ETHICAL REVIEW COMMITTEE, ICDDR,B.

Principal Investigator   DR. A.N. ALAM   Trainee Investigator (if any) _____

Application No. **86-022**   Supporting Agency (if Non-ICDDR,B) _____

Title of Study   ICDDR,B SURVEILLANCE   Project status:

PROGRAMME – DHAKA HOSPITAL   ( ) New Study
_____   (✓) Continuation with change
_____   ( ) No change (do not fill out rest of form)

Circle the appropriate answer to each of the following (If Not Applicable write NA).

1. **Source of Population:**
    (a) Ill subjects   (Yes) No
    (b) Non-ill subjects   Yes No
    (c) Minors or persons
         under guardianship   (Yes) No
2. **Does the study involve:**
    (a) Physical risks to the
         subjects   Yes (No)
    (b) Social Risks   Yes (No)
    (c) Psychological risks
         to subjects   Yes (No)
    (d) Discomfort to subjects   Yes (No)
    (e) Invasion of privacy   Yes (No)
    (f) Disclosure of informa-
         tion damaging to sub-
         ject or others   Yes (No)
    Does the study involve:
    (a) Use of records, (hosp-
         ital, medical, death,
         birth or other)   (Yes) No
    (b) Use of fetal tissue or
         abortus   Yes (No)
    (c) Use of organs or body
         fluids   (Yes) No
4   **Are subjects clearly informed about:**
    (a) Nature and purposes of
         study   (Yes) No
    (b) Procedures to be
         followed including
         alternatives used   Yes No
    (c) Physical risks   Yes (No)
    (d) Sensitive questions   Yes (No)
    (e) Benefits to be derived   Yes (No)
    (f) Right to refuse to
         participate or to with-
         draw from study   (Yes) No
    (g) Confidential handling
         of data   (Yes) No
    (h) Compensation &/or treat-
         ment where there are risks
         or privacy is involved in
         any particular procedure   (Yes) No

5. Will signed consent form be required:
    (a) From subjects   (Yes) No
    (b) From parent or guardian
         (if subjects are minors)   (Yes) No
6. Will precautions be taken to protect
    anonymity of subjects   (Yes) No
7. Check documents being submitted herewith to
    Committee:

    ____ Umbrella proposal - Initially submit an
          overview (all other requirements will
          be submitted with individual studies).
    ✓   Protocol (Required)
    ✓   Abstract Summary (Required)
    ✓   Statement given or read to subjects on
          nature of study, risks, types of ques-
          ions to be asked, and right to refuse
          to participate or withdraw (Required)
    ✓   Informed consent form for subjects
    ____ Informed consent form for parent or
          guardian
    ____ Procedure for maintaining confidentia-
          ity
    ✓   Questionnaire or interview schedule *
    * If the final instrument is not completed
    prior to review, the following information
    should be included in the abstract summary:
    1. A description of the areas to be
        covered in the questionnaire or
        interview which could be considered
        either sensitive or which would
        constitute an invasion of privacy.
    2. Examples of the type of specific
        questions to be asked in the sensitive
        areas.
    3. An indication as to when the question-
        naire will be presented to the Cttee.
        for review.

                                               (PTO)

We agree to obtain approval of the Ethical Review Committee for any changes
involving the rights and welfare of subjects before making such change.

Signature
Principal Investigator   _____
                                            Trainee

SECTION I - RESEARCH PROTOCOL   86-022
                                    13/7

	TITLE	: ICDDR,B Surveillance Programme, Dhaka Hospital
2.	PRINCIPAL INVESTIGATOR	: Dr. A.N. Alam
	CO-INVESTIGATORS	: Dr. M.U. Khan
		Mr. N. Rahman
	CONSULTANT	: Dr. D.A. Sack
3.	STARTING DATE	: July 1986
4.	COMPLETION DATE	: To be continued as the Centre requires.
5.	TOTAL DIRECT COST	: US $ 33,604
6.	SCIENTIFIC PROGRAMME	: This protocol has been approved by Disease Transmission Working Group.

Signature of the Programme Head

Date: _____

7. ABSTRACT SUMMARY

The number of patients being treated at the ICDDR,B, Dhaka Hospital is very large. About 150-300 patients attend our treatment centre every day leading to about 70,000 patient visit each year. It is not feasible to study each patient routinely in depth nor to collect clinical and microbiological data on each of these patients. Data on our population is, however, very important and useful in understanding the patient population seen at ICDDR,B. This protocol maintains and modifies a surveillance system in which data is collected from a 4% systematic sample of patients attending the ICDDR,B Treatment Centre.

Patients selected by the surveillance system will receive the routine medical care provided at ICDDR,B. In addition, they will be interviewed by a member of the surveillance team staff, will have a more thorough physical exam by the on-call physician, will have anthropometric measurements. In addition a stool specimen will be obtained for microscopic examination and culture.

This ongoing surveillance program allows the Centre to describe epidemiological trends of disease, the diseases and their antibiotic sensitivity. Based on this system the ICDDR,B makes weekly report to the Government of Bangladesh. Additionally, the surveillance system is a vehicle for other investigators to initiate clinical or follow up studies, to test hyphotheses from the data set and to evaluate treatment centre procedures and benefits.

8. REVIEWS:

(a) Chairman, Ethical Review Committee: --------------------------

(b) Chairman, Research Review Committee: --------------------------

(c) Director, ICDDR,B: --

SECTION II - RESEARCH PLAN

A. INTRODUCTION:

1. Objective:

The objective of protocol 80-005 entitled Surveillance of Urban Diarrhoeal Patients was aimed, "to set up a surveillance system based on a random sample of patients, which will collect demographic, clinical and microbiological data". Data will be analysed on an ongoing basis to better characterise the diarrhoeal illnesses seen at ICDDR,B to assess the quality of care provided, and make recommendation for improvement of clinical care and to help generate new research ideas". A surveillance system has now been established. The objective of the present study is to modify the surveillance system to economize the program while still maintaining the input of critical information.

2. Background information:

Diarrhoeal diseases are a major health problem in developing countries including Bangladesh and contribute significantly to mortality (1). According to accurate data from one part of Bangladesh, in 1975 there were 23.9 deaths per 1000 population and diarrhoea was responsible for 34% of these deaths (2).

The International Centre for Diarrhoeal Disease Research, Bangladesh (formerly the Cholera Research Laboratory) has been involved in research on diarrhoeal diseases ever since it was established in December 1960.

The epidemiology, clinical characteristics, etiologies agents

and treatment of diarrhoeal diseases seen at ICDDR,B has changed over the years. For example, between 1973 and 1974 there was a shift in the predominant biotype of Vibrio cholerae from the virulent classical biotype to the less severe El Tor biotype (3). There have been similar changes for other diarrhoeal agents. In the 1960's most Shigella isolated were Shigella sonnei; there were few Shigella flexneri and no Shigella dysenteriae 1 in 1970, S. dysenteriae 1 was isolated for the first time and by 1973 it had increased to about 2/3 of all shigella isolated (4). The number of S. dysenteriae 1 patients has since decreased. Moreover, new agents and agents not previously thought to produce enteric diseases have been identified and studied at ICDDR,B. A large number of diarrhoeas especially among infants and young children have been found to be caused by rotavirus and have been extensively investigated here (5). In August 1979, Campylobacter was first isolated at ICDDR,B - 8 cases were identified from 105 patients with bloody mucoid diarrhoea (6).

In ICDDR,B Treatment Centre, Wilson et al (7) carried out a pilot surveillance study in August 1979. The results of this study yielded useful information. In October 1979 Dr. Barbara Stoll et al (8) developed a research protocol and established a surveillance system at Dhaka Hospital to study a 4% systemic sample of all patients coming to the hospital for care. Analysis of data for the first year (December 1979 to November 1980) of hospital surveillance provided information on: (a) age and sex distribution, (b) pathogens isolated at different age groups, (c) parasites identified, (d) seasonal variation, (e) some clinical characteristics and severity of dehydration, (f) treatment and (g) case fatality.

During the above period 125,103 patients attended the Dhaka Hospital of whom 25% were <1 year, 37% between 1-5 years and 38% 5 years and over. Thirty one percent of the patients were treated in the 'Treatment Centre' and 4% were admitted to the hospital ward. Subsequently, information on basic socio-economic factors, clinical features and complications of diarrhoeal illnesses were collected from patients admitted to the treatment centre and general ward. Dhaka hospital surveillance has thus achieved its purpose and established an excellent surveillance system. The protocol also has established a system of reporting the results to the Director General of Health, Government of Bangladesh regularly on weekly, quarterly and annual basis for dissemination of this information to health personnel and adequate preventive measures.

Two clinical presentations of shigellosis were found during the period December 1979 to November 1980 (1). Watery diarrhoea occurring in younger children and associated with a shorter duration of illness and with more vomiting and dehydration and (2) dysentery with stool blood and abdominal pain (10). In a rotavirus study the authors concluded that the clinical spectrum of rotavirus infections may include an invasive diarrhoeal syndrome that differs in several respects from the more widely appreciated watery diarrhoeal syndrome (11). A recent shigellosis epidemic, due to newly emerged antimicrobial resistant strains was also reported. Ampicillin remained the drug of choice for most cases of shigellosis as observed in earlier studies; the prevalence of S. flexneri resistant to ampicillin is growing steadily (12). With the emergence of multiple antibiotic resistant strains of S dysenteriae 1 and change in the

isolation pattern of shigella strains (dysenteriae 1 almost equalling flexneri), the selection of first line antimicrobials is becoming increasingly difficult.

The shigella related morbidity in breastfed children was found to be much lower than that in non-breastfed children (13). In another surveillance study, 38 to 578 faecal smears were judged to be positive for cryptosporidiosis based on the finding of characteristic oocysts (14).

Recent analysis of surveillance data showed that most patients are very poor, with the majority having a monthly house hold income of less than Taka 2000. Patients attending the Dhaka Hospital are frequently malnourished. About 40% of the patients weigh less than 80% of their expected weight for height. Most parents of the children under 12 have no or minimal formal education. Although the majority had only mild dehydration, still a large number had life treatening (e.g. moderate or severe) dehydration. Based on extrapolated figures, the TC treated about 40,000 patients with cholera, 43,000 patients with shigellosis, and 57,000 patients with rotavirus diarrhoea during the last 5 years, as confirmed by identification of specific aetiologic agent from the stool specimens.

3. Rationale:

There is a large attendance of diarrhoea patients at the ICDDR,B treatment centre. The volume of diagnostic work and health care to be provided is enormous. It has become almost impossible to study each individual case in detail. However, surveillance activity is essential in helping us to understand the patient population, and the spectrum of diseases seen at ICDDR,B. Therefore a representative

sample i.e. a 4% sample of patients is chosen for in-depth study (8).

Surveillance of diseases is a routine activity of each hospital or health centre. This alerts the medical and public health personnel towards changing patterns of diseases and evaluates the medical care rendered through health institutions. The initial surveillance of urban diarrhoeal patients at Dhaka hospital has thus fulfilled its objective in establishing a surveillance system. This has helped us in regular and timely reporting of data to relevant personnel.

B. SPECIFIC AIMS:

1. To define the epidemiological patterns of disease seen at the Dhaka Treatment Centre.

2. To determine the causitive organisms (at least for those organisms where antibiotic therapy and resistance is important) of diarrhoeal illness seen at ICDDR,B in relation to age, sex, season, clinical aspects.

3. To relate treatment and outcome to the above parameters of diseases.

C. METHODS AND PROCEDURES:

1. All surveillance patients:

Study patients will be a 4% systemic sample of all patients seen at the ICDDR,B treatment centre (all age groups). The out-patient charts of study patients will be stamped in advance. Whenever the OPD Clerk finds a pre-stamped study chart he/she will hand it over to the surveillance team. All patients will receive routine care as provided by paramedics, nurses and physicians in the treatment

centre. No attempt will be made to influence care(8).

Study assistants will be on duty from 6:00 A.M. to 2:00 P.M. and from 2:00 P.M. to 10:00 P.M. Study patients who arrive between 6:00 P.M. and 10:00 P.M. will be interviewed in the order they arrive. Study patients who arrive between 10:00 P.M. and 6:00 P.M. will be examined by physician-in-charge of Treatment Centre and treated as usual, but will be retained in the Treatment Centre until the next morning when they will be interviewed by a study assistant (8).

Each study patient will be interviewed by a health assistant who will administer a detailed questionnaire including questions on demographic factors, signs and symptoms of the illness, medical history and previous therapy. Stools or rectal swab (RS) will be obtained for culture and microscopic examination (ME). Because the clinical pathology section closes at 5:00 P.M. stools obtained after 5:00 P.M. will be collected in MIF solution for ME to be performed the following morning. All RS will be plated by the microbiology section immediately. Stools will be cultured for <u>Salmonella,</u> <u>Shigella,</u> <u>V.</u> <u>Cholerae</u> and other vibrios. From June 1986 to June 1987, a 10% sample (of the 4%) will also be tested for Aeromonas using Ampicillin sheep blood agar adn for ETEC, campylobacter, and rotavirus to assess the prevalence of Aeromomnas in our patients. Sensitivity to antibiotics will be performed on bacteriological isolates using standard disc diffusion methods. Previously all fecal specimens were also tested for campylobacter, enterotoxigenic <u>E.</u> <u>coli</u> and rotavirus. Due to fund constraints and due to the lack of policy implications with these organisms, the exam for these bacteria is no longer a part of the routine system except as they relate to the search for new pathogens and the role of mixed infections.

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collaboration with those responsible for routine care. The hospital epidemiologist will be responsible to ensure collection of specimen, accurate clinical assessment, coordination of the activity, regular data analysis and reporting the results on semi-annual and annual basis. The Associate Director, Disease Transmission will be responsible for overall supervision and standardization of clinical assessment.

D. SIGNIFICANCE:

The surveillance activity with collecion of data on different aspects of diarrhoeal diseases will serve as an alert system and helps our understanding towards any change in diarrhoeal disease pattern. It will also facilitate the linkage between research protocols and basic data collection and this may consequently affect the cost-effect of research protocols.

E. FACILITIES REQUIRED:

1. No new office space is needed.

2. Personnel – 1 Supervisor – Full time
              3 Interviewers – Full time

3. No new laboratory space is needed.

4. Hospital support: Routine hospital care will be given. This study interview will be done at a separate desk in the triangle area of the Treatment Centre.

5. Logistic support: None

6. Major items of equipment: No major item of equipment is needed

7. Other special requirements: Culture materials, medicines, computer cards and tapes and stationary will be needed.

F. COLLABORATIVE ARRANGEMENTS: None at present.

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Reference:

1. Black RE, Merson MH, Rahman ASMM, Yunus M, Alim ARMA, Huq I, Yolken RH and Curlin GT. A two-year study of bacterial viral and parasitic agents associated with diarrhoea in rural Bangladesh. J Infect Dis 142:660, 1980.

2. Chen LC, Rahman M, and Sarder AM. Epidemiology of death among children in a rural area in Bangladesh. Int J Epidemiol 9:25, 1980.

3. Khan MU, Alam AKMJ and Rahman ASMM. Ten years review of the age and sex of cholera patients. Scientific Reports No. 14, Cholera Research Laboratory, May 1978.

4. Khan MU and Curlin GT. Shigella dysenteriae: A new health hazard in Bangladesh. Bangladesh Med J 3:42, 1974.

5. Taylor PR, Merson MH, Black RE, Rahman ASMM, Yunus M, Alim ARMA and Yolken RH. Oral rehydration therapy for treatment of rotavirus diarrhoea in a rural treatment centre in Bangladesh. Arch Dis Child 55:376-379, 1980.

6. Wilson R. Outpatient Treatment Centre Surveillance Report. August 1979 (personal communication).

7. Wilson R et al. Outpatient Centre Surveillance Report of 1979.

8. Stoll BJ. Surveillance of Urban Diarrhoea Patients. ICDDR,B Protocol No. 80-005.

9. Stoll BJ, Glass RI, Huq MI <u>et al</u>. Surveillance of patients attending a diarrhoeal disease hospital in Bangladesh. Br Med J 285(6349):1185-1188, 1982.

10. Stoll BJ, Glass RI, Huq MI, Khan MU, Banu H, Holt J. Epidemiologic and clinical features of patients infected with Shigella who attended a diarrhoeal disease hospital in Bangladesh. J Infect Dis 146(2):177-183, 1982.

11. Clemens JD, Ahmed M, Butler T, Greenough III WB, Sack DA, Stanton BF. Rotavirus diarrhoea: an expanding clinical spectrum. Journal of Tropical Medicine & Hygiene 83:117-122, 1983.

12. Shahid NS <u>et al</u>. Re-emergence of epidemic due to resistant Shiga bacillus (<u>S</u>. <u>dysenteriae</u> type 1) and <u>S</u>. <u>flexneri</u> in Bangladesh. The Journal of Infectious Disease. 152:6, 1985.

13. Clemens JD <u>et al</u>. Breast feeding is a determinant of Shigellosis in children. Am J Epidem 123(4):710-720, 1986.

14. Shahid NS <u>et al</u>. Cryptosporidiosis in Bangladesh. Br Med J 290:114-115, 1985.

ABSTRACT SUMMARY

Because the number of patients being treated at the ICDDR,B Dhaka Station is very large, approximately 300-500 patients per day, it is not possible to study each patient routinely in depth and collection of clinical and microbiological on each if these patients is not possible. This data is however, very important in helping to understand the patient population we see at ICDDR,B, in assessing the any change in pattern of disease quality of care provided and in generating new ideas for research. The research protocol on surveillance was aimed to establish a surveillance system in order to provide the above information. The above mentioned protocol successfully established a surveillance system. This protocol will maintain and focus the surveillance system of the Dhaka Health Complex while making it more economical.

We will be studying a systematic sample of 4% of patients coming to the Treatment Centre each day, 24 hours per day. This study will not interfere with routine medical care but will merely collect information on different aspects of diarrhoeal diseases as mentioned above. Treatment will be provided as usual by the hospital staff, with emergency cases treated on a priority basis. In addition, a special questionnaire will be administered by an interviewer in the surveillance team and the on duty physician will perform a complete physical examination. Anthropometric and laboratory examinations will also be performed. This protocol will help us to monitor the pattern of diarrhoeal disease by quarterly and annual reports.

1. A 4% systemic random sample of all patients treated in ICDDR,B will be studied.

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Verbal Explanation of Surveillance System provided to the patients by the Health Worker

The International Centre for Diarrhoeal Disease Research, Bangladesh is studying in depth every 25th patient coming to the clinic for medical care. A special questionnaire will be administered to you (patient or guardian) after you have been examined by a nurse or doctor. If you are very ill and require intravenous fluid or other emergency care, care will be given first and you will be interviewed after your condition has improved. Stool will be obtained for culture and for examination under a microscope. As a service to you, we will get you all medication prescribed by physicians so that you do not have to wait in the pharmacy line. All records will be kept strictly confidential. There are no risks associated with this study. There are some benefits to you, such as more contact with health workers and more personal care. You may withdraw from the study any time you wish and this will not affect the medical care you receive at this Centre. If you agree to participate please give your consent.

BUDGET

Title: ICDDR,B Surveillance Programme,
                                     Dhaka Hospital
Principle Investigator: "A. N. Alam
Budget Code: 01 49 00

SUMMARY BUDGET

3100 Local Salary	7920
3200 International Salary	0
3300 Consultants	0
3500 Travel Local	0
3600 Travel International	0
3700 Supplies	845
3800 Other costs	300
4800 Inter Departmental	24539
Total Direct Operating	33604
Capital Expenditure	0
TOTAL DIRECT COST	33604

PERSONNEL REQUIREMENT (Local)

	No/Pos	Man mon	Amount
A Staff	4	48	7920
B Recrt	0	0	0
C Al frm		0	0
Sub	4	48	7920
D Sep	0	0	0
E Al to		0	0
Sub	0	0	0
TOTAL	4	48	7920

LOCAL STAFF ON 1.1.86

Job	No	Man mo	$/mo	Amount
Field Research Officer	1	12	210	2520
Senior Health Assistant	1	12	160	1920
Health Assistant	2	24	145	3480
TOTAL	4	48		7920

SUPPLIES AND MATERIALS

A/C	ITEMS	AMOUNT
3701	Drugs	
3702	Glassware	100
3703	Hosp supplies	300
3704	Stationary	200
3705	Chemical, media	50
3706	Uniform	
3707	Fuel	
3708	Lab supplies	
3709	Housekeeping	
3710	Janitorial	
3711	Tool & spares	
3712	Non stock	
	SUBTOTAL	650
3713	FREIGHT	195
	TOTAL	845

OTHER COSTS

A/C	ITEMS	Amount
3800	Maintainence	
3900	Rent,communication, Utility	
4100	Bank charges	
4200	Legal	
4300	Printing, Publishing	300
4400	Entertainment	
4500	Service charges	
4600	Staff Development	
	TOTAL	300

INTERDEPARTMENTAL SERVICES

A/C	ITEMS	Amount
4801	Computer	2000
4802	Transportation, Dhaka	200
4803	Transportation, Matlab	
4804	Water Transportation	
4805	Transportation, Teknaf	
4806	Xerox	
4807	Pathology	2000
4808	Microbiology	20239
4809	Biochemistry	
4810	X-ray	
4811	I.V.	
4812	Media	
4813	Patient hospitalization	
4814	Animal	
4815	Medical Illustration	100
4817	Telex	
4818	Outpatient Care	
4820	Trans sub	
	TOTAL	24539

CONSENT FORM

The International Centre for Diarrhoeal Disease Research, Bangladesh
is studying in depth every 25th patient coming to the clinic for
medical care. A special questionnaire will be administered to you
(patient or guardian) after you have been examined by a nurse or
doctor. If you are very ill and require intravenous fluid or other
emergency care, care will be given first and you will be interviewed
after your condition has improved. Stool will be obtained for
culture and examination under microscope. As a service to you, we
will get you all medication prescribed by physicians so that you
do not have to wait on the pharmacy line. All records will be kept
strictly confidential. There are no risks associated with this
study. Only potential benefits to you, such as more contact with
health workers and more personal care. You may withdraw from the
study anytime you wish and this will not affect the medical care
you receive at this Centre. If you agree to participate please
give your consent.

_____
Signature of Investigator
or Health Worker

_____
Signature/L.T.I. of patient
or guardian

Date: _____

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সম্মতি পত্র

</div>

আন্তর্জাতিক উদরাময় গবেষনা কেন্দ্রের, ঢাকা হাসপাতালে যেসব রোগী আসেন, তাঁদের মধ্যে প্রতি পঁচিশতম রোগীর বিস্তারিত তথ্যগ্রহন করা হয়।

ডাক্তারের পরীক্ষার পর আপনাকে/ আপনার পিতামাতাকে/ আপনার অভিভাবককে কিছু প্রশ্ন করা হবে। অসুস্থতার কারনে আপনার হাসপাতালে ভর্তির প্রয়োজন হলে, সুস্থ হবার পর আপনাকে প্রশ্ন করা হবে। রোগ জীবানু পরীক্ষার জন্য সামান্য পরিমান মল নেওয়া হবে।

আপনার প্রয়োজনীয় সুচিকিৎসার ব্যবস্থা করা হবে এবং আপনার সকল ব্যক্তিগত তথ্যাদি গোপন রাখা হবে। গবেষনায় অংশগ্রহনের কারনে আপনার/ আপনার রোগীর তেমন কোন অসুবিধা হবেনা।

যেকোন সময় এ গবেষনা কার্যক্রম থেকে আপনি আপনার সম্মতি প্রত্যাহার করতে পারবেন এবং তাতে আপনি/ আপনার রোগী এ হাসপাতালের প্রচলিত সুচিকিৎসা থেকে বঞ্চিত হবেননা।

আপনি সহযোগীতা করতে রাজী থাকলে দয়াকরে নীচে আপনার স্বাক্ষর/ টিপসই দিন।

গবেষকের/স্বাস্থ্য কর্মীর স্বাক্ষর   রোগীর/অভিভাবকের স্বাক্ষর/ টিপসই
তারিখঃ   তারিখঃ

- Vomiting in last 24 hrs   : 0=None, 1=1-3 times,
    2=4-8, 3=9-15, 4=15-25, 5=>25   ...   .   __ (45)

- History of cough with diarrhoea: 0=None, 1=1-7 days, 2=8-14 days
    3=15-20 days, 4=>20 days   ...   .   __ (46)

- Other disease: 0=None, 1=measles in past 3m, 2=measles in   3m
    3=Night blindness present, 4=Night blindness past,
    5=Convulsion within 12 hrs, 6=Convulsion within 13-24 hrs,
    7=Measles + Nightblindness, 8=Rectum Prolapses ...   .   __ (47)

- Since how long do you live in Dhaka city: 0=Never, 1=<1 yr
    2=1-2 yrs, 3=3-5 yrs, 4= >5yrs , 5= Seasonal   ...   .   __ (48)

- Present Location (Thana/Area): 01=Basti, 02=Common housing area,__ __ __ __ (49-52)
    03= Residential area, 04= Village area, 05=Others

PHYSICAL EXAMINATION :

- Thirst: 0=Normal, 1=mild, 2=moderate, 3=severe   ...   .   __ (53)

- General condition: 0=Normal, 1=restless, 2=lethargic but irritable
    when touched, 3=drowsy/cold & swating extremities, 4=coma   ...   __ (54)

- Redial pulse: 1=Normal rate & volume, 2=rapid & weak, 3=rapid
    feeble/sometimes impalpable, 4=not palpable   ...   .   __ (55)

- Respiration: 1=Normal, 2=Faster than normal, 3=deep & rapid   ...   __ (56)

- Anterior fortanelle: 1=Normal, 2=sunken, 3=very sunken   ...   ...   __ (57)

- Skin elasticity: 1=Normal (pinch retracts immediately), 2=pinch
    retracts slowly, 3=pinch retracts very slowly   ...   ...   __ (58)

- Eyes: 1=Normal, 2=Sunken, 3=Very sunken, 4=Sunken+closed   ...   ...   __ (59)

- Tears: 1=Normal (present), 2=absent   ...   .   __ (60)

- Tongue: 1=Normal (moist), 2=dry, 3=very dry   ...   .   __ (61)

- Urine flow: 1=normal, 2=reduced amount and dark, 3=none passed
    for 12 hrs   ...   .   __ (62)

- Clinical assessment of dehydration: 1=No dehydration, 2=mild,
    3=moderate, 4=severe   ...   .   __ (63)

OTHER PHYSICAL FINDINGS :

- Vit. A deficiency: 0=Normal, 1=conj xerosis, 2=Bitot's spot,
    3=corneal ulcer, 4=keratomalacia, 5=1+2, 6=3+4, 7=Corneal scar   __ (64)

- Ear - Otitis media: 0=absent, 1=otitis media present   ...   ...   __ (65)

- Sore Mouth: 0=None, 1=angular stomatitis, 2=glossitis,
    3=pharyngitis, 4=tonsilitis   ...   .   __ (66)

- Blood pressure: 1=Normal, 2=lower than normal, 3=very low
    4=not measurable   ..   ..   __ (67)

- Lungs: 0=clear, 1=bronchitis, 2=Crepitation, 3=rales   ...   ...   __ (68)

- Abdomen: 1=Normal, sounds present, 2=distended, sounds present
    3=distended, sounds sluggish, 4=distended sounds absent, 5=pain   __ (69)

- Liver & Spleen: 0=Normal, 1=liver enlarged, 2=spleen enlarged,
    3=liver and spleen enlarged   ...   .   __ (70)

- Rectum prolapses: 0=absent, 1=present   ...   .   __ (71)

- Extremeties: 0=Oedema absent, 1=Oedema present   ...   .   __ (72)

- Diagnosis: 1=Uncomplicated diarrhoea, 2=Complicated Diarrhoea
    (Note: complicated diarrhoea re admitted in medical ward)   ...   __ (73)

- Disposition: 1=discharge from examination desk, 2=ORP, 3=TC,
    4=TC to ward, 5=Ward, 6=Study ward, 7=Reffered to another
    hospital, 8=Death on arrival   ...   .   __ (74)

ICDDR,B SURVEILLANCE ACTIVITY, DHAKA

Name _____   Father's/Spouse Name _____

Case No. __ __ __ __ __ __   Card No. $\frac{2}{7}$
      (1-6)

Stool Microbiology :

- Stool character : 0=Soft, 1=Watery, 2=Mucous, 3=Blood, 4= MU+BL   __ (8)

- PH: 1=Alkaline, 2=Acid   __ (9)

- RBC: 0=None, 1= 10, 2= 11-19, 3=20-29, 4= 30-39, 5=40-49,
    6=50-69, 7= 70-99, 8=>100   __ (10)

- WBC : (as above)   __ (11)

- Macrophage : 0=None,1=Upto 5, 2=6-9, 3=10-19, 4=20-29, 5=> 30   __ (12)

- Nutral Fat: 0=None, 1= 1+, 2= 2+, 3= 3+, 4= 4+   __ (13)

Stool Parasites :

- EH: 0=None, 1=EH Cyst, 2=EH.Troph., 3=EH Cyst + Troph   ....   __ (14)

- GL: 0=None, 1=Cyst, 2=Veg, 3=Cyst+Veg   ....   __ (15)

- AD: 0=No, 1= Yes   ....   __ (16)

- TT: 0=No, 1= Yes   ....   __ (17)

- AL: 0=No, 1= Yes   ....   __ (18)

- FB: 0=No, 1= Yes   ....   __ (19)

- SS: 0=No, 1= Yes   ....   __ (20)

- TH: 0=No, 1= Yes   ....   __ (21)

- Cryptosporidium: 0= No, 1= Yes   ....   __ (22)

- Others (Specify): 0=No, 1= Yes   ....   __ (23)

Stool Culture: No. of organisms= 0,1,2,3 ...   .   __ (24)

1. Salmonella typhi=1 Salm. others = 2   ....   __ (25)

2. Shigella flex   ....   __ (26)

3. Shig. boydi   ....   __ (27)

4. Shig. Dysenteriae 1   ....   __ (28)

5. Shig. Dysenteriae (2-10)   ....   __ (29)

6. Shig. Sonnei   ....   __ (30)

7. Campylobacter jejuni   ....   __ (31)

8. Rotavirus   ....   __ (32)

9. Fastidius, enteric adenovirus   ....   __ (33)

10. VC 01 : INCCO=1, OGCCO =2, INCC+ = 3, OGCC+ = 4   ....   __ (34)

11. Other Vibrios: V.P.=1, V.F.=2, V.M.= 3, Other non 01=4,
          P.S.=5, AH=6, Aeromonas Sabria=7, Aeromonas Cavia=8   __ (35)

12. ETEC: ST=1, LT=2, ST/LT=3   ....   __ (36)

13. EPEC: ....   __ (37)

14. EIEC: ....   __ (38)

15. Yersinia entercolitis   ....   __ (39)

Antibiotic Sensitivity Pattern:

    1=Tetra, 2=Ampi, 4= Strepto, 8=Chlo, 16=Sept, 32=Furox, 64=Genta __ __ __ __ __ (40-44)
    128=Kena, 256=N. Acid

Antibiotic Resistent Pattern : (Cats, as above)   __ __ __ __ __ (45-49)

- Rehydration method used: 0= None, 1=ORS only, 2=IV only
    3=ORS to IV, 4=IV to ORS, 5= Others   __ (50)

Treatment : O= No medicine, 1= One medicine, 2=Two medicine, so on ___ (51)

-Tetracycline ___ (52)

' Ampicillin ___ (53)

Septrin ___ (54)

Furoxene ___ (55)

Penicillin or Crystapen V ___ (56)

Flagyl/Klien ___ (57)

Gentamycin ___ (58)

N. Acid ___ (59)

Chloramphenicol ___ (60)

Others (Specify) ___ (61) .

Duration of Stay (Days/hrs) ___ ___ ___ ___ (62-65)

- Weight on admission ___ ___ ___ (66-68)

- Weight on discharge ___ ___ ___ (69-71)

- Height (cm) ___ ___ ___ (72-74

- Arm Circumference on discharge ___ ___ ___ (75-77)

- Wt/Ht (%) on discharge ___ ___ (78-79)

- Out come: Cured=1, Illness Continuing=2, Died=3 ___ (80
  Absconded=4