

NON-COMMUNICABLE DISEASES

Non-communicable diseases (NCDs) include those that are not transmitted through person-to-person contact. Hypertension, heart diseases of all kinds, asthma, and psychiatric disorders are the major health problems in this category.

Data collected over the years on causes of mortality from the public hospitals of Bangladesh and published in this bulletin reveal that non-communicable diseases in Bangladesh occupy a major share of the disease burden, leading to mortality. This indicates that many people in this country live with non-communicable diseases. The middle-age population, i.e. the economically-productive workforce is affected by these diseases. Factors responsible for non-communicable diseases include: changing dietary habits and lifestyle, rapid urbanization, growth of commuting, tobacco-use, uncontrolled

growth and consumption of processed food and beverages, indoor air pollution, road-traffic injuries, and lack of awareness about healthful behavioral patterns. This chapter summarizes data from several hospitals that deal with patients suffering from various kinds of non-communicable diseases.

National Institute of Cardiovascular Diseases and Hospital

Table 11.1 presents data for 2002-2011 from the National Institute of Cardiovascular Diseases (NICVD) and its affiliated hospital. The data reveal that the numbers of both admissions and outdoor visits are on the rise. The efficiency of the hospital in terms of accommodation of patients is found to improve. However, the bed-occupancy rate was at its peak in 2006.

Table 11.1. Number of admissions, outdoor visits, average length of stay, and bed-occupancy rate at the NICVD (2002-2011)

Year	Admission		Outdoor visits					Average length of stay (d)	Bed-occupancy rate (%)
	Total	Daily average	Male	Female	Children	Total	Daily average		
2002	17,081	47	52,740	29,532	4,674	86,944	238	6.91	129.63
2003	20,083	55	54,550	31,939	5,150	91,639	251	7.07	157.76
2004	21,522	59	56,482	31,250	4,857	92,589	253	6.90	164.03
2005	22,419	62	59,950	34,608	5,497	100,055	274	6.46	160.39
2006	24,376	67	61,565	34,861	6,060	102,486	281	6.47	175.80
2007	29,147	80	76,732	41,792	7,417	125,941	345	5.48	174.80
2008	33,946	93	91,147	47,889	8,534	147,570	403	5.21	147.70
2009	41,554	114	99,102	51,539	9,367	160,008	438	5.16	141.83
2010	42,779	117	100,868	51,364	9,726	161,958	444	5.35	152.82
2011	43,275	119	103,930	50,081	9,802	163,813	449	5.41	146.63

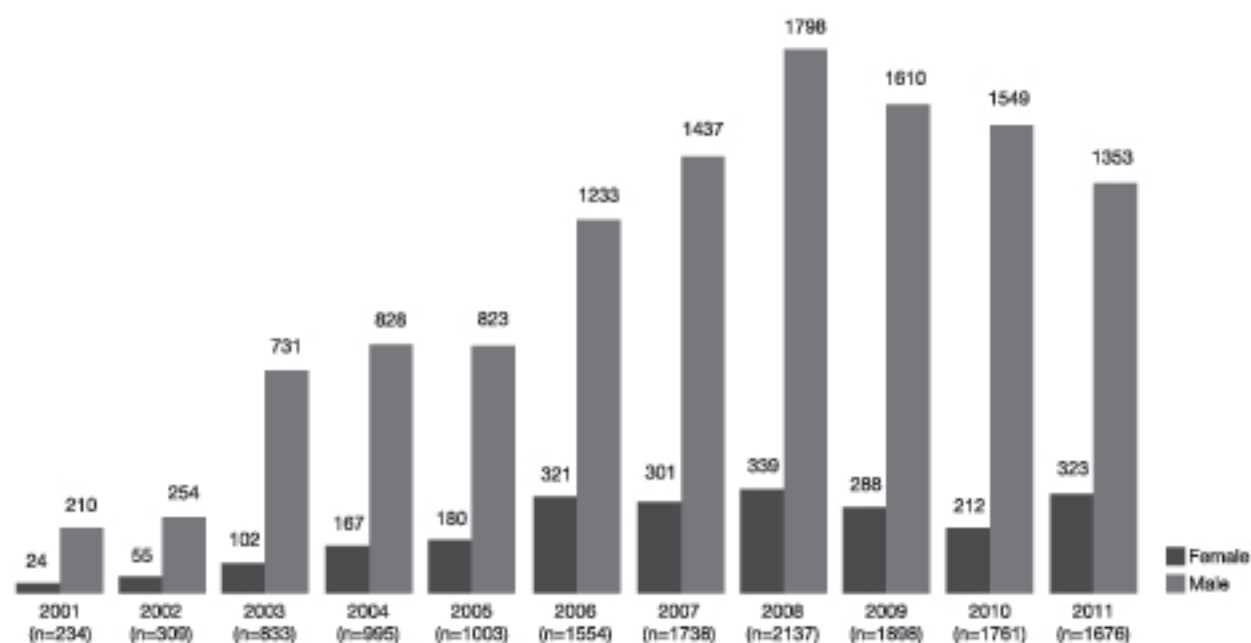


Figure 11.1. Number of ETT performed at NICVD (2001 to 2011)

Table 11.2. Summary of the number of cath lab procedures performed at the NICVD from 2003 to 2011

Procedure		2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Coronary angiography		2,827	3,210	2,780	3,105	3,266	3,980	4,437	4,711	4,426	32,742
Cardiac cath		308	225	227	229	295	380	340	334	251	2,589
Angiography	Renal	13	69	6	0	0	0	1	6	12	107
	Peripheral	42	93	85	106	87	112	112	124	124	885
	Total	55	162	91	106	87	112	113	130	136	992
Angioplasty	Renal	0	0	0	0	0	0	9	7	17	33
	Peripheral	0	0	4	7	43	23	3	18	12	110
	Total	0	0	4	7	43	23	12	25	29	143
Other interventions	PCI	371	599	488	584	574	889	1149	1,312	1,254	7,220
	PTMC	189	273	295	280	20	130	154	187	117	1,645
	TPM	646	715	708	675	850	741	950	647	905	6,837
	PPM	320	333	368	321	359	414	487	402	418	3,422
	EPS & RFA	0	0	0	161	204	113	177	66	72	793
	Device closure	0	0	0	1	0	0	0	0	0	1
	Others	12	13	11	4	0	18	40	56	34	188
	Total	1,538	1,933	1,870	2,026	2,007	2,305	2,957	2,670	2,800	20,106

Table 11.3. Heart and vascular surgeries performed at the NICVD (2000-2011)

Year	Open heart surgery					Closed heart surgery	Vascular surgery		
	CABG	Valve	Congenital	Other	Total		Routine	Emergency	Total
2000	44	133	88	26	291	186	74	213	287
2001	60	134	133	3	330	157	100	193	293
2002	112	89	210	4	415	151	114	232	346
2003	170	142	162	22	496	140	69	153	222
2004	180	159	205	17	561	95	92	208	300
2005	267	102	237	20	626	93	90	206	296
2006	226	113	255	28	622	70	95	405	500
2007	188	165	256	46	655	58	121	447	568
2008	233	182	327	21	763	63	152	840	992
2009	218	264	364	11	857	71	219	1,001	1,220
2010	152	304	365	37	859	88	254	1,036	1,290
2011	101	207	342	67	717	98	183	1,640	1,823
Total	1,951	1,994	2,944	302	7,191	1,270	1,563	6,574	8,137

National Center for Control of Rheumatic Fever and Heart Diseases

The National Center for Control of Rheumatic Fever and Heart Diseases (NCCRF&HD) takes care of the patients suffering from rheumatic heart diseases and related conditions. There were 29,797 outdoor visits in 2011. Among these, 10,570 were by new patients and 19,227 by old ones.

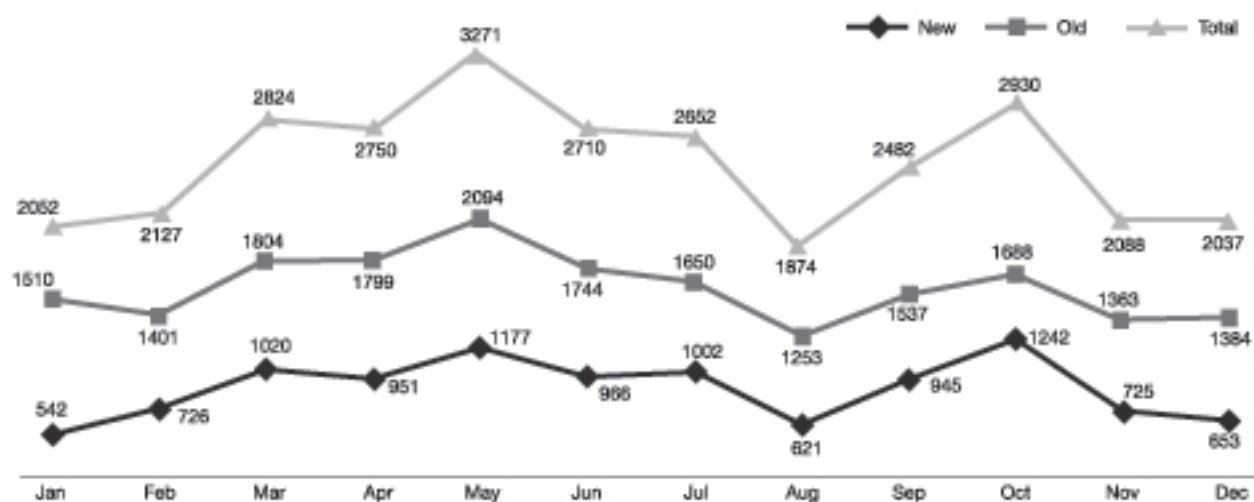


Figure 11.2. Month-wise distribution of outdoor patients attending NCCRF&HD in 2011 [Total (n=29,797), New (n=10,570), Old (n=19,227)]

Table 11.4. Age and sex distribution of the patients attending the outdoor of NCCRF&HD in different months of 2011

Month	Age group															Grand total		
	1-4 year(s)			5-14 years			15-24 years			25-49 years			50+ years					
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Jan	1	24	25	296	399	695	263	631	894	101	294	395	32	11	43	693	1,359	2,052
Feb	1	26	27	326	420	746	233	709	942	130	217	347	18	47	65	708	1,419	2,127
Mar	12	12	24	369	502	871	438	786	1,224	232	390	622	40	43	83	1,091	1,733	2,824
Apr	2	27	29	401	530	931	376	842	1,218	125	394	519	37	16	53	941	1,809	2,750
May	7	40	47	458	613	1,071	389	1,040	1,429	212	411	623	42	59	101	1,108	2,163	3,271
June	24	6	30	434	375	809	417	674	1,091	196	505	701	50	29	79	1,121	1,589	2,710
July	5	30	35	400	576	976	356	806	1,162	141	300	441	17	21	38	919	1,733	2,652
Aug	0	21	21	278	348	626	237	606	843	93	251	344	27	13	40	635	1,239	1,874
Sep	1	36	37	375	467	842	230	813	1,043	164	298	462	37	61	98	807	1,675	2,482
Oct	21	16	37	429	435	864	446	793	1,239	217	474	691	46	53	99	1,159	1,771	2,930
Nov	13	13	26	330	402	732	286	595	881	111	307	418	21	10	31	761	1,327	2,088
Dec	4	14	18	311	421	732	276	615	891	130	220	350	19	27	46	740	1,297	2,037
Total	91	265	356	4,407	5,488	9,895	3,947	8,910	12,857	1,852	4,061	5,913	386	390	776	10,683	19,114	29,797

Figure 11.3 shows the number of patients given prophylactic antibiotic injections and also the number of ECGs and echocardiograms done in different months of 2011.

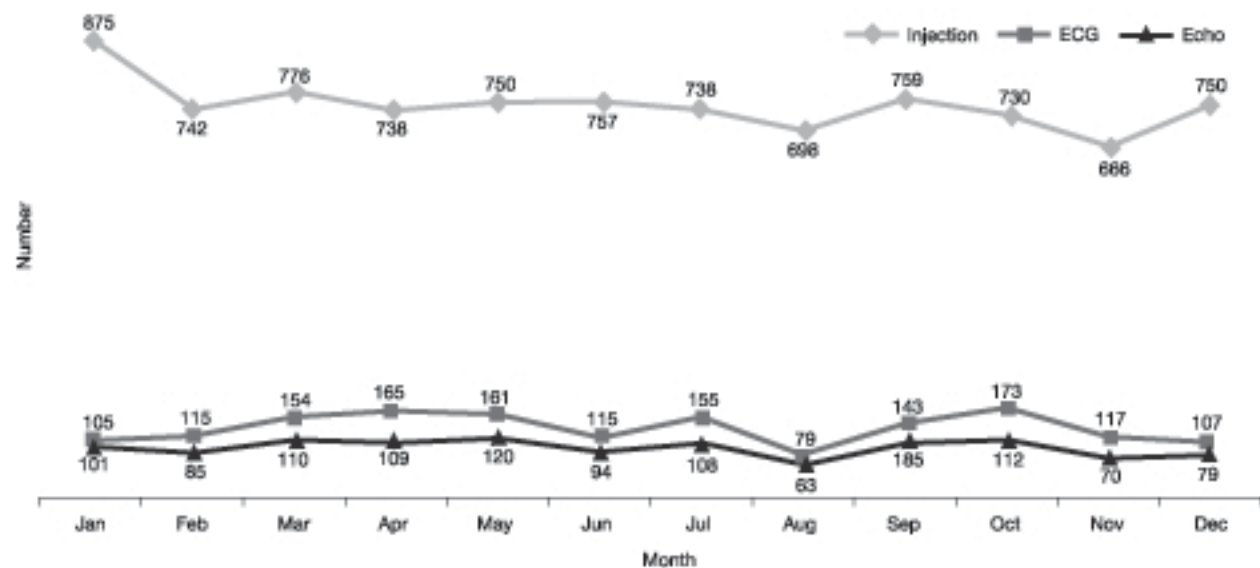


Figure 11.3. Number of patients given prophylactic antibiotic injections and number of ECGs and echocardiograms done in NCCRF&HD in different months of 2011 [injections (n=8985), ECG (n=1589), echo (n=1162)]

National Institute of Kidney Diseases and Urology

As a specialized postgraduate institute and training center, the National Institute of Kidney Diseases & Urology (NIKDU), within one year of inauguration in 2003, has started postgraduate course on MD (Nephrology), MD (Pediatric Nephrology) and MS (Urology). It has been providing postgraduate training on Nephrology, Urology, Pediatric Nephrology, Radiology & Imaging, Biochemistry, Histopathology, Microbiology & Immunology,

Hematology, and Anesthesiology. The hospital provides outdoor, indoor and emergency services (Table 11.5).

Figure 11.4 shows the number of patients seen in different disciplines of the NIKDU from 2006 to 2011. The numbers of patients belonging to medicine and allied disciplines are higher compared to surgery or pediatrics and allied disciplines. In all disciplines, the hospital provided services to increasingly more patients from previous year to the next year.

Table 11.5. Number of outdoor and indoor patients at the NIKDU (2008-2011)

Patient type	2008			2009				2010				2011			
	Male	Female	Total	Male	Female	Child	Total	Male	Female	Child	Total	Male	Female	Child	Total
OPD (New)	22,445	11,091	33,536	23,160	12,240	3,584	38,984	25,579	13,510	3,036	42,125	25,018	13,193	3,176	41,387
OPD (Old)	7,748	3,830	11,578	7,777	3,961	495	12,233	7,667	3,866	20	11,553	8,970	3,855	0	12,825
Indoor	1,610	1,583	3,193	2,497	1,462	520	4,479	2,294	1,356	421	4,071	2,370	1,378	476	4,224

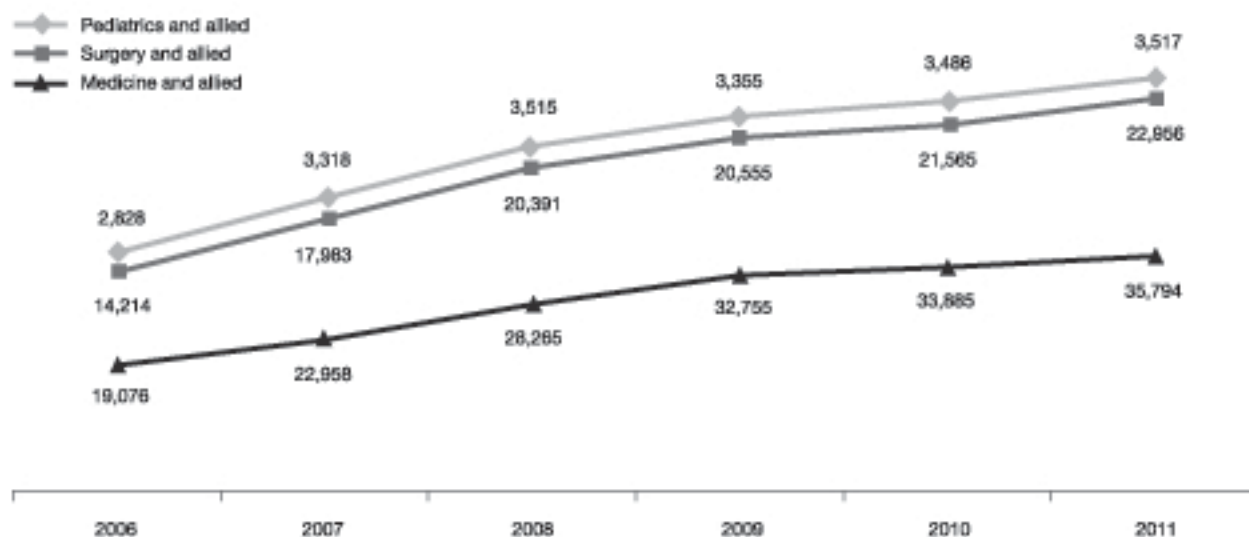


Figure 11.4. Number of patients seen in different outdoor disciplines of NIKDU (2006-2011)

National Institute of Cancer Research and Hospital

The National Institute of Cancer Research and Hospital (NICRH) is the national focal point and referral center for cancer treatment in Bangladesh. In 2011, the Institute's hospital provided services to 41,064 outdoor patients, of whom 14,851 were new, and 26,213 were old. The number of patients admitted to NICRH in 2011 was 3,498. Figure 11.5 shows the number of outdoor and admitted patients with sex distribution in 2011.

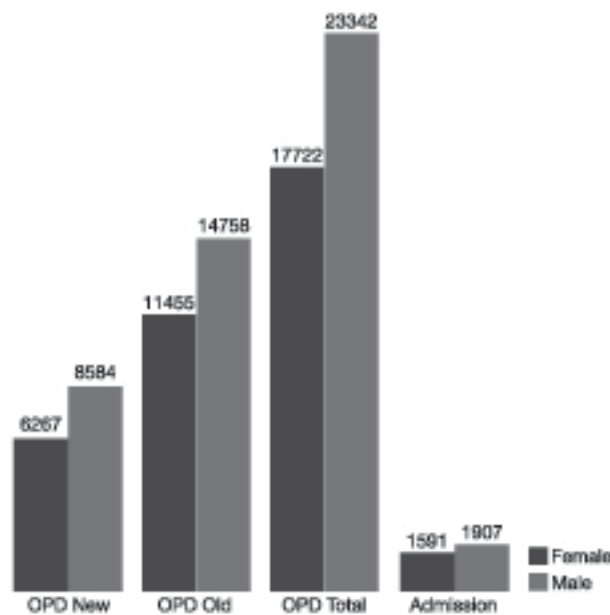


Figure 11.5. Number of outdoor and admitted patients at NICRH in 2011

Figure 11.6 shows percentage distribution of admitted patients in different departments in 2011, and it reveals that majority of the total admitted patients (n=3,498) belonged to the discipline of medical oncology (47.14%), followed by surgical oncology (13.26%), and radiation oncology (11.92%).

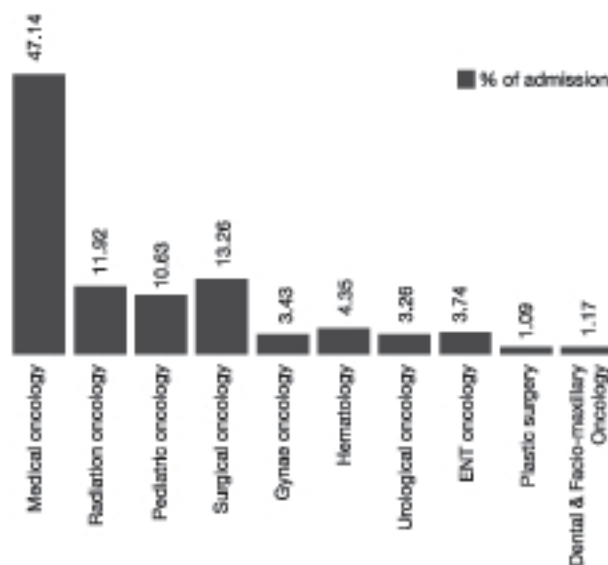


Figure 11.6. Distribution of admitted patients in different departments of NICRH (2011)

Figure 11.7 shows distribution of outdoor patients visiting NICRH in 2011 by age-group. About one-fourth (25.1%) of the total patients (n=14,8510) were aged 45 to 54 years, followed by 55 to 64 years (22.0%), and 35 to 44 years (16.9%).

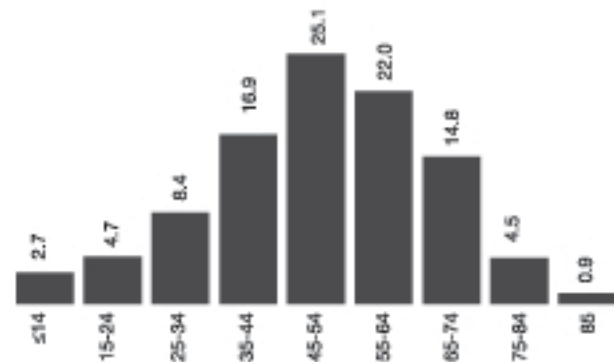


Figure 11.7. Distribution of outdoor patients at NICRH by age-group in 2011

Table 11.6 shows the distribution of outdoor patients at NICRH in 2011 by top 10 cancer-affected organs. Among males, lungs, lymph-nodes, and esophagus were the most frequently-affected organs (27.1%, 9.65%, and 6.1% respectively). Unlike in the males, the most-frequently cancer-affected organs in females were breasts (26.3%), cervix (21.1%), lymphnodes, and lymphatics (5.2%).

Table 11.6 Distribution of outpatients at NICRH by top 10 cancer-affected organs (2011)

Male		Female	
Affected organ	%	Affected organ	%
Lung	27.1	Breast	26.3
Lymphnode & Lymphatic	9.6	Cervix	21.1
Esophagus	6.1	Lymphnode & Lymphatic	5.2
Stomach	5.4	Oesophagus	3.9
Larynx	5.2	Ovary	3.8
Liver	3.5	Stomach	3.7
Oral cavity	2.9	Connective tissue	3.1
Connective tissue	2.5	Gall bladder	2.9
Tongue	2.2	Liver	2.4
Rectum	2.0	Uterus	2.0

National Institute of Mental Health and Research

Table 11.7 shows the number of new patients visiting outdoors of the National Institute of Mental Health and Research (NIMHR) and also the number of admissions in 2007 through 2011. This also includes the patients attending emergency department. It reveals from the table that outdoor attendances and admissions in indoor and

emergency for mental diseases are increasing each year compared to the previous years.

Figure 11.8 shows the percentage distribution of admitted patients at NIMHR by top 10 mental disorders from 2009 to 2011. The general pattern of distribution of the diseases appears almost similar in all three years. Schizophrenia ranked the first place in all the years (43.47%, 37.58%, and 35.53% respectively).

Table 11.7. Number of new patients visiting outdoor, emergency, and the number of admissions at the NIMHR from 2007 to 2011

Patients	2007			2008			2009			2010			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
OPD (new patients)	8,959	5,175	14,134	12,692	9,209	21,901	12,427	9,478	21,905	6,506	4,710	11,216	13,420	9,968	23,388
Indoor patients	671	349	1,020	749	427	1,176	876	527	1,403	489	300	789	1,136	636	1,772
Emergency patients	-	-	-	-	-	-	-	-	-	382	242	624	1,017	594	1,611

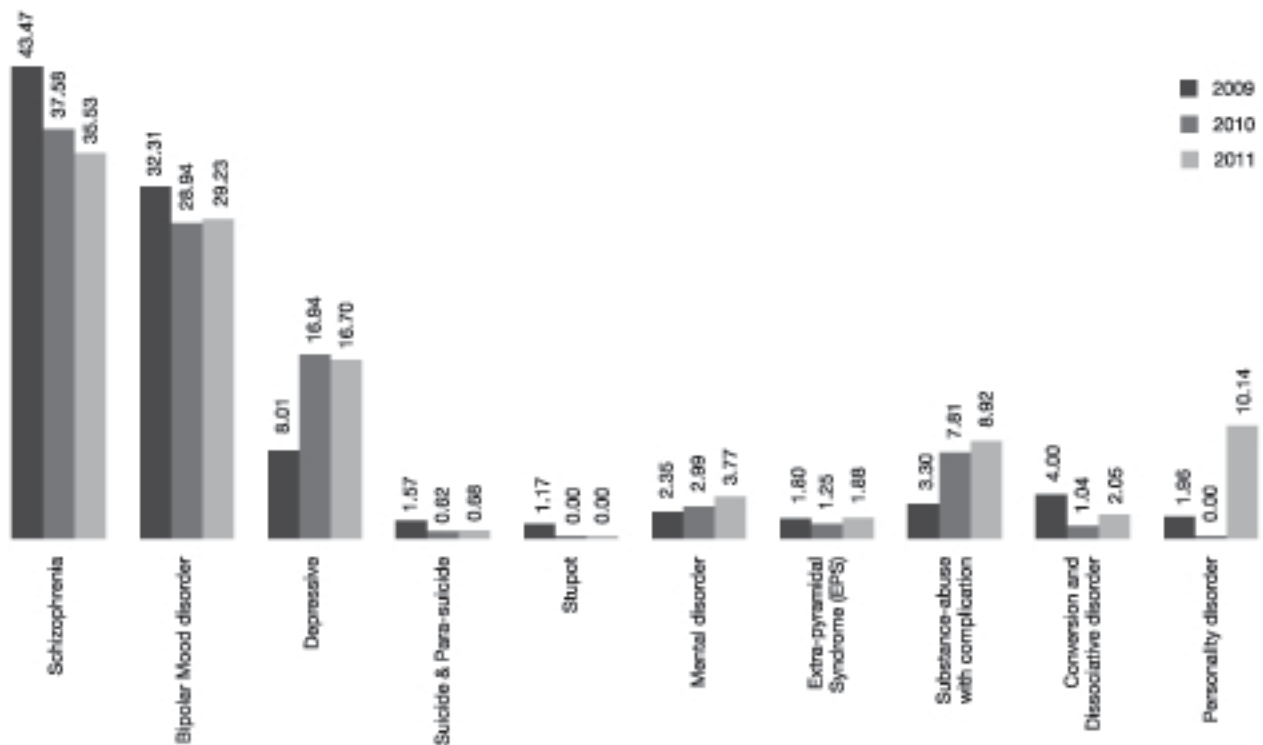


Figure 11.8. Percent distribution of indoor patients at NIMHR by top 10 mental disorders (2009 to 2011)

Arsenic in groundwater: Mitigation program of the DGHS

The presence of arsenic in harmful level unsuitable for human consumption was first detected in 1993 by the Department of Public Health Engineering (DPHE) in 4 tubewells of Chamagram village of Chapainowabganj Sadar upazilla. According to a report published by the National Arsenic Mitigation Center in 2003, water samples from 4.95 million tubewells were tested for the presence of arsenic. Of these, 1.44 million (29.1%) showed the evidence of arsenic contamination. The DPHE (2006) reported that arsenic contamination in tubewell water is present in 62 of the 64 districts of Bangladesh. The first detection of health problems in 8 persons due to drinking of arsenic-contaminated water was recorded in 1994 by the Department of Occupational and Environmental Health (OHE) of the National Institute of Preventive and Social Medicine (NIPSOM). Since then, the National Arsenic Program of the Directorate General of Health Services is conducting several key activities which include the following:

- Consultations and workshops for the development of methodology, tools, database, and data sources
- Orientation training to the government and non-government health service providers, such as nurses, medical assistants, technologists, and the field-level health and family-planning workers
- Mass awareness programs on arsenic-free safe drinking-water
- Testing tubewell water at health facilities for the prevention of arsenicosis; 550 arsenic kits have been provided for this purpose
- Improve patient screening (house-to-house searching) programs
- Identification, diagnosis, and management of arsenicosis patient; 11 million antioxidants and 7 million ferrous sulfate tablets have been provided to arsenic-prone upazilas
- Capacity-building of human resources and facilities for effective case management and referral
- Establishment of rehabilitation center for disabled arsenicosis patients
- Conducting surveys and research on arsenicosis
- Updating of national arsenic mitigation policy and strategy
- Strategic partnership with local bodies and community-based organization regarding the mitigation of arsenicosis

- Further collaboration between DGHS and DPHE at the field level to strengthen water screening at the community level
- Strengthening of existing BanNet and InfoBase and further inclusion of electronic database at the DGHS (logistics, human resource, and IT network)
- Strengthening routine MIS for hospital statistics on arsenicosis and inter-linking with MIS of DGHS.

The cumulative numbers of arsenic patients were 23 in 1996, 42 in 1997, 86 in 1998, 24,389 in 2008, 38,320 in 2009, and 56,758 in 2010 (Figure 11.9).

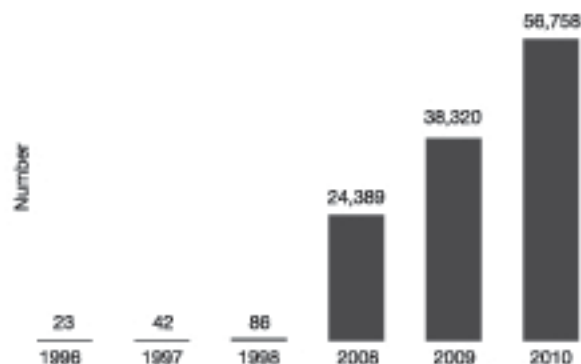


Figure 11.9. Cumulative number of arsenic patients in Bangladesh year by year detected under the National Arsenic Program of DGHS up to 2010

Figure 11.10 shows the distribution of arsenic-affected patients among different divisions of Bangladesh. Chittagong division shows the highest number of identified patients ($n=27,814$), followed by Khulna ($n=11,317$), Dhaka ($n=9,343$), and Rajshahi ($n=5,500$). The Barisal, Rangpur and Sylhet division have 1,320, 1,017, and 447 detected arsenic-affected patients respectively.

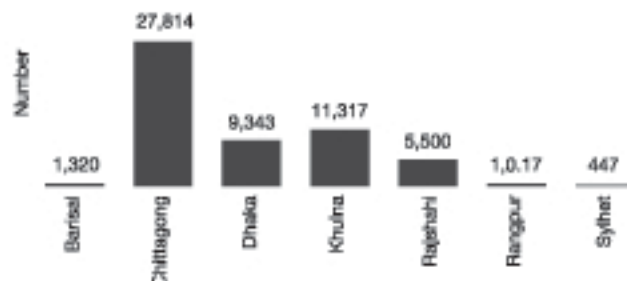


Figure 11.10. Distribution of arsenic patients by division in 2010