

Priority Communicable Disease Surveillance (PCDS) in Bangladesh

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Objective

Surveillance of priority communicable diseases started with a view to build up an early warning system for certain important public health important diseases in Bangladesh, namely: (1) Diarrheal disease (acute watery diarrhea and bloody dysentery); (2) Malaria; (3) Kala-azar; (4) Tuberculosis; (5) Leprosy; (6) Encephalitis; (7) Unknown diseases of public health concern

Introduction

Disease surveillance is an epidemiological practice by which the spread of disease is mentioned in order to establish patterns of progression. The main role of Priority Communicable Disease Surveillance (PCDS) is to predict, observe, and minimize the harm caused by outbreak, epidemic, and pandemic situations, as well as increase our knowledge to what factors might contribute to such circumstances. A key part of modern disease surveillance is the practice of disease case reporting.

Methods

Data for PCDS were collected by web based disease surveillance (WBDS) system since April 2009. Data were analyzed for eight diseases—acute watery diarrhea, bloody dysentery, encephalitis, kala-azar, leprosy, malaria severe, malaria uncomplicated, tuberculosis and unknown diseases—covering all divisions of Bangladesh for the year 2009, 2010 and 2011. The WBDS started from April 2009 and continues to date (table: 1).

Reporting takes place weekly and involves the Upazilas (sub-districts) of the entire country. Upazila Health & Family Planning Officers and Civil Surgeon (CS) at district levels are responsible for conducting this surveillance locally.

Priority communicable diseases data were analyzed from all the reported Upazila in Bangladesh from January 2007 to July 2008.

We received at least one report from at least one Upazila from 61 districts out of 64 districts in 2007 and from 59 districts up to July 2008. We did not get any report for even a week from Tangail in Dhaka division, Brahmanbaria in Chittagong division and Jhalokathi in Barisal division either in 2007 or up to July 2008. Moreover, we did not get any report from Bhola in Barisal division and Moulvibazar in Sylhet division in 2008.

Results

Acute watery diarrhea was the most reported priority communicable disease both in 2007 and up to July 2008. Bloody dysentery was the second common reported disease. Encephalitis was the least reported disease in both periods.

If we calculate disease data by monthly average, the highest (48,534/month) was in 2009, and the lowest (33,703/month) was in 2011.

Monthly patient cases were 11,510 in Dhaka divisions (which is the highest) followed by Chittagong (10,586), Rajshahi (8,909), Khulna (7,116), Sylhet (2,182), Barisal (1,355), and Rangpur (999) the population and the number of Upazila are highest in Dhaka division. So the finding of highest cases in Dhaka division is plausible. (Table:2)

Conclusions

Our Priority Communicable Disease Surveillance System enables local public health authorities, hospitals, laboratories, and Directorate of Health Services to collaborate electronically as they perform disease reporting and surveillance activities across the country. The information compiled from this program is used for developing insights on health problems in the country.

Table:1, Results of PCDS

No.	Division	Total No. of Districts	Jan-Dec 2007	Upto July 2008	Total No. of Upazilas	Jan-Dec 2007	Up to July 2008
			Reported Districts, No.(%)	Reported Districts, No.(%)		Reported Upazilas, No.(%)	Reported Upazilas, No.(%)
1	Dhaka	17	16 (94)	16 (94)	119	55(46)	52(44)
2	Chittagong	11	10(100)	10(100)	92	43(47)	44(48)
3	Rajshahi	16	16(100)	16(100)	126	63(50)	54(43)
4	Khulna	10	10(100)	10(100)	60	31(52)	32(53)
5	Barisal	6	5(83)	4(67)	40	14(35)	7(18)
6	Sylhet	4	4(100)	3(75)	36	9(25)	6(17)
	Total	64	61(95)	59(92)	473	215(46)	195(41)

Table:2. Division and year-wise Patient Cases of Bangladesh (April 2009 to September 2011)

Division	2009	2010	2011	Per year
Dhaka	120,244	155,631	80,945	118,940
Chittagong	105,200	134,826	88,169	109,398
Sylhet	31,475	4,715	31,451	22,547
Barisal	15,743	13,357	12,918	14,006
Rajshahi	94,439	131,130	50,618	92,062
Khulna	69,705	87,964	62,940	73,536
Rangpur*			9,989	9,989
All division	436,806	527,623	337,030	433,820
Per division	62,401	75,375	48,147	

Table: 2, Division and year-wise Patient Cases of Bangladesh (Apr. 09 to Sep 2011)

Note: Rangpur division was created out of Rajshahi division from 2011

Keywords

Division; Disease; diarrhea

References

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