



PREVENTION & CONTROL OF WATER BORNE DISEASES

ACTION PLAN-2017

Typhoid fever

Signs & Symptoms

- >Fever
- >Body aches
- >Diarrhea
- >Vomiting
- >Fatigue
- >Abdominal pains
- >Constipation

Four stages

- 1) Temperature rises >fever >headache >cough
- 2) High fever 40°C (104 °F) >diarrhea
- 3) Complications: >Intestinal hemorrhage >encephalitis >neuropsychiatric symptoms >metastatic abscesses (cholecystitis, endocarditis & osteitis) >dehydration
- 4) Fever goes away (defervescence)

Cholera

Loss Of Skin Elasticity

Low Blood Pressure

Diarrhea

Vomiting

Rapid Weight Loss

Increased Thirst

HEPATITIS A

- ✓ **Agente infeccioso:** Virus de la Hepatitis A.
- ✓ **Modo de transmisión:** contacto con deposiciones de otro enfermo, falta de higiene en el hogar, consumo de alimentos contaminados.
- ✓ **Prevención:** Vacunas.

Food Poisoning H I C

Causes - Symptoms - Treatment

HEALTH DEPARTMENT

NEW DELHI MUNICIPAL COUNCIL

ACTION PLAN

AND

STATUS REPORT

2017

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INTRODUCTION

Infectious diseases spread from infected person to another person through various routes. Water borne diseases spread through water contaminated with human or animal faeces (including food and utensils, which have been washed with the contaminated water and dirty hands). These diseases are also known as faeco-orally transmitted diseases. There are other diseases, which could be water related but not transmitted by the faeco-oral route e.g. malaria, leptospirosis etc.

Water gets contaminated under poor hygienic and in-sanitary conditions. Contamination can occur at the source of water supply, while passing through water pipes, which are broken, or in the homes when water is not stored properly. The number of people affected will depend on the place of contamination.

The risk of water-borne diseases is higher in areas with:

- Inadequate water supply
- Poor quality of water and sewage pipelines
- Poor sanitary conditions
- Step wells and uncovered wells used as sources of drinking water
- Defecation in the open especially near sources of drinking water
- Poor system for the disposal of human waste

The water-borne diseases can also occur if contaminated water is used for washing utensils, fruits and vegetables, especially if these are eaten raw. Water borne diseases can be transmitted through ice prepared with water from unreliable sources.

COMMON SOURCES OF INFECTION	
Drinking Water <ul style="list-style-type: none">• Contaminated at its source.• Contaminated during supply & storage.• Ice made from contaminated water.	Food <ul style="list-style-type: none">• Contaminated during or after preparation.• Fruits and vegetables, washed with contaminated water and eaten raw.• Fruits and vegetables, grown at or near ground level and fertilized with night soil or irrigated with water contaminated with human waste, and eaten raw.



While cases of water borne diseases may occur throughout the year, a seasonal increase is noted in the summer, monsoon and post-monsoon period. The risk of large outbreaks of water-borne and water related diseases increases following heavy rains.

1. WATER BORNE DISEASES OF PUBLIC HEALTH IMPORTANCE

Water borne diseases are considered to be of public health importance for the following reasons:

- Potential for causing large outbreaks.
- High disease burden due to the large number of cases and deaths, especially in young children.
- In many states and districts, water borne diseases are major causes of pediatric indoor admissions and outpatient visits to the hospitals and health facilities.
- No specific treatment is available for some viral diseases such as hepatitis E. Increasing anti-microbial drug resistance is being recorded for some bacterial diseases.
- Potential for causing panic in the community and negative media coverage.

WATER BORNE DISEASES OF PUBLIC HEALTH IMPORTANCE

1. THOSE CAUSED BY THE PRESENCE OF AN INFECTIVE AGENT

- (a) Viral : Viral hepatitis A
Hepatitis E
Poliomyelitis
Rotavirus diarrhea in infants
- (b) Bacterial : Typhoid fever
Paratyphoid fever
Bacillary dysentery,
E. Coli. Diarrhea
Cholera
- (c) Protozoal : Amoebiasis,
Giardiasis
- (d) Helminthic : Roundworm
Threadworm
Hydatid disease.
- (e) Leptospiral : Weil's disease

2. THOSE CAUSED BY THE PRESENCE OF AN AQUATIC HOST

- (a) Snail : Schistosomiasis
- (b) Cyclops : Guineaworm
Fish tape worm

1. ACUTE DIARRHOEAL DISEASES IN YOUNG CHILDREN

Diarrhoea is the passage of loose or watery stools more than three times a day. However, it is the recent change in the consistency and character of stools that is more important than the number. Passage of frequent formed stools, passage of pasty stools in a breast-fed in fact during or immediately after feeding should not be considered as diarrhoea.

Diarrhoea is classified by clinical syndromes as acute watery diarrhoea (majority of the cases), dysentery (blood in the stools) and persistent diarrhoea. Such classification is important for the management of cases. Although cholera is a form of acute watery diarrhoea, it is discussed separately.

CLASSIFICATION OF DIARRHOEA

(by clinical syndrome)

- Acute watery diarrhoea
- Dysentery (blood in the stools)
- Persistent diarrhoea

Acute diarrhoea starts suddenly and is characterized by the passage of loose watery motions. Patients of diarrhoea recover within three to seven days. If diarrhoea persists for more than 14 days and is associated with weight loss it is classified as persistent diarrhoea. Persistent diarrhoea, which is recurrent or long lasting, due to non-infectious causes such as sensitivity to gluten or inherited metabolic disorders.

More than three-fourths of all diarrhoeal episodes are acute watery diarrhoea. Diarrhoeal diseases are common in children under five years of age and are among the major causes of deaths in children in this age group. It is presumed that one in four (or five) deaths in children under five years of age are due to diarrhoea. In districts where appropriate case management of diarrhoea is not widely practiced, up to a third of pediatric hospital admissions and 20% of the deaths of inpatients are diarrhoea related. Estimates based on the current child mortality rates indicate that more than 6,00,000 children die annually due to these diseases in India.

2. CHOLERA

Cholera is a form of acute watery diarrhoea. More than 90% of sporadic cases in endemic areas are mild and difficult to distinguish clinically from other types of acute diarrhoea. In epidemic situations, however, there is rapid onset of severe watery diarrhoea and vomiting, resulting in loss of large amounts of fluids and electrolytes from the body. The condition of the patient can deteriorate rapidly in the absence of medical care. If treatment is delayed or inadequate, death may occur rapidly from dehydration and circulatory collapse. Cholera should be suspected if patients older than 5 years of age develop severe dehydration from acute watery diarrhoea (usually accompanied with vomiting).

Cholera is endemic in India and several outbreaks of the disease have been reported. Because cholera has the potential of rapid spread leading to an acute public health problem, special attention is required to be given to the surveillance and prompt follow up action on reported cases of cholera. If appropriate measures are taken, cholera remains restricted to a limited habitation. Therefore, reporting of village, taluka and district helps in identifying the affected area. The first suspect case of cholera in a non-endemic area must be notified immediately to the local health officer. Laboratory confirmation should be obtained at the earliest opportunity and the results intimated to local health office as soon as these become available.

There are many serogroups of *Vibrio cholerae*, but only serogroup O1 and O139-cause cholera. *V.cholerae* O1 occurs as two biotypes – classical and E1 Tor. Each biotype also occurs as two serotypes- Ogawa and inaba. Almost all the recent cholera outbreak has been caused by the E1 Tor biotype. Cases caused by the classical biotype have not been reported in India since 1980. The E1 Tor biotype also causes a higher proportion of symptomatic infections than the classical biotype and survives longer in the environment. In late 1992, large-scale epidemics occurred in India and Bangladesh caused by a new serogroup-*V.cholerae* O139.

Man is the only host. Patients remain infectious usually for a few days after recovery from clinical symptoms. Occasionally, the carrier stage may persist for several months. The chronic carriers however do not play important role in the spread of disease. Anti biotics, to which the strain is susceptible, shorten the period of communicability. *V.Cholerae* can survive for long periods in the environment and can live in association with certain aquatic plants and animals, making water an important reservoir for infection.

Incubation period varies from a few hours to 5 days, usually 2-3 days.

3. BACILLARY DYSENTERY/SHIGELLOSIS

Dysentery is diarrhoea with visible blood in the stools. The patients may complain of abdominal cramps, fever, and anorexia and weight loss. 10 to 15% of all episodes of acute diarrhoea in young children are due to dysentery. *Shigella* is the most common cause of dysentery. *Entamoeba histolytica* presents with similar clinical symptoms but is relatively rare in young children. Outbreaks of dysentery have the potential of causing a large number of deaths, especially in young children, unless specific antimicrobial treatment is started in manner. It is important that the community and the peripheral health personnel are aware of the danger sign of blood in the stools (bloody diarrhoea) so that medical help is sought immediately.

The incubation period is usually 1-3 days. The severity of the illness and the cause fatality rate is the functions of the host (age and pre-existing nutritional status) and the sero-type. *Shigella dysenteriae* 1 is often associated with severe disease and complications. Infections with *S.Sonnei* and *S.Flexneri* result in short clinical course and negligible mortality.

The patients may transmit the infection in the acute stage and up to one month after illness. Since only a few bacilli are sufficient to transmit the infection, *shigella* is

usually transmitted through person to person. Asymptomatic carriers may transmit infection. The carrier state rarely persists for long periods. Treatment with appropriate antibiotics cuts short the duration of transmission.

4. TYPHOID FEVER/ENTERIC FEVER/SALMONELLOSIS

Gradual onset of fever, malaise, lethargy, myalgia and loss of appetite usually characterize typhoid fever. Fever increases in stepwise fashion to 39 to 41 C over a 5 to 7 day period. A highly characteristic feature is the pulse, which is relatively slow (bradycardia). Mental apathy and dullness is common and delirium may develop. At this stage the patient may present to a health facility as fever with altered sensorium. Since typhoid fever is very common in our country, it should be excluded by careful medical history, physical examination and blood culture for *Salmonella typhi*.

The incubation period is 2 weeks with a range of 7 to 21 days.

The bacilli are excreted in the urine and faeces in the acute stage of the disease and some patients may continue to excrete *S. Typhi* in the convalescent stage as well. A small percentage of the patients may become chronic carriers and excrete the bacilli for years. The carrier is a danger to the community, the degree depending on personal hygiene and also the sanitary conditions in the locality.

5. VIRAL HEPATITIS

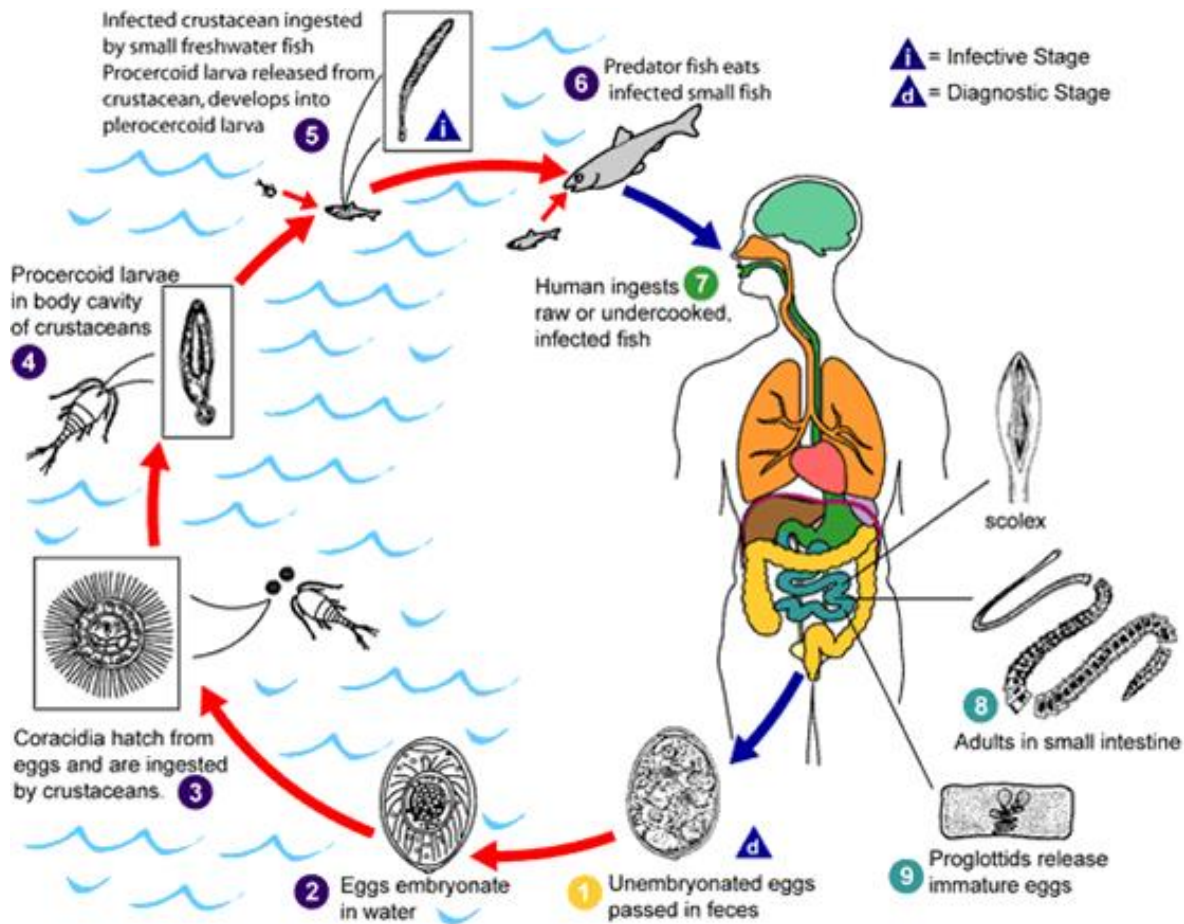
Viral hepatitis A and E are water borne; Hepatitis viruses B, C, D and possibly G are transmitted by the parental route and are not transmitted through contaminated water.

While sporadic cases of hepatitis E are reported throughout the year, epidemics occur as a result of contamination of piped water supply. Almost all outbreak of viral hepatitis in India are due to hepatitis E virus. Occasional outbreaks of hepatitis A, which is also water borne, may also occur. However, these are relatively rare, as by age five most individuals develop immunity through natural infection. Infection in young children is generally mild.

The incubation period of hepatitis E is usually one to two months (not less than 15 days). Outbreaks of hepatitis E may therefore be preceded by other water borne disease with shorter incubation periods such as acute diarrhoeal diseases (few days) and typhoid fever (one to three weeks). During outbreaks of hepatitis E, young adults are usually affected. Mortality rate in pregnant women is very high.

6. WATER RELATED DISEASES OF PUBLIC HEALTH IMPORTANCE

a. HELMINTHIC INFECTIONS:-



WHO estimates that more than one billion of the world's population is chronically infected with soil transmitted helminthes which decreases work capacity and fitness and especially in the case of children influences their nutritional status and reduced learning ability.

The major soil-transmitted helminthes include *Ascaris Lumbricoides*, *Trichuris trichuria* and *Ancylostoma duodenal*. The infections are associated with inadequate sanitation and water supplies.

Ascariasis (round worm infection) is generally associated with few or no symptoms. Live worms, passed in stools or occasionally from mouth or nose, are often the first recognized sign of infection. Heavy parasitic burden aggravates nutritional deficiencies, serious complications include bowel obstruction. Transmission is by ingestion of infected eggs in the soil contaminated with faeces of patients. The eggs undergo embryo nation in the soil and become infective after 2-3 weeks and remain infective in the soil for several months or years. The usual span of an adult worm is 12 months. The female worm can produce 2 lakh eggs per day.

Human trichuriasis (whip worm disease) is a nematode infection of the large intestine. Heavy infections may cause bloody, mucoid stools and diarrhea. Hypoproteinaemia, anaemia and growth retardation may occur in young children. Eggs

passed in faeces require a minimum of 10-14 days in warm moist soil to become infective. Transmission is through contaminated vegetables.

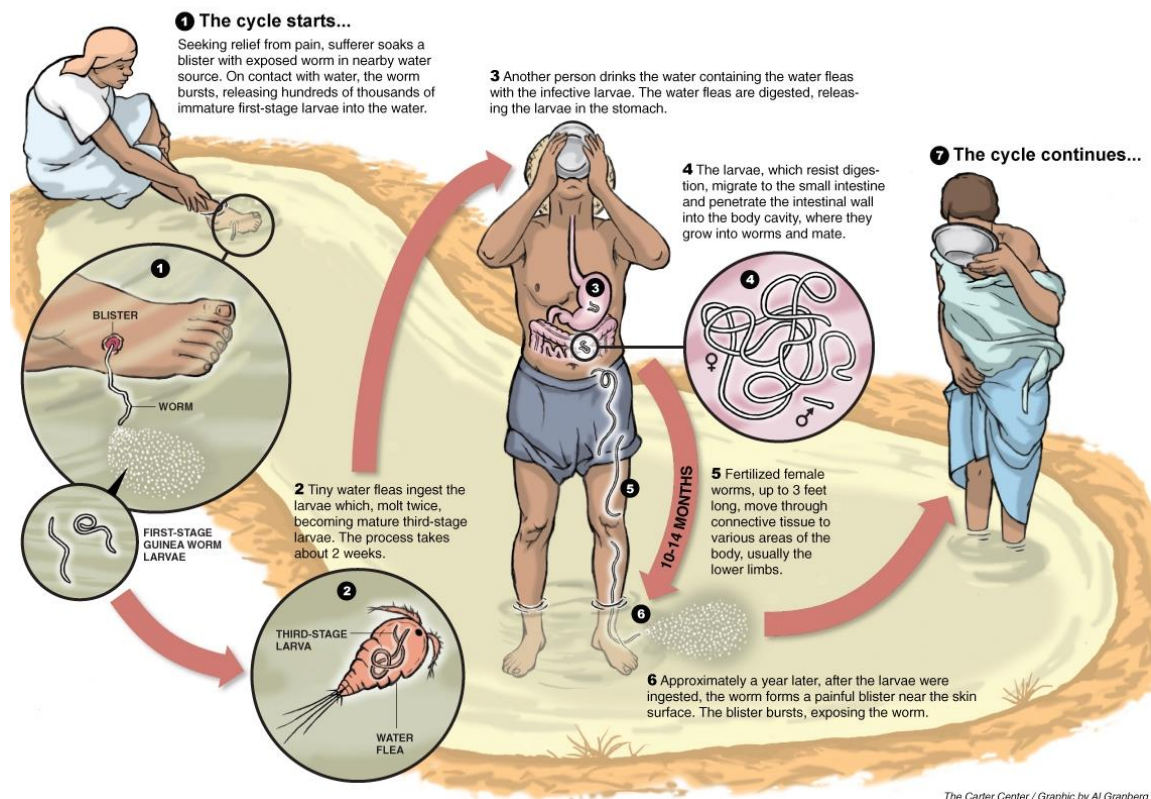
Ankylostomiasis (hook worm disease) is a major cause of iron deficiency anaemia. Children with heavy infection may have anemia, hypoproteinaemia and may be retarded in physical and mental development. Eggs in faeces are deposited on the ground and hatch under favorable conditions. The larvae become infective in 7-10 days. Infection occurs when the infective larvae penetrate the skin, usually of the foot. Infected persons can contaminate the soil for several years in the absence of treatment. Under favorable conditions, larvae remain infective in the soil for several weeks.

Enterobiasis is a common helminthic infection during childhood. Adult worms live in large intestine but migrate to the anus to deposit the eggs, which become infective within a few hours. Transfer of these infective eggs usually transmits the infection by hand from anus to mouth of the same person or another person. The infection is often asymptomatic or results in perianal itching and irritability.

Competition

b. GUINEAWORM DISEASE

The Life Cycle of Guinea Worm Disease



Guinea worm (GW) disease is caused by the parasite *Dracunculus medinensis* and is transmitted through drinking the water from unsafe sources like step well, ponds etc., containing water fleas (Cyclops). The adult worm measuring 60 to 100 cm in length emerges through the skin, usually lower limbs, causing severe swelling, ulceration and

discomfort to the patient. The disease causes incapacitation to the patient who is unable to perform his regular work, resulting in economic loss to the patient. The disease occurs in rural areas with inadequate safe drinking water supply and peaks during the summer season when there is a scarcity of water.

The Government of India launched the National Guineaeworm Eradication Programme in 1983-84. The National Institute of Communicable Diseases is the nodal agency for coordinating the programme, which is implemented by the state health authorities. The ministry of Rural Affairs and Employment, Government of India and the State Public Health Engineering Department (Rural Water Supply) has actively participated in the programme.

Prior to 1984 nearly 40,000 cases were reported annually from 12,840 villages in 89 districts in 7 states. In 1996 only 9 cases were reported from 3 villages in Jodhpur district. The last case was notified in July 1996. All the states except Rajasthan have been free of Guineaeworm disease since the beginning of 1995. No case has been reported in the country since August 1996. Presently cases are reported only from countries in Africa.

The state health authorities including non-endemic states have been alerted to initiate measures for active surveillance of Guineaeworm disease and to maintain appropriate records so that the certification for Guineaeworm eradication could be achieved after maintaining a 3-year period of zero case.

ACTION

PLAN

**HEALTH DEPARTMENT
NEW DELHI MUNICIPAL COUNCIL**

**ACTION PLAN FOR PREVENTION & CONTROL OF
WATER BORNE DISEASES IN NDMC AREA**

OFFICERS DIRECTLY INVOLVED

Name	Mobile	Office	Residence
Dr. P.K. Sharma Medical Officer of Health	9810077166 7289081000	23742752	24108261
Dr. Ranbir Singh Dir. (MS), CPH, Moti Bagh	9868500880	26870934	23013588
Dr. Ramesh Kumar, CMO (North & Epid. Unit)	9810409565 7289086000	23745323	23014488
Dr. R.N. Singh CMO(South, Malaria & FHU)	9810854673 7289025000	23340638 23748284 (FHU)	26875522
Dr. Shakuntala Srivastava, I/c. (HEU)	9811547118 7289082000	23340811	
Sh. Prem Singh, Sr. Statistical Investigator, Epid. Unit	9818517031	23745323	
Sh. K.K. Das, Bacteriologist, PHL	9818121382	24677353	
Sh. V.K. Bhowmik, Chemist. PHL	9968075469	24677353	

➤ **PUBLIC HEALTH LABORATORY, VINAY MARG**

- The Public Health Laboratory, Vinay Marg is already upgraded / renovated and is equipped to carry out physico-chemical and bacteriological examinations of water samples to ensure the safe quality of drinking water to public, Parliament House Complex, VVIPs and other VIPs of NDMC area. The Public Health Laboratory has purchased water testing equipments in consultation with the Director of the Water Quality Monitoring Unit of the Delhi Jal Board for carrying out the physico-chemical, bacteriological and toxicological water tests. NDMC receives bulk water supply from Delhi Jal Board and supplies it through its network to the consumers at the entry point of their premises.
- There are 28 underground reservoirs in NDMC area along with their boosting stations. At these places chlorine content of water is monitored and then it is pumped in the system for supply to the area. The water supply is being received in the morning and evening time and then it is supplied to the consumers.
- The Public Health Laboratory of Health Department, NDMC has procured the water poison detection kit from the DRDO/ DRDE approved suppliers and started water testing for toxicological analysis.
- Presently the Health Department is lifting two water samples in the morning and two water samples in the evening from the entry point reservoir of the Parliament House Complex. This unit is carrying out Physico-chemical, bacteriological and toxicological parameter's testing at Public Health Laboratory, Vinay Marg.

➤ **Phone No. of Public Health Laboratory**

	Name	Office	Residence	Mobile
1.	Dr. P.K. Sharma, MOH	23742752	24108261	9810077166
2.	Dr. Ramesh Kumar, CMO(N), I/C Epi. Unit	23745323	23014488	9810409565
3.	Sh. K.K. Das, Bacteriologist	24677353	26870745	9818121382
4.	Sh. V.K. Bhowmik, Chemist	24677353	24121579	9968075469

➤ **CIVIL DEPARTMENT - WATER SUPPLY, SEWERAGE & DRAINAGE SYSTEM**

S. No.	Name	Office	Residence	Mobile
1.	Er. Anant Kumar, CEC (I)	23743243	21400444	9911178856
2.	Er. S.K. Jha CE(C-II)	23341521	---	9868477241
3.	Er. H.P. Singh, SE(R-II)	23367665	---	9810043833
4.	Er. T.R. Meena (SE(R-I))	23363874	26116577	9810681155
5.	Er. Gauri Shankar, SE(W/S)	23366471	---	9810427534
6.	Er. Mammoo Khan E.E.(Water Supply)	23745439	---	9810612785 9810076894

➤ **WATER SUPPLY SERVICE CENTRES**

**Kali Bari Marg Water Supply Control Room 23360683
(Round the Clock)**

S.No.	Service Centre	Phone No.	S.No.	Service Centre	Phone No.
1.	Gole Market	23362949	4.	Netaji Nagar	24104688
2.	Mandir Marg	23346108	5.	Bharti Nagar	24690264
3.	Vinay Marg	26111295	6.	Jor Bagh	24626827

CHARAK PALIKA HOSPITAL, MOTI BAGH
(ROUND THE CLOCK EMERGENCY)

Name	Mobile	Office	Residence
Dr. Ranbir Singh, Director (MS) Charak Palika hospital, Moti Bagh	9868500880	24156200	23013588
		26870934	
Dr. Arun Sahai , CMO(Medical)	9810524636	26114466	
Dr. Anita Patnaik, CMO (Admn.)	9811116727	26871011	---

TELEPHONE Numbers of Charak Palika Hospital

26117879, 24679711, 24671901, 24679713 & 24671109

**PALIKA MATERNITY HOSPITAL, LODHI ROAD,
NEW DELHI**

Name	Mobile	Office	Residence
Dr. Sandeep Bhatnagar Medical Superintendent	9891416684	24611633, 24610279	23753132

TELEPHONE NUMBERS OF VARIOUS HEALTH INSTITUTIONS

NDMC ALLOPATHIC DISPENSARIES

- | | | |
|-----|--|------------------------|
| 1. | Town Hall dispensary, Sansad Marg | 51501354-63 Extn. 2255 |
| 2. | Community Hall, Panchkuiyan Road | 23342957 |
| 3. | Babar road near Bengali Market | 23739285 |
| 4. | Baird lane Poly Clinic, SBS Marg | 23363746 |
| 5. | Golf Link near NDMC Flats | 24652762 |
| 6. | Lodhi Road | 24652278 |
| 7. | Sarojini Nagar near Post Office | 24678905 |
| 8. | Bapu Dham, Chanakya Puri | 24101216 |
| 9. | Netaji Nagar near Netaji Nagar Market | 24673479 |
| 10. | Kidwai Nagar near East Kidwai Ngr Mkt. | 24646094 |
| 11. | Harish Chander Mathur's Lane | 23717670 |
| 12. | Rohini Sector-II NDMC Complex | 27570198 |

MCW CENTERS

S. NO	NAME OF MCW CENTRE	DOCTOR'S NAME	TEL. NO.
1.	MCW Center Reading Road, Community Hall, Panchkuian Road, New Delhi	Dr. Subhita Bagga	23743688 9810520084
2.	MCW Center Shishu Kalyan Kendra, Gole Market, New Delhi	Dr. Amita Khorwal	23365482 9868156360
3.	MCW Center Babar Road, 48 Babar Road, Bengali Market, New Delhi	Dr. Vimla Verma	23324146 9873667841
4.	MCW Center Sarojini Nagar, Behind Post Office, New Delhi	Dr. Sandhya Rani Tudu	24672666 9810874319
5.	MCW Center Kidwai Nagar, C-399, East Kidwai Nagar New Delhi	Dr. Preeti Srivastava	24647361 9810359597
6.	MCW Center Golf Link Dispensary Complex, New Delhi	Dr. Ranjana Parihar	24646844 9811138044
7.	MCW Center Palika Health Complex, Dharam Marg, Chanakya Puri, New Delhi	Dr. Jyoti Angra	24109144 9312355161

HEALTH DEPARTMENT- SANITATION UNIT

NORTH OF RAJPATH – CIRCLE NO. 1 TO 6 AND 14 (as on 31-3-2017)

Circle No.	SI Name & Mobile No.	Office Address & Phone no.	Circle Area
1.	Sh. K.L. Sharma 9818925618 7290062366	Near Mohan Singh Place, C.P. Hanuman Mandir 23363604	<u>Jurisdiction:-</u> Connaught Place (Inner, Middle and Outer Circle), Shanker Market upto Campa Cola Factory, Indian Oil Bhawan, Janpath upto Tolstoy Marg Crossing, Parliament Street upto Patel Chowk, Ashoka Road (from Gole Dak Khana Post Office upto Windsor Place's Roundabout), Baba Kharak Singh Marg upto Gola Dak Khana Post Office.
2.	Sh. Gopi Chand 9811386573 7290062357	Old NDMC Workshop, Mandir Marg. 23347879	<u>Jurisdiction:-</u> Peshwa Road, Mandir Marg, Panchkuian Road, Shaheed Bhagat Singh Marg upto Roundabout of Gole Market, Chems ford Road, R.K. Ashram Marg.
3.	Sh. Shyam lal 9818585353 7290062402	Near Coal Depot, Gole Market. 23343968	<u>Jurisdiction:-</u> From Mandir Marg beginning and its junction with Peshwa Road, Park Street, Baba Kharak Singh Marg upto Rivoli Cinema, Madras Hotel and then Shaheed Bhagat Singh Marg upto the Roundabout of Gole Market.
4.	Sh. Sunil Verma 9868822445 7290062404	Pt. Pant Lane, 23710572	<u>Jurisdiction:-</u> North Avenue, Central Secretariat, Parliament & Parliament Annexe, Dr. Rajender Prasard Road upto its junction to Janpath, Janpath upto Roundabout of Windsor Place, Ashoka Road upto Gole Dak Khana, Willingdon Crescent upto 11 Murti, Talkatora Stadium.
5.	Sh. Rakesh Kumar 9350970847 7290062389	Basement Chandralok Building 23325572	<u>Jurisdiction:-</u> Babar Road, Barakhamba Lane, Fire Brigade Lane, Bengali Market, Bhagwan Dass Road, Sikandra Road, Copernicus Marg, Sangli Mess, Hyderabad House, Ferozshah Road, Ashoka Road (starting from roundabout of Andhra Pradesh Bhawan upto roundabout of Windsor Place), Scindia House, Barakhamba Road, Kasturba Gandhi Marg.
6.	Sh. Ved Parkash, 9868886801 7290062411	A-5, Pandara Road, 23070915	<u>Jurisdiction:-</u> Bapa Nagar, Pandara Park, Pandara Road, Shahjahan Road Flats, Shahjahan Road, Dr. Zakir Hussain Marg upto its crossing with Subramania Bharti Marg, Prithviraj Road upto its junction with South End Road, Aurangzeb Road upto the roundabout of Hotel Claridges, South End Road, Ravinder Nagar, Khan Market, Prithviraj Market, Man Singh Road upto its junction with roundabout of Vice-President's residence, Moti Lal Nehru Marg upto roundabout of LG House, Akbar Road upto the roundabout of LG House, Moti Lal Nehru Marg upto its junction with Janpath.
14	Sh. M.P.S. Sethi 9868145833 7290062370	Near NDMC Civil Enquiry Maan Singh Road 23073062	<u>Jurisdiction:-</u> Vijay Chowk, Rajpath, Central Vista Lawn, India Gate, C-Hexagon, Purana Qila Road, Tilak Marg, Supreme Court Area and Tilak Lane.

SOUTH OF RAJPATH – CIRCLE NO. 7 TO 13 (as on 30-3-2016)

Circle No.	SI Name & Mobile No.	Office Address & Phone no.	Circle Area
7	Sh. R.J. Meena 9811250647 7290062395	SI Office Sunehari Bagh Lane 23013893	<u>Jurisdiction:</u> - Sunehri Masjid includes South Block, P.M. House, Sena Bhawan, Dalhousie Road, Moti Lal Nehru Marg, Maulana Azad Road, Janpath, Aurangzeb Road, Akbar Road, Tees January Marg/Lane, Tuglak Road, Krishna Menon Marg, K. Kamraj Road, Duplex Road, Tyag Raj Marg, Rajaji Marg, South Avenue, Teen Murti Marg/Lane, Kushak Road, and Willingdon Crescent.
8	Sh. Sher Singh 9899276248 7290012026	Near Palika Materinity Hospital, Lodhi Colony 24603359	<u>Jurisdiction:-</u> Lodi Colony, Lodi Estate, Lodi Road, Maxmuller Marg, Amrita Sher Gill Marg, South End Road, Subramania Bharti Marg, Maharishi Raman Marg, Sujan Singh Park, Bharti Nagar, Golf Link, Arch Bishop Makorious Ross, Part of Dr. Zakir Hussain Road, Kaka Nagar.
9	Sh. Dharampal 9811607290 7290062352	Near NDMC Allopathic Dispensary, Karbala 24653790	<u>Jurisdiction:-</u> Jor Bagh, Aliganj, Karbala, B.K. Dutt Colony, Najaf Khan Road, Aurobindo Marg, Prithviraj Road, Tuglak Road, Tuglak Lane, South End Lane, Aurangzeb Lane, Part of Tuglak Road, Safdarjung Road, Race Course Road, J.J. Cluster, Jamal Attaturck Road.
10	Sh. Arun Kr. Sharma 931346456 7290062401	Ground Floor, Chanakya Bhawan, Yashwant Place, 24105121	<u>Jurisdiction:-</u> Shanti path, Kautilya Marg, Sardar Patel Marg, Panchsheel Marg, Simon Bolivar Marg, Sen Martin Road, Babu Dham, Jesus and Marry Marg, Chander Gupta Marg, Nyaya Marg, Satya Marg, Niti Marg, Vinay Marg, Chanakyapuri, Satya Sadan, Bardulai Marg.
11	Sh. Suresh Kumar 7290062408	Nr. Allopathic Dispensary, Sarojini Nagar 26872543	<u>Jurisdiction:-</u> Sarojini Nagar, Nauroji Nagar, Sarojini Vihar, Pillanji Village, Afrika Avenue, I-Avenue, B-Avenue, Brig. Hoshiya Singh Road
12	Sh. R.S. Meena 9818077031 7290068384	Begum Zaidi Market 26872544	<u>Jurisdiction:-</u> North Moti Bagh, Begum Zaidi Market, Basurkar Market, Part of Shanti Path, Netaji Nagar, Palika Bhawan, Anant Ram Dairy.
13	Sh. Shrikrishan 9891175692 7290062403	Central Market Kidwai Nagar 24654123	<u>Jurisdiction:-</u> East/West Kidwai Nagar, Aurobindo Marg upto Yusuf Sarai, Delhi Haat surrounding Laxmi Bai Nagar, Brig. Hoshiar Singh Road, Laxmi Bai Nagar Market, both Kidwai Nagar Market.

ACTIONS TO BE TAKEN

To prevent and control water borne diseases in community an integrated effort from health and other departments and agencies providing civic amenities is required. Health Department can only tell about the distribution of disease in the community and can find the cause and remedy of the disease. On the other hand, other departments such as water supply department, sewerage department, enforcement department, sanitation wing and drainage department plays a vital role. With this coordinated effort water borne diseases can be put under control. The various actions to be taken in an integrated manner are as follows: -

A. FOOD HYGIENE

Action:- Dir.(Enf.North) Dir.(Enf. South)/ MOH)



1. Sale of food exposed to dust and flies, cut fruits, and sugar-cane juice is to be banned.
2. Such foods and fruits found may be destroyed
3. No hawker is to be allowed to sell unhygienic eatables especially outside schools.
4. Selling of ice cream through unlicensed trollies and manufacture of ice by unlicensed factories is to be stopped.
5. Import of ice from the neighboring states of Delhi is to be checked and regulated.

B. HEALTH EDUCATION (Action:- CMO I/C Health Education)

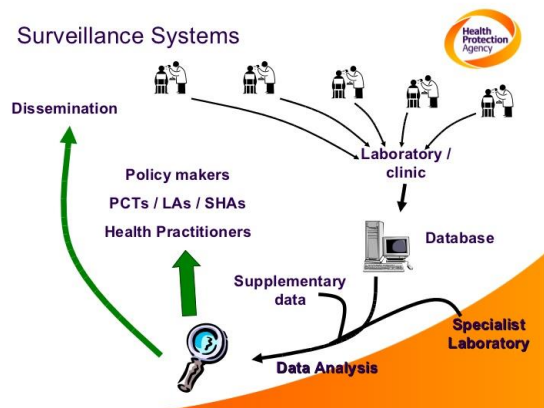


1. Health Education will be provided in whole NDMC area especially in JJ Clusters and colonies of low socio-economic status by Health Education Unit in the form of;
 - i) Display of posters.
 - ii) Use of vehicle mounted public address system and audio-visual aids
 - iii) Cinema slides are being shown in all the cinema halls of NDMC area for DO's & DON'Ts for prevention & control of water borne diseases.

C. SURVEILLANCE AND MONITORING

(Action:- I/C Epidemiology Unit)

1. All cases admitted in Charak Palika Hospital, Moti Bagh are enlisted and evaluated.
2. All the in-charges of dispensaries have been directed to report if there is any abnormal increase in water borne diseases or any clustering of water borne diseases such as; Gastro-enteritis/Cholera, Viral Hepatitis, Worm infestation, Diarrhoea, Dysentery etc. to Epidemiology Unit of NDMC, Palika Kendra, New Delhi. The collection of data of all admitted cases of Cholera from NDMC area are reported to MOH, NDMC by the Infectious Diseases Hospital, Epidemiology Unit of MCD.



D. ADEQUATE WATER SUPPLY OF POTABLE WATER

(Action:- SE(PH) & EE(Water Supply)



1. Ensure safe water supply in whole NDMC area. Water sample testing from all sources as well as delivery points (sample check survey)
2. Chlorine estimation at various consumable points.
3. Cleaning of underground and overhead water tanks
4. Provision of deep hand pumps India mark-II where the scarcity of water is seen.
5. Removal of shallow hand pumps. If resistance is observed they are painted red with a slogan "WATER NOT FIT FOR DRINKING". Wherever drinking water is required, it will be supplied through NDMC water tankers.

E. DISTRIBUTION OF CHLORINE TABLETS

(Action:- I/c. Epid. Unit & CMO I/C Health Education)

Chlorine tablets will be regularly distributed from 1st of April, onward in all the JJ Clusters. Chlorine tablets will be available at all NDMC health outlets such as; dispensaries, hospitals, MCW Centers, Vaccination-cum-birth and death registration centers which will be given to general public on demand.

F. DISTRIBUTION OF ORS PACKETS

(Action:- I/C Epid. Unit & CMO I/C Health Education)

ORS packets will be distributed in the JJ Clusters to needy people from 15th of April and will be available adequately in all Health outlets of NDMC.

G. EFFECTIVE GARBAGE REMOVAL

(Action:- CMO(N), CMO(S) & CSIs



All the roads, lanes, bye-lanes, streets etc. will be cleaned and swept regularly and the whole garbage will be removed daily. The dark corners will be searched out and no litter will remain there.

H. DESILTING OF DRAINS

(Action:- Chief Engineer (C-I), SE(R-I) & SE(R-II)



All the storm water drains will be cleaned thoroughly during the sanitation drive as well as be continued cleaning throughout the year. Bigger drains such as; Khushak Drain will be de-silted and de-weeded by Civil Engineering Deptt. before the monsoon and free flow of water will be maintained.

I. MOTHER'S MEETINGS

(Action:- CMO (Med.) & CMO(MCW)



Mother's meetings are being conducted regularly in MCW centers of NDMC and Maternity wards of NDMC to educate mothers for proper hygiene and care of small children to prevent them from various water borne diseases.

J. MEDICAL CARE.



Action:- Director (Medical Services)

All the NDMC dispensaries are well equipped with necessary medicines and life saving drugs. Any person suffering from water borne diseases will be immediately attended to and necessary treatment will be provided on the spot. NDMC is having 12 Allopathic dispensaries, 12 Homeopathic dispensaries and 10 Ayurvedic dispensaries. Apart from this, NDMC is also having mobile dispensaries which are ready to meet any emergency in the field. They will also visit various JJ Clusters as per schedule to provide medical care to the inhabitants of JJ Clusters.

K. EPIDEMIOLOGICAL ACTIVITIES.

(Action:- I/C Epid. Unit, CMO I/C Health Education)

As soon as a case of Cholera/ clustering of diarrhoeal diseases are reported, the following measures will be taken by Epidemiology Unit in coordination with other departments under the overall charge of Epidemiologist, NDMC.

- I) Thorough epidemiological investigation of the case to find out the possible source of Infection.
- II) Water sample testing of the area.
- III) Distribution of Chlorine tablets and ORS packets.
- IV) Prophylactic treatment:- A course of Tetracycline capsules to all the inhabitants of the house of the patient as well as people in direct contact with the patient.
- V) Health Education activities in the area.
- VI) All the Pradhans of the JJ Clusters are contacted and are provided with chlorine tablets and ORS packets, which can be used in emergency by them. They are also requested to inform immediately if any unwanted incidence is observed in the area.

L. SURVEILLANCE OF PORTABLE WATER SUPPLY IN NDMC AREA.

The schedule of water sample collection for testing is as under:-

S. No.	Frequency of Water Sample Collection	Sampling Points/ Area
1.	Daily	Parliament House and Annexe
		Reservoirs (NDMC)- Total 28 Nos.
		P.M. House
		NDMC Residential Colony & Consumer End
2.	Weekly	MP Flats/ MP Residential Complex
		VVIPs
		Delhi Jal Board (Reservoirs)
3.	Monthly	Delhi High Court
		Patiala House Court
		Hospitals – Charak Palika Hospital, Palika Maternity Hospital, All India Institute of Medical Sciences, Safdarjung Hospital and Dr. Ram Manohar Lohia Hospital, Ladi Harding Medical College and Kalawati Saran Hospital, etc.
		NDMC Poly Clinic, NDMC Dharam Marg, NDMC health clinics
		NDMC Schools
		JJ Clusters
4.	Quarterly	Residence of Hon'ble Judges of Delhi Hough Court and Supreme Court of India in NDMC area
5.	On request as and when requested by CPWD	Supreme Court of India, Bhagwan Das Road
		Rastrapati House Complex
6.	Regular as when required	By Public/ RWAs

HEALTH DEPARTMENT
NEW DELHI MUNICIPAL COUNCIL
SCHEDULE OF SAMPLING (DAY WISE)

<u>DAY</u>	<u>MORNING SHIFT</u>	<u>EVENING SHIFT</u>
MONDAY	<ul style="list-style-type: none"> • PM HOUSE • MCW CENTRES & DISPENSARIES • RESERVOIRS • VVIP • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 1&2) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 6) • RESERVOIRS • RESIDENCE OF JUDGES
TUESDAY	<ul style="list-style-type: none"> • PM HOUSE • MP FLATS • RESERVOIRS • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 3) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 9&11) • RESERVOIRS • RESIDENCE OF JUDGES
WEDNESDAY	<ul style="list-style-type: none"> • PM HOUSE • RESERVOIRS (DJB) • RESERVOIRS • SCHOOLS • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 4) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 12) • RESERVOIRS
THURSDAY	<ul style="list-style-type: none"> • PM HOUSE • DELHI HIGH COURT & PATIALA HOUSE COURT • RESERVOIRS • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 14) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 13) • RESERVOIRS • SCHOOLS
FRIDAY	<ul style="list-style-type: none"> • PM HOUSE • RESERVOIRS • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 5) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 8) • RESERVOIRS • SCHOOLS
SATURDAY	<ul style="list-style-type: none"> • PM HOUSE • RESERVOIRS • CONSUMERS/RWA/ JJ CLUSTERS (Circle No. 7 & 10) 	<ul style="list-style-type: none"> • CONSUMERS/RWA/ JJ CLUSTERS • HOSPITALS (CPH,SJ Hospital,AIIMS,RML,PMH)

IMPLEMENTATION OF THE ACTION PLAN-2017

SAFE DRINKING WATER

1. Adequate water supply is to be provided in the whole area of New Delhi Municipal Council including all JJ Clusters. The Safe drinking water is to be supplied regularly by ensuring residual chlorine of 0.5 to 1 PPM with zero bacterial count. Deep hand pumps wherever exist must be in working conditions. Water samples should be lifted by the Water Quality Monitoring Unit, Vinay Marg from the water reservoir/ source such as schools, residential complexes, Hospitals, Dispensaries, JJ Clusters, various underground tanks and overhead tanks for monitoring of safe water supply regularly as per the schedule. Daily report of the tests (chemical and bacteriological) of various samples collected may be uploaded on NDMC website and sent a weekly report to MOH office.

**Action: CE(C-I), I/c PHL/Chemist/Bacteriologist,
Vinay Marg.**

2. Sale of refrigerated water through unlicensed water trolleys to be stopped immediately. No unlicensed water trolley under any circumstances will be allowed to operate. In case such trolleys are found, the concerned area Sanitary Inspector as well as Inspector (HR) will be severally penalized.

Action: Dir.(Enf. North) & Dir. (Enf. South)

3. All shallow hand pumps may kindly be dismantled and supplemented by latest technology of hand pumps. If public resistance is seen, the shallow hand pumps shall be painted with red colour with a slogan "**Water not fit for drinking**".

Special instructions should be issued to pump operators of Tube wells to regularly add bleaching powder and maintain chlorination. All pump operators should have instrument for checking the chlorine level of reservoirs to ensure safe water supply in whole New Delhi Municipal Council area. Regular lifting of the water samples from the reservoirs and other sources by the Public Health Laboratory.

Action: CE (Civil-I), EE(WS), Bacteriologist & Chemist of PHL

4. In case for any health hazard, Health Department will be given full cooperation and coordination by water supply department to keep water supply intact. Water supply department will ensure 0.5 ppm chlorine at all consumer points.

Action: CE(C-I) /EE (Water supply)

5. Supply of water through water tankers by private suppliers/NDMC Tankers to various hotels, restaurants, and guesthouses in NDMC shall be checked and regulated to confirm their standard fit for human consumption. The water tanker should be properly labeled showing the name of the agency to which it belongs and its number. The chlorine contents of water be checked on the spot and accordingly action is to be taken.

**Action: CE(C-I), Dir. (Enf. South), Dir.(Enf. North)
& All Inspectors (Health Enf.)**

PREVENTION OF OPEN AIR DEFECATION

6. Provision of sufficient numbers of toilets in JJ Clusters may kindly be made along with water supply for disposal of excreta products.

Action: CE(C-I)

ENFORCEMENT OF FOOD HYGIENE

7. Sale of unlicensed ice exposed to dust and flies should be stopped immediately. Such ice should be destroyed and daily report may be submitted by Enforcement staff to the Director(Enf North.) and Director (South). Transportation of ice from outside neighboring states of Delhi to NDMC area shall be checked and regulated.

**Action: Dir. (Enf. South), Dir.(Enf. North)
& All Inspectors (Health Enf.)**

8. Sale of sugarcane juice, cut-fruits should not be allowed / banned in New Delhi Municipal Council area.

**Action: MOH, Dir. (Enf. South), Dir.(Enf. North), CMO(N),
CMO(S), & All Inspectors (Health Enf.)**

9. Sale of cut-fruits, cholley bhature and other eatables exposed to dust and flies should be stopped immediately outside the schools, hospitals, offices and other places in NDMC area and be destroyed on the spot failing which strict action will be taken against the Enforcement Staff.

**Action: Dir. (Enf. South), Dir.(Enf. North)
& All Inspectors (Health Enf.)**

10. All SIs will ensure chlorine content in all the refrigerated water trolleys in their respective areas and if residual chlorine not found immediate action will be taken by them. All SIs will also keep Chloroscope with them to check any consumable water or water products such as ice etc. for its

potability. A written report about the water sample checked by individual SI will be submitted to the office of the Epidemiology Unit room no. 1010, 10th Floor, Palika Kendra for its compilation and further submission to the superiors on regular basis.

Action: MOH, Dir. (Enf. South), Dir.(Enf. North), CMO(N), CMO(S), CSIs(N), CSIs(S) & All Inspectors (Health Enf.)

11. The Health Enforcement staff will conduct daily raid in the area of Connaught Place, Janpath, outside Safdarjung hospital, AIIMS, INA Mkt., Kasturba Gandhi Marg, Malcha Market, Sarojini Nagar Market, India Gate etc. and outside all the schools. All the unlicensed ice-cream trolleys, aerated water/ cold drink /petty's/ burger trolley and water trolleys operating without health license should be confiscated.

Action: Dir. (Enf. South), Dir.(Enf. North) & All Inspectors (Health Enf.)

EFFECTIVE GARBAGE REMOVAL

12. Garbage removal in all areas of NDMC should be stepped up. No garbage should remain anywhere in NDMC area for more than 24 hours. Insecticide's spray should be done in all garbage collection points i.e. masonry bins, iron bin trolleys etc.

Action: CMO(N), CMO(S), CMO(Proj.), CSI(N) & CSI(S)

DE-SILTING OF DRAINS

13. All the drains including storm water drains should be de-silted before 30th of June 2017.

Action: CE(C-I), SE (R-I) & SE (R-II)

HEALTH EDUCATION/ IEC ACTIVITY

14. Health Education measures be immediately intensify in all the JJ Clusters and various other localities through mass media campaign, distribution of leaflets and posters, contact with the Pradhans of various JJ Clusters and other leaders be made. Health Education Unit will send weekly report to Epidemiology Unit.

Action: CMO(HEU)

15. The bottom of the water and electricity bill of NDMC should carry message on the prevention and control of water borne diseases.

Action: Director (Commercial)

DISTRIBUTION OF CHLORINE TABLETS

16. Chlorine tablets will be procured from Municipal Corporation of Delhi by the Epid. Unit. The chlorine tables will be made available in all the NDMC Dispensaries, MCW Centers, Charak Palika Hospital, Palika maternity Hospital, Poly Clinic, Birth & Death Centre etc. by Health Education Unit of Health Department. The In-charges of all the above mentioned units will display the availability of these chlorine tablets/ liquid in their health units to aware general public.

Action: Director (MS), CMO(N), CMO(HEU) & Sr. Stat. Invest.

MEDICAL FACILITIES

17. All the dispensaries and hospitals will ensure sufficient quantity of ORS packets and anti diarrheal drugs. NDMC Mobile dispensaries will visit as per pre defined schedule date and time regularly in all the JJ Clusters and other locations with sufficient quantity of medicines for diarrhea, dysentery and other water borne diseases along with ORS packets for needy patients. All the NDMC hospitals and dispensaries will also keep chlorine tablets for free distribution to the needy.

Action: Dir. (MS), CMO(Medical) & CMO(Admn.)

MOTHER'S MEETINGS

18. Mothers meetings should be organized at all the MCW centers every week as per pre defined schedule date and time to create awareness about ORS and its use in case of Gastro-enteritis, diarrhea, dysentery etc. all the incharges of MCW centre should have their health education material to be distributed to the mothers/ participants during the mother meetings. All the MCW centre will keep chlorine tablets for free distribution to the needy.

Action: Director(MS) & CMO(Med.)

MONITORING AND SURVEILLANCE

19. The report from Enforcement Department, Sanitation Department, Water Quality Control Unit and no. of cases of Gastro-enteritis and cholera from NDMC health institutions shall be collected and tabulated for proper monitoring by the Sr. Statistical Investigator of Epid. Unit. The various other agencies such Municipal Corporation of Delhi, National institute of Communication diseases and Directorate of Health Service, Govt. of NCT of Delhi, Ministry of Health & Family Welfare, Govt. of India and Director General of Health Services will be regularly contacted and any directions from higher agencies that shall be implemented without any loss of time in New Delhi Municipal Council area by Sr. Statistical Investigator of Epid.

Unit. All the cases of cholera will be epidemiologically investigated by Sr. Statistical Investigator with Health Education Unit and notified.

Action:- I/c Epid. Unit & Sr. Stat. Investigator

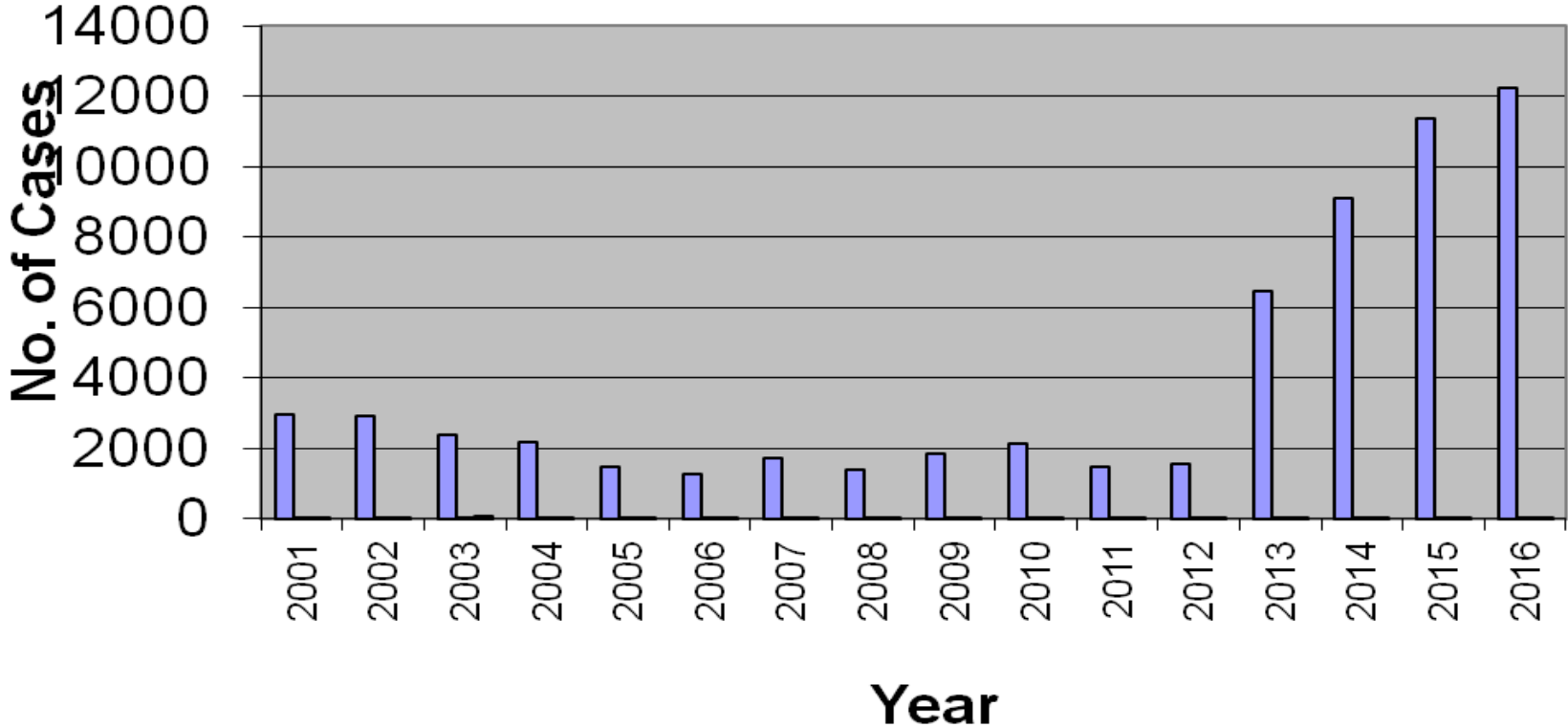
**STATUS OF
WATER BORNE
DISEASES
IN
NDMC AREA**

STATUS REPORT

GASTRO-ENTRITIS CASES OF CHARAK PALIKA HOSPITAL, MOTI BAGH (2001-2016)

Year	Case Reported	Admitted (NDMC)	Admitted (Non-NDMC)
2001	2967	15	23
2002	2930	25	28
2003	2398	33	76
2004	2161	25	32
2005	1495	2	23
2006	1271	3	11
2007	1743	29	48
2008	1409	5	14
2009	1833	16	15
2010	2117	1	15
2011	1468	3	16
2012	1567	7	32
2013	6451	6	28
2014	9110	13	26
2015	11368	10	31
2016	12229	19	55
Grand Total	62517	212	473

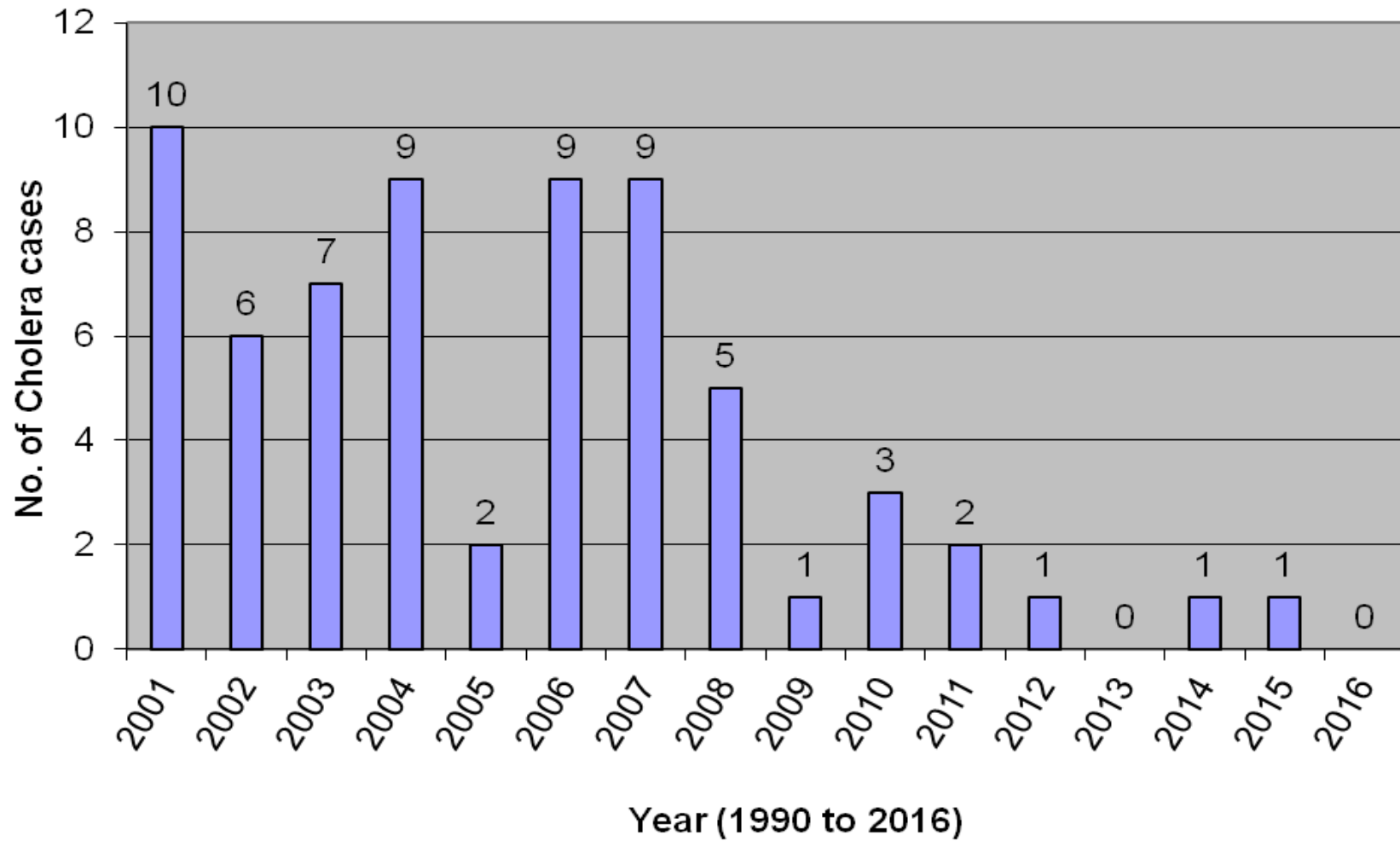
Gastro - Entritis Cases Reported (2001 to 2016)



CHOLERA CASES (2001-2015) (An Indicator of Quality of Water)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2001	---	---	---	---	3	3	2	2	---	---	---	---	10
2002	---	---	---	1	---	---	---	2	3	---	---	---	6
2003	---	---	---	---	1	---	2	3	1	---	---	---	7
2004	---	---	---	4	---	---	4	---	1	---	---	---	9
2005	---	---	2	---	---	---	---	---	---	---	---	---	2
2006	---	---	---	2	5	---	---	---	---	1	1	---	9
2007	---	---	---	---	2	1	3	---	1	1	---	---	9
2008	-	-	-	-	-	1	1	2	-	1	-	-	5
2009	--	--	--	--	-	--	--	--	--	1	--	--	1
2010	--	--	--	2	--	--	1	--	--	--	--	--	3
2011	--	--	--	--	--	1	1	--	--	--	--	--	2
2012	--	--	--	--	--	--	--	1	--	--	--	--	1
2013	--	--	--	--	--	--	--	--	--	--	--	--	NIL
2014	--	--	--	--	--	1	--	--	--	--	--	--	1
2015	--	--	--	--	--	--	1	--	--	--	--	--	1
2016	---	---	---	--	---	---	---	---	---	---	---	---	NIL

Total Cholera Cases in NDMC area





PUBLIC HEALTH LABORATORY
NEW DELHI MUNICIPAL COUNCIL
REPORT FROM 01.01.2016 TO 31.12.2016

Month of 2016	Reservoirs	Consumers	Hospitals & MCW Centers	PMH & 10 JP	Parliament House & Annexe	MP's Flats	Others	Const.	Total	Samples failed
JAN	489	238	83	102	43	26	17	02	1000	00
FEB	411	326	84	71	51	17	23	05	988	00
MAR	502	292	73	46	84	24	16	03	1040	00
APR	271	151	62	92	34	21	07	03	641	00
MAY	505	317	69	95	49	28	04	04	1071	00
JUNE	563	314	55	92	63	52	04	07	1150	07
JULY	614	160	96	97	22	20	31	04	1044	02
AUG	375	51	69	102	14	27	21	02	661	00
SEPT	480	95	89	107	NIL	14	48	02	835	11
OCT	122	76	15	62	NIL	NIL	19	06	300	01
NOV	422	55	69	113	NIL	33	13	03	708	00
DEC	532	104	66	73	NIL	20	23	07	825	02
TOTAL	5286	2179	830	1052	360	282	226	48	10263	23

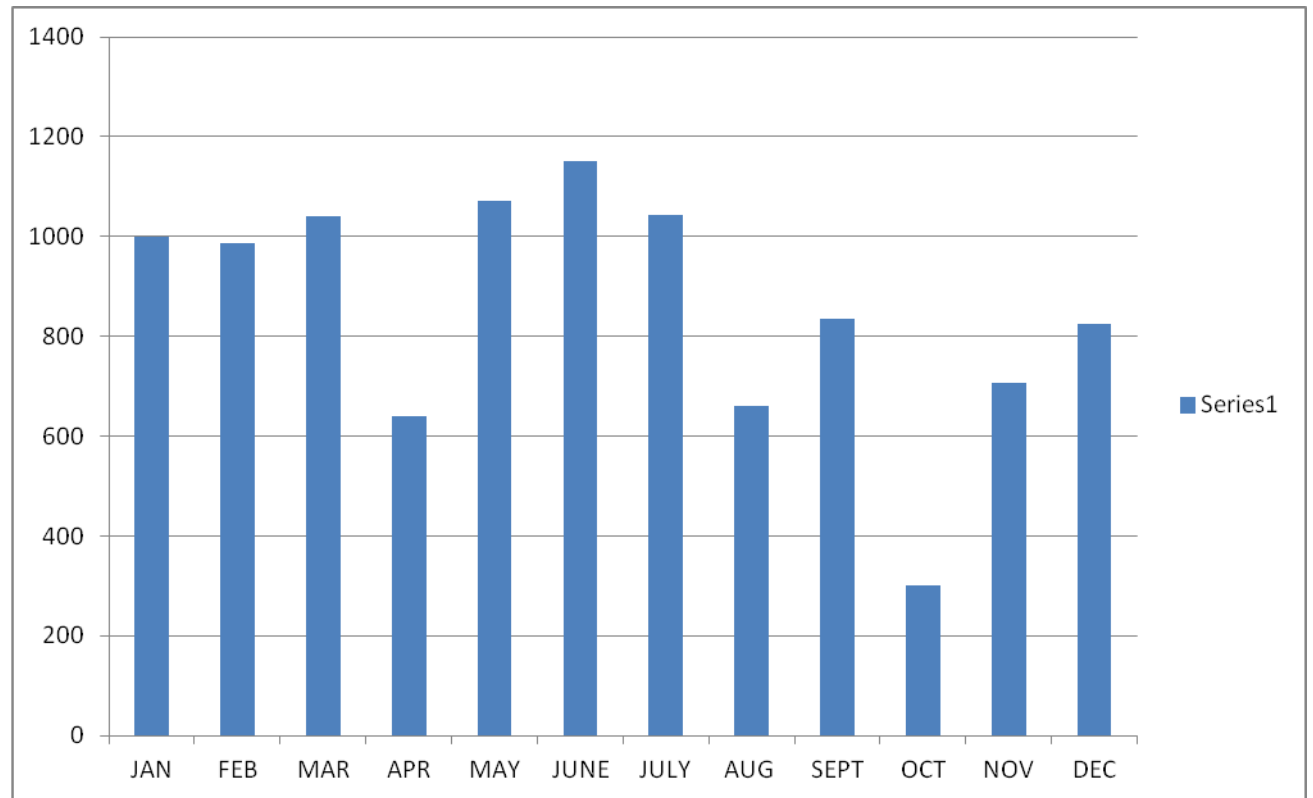
MONTH WISE REMARKS-2016

	Detailed remarks*	ACTION TAKEN
January	All sample found fit for drinking purposes,	-----
February	All sample found fit for drinking purposes,	-----
March	All sample found fit for drinking purposes	-----
April	All sample found fit for drinking purposes	-----
May	All sample found fit for drinking purposes.	-----
June	1 Sample found +ve coliform from D/451 netaji nagar, 2 Sample found +ve Coliform from Y-254,Y-242 Saroji nagar ,4 sample found +ve coliform from D/605,607,612&601 Netaji Nagar.	Informed to Concerned J.E. for taking corrective measures
July	2 Sample found +ve Coliform from D-1/29 Ravindra Nagar, New Delhi.	Informed to Concerned J.E. for taking corrective measures
August	All sample found fit for drinking purposes.	-----
September	4 Sample found +ve coliform from Ft No- 78,79,81 &83 palika Gram,Saraji Nagar. 1 Sample found +ve Coliform from X-258 Saroji nagar ,5 sample found +ve coliform from Flat No-78,83,68,79,&83. 1 Sample found +ve coliform from X-258,Sarajini Nagar .	Informed to Concerned J.E. for taking corrective measures
Oct	1 Sample found +ve Coliform D-II/245,Vinay Marg.	Informed to Concerned J.E. for taking corrective measures
NOV	All sample found fit for drinking purposes.	-----
DEC	1 Sample found +ve Coliform D-I/37, chanakyapuri 1 Sample found +ve Coliform D-II/37 300, chanakyapuri	Informed to Concerned J.E. for taking corrective measures

**PUBLIC HEALTH LABORATORY
NEW DELHI MUNICIPAL COUNCIL**

Number of Samples Collected and Tested in Public Health Laboratory NDMC Year:2016

Months of 2016	Total
JAN	1000
FEB	988
MAR	1040
APR	641
MAY	1071
JUNE	1150
JULY	1044
AUG	661
SEPT	835
OCT	300
NOV	708
DEC	825
TOTAL	10263



**PUBLIC HEALTH LABORATORY
NEW DELHI MUNICIPAL COUNCIL**

**HEALTH DEPARTMENT
(EPIDEMIOLOGY UNIT)
NEW DELHI MUNICIPAL COUNCIL**

**EPIDEMIOLOGICAL INVESTIGATION SCHEDULE FOR A CASE OF
CHOLERA**

A. IDENTIFICATION DATA

1. Reference No. :
2. Date :
3. Case No. :
4. Address :
5. Name of Head of Family :
6. Relationship with Head of Family :
7. Patient Name :
8. Age :
9. Sex : Male / Female
10. Religion :
11. Date and time of Admission :
12. Immunization Status :

B. History Related to Illness

13. Date of Onset of Illness :

14. History of Diarrhea

Frequency : _____ per day

Duration : _____ day(s)

Colour : _____

Consistency : Water/Semi-Solid/Rice Watery

	(1)	(2)	(3)
Blood	: Yes	- 1	
	No	- 2	
Mucus	: Yes	- 1	
	No	- 2	

15. History of Vomiting

Frequency : _____ per day
Duration : _____ day(s)
Type : _____
Other Inf. : _____

16. Any associated illness : Fever/cough/convulsion/Rashes/
Melana Haemetemesis/Nutrition deficiency/
No illness/Other (Specify)

17. I) Similar illness in other family member : Yes- 1
ii) Similar illness in neighborhood : No- 2
iii) Movement of person to any other place : Yes-1
(Within 15 days proceeding/after Occurring) No- 2

18. Is child breast-fed? : Yes- 1
No- 2
Not applicable - 9

19. Breast feeding during illness: Continued as such - 1
Continued but less Frequent - 2
Stopped - 3
No answer - 4
Not applicable - 9

20. Food intake during: illness: Yes, all foods/restricted/Stopped/
Not applicable/No answer.

21. Treatment taken at home:
No treatment - 1
Home made ORS - 2
ORS packets - 3
Other home remedies - 4
Drugs - 5

22. Place of treatment for illness:
- | | |
|-----------------------|-----|
| Private Practitioners | - 1 |
| Govt. Dispensary | - 2 |
| Govt. Hospital | - 3 |
| No treatment | - 4 |

23. When was patient referred to the Hospital?

After onset of illness: 12 Hrs/24 Hrs/2 days/3 days/4 days/5 days/more.

24. Total duration of illness :

25. Result – Death/Discharged

Date and **Time**

26. Sequential History of whole illness :

Date and Time **Symptoms** **Action** **Taken**

27. Awareness regarding oral Re-hydration thereby :

28. Comments of investigating authority on actual case of death :

B. Family History :

29. No. of family members :

30. Total monthly income:

31. Educational qualifications: **Father** **Mother**

Illiterate -

Primary -

Upto 8th class -

High school & above-

32. Occupation : I) Father:
ii) Mother :

C. Environmental History

- a) House
33. Room pucca/kachha :
34. Single room/multi room :
35. Fly nuisance : Yes/No
36. Separate/Common :
37. Cooking by family members/servant :
38. Fly proofing : Yes/No

C) Latrines:

39. Family/Common/Public/None
40. Disposal excreta: Sewer/dry type/bore-hole/open field.
41. Sanitation in House-good/Satisfactory/Poor

D. Water Supply

42. Tap/Deep Handpump/Shallow Handpump/Tanker/Any Other (Specify)
43. Type: Personal/Public
44. No. of families dependent
45. Duration of water supply : Whole year/intermittent if intermittent, how many months: if tap, how many hours per day
46. Platform : Yes/No
47. Drain : Yes/No
48. Covering : Yes/No
49. Water logging around source : Yes/No

50. Breakage/Leakage in water system : Yes/No

51. Garbage around water source : Yes/No

52. Other Information

53. Comments on Sanitation Condition

54. Awareness about diseases : Yes/No

If yes, source

1. TV
2. Newspaper
3. Hand Bill
4. Radio
5. Other

PREVENTIVE MEASURES

54. Cholera inoculation :

If yes, date :

Yes/No

Family/locality

55. Action taken:

- a. Immunization
- b. ORS packets
- c. Chlorine tablets
- d. Tetracycline capsules (to contacts)
- e. Health Education
- f. Sanitation measures

RECOMMENDATION

(Signature of Investigator)

**EPIDEMIOLOGY UNIT
HEALTH DEPARTMENT**

NEW DELHI MUNICIPAL COUNCIL

A. PERFORMA FOR RECORDING HOSPITAL DATA OR GASTRO-ENTERITIS CASES

Form No: _____

Dated: _____

1. Name of the Hospital :

2. Registration No. :

3. Date and time of Admission :

4. Patient referred from :

5. Name of patient :

6. Address :

7. Total duration of stay in Hospital :

8. Diagnosis made in the hospital :

9. Investigation performed :

10. Brief clinical notes of case :

11. Brief notes on treatment :

12. Result – Death/Discharged

Date and Time

13. Comments of investigating authority :

Signature of investigator

**HEALTH DEPARTMENT
(EPIDEMIOLOGY UNIT)
NEW DELHI MUNICIPAL COUNCIL**

EPIDEMIOLOGICAL INVESTIGATION SCHEDULE FOR VIRAL / INFECTIOUS
HEPATITIS

1. Case No. :
2. Patient :
 - (a) Name :
 - (b) Age & Sex :
 - (c) Residential Address :
 - (d) Occupation :
 - (e) Address of place or work :
3. Source of information about the case:
4. Date of :
 - (a) Investigation :
 - (b) Admission :
 - (c) Notification :
5. Result : Relieved/Died/LA MA/or treating.
6. Name of Hospital/Med. Practs./Dispensary;
7. Date & Time of onset of symptoms/signs:
8. **Symptoms and signs since onset (Tick)**
 1. Head – ache
 2. Body – ache
 3. Malaise
 4. Anorexia (Loss of appetite)
 5. Nausea
 6. Vomiting
 7. High colored urine
 8. Color – less/pale stools
 9. Liver enlarged
 10. Abdominal pain/distress
 11. Jaundice (Yellowness of eyes)
 12. Gastrointestinal disturbances/discomfort
 13. Itching
 14. Delirium
 15. Coma
 16. Others (specify)
9. Movement outside of the city within 50 days prior to onset
(Tick) No/Yes. If yes, address :

10. Food & Drinks : (consumed within 50 days before onset of symptoms)
 1. Home : Yes/No
 2. If outside, specify address/es (or places/eating).
 3. Source of :
 - a) Milk
 - b) Raw Vegetables
 - c) Fish/meatContact with similar case within 50 days : Yes/No
11. Names of cases among:
 - a) Family, yes/no (No)
 - b) Associates/Institution :Yes/No (No.)
12. History of blood transfusion/or injection/vaccination/and skin test within 180 days prior to onset (mention names of injections and name of Doctor/Dispensary/Hospital).
13. Whether pregnant : (for women) yes/no
14. Extract of treatment/investigation, as far as know:
(Especially Urine, SGPT and SGOT)
15. Family:
 - a) No. of members :
 - b) Total monthly family income Rs.
16. House (tick):
 - i) Sanitation : Satisfactory/Unsatisfactory
 - ii) Pucca/Kacha: (e.g. hut/jhuggi etc.)
 - iii) Single roomed/multi-roomed
 - iv) Fly nuisance : Yes/No
17. Kitchen (Tick):
 - i) Separate/comman (with other rooms, verandha or courtyard)
 - ii) Cooking by : family members/servant
 - iii) Fly – proofing : (yes/no)
 - iv) Water supply : Common/not common with latrine/bathroom.
18. Latrine (tick):
 - i) Family/common/public/none.
 - ii) Sewered/Dry type/bore-hole/open fields.
 - iii) Sanitation : Satisfactory/unsatisfactory.
 - iv) Fly proofing : Yes/No

19. Source of Water supply (Tick):

At home :-

- i) Mpl./wall/Hand pump/Tubewell/ or (specify)
- ii) Individual/Public (or common)
- iii) Dry Latrine within 100 ft.
- iv) Evident source of contamination: No/Yes (specify)

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20. Locality (Tick):

- a) Environmental sanitation (general) : Satisfactory/unsatisfactory
- b) Water Supply : i) Mpl./Well/hand pump/or tube wells
ii) Individual/Public (or common)
- c) Latrine : i) Sewered/Dry type/bore-hole/none
ii) Present : Yes/No

21. Disinfection (if yes. Mention dates):

- a) Clotting/bedding/excreta/bed utensils:
- b) Latrine/bathroom/house drain
- c) House water supply : Well/Tube well/hand pump/storage/ponds

22. Family Habits:

- a) Hand washing with soap after defecation : Yes/No
- b) Hand washing with soap before meals : Yes/No
- d) Eating habits
 - Common utensils
 - Separate for each members

23. Remarks if any.

**(NAME & SIGNATURE OF
INVESTIGATOR)**