vaccutainers,Goggles, face-shield, splash proof apron, nitrile gloves
Yellow bag	• Anatomical waste : Human and animal • Soiled : contaminated with blood and body fluids (Linen, swabs) • Cytotoxic , Expired/ discarded medicines • Chemical liquid : Silver X ray film • Blood bags, culture • Used mask, head cover, shoe-cover, disposable linen (non-plastic)
White: puncture proof container	Needles, syringes with fixed needles, blades, scalpels
Blue: cardboard box	**Glass:** Broken or discarded glass - medicine vials and ampoules (Except contaminated with cytotoxic waste) **Metals:** Nails, metallic implants

SPILL MANAGEMENT

HIV Spill

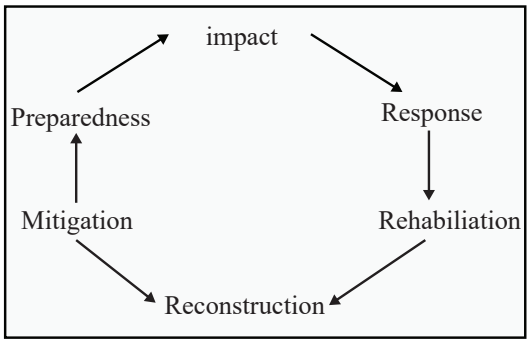
Step 1 : Use absorbable tissue, mop it, dispose in yellow bag.
Step 2 : Disinfect with sodium hypochlorite for 20-30 minutes.
Step 3 : Repeat Step 1.

Mercury Spill

- After broken thermometer or sphygmomanometer
  - Dispose broken glass in blue bag.
  - Collect mercury using thick cardboard or X-ray sheets & dispose into container with water.

NOTES

DISASTER MANAGEMENT



- Triage

Red (highest priority)	Immediate resuscitation or life saving surgery in next 6 hours.
Yellow (high priority)	Possible resuscitation or life saving surgery in next 24 hours
Green (low priority)	Minor illness / ambulatory patients
Black (least priority)	Dead & moribund patients

NOTES

INTERNATIONAL HEALTH

UNICEF	***1. GOBI-FFF campaign*** ***G****rowth Monitoring* ***O****ral Rehydration Therapy* ***B****reastfeeding* ***I****mmunization* ***F****emale Education* ***F****amily Planning* ***F****ood Supplementation* ***2. Applied nutrition programme***
DANIDA	
SIDA	
Ottawa charter	
Helsinki declaration	

NOTES