ALGORITHMS (DISEASE DEFINITION) FOR CAUSE OF DEATH (STILL BIRTH)

1. OBSTRUCTED LABOUR DUE TO MALPOSITION AND MALPRESENTATION OF FETUS

(O64.0 - O64.9)

2. ACCIDENT / TRAUMA / INJURY (T14.9)

3. ANTE-PARTUM HAEMORRHAGE (O46.9)

Any bleeding in pregnancy after 28 weeks of gestation and before birth

4. ECLAMPSIA (15.0)

of baby

History of convulsions in pregnancy AND (No convulsions before pregnancy OR doctors report of high blood pressure)

5. LOW-BIRTH WEIGHT (P07.1)

Respondents opinion of very small size baby.

6. MACERATED STILL BIRTH NEC (P95.X)

Still birth AND (skin blackish / skin peels easily / Rotten appearance / skin wrinkled)

7. MULTIPLE PREGNANCY (P01.5)

Delivery of more than one baby

8. OBSTRUCTED LABOUR (O66.9)

Baby delivered with manipulation or operation

9. POST MATURITY (p08.2)

Born after completion of 42 weeks of gestation

10.PREMATURE RUPTURE OF MEMBRANES (O42.9)

Sudden gush of liquid before onset of labor pains without desire to

pass urine

11.PREMATURITY NEC (P07.3)

Born between 28 and 37 weeks of pregnancy

12.LONG LABOR, UNSPECIFIED (O63.9)

Delivery of baby after more than 24 hours in primi-gravida or more than 12 hours in multi-

gravida after start of labor pains

13.ANAEMIA, UNSPECIFIED (D 64.9)

Pale or white colour reported and breathlessness or Doctor's/Health workers' report of very less

blood / need for blood transfusion

14.UNDETERMINED (P95.X)

ALGARITHAMS FOR CAUSE OF DEATH NEO NATAL DEATHS

1. Acute Lower Respiratory Track Infection (J 22.X)

Cough

And

Rapid breathing or

Difficult breathing with in-drawing of chest

2. Asphyxia At Birth (P21.9)

Delayed or no cry

And

Delayed or poor breathing or no breathing

And

Any sign of life present

3. Birth Trauma (P15.9)

convulsions in first 72 hours of birth or bruises at birth, or elongation/swelling over skull or any limb broken at birth

4. Congenital Defect (Q89.9)

abnormality of head(small, flat, swelling), spine, body, arms or legs reported at birth

5. Diarrhoea (A09.X)

six or more loose motion on worse diarrhoea day and fontanelle depressed or eyes sunken or urine volume low

6. Hypothermia (P80.9)

trunk cold

and lithergic and stopped feeding

7. Low-Birth –Weight (P 07.1)

Respondent's opinion of very low birth weight

8. Prematurity Nec (P 07.3)

Born after 27 weeks but before 37 weeks of gestation

9. Tetanus, Neonatal (A 33.X)

Baby able to suck after birth
And
Stopped sucking after three days
And
Baby's body became rigid with or without convulsions

ALGORITHM FOR CHILD DEATH CHILDREN AGED 29 DAYS TO 5 YEARS

1. Bone Tumour (Osteosarcoma) (C41.9)

painful and progressively increasing swelling on bone near knee joint or

2. Brain Tumour (C71.9)

vomiting in the morning]

diagnosed as osteo-sarcoma

and

any two of the symptoms

headache

convulsions

unilateral protruding eyes

involuntary eye movements (side to side or up and down)

or

diagnosis as brain cancer

3.Bronchiolitis (J 21.9)

 $cough\,{<}15\;days$

and

any one of the following signs and symptoms

noisy breathing

difficulty in breathing with or with out fever

body/lips turning blue before death

4. Chicken Pox (B 01.9)

Fever

And

Rash filled with water in different sizes, no cough or red eyes

5.Cirrhosis Of Liver (K74.6)

progressive abdominal distension

and

enlarged liver and spleen /mass in upper abdomen

and

fluid in abdomen or yellow discoloration of eyes

6.Diarrhoea With Dehydration (A09.9)

loose motions (>3 in number/day)

and

watery /liquid consistency of stools

and

eyes sunken or depressed fontanelle or

any one of the following

low/nil urine content

deep dark yellow urine

restricted fluid in take

vomiting

and no blood or mucus in stool

7. DYSENTERY (**A09.9**)

Loose motions (> 3 in number / day)

AND

Blood or mucus or both mixed with stool with or without fever or vomiting

8. EPILEPSY / SEIZURES (G40.9)

Convulsion of body or parts of body

AND

Urine incontinence or unconsciousness with recovery

AND

No H/o injury to head or fever or paraplegia or neck stiffness

9. FEBRILE SEIZURES

Convulsion of body or parts of body

AND

High fever

AND

No H/o paralysis or injury to head or neck stiffness

10. GULLAIN – BARRE SYNDROME (G61.0)

Progress paralysis of legs or arms or both

AND

Fever with respiratory distress

AND

No poliomyelitis

OR

No H/o trauma

11. HEPATITIS

Yellow discoloration of eyes

AND

Fever

AND

White chalky stools or enlarged live or epidemic of jaundice or yellow urine

12. HYDROCEPHALUS (G91.9)

Progressively enlarging head

AND

Irritable or vomiting or history of removal of fluid from spine frequently

13. **LEUKEMIA** (C95.9)

White discoloration of body or paleness

AND

Any two of the following signs and symptoms:

Fever

Bleeding from natural orifices (nose, mouth etc)

Joint pain

Enlarged liver

Enlarged lymph glands

Red spots on the skin

14. LOW BIRTH WEIGHT (P07.1)

Baby size small as reported by parents / respondents

15. LYMPHOMA (C81.9)

Painless enlargement of cervical (neck) glands (lymph nodes)

AND

Any two of the symptoms or signs:

Hoarse cough

Night sweats

Abdominal distension

Weight loss

Abdominal pain

OR

Diagnosed as lymphoma

16. MALNUTRITION

NOT growing properly or loosing weight and becoming thin AND

Any one of the following signs or symptoms:

Breastfeed lasting less than 6 months, top milk introduced in first three months, food / semi solid introduced after 9 months,

Less food intake, repeated diarrhoea episodes,

Falling sick frequently, history of measles / whooping cough / Night-blindness / corneal opacity,

Repeated cough

Swelling feet

SATAVI

17. **MEASLES (B05.9)**

Rash following fever

AND

Red eyes or cough and child above 4 months

18. MENINGO ENCEPHALITIS

Convulsion of body / body parts

AND

Fever

AND

Vomiting or unconsciouness or stiff neck

19. OTITIS MEDIA (H66.9)

Ear discharge

AND

Fever or cough

20. PNEUMONIA

Cough up to 15 days

AND

Fever

AND

Fast breathing or chest in-drawing

21. POLIOMYELITIS (A80.9)

Paralysis of legs or arms or both

AND

Onset accompanied by fever or just after injection or persisting paralysis

AND

Non progressive paralysis

OR

H/o poliomyelitis

22. PRMATURITY NEC (P07.3)

Gestational age of the child between 28-36 weeks

23. RABIES

History of dog bite

AND

Fear to drink water

AND

Convulsions

Unconsciousness OR

No history of injection for dog bite OR

24. SICKLE CELL DISEASE (D57.1)

Looking pale or white

AND

Pain in joints or abdomen or with / without yellow discoloration of eyes or enlarged liver / spleen

OR

Diagnosed sickle cell diseases

25. SARCOMA (RHABDO-MYOSARCOMA) (C49.9)

Swelling in neck or check or non painful scrotal swelling or mass protruding from vagina

AND

Unilateral protruding eye or difficulty in feeding

OR

Diagnosed as soft tissue sarcoma (Rhabdomyosarcoma)

26. TETANUS

Neck stiffness or stretching of neck behind

AND

Convulsions

AND

Inability to open mouth or refused to feed or history of ear discharge

AND

No H/o tuberculosis in family or self

27. THALASSEMIA (D56.9)

Looking pale or white discoloration of body

AND

Frequent blood transfusion

AND

Enlarged mass in right upper abdomen or growth retardation or bossing head with puffy eyes

OR

Diagnosed as thalassemia

28. TUBERCULAR MENINGITIES (A17.0)

Convulsion of body / body parts

AND

History of tuberculosis in the family or tuberculosis in the child

AND

Neck stiffness or vomiting or unconsciousness

AND

No H/o injury to head or locked jaw

29. WILM'S TUMOUR

Passing of blood in urine

AND

Abdominal pain

AND

Mass / lump in abdomen with or without fever

OR

Diagnosed as Wilm's tumour

30. WHOOPING COUGH (A37.9)

Long bouts of cough < 15 days

AND

Characteristic "hoo" sound during breathing

AND

Locally termed as whooping cough

Any one of the following signs and symptoms

Epidemic of whooping cough in the area Inability to take food Triple vaccine not given

ALGORITHMS FOR CAUSE OF DEATH (MATERNAL DEATHS)

DIRECT OBSTETRICAL

1. ABORTION

Termination before 28 weeks of pregnancy

2. ANTE-PARTUM HAEMORRHAGE (O46.9)

Excessive bleeding in pregnancy after 28 weeks of gestation but before birth of baby

3. ECLAMPSIA (O15.9)

History of convulsions for first time in pregnancy OR

Doctors report of very high blood pressure with convulsions

4. OBSTRUCTED LABOUR (O66.9)

Malpresentation

AND

Baby not delivered

OR

Baby was delivered by manipulation or destructive operations.

5. POST-PARTUM HAEMORRHAGE (O72.1)

Excessive (>500 ml) bleeding after delivery of baby

6. PROLONGED LABOUR (O63.9)

Labour more than 24 hours in primigrvida or more than 12 hours in multigravida

7. PUERPERAL SEPSIS

Fever

AND

Foul smelling vaginal discharge

No cough

No burning

No yellowness of eyes

INDIRECT OBSTETRICAL

Any pre-existing disease made worse by pregnancy (Anaemia, Heart disease, Diabetes, Tuberculosis, Hepatitis, Stroke etc.)

NON-OBSTETRICAL

Accident, Suicide, Homicide etc.

SUDDEN DEATH

Died all of a sudden without any symptoms

UNDETERMINED

Anaemia

Asthma

Breast cancer

Caricinoma cervix

Diabetes

Diarrhoea

Hepatitis

Malaria

Pneumonia

Renal failure

Stroke

Tuberculosis

ALGORITHM FOR VERBAL AUTOPSY QUESTIONNAIRE

(ADULT DEATHS)

1. ACUTE ABDOMEN (NEC R10.0)

Severe acute abdominal pain

AND

Any two of the following:

Fever

Vomiting, Vomiting of blood

Constipation

Abdominal distension

Collapse / Unconsciousness

Chronic alcoholic, smoker

History of peptic ulcer

2. AIDS

Unexplained fever, weight loss, diarrhoea,

Enlarged lymph glands swelling in neck, cough

Alternation in sensorum

AND

History of substance abuse by injection

OR

Multiple sex partners

Blood transfusion

3. **ANAEMIA (D64.9)**

Marked paleness of body

AND

Weight loss

Fatigue or weakness or breathlessness on exertion

At rest giddiness

History of bleeding anywhere

AND

No jaundice or enlarged lymph glands

OR

Diagnosed as Anaemia

4. ANKYLOSING SPONDYLITIS

Low backache

AND

Progressive limitation of motion in back OR

Difficulty in chest expansion OR

Breathlessness OR

Restricted movements of hip & knee joints

5. ASTHMA (J45.9)

Cough off and on for long period (>6 months duration)

AND

Shortness of breath, especially at nigh or during

	Change of season	OR
	Wheezing sound during breathing	OR
	Family history of similar illness	
AND		
	No weight loss	
	No mild fever with evening rise	OR

6. BREAST CANCER (C50.9)

Painless lump in the breast

AND

Discharge from nipple	OR	
Skin ulceration over breast	OR	
Enlarged glands in the neck / maxilla		
Unmarried or married with fits child born		
After 30 years of age		

AND

No history of trauma

OR

Diagnosed as breast cancer

7. BRONCHITIS /COPD

Cough of prolonged duration, more than 3 months in A year and at least for 2 consecutive years with Expectoration

AND

		Shortness of breath more in winter	OR
		Chronic smoker	
		Swelling legs	
0	CARCINO	MA CEDULY (C52 0)	
8.	CARCINO	MA CERVIX (C53.9)	ΟD
		Post-menopausal or inter-menstrual bleeding	OR
		Post coital bleeding	
		Foul smelling vaginal discharge with blood	
	AND		
		Weight loss	OR
		Lump in lower abdomen	OR
		Paleness of body	OR
		Fatigue on slight exertion	
	OR		
		Diagnosed as Carcionma cervix	
9.	CIRRHOSI	S OF LIVER (K74.6)	
		Jaundice (yellow discoloration of eyes)	
	AND	· · · · · · · · · · · · · · · · · · ·	
		Swelling of lower limbs	
	AND		
		Abdominal distension (fluid in abdomen)	
	AND		
		Painless liver	
		Vomiting of blood	
		Passing of blood in stool	
		Drowsiness or coma	

H/o chronic alcoholism

10. COLON / RECTAL CANCER

Bleeding from anal opening

AND

Any 2 of the following signs or symptoms

Constipation alternating with loose stools or constipation alone

Weight loss

Painful abdominal distension

Lump in lower part of abdomen

AND

History of mass or something coming out from anus during defecation

11. CONGENITAL HEART DISEASE

Blue discoloration of lips or tongue during crying or an exertion

AND

Feeling of throbbing heart beat / frequent cough / breathlessness /
puffiness of face or legs

OR

Adoption of squatting / sitting position to relieve breathlessness

12. CONGESTIVE CARDIAC FAILURE (I50.0)

Shortness of breath on lying down or at night, improving on sitting up AND

Swelling of feet OR

Distension of abdomen OR

Cough

13. DEPRESSION (**F32.9**)

At least 2 of the following symptoms

Keeping aloof from others

Nervous breakdown

Attempted suicide

Sleeping disturbances

14. FOOD POISONING

Abdominal pain occurring within 24 hours of food consumption

AND

Diarrhoea

Vomiting

Fever

AND

History o other persons consuming same food and having similar complaints

15. GASTROENTERITIS / DIARRHOEA

Loose motions (watery or loose in consistency, more than 4 times / day)

AND

Vomiting or shallow eyes OR

Pain abdomen OR

Passing of less urine

16. GULLAIN BARRE SYNDROME (G61/0)

Progressive paralysis / weakness of legs to arms

AND

Respiratory distress with fever, difficulty in chewing / swallowing

AND

No poliomyelitis

No history of trauma

17. HEPATITIS (K75.9)

Yellowness of eyes

Yellow skin OR

AND

Pain in right upper abdomen, Unconsciousness

Enlarged tender liver OR

AND

Deep yellow urine, chalky white stools

Fever

18. LEUKAEMIA (C95.9)

Whitish body or pale body

AND

Any 2 signs or symptoms of the following:

Fever

Bleeding from natural orifices (nose, gums, mouth etc.)

Joint pains

Enlarge liver

Enlarged lymph glands

Red spots over skin

19. LIVER CANCER (C22.9)

Tender enlargement of liver

Sudden onset of abdominal distension (due to fluid)

Weight loss

Fatigue

AND

H/o Hepatitis (B) or Jaundice in past

OR

IV drug user

OR

Diagnosed as liver cancer

20. LUNG CANCER (C34.9)

Chronic cough and blood streaked sputum

AND

Any two of the symptoms:

Breathlessness

Chest pain

Hoarseness of voice

Recurrent history of Pneumonia

Chronic smoker

No Tuberculosis

OR

Diagnosed as lung cancer

21. LYMPHOMA (C81.9)

Painless enlargement of cervical (neck) glangs (lymph nodes)

AND

Any 2 of the following symptoms & conditions

Fever

Hoarse cough

Night sweats

Abdominal distension

Weight loss

Abdominal pain

Fatigue

Itching

OR

Diagnosed as Lymphoma (NHL/HL)

22. MYOCARDIAL INFARCTION (121.9)

Severe chest pain lasting for more than ½ an hours

AND

Ant two of the following:

Shortness of breath

Vomiting

Anxiousness

Pain radiating to left arm

Sweating

Sudden death

OR

Diagnosed heart attack / Myocardial infarction

23. MALARIA

Acute onset of high grade, intermittent fever

AND

Chills with rigor

Blood test positive for malaria

AND

Jaundice / Breathless / decreased urine output

No burning during micturition

No cough

No rashes on the body

No exposure to extreme heat

Conclusive

24. MALIGNANT MELANOMA (C43.9)

Brownish or reddish patches over skin

AND

Any 2 of the following signs or symptoms

Patch / lesion with irregular margins

Varied discoloration of the lesion

Progressively expanding lesion

Exposure to X-ray

25. MANIAC DEPRESSIVE PSYCHOSIS (F31.9)

Talking to oneself excessively, alternating with bouts of nervous Breakdown

AND

Episodes of violence OR

Excitement OR

Attempted suicide OR

Keeping aloof from others OR

Depression

26. MASTOIDITIS (H70.9)

Ear discharge

AND

Heating loss

AND

Pain behind ears

Alternation in sensorium

27. MENINGO-ENCEPHALITIS (G04.9)

Acute onset of fever

AND

Any two of the following:

Convulsions

Unconsciousness

Altered behaviour

Neck rigidity

Skin rashes

Headache with vomiting

AND

No history of lock jaw

28. MULTIPLE SCLEROSIS

Relapsing type of illness with any 2 of the following symptoms or signs:

Visual loss (uni / bilateral)

Urgency in passing urine

Inability to maintain balance on standing

Paralysis of limbs (paraplegia)

Tingling & numbness of limbs

29. NASOPHARYNGEAL CANCER (C11.9)

Frequent nasal stuffiness

AND

At least 2 symptoms of the following:

Frequent bleeding episodes from nose

Earache not relieved by routine medicines

Unilateral hearing loss

OR

Diagnosed as nasopharybgeal cancer

30. OESOPHAGEAL CANCER (C15.9)

Progressive difficulty in taking foods

AND

Chronic alcoholic

Smoker / Tobacoo / Pan masala

AND

Weight loss

Diagnosed as oesophageal cancer

31. ORAL CANCER (C06.9)

Lump or mass or swelling on tongue / cheek / mouth cavity

AND

Any 2 of the signs or symptoms:

Non healing sore or ulcer over the lump or mass

Bleeding on touch the lump

Restriction / difficulty in opening mouth

Weight loss

White or red patch in oral mucosa

OR

Diagnosed as oral cancer

32. OSTEOARTHRITIS (M19.9)

Joint pain worsen by prolonged activity

AND

Restriction of movement of affected joints

AND

Minimal or absence of joint deformity

33. OTITIS MEDIA (H66.9)

Ear discharge

AND

Hearing loss

AND / OR

Fever

34. PARKINSONISM

Tremors or shaking of hands / body parts

AND

Difficulty in starting & stopping walk OR

Small steps during walk OR

Expression less face

35. PNEUMONIA (J18.9)

Acute cough less than 7 days duration

AND

High fever

AND

Shortness of breath OR

Chest pain OR

Blood in sputum

AND

No wheezing OR

No swelling of legs OR

No Distension of abdomen

36. POLIOMYELITIS (A80.9)

Non-progressive paralysis of arm or legs or both

AND

Onset accomplished by fever or cough

OR

Reported Poliomyelitis+

37. PULMONARY TUBERCULOSIS (A16.2)

Chronic cough for more than 14 days duration

AND

Mild continuous fever with evening rise OR

Blood in sputum OR

Chest pain OR

Breathlessness

AND

No episodes of wheezing

AND

No cough of prolonged duration for more than 3 months in a year and at least for 2 consecutive years with expectoration

38. RABIES (A82.9)

History of dog bite

AND

Fear to drink water

AND

Convulsions or unconsciousness

Not immunized for dog bite

39. RENAL FAILURE (N19.X)

Progressive or acute onset of decreasing

Urinary output for more than 1 day

AND

Progressive loss of appetite	
Hiccups	OR
Drowsiness	OR
Confusion	OR
Unconsciousness	OR
Swelling of eyelids or face in the morning	OR
High blood pressure	OR

40. RHEUMATIC FEVER (I00.X)

Joint pains, fleeting in nature

AND

Any 2 symptoms or signs of the following:

Involuntary dancing movements of hands & figures

Fever

Cough

Breathlessness

Liver enlargement

Chest pain

AND

No residual damage to joints

41. RHEUMATOID ARTHRITIS (M06.9)

Morning stiffness of joints

AND

Deformities of fingers

Involvement of hip, knee, ankle

42. SCHIZOPHRENIA (F20.9)

Suspicion of others harming

Planning to kill him / her

AND

Any 2 of the following symptoms:

Stop talking interest in his / here dress or appearance

Talking of taking other's life

Sleep disturbance

Talking to himself / herself

43. SICKLE CELL DISEASE (D57.1)

Whitish or pale body

AND

Pain in joints or abdomen

Jaundice

Enlarge liver & spleen

OR

Diagnosed as sickle cell disease

44. STOMACH CANCER (C16.9)

Mass in upper abdomen

AND

Difficulty in swallowing

Vomiting / blood vomiting

AND

Pain in abdomen OR
Weight loss OR
Enlarged liver OR
History of repeated course of anti-ulcer drugs OR

OR

Diagnosed as stomach cancer

45. STROKE

Sudden onset of paralysis of one or more limbs

AND

Unconsciousness OR Loss of vision OR Urinary incontinence OR Loss of sensations on any part of body OR Altered speech OR Sudden onset of headache with Altered sensorium OR Late onset of convulsions OR Previous history of high blood pressure OR Previous history of diabetes

AND

46. SYPHILIS (A53.9)

Painless genital sore

OR

Rash over body

AND

Multiple sex partners

OR

Diagnosed as syphilis

47. SYSTEMIC LUPUS ERYTHEMATOSIS (M32.9)

Joint pains

AND

Any three of the following:

Butterfly like rash over face

Chest pain

Abdominal pain

Enlarged glands in neck

Spleenomegaly

Fatigue

Fever

Pale body

Seizures

Decreased urine output

AND

No joint deformity

48. TETANUSLocked jaw

AND

History of open wound

Stiffness of neck OR

OR

Stiffness of back of the body

AND

No previous episodes of muscle spasms or convulsions

OR

Un-immunized against tetanus

49. THALASSEMIA (D56.9)

Whitish or pale body

AND

Frequent blood transfusions

AND

Enlarged mass in upper abdomen OR

Jaundice OR

Growth retardation OR

Diagnosed as Thalassemia

50. THYROID CANCER (C73.X)

Painless nodular swelling in front of neck

AND

Anxiousness

Weight loss

AND

	Heat intolerance in summer	OR	
Protruding eyeballs		OR	
	Fever	OR	
	Delirium	OR	
	History of thyroid surgery		
52.	52. TYPHOID FEVER (A01.0)		
	loose motions or constipation		
	AND		
	Intermittent fever		
	AND		
	Splenomigaly	OR	
	Coating of tongue	OR	

Loose motions

History of Typhoid fever

OR