

# Contribution of Bangladesh College of Physicians and Surgeons to Health Sector and Medical Education in Bangladesh: A 50-year Perspective

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### Abstract:

*Bangladesh College of Physicians and Surgeons (BCPS) was established in June 1972 through an Order revised in 2018 as an act with six functions which cover post-graduate education of all specialties of medical science. This commission report is to document the spectrum of contribution of BCPS in the health and education sector through its fellows and members.*

*The data obtained for this report covers selected literature review, consultation with key official documents- Year Book of BCPS, Annual report of honorary secretary of BCPS, Health Bulletin of DGHS, various website, information from a brief quick Google survey on the fellows and focus group discussion (FGD) with senior present and past leaders of BCPS.*

*BCPS is providing a skill based supervised comprehensive logbook based clinical training of five years' duration through its recognized/accredited hospitals in different tiers of mostly public health system across the country. While undergoing clinical training the 'would be fellows' provide supervised quality clinical services to the patients attending the BCPS accredited hospitals.*

*BCPS is producing specialists' human resources by offering fellowship covering general and specialized subjects (n=59) and membership (n=16) in various branches of medicine.*

*Immediately after independence there were 247 specialists altogether in the country. Since its inception, in 1972 after the liberation, 8266 fellows are entered as fellows, 7887 fellows with examinations, 111 without examinations and 268 honorary fellows; 3222 are entered as members of the College.*

*The fellows of BCPS are engaged in providing specialized patient care in various fields of medical science as professor, associate professor, assistant professor and consultants in various public and non-government medical college hospitals, medical universities, post-graduate institutes, district hospital, and upazila health complexes. As a teacher most of the fellows are also heavily engaged in human resource development at both under-graduate and post-graduate level.*

*Through their active voluntary engagement, the fellows of the College participate in the core activities of the College for HR development through activities related to monitoring & supervision, assessment, continuous professional development, skill development of the trainees and the fellows.*

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*Fellows are equally contributing in the armed forces medical services as clinical and para clinical specialists and development of specialist HRs.*

*Additionally, fellows are contributing to various aspects of important public health topics relevant for SDG and Bangladesh.*

*Fellows are also engaged in doing funded and non-funded quality researches and writing of scientific intellect at national and international publication system.*

*Having achieved the various positions in academic, research and administrative arena BCPS fellows' role in policy development and implementation, and scientific development deserve special appreciation.*

*Future contribution of BCPS should prioritize quality assurance strategy for training-learning, enrich effectiveness*

### **Introduction:**

Health services and medical education sector of Bangladesh under the Ministry of Health and Family Welfare (MOHFW), Government of the People's Republic of Bangladesh (GOB) is diverse, covering public and non-government, for profit & not for profit.<sup>1</sup> Health care professional education encompass a large variety of professional education- graduate, diploma and post graduates.

Brief history and background of Bangladesh College of Physicians and Surgeons (BCPS): Contemporary medical education is around 150 years' old with initiation of licentiate medical education at Mitford (in 1860s), Dhaka. In the very early days of western medical education in this part of the then India, the supervision and control of education was under the director of public instruction of Education Department until 1899 handed over to Inspector General of Civil Hospitals.<sup>2</sup> MBBS course was introduced in 1946 in Dhaka Medical College (DMC), Dhaka. During the Pakistan period most of the post-graduate qualified professionals in this part (present Bangladesh) were trained abroad mostly from the United Kingdom, several attempts of having separate post-graduate institute in this part of Pakistan was not successful although post-graduate training started in an old building of DMC in 1965.<sup>3</sup> In 1972 only 247 specialist doctors were available in Bangladesh, the Bangladesh Education Commission formed post-independence recommendation to have adequate number of qualified specialists in Bangladesh.<sup>4</sup> Immediately after the independence, Bangladesh College of Physicians and Surgeons (BCPS) was established by the father of the nation Bangabandhu Sheikh Mujibur Rahman and an order (President's Order No. 63 of 1972, The Bangladesh College of Physicians and Surgeons

*of examination system, effective branding of BCPS, increase allocation and creating a conducive environment for conducting research.*

*Conclusion: The glorious contribution of BCPS in the development of quality specialist health human resources over the last 50 years attained almost a self-sufficiency. Further ensuring quality assurance in training learning of future fellows and continued advanced training of the newly qualified fellows will help in branding of BCPS and technology transfer saving government exchequer.*

*Key words: BCPS, Health sector, Bangladesh, Medical education, Development*

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Order, 1972)<sup>5</sup> was made. The six functions of the College were identified, one of which was 'to arrange post-graduate education of all specialties of medical science'. The BCPS act of 1972 has been revised in 2018 (BCPS Act 2018) keeping the same functions.<sup>5</sup>

BCPS is 'a body corporate' contributing in developing and sustaining the quality of post-graduate specialists in the field of medical education and service in Bangladesh. The BCPS and the Council through its fellows (and members) working in different capacities in Bangladesh (and abroad) are contributing in different ways in the development of health sector of Bangladesh: in the provision of specialized health care services, in the development of specialized health human resources by providing training, mentoring and teaching, and in either conducting (funded and non-funded) or guiding research as guide and mentors. The main aims and objectives of the college are: to hold and conduct examination for fellowship and membership and to arrange post-graduate education, training and research in all specialties of medical science.

In this communication we shall focus on the contribution of the College in the health and medical education sector (predominantly post-graduate) in Bangladesh over the 50 years by its products the fellows and members.

### **Methodology:**

The data obtained for this report covers selected literature review and consultation with key official documents include:

- Health Bulletin of Directorate General of Health Services (DGHS), Government of Bangladesh.<sup>6,7</sup>
- Year Book of BCPS, Annual reports of honorary secretary of BCPS.<sup>8</sup>

- Local Health Bulletins of different tiers of health care system, DGHS, GOB including some annual reports of selected institutions, medical collage hospitals (MCHs), district hospitals (DHs), upazila health complexes (UzHCs).
- Other institutes, government gazettes/circular
- Various websites

Additionally, information received following a request letter through SMS to all fellows of BCPS to provide Google information with a deadline for return; and a

Focus Group Discussion (FGD) with senior fellows, and present & past leaders of the College (with the support of two anthropologists guided by a public health expert) was conducted.

#### **Results:**

For developing specialists of all categories in the country BCPS offers fellowship (FCPS) and membership (MCPS). MCPS is offered in 16 subjects, and FCPS is offered in 59 subjects, 22 general subjects and 37 specialized subjects (Box- 1 a, b).

### **Box-I(a)**

#### *Fellowship offered by Bangladesh College of Physicians and Surgeons (BCPS)*

##### **List of General Subjects**

- |                                 |  |
|---------------------------------|--|
| 1. Medicine                     | 12. Physical Medicine & Rehabilitation       |
| 2. Surgery                      | 13 Haematology                               |
| 3. Paediatrics                  | 14. Biochemistry                             |
| 4. Obstetrics and Gynaecology   | 15. Histopathology                           |
| 5. Ophthalmology                | 16. Microbiology                             |
| 6. Otolaryngology               | 17. Conservative Dentistry & Endodontics     |
| 7. Psychiatry                   | 18. Oral & Maxillofacial Surgery             |
| 8. Anaesthesiology              | 19. Prosthodontics                           |
| 9. Radiology & Imaging          | 20. Orthodontics and Dentofacial Orthopedics |
| 10. Radiotherapy                | 21. Transfusion Medicine                     |
| 11. Dermatology and Venereology | 22 Family Medicine                           |

##### **List of Specialized Subjects**

- |   |  |
|---|--|
| 1. Gastroenterology                       | 20. Colorectal Surgery                       |
| 2. Neurology                              | 21. Surgical Oncology                        |
| 3. Nephrology                             | 22. Casualty and Emergency Surgery           |
| 4. Endocrinology & Metabolism             | 23. Neonatology                              |
| 5. Cardiology                             | 24. Paediatric Haematology & Oncology        |
| 6. Pulmonology                            | 25. Paediatric Nephrology                    |
| 7. Hepatology                             | 26. Paediatric Gastroenterology & Nutrition  |
| 8. Rheumatology                           | 27. Paediatric Pulmonology                   |
| 9. Infectious Disease & Tropical Medicine | 28. Paediatric Neurology & Development       |
| 10. Medical Oncology                      | 29. Paediatric Cardiology                    |
| 11. Palliative Medicine                   | 30. Paediatric Endocrinology and Metabolism  |
| 12. Urology                               | 31. Paediatric Critical Care Medicine        |
| 13. Neuro-surgery                         | 32. Feto-Maternal Medicine                   |
| 14. Cardiovascular Surgery                | 33. Gynaecological Oncology                  |
| 15. Thoracic Surgery                      | 34. Reproductive Endocrinology & Infertility |
| 16. Plastic and Reconstructive Surgery    | 35. Paediatric Ophthalmology                 |
| 17. Orthopaedic Surgery                   | 36. Vitreo-Retina                            |
| 18. Paediatric Surgery                    | 37. Child and Adolescent Psychiatry          |
| 19. Hepatobiliary Surgery                 |  |

**Box-I (b)***Membership offered by Bangladesh College of Physicians and Surgeons (BCPS)*

1. Medicine	9. Radiology & Imaging
2. Surgery	10. Radiotherapy
3. Paediatrics	11. Dermatology & Venereology
4. Obstetrics & Gynaecology	12. Dental Surgery
5. Ophthalmology	13. Forensic Medicine
6. Otolaryngology	14. Family Medicine
7. Psychiatry	15. Transfusion Medicine
8. Anaesthesiology	16. Laboratory Medicine

After completion of first part of FCPS a trainee enters into the program. The training, monitoring and assessments of the 'would be specialists' are being covered in separate communications.

Briefly, BCPS is producing specialists through a structured clinical training including skill development provided in its affiliated institutions (n=124) of different tiers (government and non-government in Bangladesh and abroad)- medical college hospitals and specialized

institutions; district hospitals provide training upto two years on individual case basis. An optional FCPS course in 20 subjects of one-year-duration are also offered by 15 teaching institutes including Bangabandhu Sheikh Mujib Medical university (BSMMU). Doctors enter into the training (4-5 years) after qualifying the first part. The percentage of Part-I qualification varies from 6-23. (Table- 1) Since January 2012 until January 2022, 8941 FCPS Part- I qualified medical doctors were registered

**Table-I***Results Fellow College of Physicians and Surgeons (FCPS- Part- I) Examinations (Last 10 years)*

Session Sl.	Session	Appeared	Passed	Percentage
1.	Jan-12	3592	266	7.41
2.	Jul-12	3382	332	9.82
3.	Jan-13	2508	186	7.42
4.	Jul-13	4062	942	23.19
5.	Jan-14	4429	739	16.69
6.	Jul-14	4874	658	13.50
7.	Jan-15	4181	471	11.27
8.	Jul-15	4443	328	7.38
9.	Jan-16	4377	465	10.62
10.	Jul-16	3248	272	8.37
11.	Jan-17	3815	431	11.30
12.	Jul-17	3153	182	5.77
13.	Jan-18	2169	212	9.77
14.	Jul-18	1656	179	10.81
15.	Jan-19	2767	225	8.13
16.	Jul-19	3280	603	18.38
17.	Jan-20	5230	841	16.08
18.	Jul-20	Due to COVID-19 pandemic, the exam was not held		
19.	Jan-21	5765	400	6.94
20.	Jul-21	4019	783	19.48
21.	Jan-22	5877	986	16.78

Source: Year Book & Records File

for training, 3924 in the last five years only (Source: RTMD, BCPS). A doctor having a training of 2-year-duration in the respective subjects can appear in MCPS examination. During the training period for FCPS and MCPS the trainees are providing supervised clinical and para-clinical quality services mostly in the public hospitals.

Fellows working in different specialties contributing as a core activity in the development of specialized health human resources for the country and others.

The percentage of Part- II FCPS qualification rate of BCPS varies from 9-24. (Table- 2) Since January 2012 until January 2022, 4394 medical doctors qualified FCPS Part- II examination.

There are a total of 7887 fellows through examinations, 111 without examinations, and 268 honorary fellows,

and 3322 MCPS were entered till January 2022 (from BCPS since inception). According to specialty- number of fellows and members through examinations are provided. (Box- 2 a, b) Record (as of 22 May 2022) of MIS, DGHS, GOB shows 4004 specialists having FCPS degree are working in public health service in different tiers.

As of May 10, 2022 out of 15434 medical doctors having an additional degree registered under BMDC 4122 are FCPS and 748 with MCPS (Source: BMDC).

Education/teaching: The priority job of the teachers of medical institutions are development of next generation of health care professionals through catering their primary responsibility of teaching.<sup>9</sup> Following acquiring a fellowship, once appointed as a medical teacher, fellows are heavily engaged in teaching and assessing graduate

**Table-II**

*Results of Fellow College of Physicians and Surgeons (FCPS- Part- II) Examinations (Last 10 years)*

Session Sl.	Session	Appeared	Passed	Percentage
1.	Jan-12	1486	194	13.06
2.	Jul-12	1526	181	11.86
3.	Jan-13	1555	176	11.32
4.	Jul-13	1697	189	11.14
5.	Jan-14	1628	182	11.18
6.	Jul-14	1641	152	9.26
7.	Jan-15	1600	192	12.00
8.	Jul-15	1651	188	11.39
9.	Jan-16	1599	161	10.07
10.	Jul-16	1599	297	18.57
11.	Jan-17	1616	194	12.00
12.	Jul-17	1601	182	11.37
13.	Jan-18	1723	168	9.75
14.	Jul-18	1596	149	9.34
15.	Jan-19	1653	232	14.04
16.	Jul-19	1621	213	13.14
17.	Jan-20	1722	314	18.23
18.	Jul-20	Due to COVID-19 pandemic, the exam was not held		
19.	Jan-21	1808	394	21.79
20.	Jul-21	1510	366	24.24
21.	Jan-22	1537	270	17.57

Source: Year Book & Records File

**Box-II (a)***Number of Fellows (FCPS) with examinations specialty wise from 1968 to January, 2022***Fellows through Examinations**

Sl. No.	Name	Total
1.	Anaesthesiology	241
2.	Biochemistry	15
3.	Cardiology	31
4.	Cardiovascular Surgery	7
5.	Clinical Pathology	1
6.	Conservative Dentistry and Endodontics	33
7.	Dermatology and Venereology	130
8.	Endocrinology and Metabolism	7
9.	Family Medicine	1
10.	Feto-Maternal Medicine	6
11.	Gastroenterology	14
12.	Gynaecological Oncology	29
13.	Haematology	99
14.	Hepatology	1
15.	Histopathology	27
16.	Infectious Disease and Tropical Medicine	1
17.	Medicine	1585
18.	Microbiology	29
19.	Neonatology	17
20.	Nephrology	8
21.	Neurology	9
22.	Neuro-Surgery	11
23.	Obstetrics and Gynaecology	1872
24.	Ophthalmology	395
25.	Oral and Maxillofacial Surgery	124
26.	Orthodontics and Dentofacial Orthopaedics	93
27.	Orthopaedic Surgery	19
28.	Otolaryngology – Head & Neck Surgery	294
29.	Paediatric Gastroenterology and Nutrition	6
30.	Paediatric Haematology and Oncology	2
31.	Paediatric Nephrology	3
32.	Paediatric Neurology & Development	16
33.	Paediatric Pulmonology	0
34.	Paediatric Surgery	2
35.	Paediatrics	865
36.	Physical Medicine and Rehabilitation	144
37.	Plastic and Reconstructive Surgery	51
38.	Prosthodontics	13
39.	Psychiatry	89
40.	Pulmonology	7
41.	Radiology and Imaging	117
42.	Radiotherapy	84
43.	Reproductive Endocrinology and Infertility	19
44.	Rheumatology	3
45.	Surgery	1337
46.	Thoracic Surgery	3
47.	Transfusion Medicine	1
48.	Urology	26
<b>Total</b>		<b>7887</b>

Fellows without examinations=111

Honorary fellows = 268

**Box-II (b)***Number of Members (MCPS) specialty wise from 1968 to January, 2022*

Sl. No.	Name	Total
1.	Anaesthesiology	236
2.	Clinical Pathology	196
3.	Dental Surgery	96
4.	Dermatology and Venereology	113
5.	Family Medicine	80
6.	Forensic Medicine	120
7.	Laboratory Medicine	42
8.	Medicine	467
9.	Obstetrics and Gynaecology	941
10.	Ophthalmology	219
11.	Otolaryngology - Head & Neck Surgery	147
12.	Paediatrics	249
13.	Psychiatry	85
14.	Radiology and Imaging	106
15.	Radiotherapy	20
16.	Surgery	202
17.	Transfusion Medicine	3
Total		3322

(MBBS, BDS) and post-graduate students (FCPS, MD/MS, diploma). Number of fellows working as medical teachers are large: as an example- out of 1001 faculty in a total of six government medical college hospitals, three in Dhaka city, two at divisional level and one at district level medical college hospital where DH is working as medical college hospital, 392 (39.2%) are fellows of BCPS working in clinical subjects.

Recently fellows were also involved in a large number of online courses under different platforms during the last three years.

Services: Contribution of fellows in the development of specialized services in the country is enormous. Fellows are providing specialized clinical and paraclinical services at different tiers of health care delivery at the public sectors: Upazila, District, Medical Colleges, Specialized institutes, Medical Universities, and Armed Forces.

Best practice at upazila level, health delivery as an example: Professor Shahena Akhter, a Professor of Obs & Gynae and present Principal, CMC worked at

Fatikhari, UzHC, Chattogram as a consultant, Obs & Gynae for five years: during her tenure at UzHC was nominated as the best upazila hospital of the country to provide emergency obstetric care, who also received national award for her contribution. Professor Md. Robed Amin, Professor of Medicine, present director, NCDC, DGHS, GOB worked at UzHC, Hathazari as a consultant- he had enormous contribution working in UzHC- in providing services and conducting research with resource limitations.

At district hospitals: the fellows are providing specialized services, and contributing in human resources (HR) development by providing training to the team of health care professionals. The part of training (up to 2 years) require for FCPS can be taken at district hospital level, and few district hospitals are being performing as medical college hospital for clinical teaching of graduate and post-graduate trainee.

At medical college hospital: Besides teaching and assessing the graduate and post-graduate students, providing specialized services, human resource (HR)

development, enormous contribution in relevant medical research while guiding the students for attaining thesis and beyond.

Fellows of different paraclinical subjects are offering 24/7 specialized diagnostic and imaging services for the common people of Bangladesh. Some specialized services include the molecular tests- FISH, PCR, Sanger sequencing; wide range of histochemistry panels.

Haematologists from DMCH, BSMMU and armed forces institute successfully running the bone marrow transplantation with minimum cost thus saving foreign currency.

Fellows are providing specialized services through attending medical boards specially during COVID era.

Fellows are also providing clinical services at non-government academic hospitals, in the service hospitals and in private chamber which covers a large number of patient care both at OPD and at in-patient

Research: As a pre-condition a trainee needs to conduct research leading to completion of a 'Thesis' (previously dissertation) approved by the College before the final examination. Fellows are availing research grants from various sources. Collaborative research with national and international organizations are being conducted by fellows in a wide range of topics in many medical colleges, institutes, and universities. BCPS has track record of arranging funds from DGHS, GOB for conducting research by the fellows with much appreciation.<sup>10,11,12</sup> Model of collaborative research: fellows working in academic medical institutes CMC for example, participated in a number of exemplary collaborative research which changed the global guidelines in a number of areas: malaria research, poisoning & snakebite study are few examples.<sup>13,14</sup> Fellows are also active in receiving grants from the Ministry of Science and Technology, University Grants Commission (UGC), WHO, USAID, UNICEF and other sources.

The list of important research done by fellows published in peer review journals could not be compiled in this report. Fellows are also contributing as editor/member of editorial board- in Bangladesh and abroad.

#### **Social contribution and organizational other association:**

BCPS fellows as chair/members in different committees at national level: councils, commissions, bodies,

committees, development of various National Guidelines.

**Philanthropy and voluntarism:** most of the activities of the College are being conducted by fellows working in different places in a regular basis voluntarily. There are a large number of examples of contribution by fellows doing laudable philanthropy activities across the countries including in hard to reach areas- arranging/attending medical camps, Kidney Foundation, Kuhinoor-Faruq Hospital so and so forth.

Fellows of BCPS are contributing in professional societies by organizing regular CME, workshop, scientific meeting for knowledge development and dissemination: Obstetrical and Gynaecology Society of Bangladesh (OGSB), Association of Physicians of Bangladesh (APB), Bangladesh Society of Medicine (BSM), Society of Surgeons of Bangladesh (SOSB), Neurology Society, ENT Society, Ophthalmology Society of Bangladesh (OSB), Bangladesh Paediatric Association, Bangladesh Society of Infectious and Tropical Diseases (BSITD) etc.

National professors, National awards: BCPS is proud of the fellows who achieved prestigious awards: National Professor (04), Ekushey Padak (03), Shadinatha Padak (04).

#### **Health administration:**

Fellows achieved important positions in administration which include Vice-Chancellor, Director General, Principal, Head of the department, Secretaries, in important professional bodies: BMDC, BMA, BMRC.

#### **Contribution of BCPS fellows in armed forces medical services:**

BCPS fellows are also working in armed forces after fellowship and also during the training period of the fellowship. There are a total of fellow 447, total MCPS 121; number current FCPS trainees: 104; number of total FCPS trainees since 1972: 581. Besides working in various CMHs a significant number are also working in Armed Forces Institute of Pathology- 78 fellows in paraclinical subjects (biochemistry, clinical pathology, haematology, histopathology, microbiology).

#### **Contribution of fellows in public health:**

Bangladesh health service is organized in a sector wide approach through 4<sup>th</sup> Health, Population and Nutrition Sector Programme (4<sup>th</sup> HPNSP).<sup>15</sup> Fellows were involved



in either development or implementation of the SwAP in different capacities as policy makers or administrator (Vice-Chancellor, Pro-Vice Chancellor, DG, ADG, Principal) Managers (Principal, Director, Vice-principal), implementers or as a researcher during the MDG era and also in the ongoing SDG era.

To quote few examples of priority national important public health topics where fellows actively participated: emergency obstetric care (EOC), special care newborn unit (SCANU), obstetric fistula repair, TB, childhood TB, malaria, kala-azar, dengue, snakebite, SARS COV-2, COVID-19, AMR, rabies, antimicrobial guidelines, Swine flu, Avian influenza, Chikungunya, NCDs, mental health, autistic spectrum disorder, poisoning; in the development of various national strategy/action plan; development of national guidelines; development of training module for the health care professionals; monitoring the program as an expert. Innovative activities like development of model for general practice, health awareness campaign are also done by fellows.

Contribution of BCPS fellows in different national committee, as chair and members: BMC, BMDC, BMRC, NITAG, COVOID-19 committee, public health advisory committee, technical committees, national steering committee, GF committee (BCCM), research activity committee, clinical protocol committee, quality assurance committee.

BCPS fellows as political leaders contributed as ministers, and in parliamentary committees.

Fellows working overseas are responsibly contributing in establishing collaboration with home institutes.

Skill development of the trainees and fellows: There is advanced level skill lab in BCPS premise where the fellow surgeons regularly utilize the lab for providing training to the trainees and also updating the skills of fellows.

The training conducted so far covered the areas: basic and advanced surgical skills (BSS), basic life support (BLS), essential obstetric care (EOC) and neonatal care (NC), temporal bone dissection, (TBD), advanced trauma life support (ATLS), basic & advanced life support, basic micro surgical skills, basic laparoscopic skills, advanced surgical skills, advanced cardiac life support (ACLS).

International Training Centre (ITC) of BCPS is affiliated with the American Heart Association (AHA), the American College of Surgeons (ACS) and the Liverpool

School of Tropical Medicine of United Kingdom for conducting the training programs on BLS & ACLS, ATLS and EOC & NC respectively.

BCPS is also going to introduce basic laparoscopic surgical skill, basic ophthalmic surgical skill, basic hysteroscopy skill, and basic pediatric life support courses.

**Continuing professional development:** CPD program are being organized routinely by the College for many years in BCPS and in different premises to update the recent scientific developments among the trainees and fellows, thus fellows are immensely involved in the professional development.

Fellows in international bodies: Participation by fellows of BCPS in international organizations- WHO, the Global Fund, DNDi, TDR and other organizations in different bodies as chair, technical members, board member.

#### **Selected Information about Fellows (FCPS) and Members (MCPS) of BCPS:**

In a quick survey through a Google request form specially designed by the authors to collect information about FCPS and MCPS of BCPS (n=9639), 19 messages were not delivered, received a response from 1094 (response rate 11.4%). The request was made by twice by consecutive SMS, and one post in the Facebook group (4000) in a week. Seventy two percent respondents were male and 45.3% respondent worked at upazila level for at least for six months. Highest academic position as professor was achieved by 172 (15.7%), administrative position as principal by 23 (3.1%). (Table- 3) They are working as specialists in different medical colleges, medical universities, post-graduate institutes (specialized hospitals) and UzHCs. In Bangladesh Armed Forces (Medical services) they are holding prestigious positions like Major (n=6), Brigadier General (n=3), Major General (n=1), Lieutenant Colonel (n=5) etc. To note with appreciation one Vice-chancellor of medical university, present director general of health services, director general of medical education director general of medical services, director general of drug administration and additional director general of administration are from the fellow/member of BCPS. Several directors of health services, DGHS are also fellow of BCPS for example director NCDC, director MIS.

Besides academics, fellows are also serving in various high administrative positions as head of the department

**Table-III***Information about Fellows and Members (n= 1094)*

Parameter	Number	Percentage(%)
Highest academic position attained in the service		
- Professor	172	15.7
- Associate Professor	146	13.3
- Assistant Professor	233	21.3
- Junior Consultant	187	17.1
- Specialists	51	4.66
- Registrar	63	5.76
- Others	242	22.18
Highest administrative position attained in the service		
- Principal	24	2.2
- Vice Principal	09	0.82
- Vice Chancellor	01	0.09
- Pro Vice Chancellor	01	0.09
- DG	10	0.91
- ADG	01	2.5
- Dean	02	0.18
- Head of the Department	100	9.14
- Director	39	3.56
- Resident Surgeon (RS)	22	2.01
- Resident Physician (RP)	12	1.10
- UHFPO	11	1.00
- Medical Officer /Assistant Registrar/RMO	201	18.37
- Others	664	60.70
Post fellowship/membership degree	317	29
Award received in Bangladesh	83	7.6
Award received from abroad	74	6.8
Author of any scientific medical book	60	5.5
Contribution in any chapter of scientific medical books	62	5.7
Faculty of any overseas university or institution	36	3.3
Participation in important bodies as chair and member in Bangladesh		
- Chair	33	3
- Member	160	14.6
Participation in important international bodies as chair and member	106	9.7
Philanthropy activities	143	13.1

(n=100, 9.14%), Principal of Medical Colleges (n=24, 2.2%), Vice Principal (n=9, 0.82%), UHFPO (n=11, 1%), RMO (n=27, 2.5%), Director (n=39, 3.56%), Deputy Director (n=4), Assistant Director (n=3), Resident Surgeon (n=22, 2.1%), Resident Physician (n=12, 1.1%) etc. Earlier some fellows held esteemed positions like Director General (n=10, 0.91%), ADG (n=1), Vice

Chancellor (n=1), Pro-VC (n=1), Proctor (n=1), Assistant Proctor (n=1), Civil Surgeon (n=1), Dean –Faculty of Medicine of Dhaka and Chittagong University (n=1, each).

Other important contributions are 5.5% authored scientific medical books, 5.7% contributed in any chapter of scientific medical books, 3.3% are faculty of overseas

university or institution. In the BCPS library there are donation of 94 books contributed by fellows, 24 of them are Bengali scientific books. Three percent fellows chaired and 14.6% were executive member of different bodies in Bangladesh like BMDC, BMRC, Society of Medicine, SOSB, OGSB etc. To note further 9.7% participated in important international bodies as chair and member (for example: WHO, TDR, the Global Fund, DNDi, ACP, RCP, RCOG, AATM, ACS, APLAR, APAMT etc).

Twenty nine percent respondents achieved post fellowship or membership degree.

Fellows and members are also contributing as excellent medical researchers. The number of publications of them are significant: 52.2% had more than 10 publications, and 3.2% had more than 50 publications in peer reviewed journals. The 'i-10 index' (Google Scholar) and 'h-index' of fellows and members are also significant: highest i-10 index is 77 and h-index is 42, 14 fellows have h-index >10. Some research publications got prestigious recognition in different form, for example Ph D from overseas university, BMJ award of the research paper of the year 2010, at least two fellows received Gold Medal of the Bangladesh Academy of Science, 2 researchers got best researchers award from BSMMU.

In Bangladesh, 7.6% received different awards (like Shwadhinota podok, Ekushe podok, Gold medal, Shenabahini podok, award from ACO, OSP, BSP, SGP etc) for their contribution in respective fields and service towards humanity. one got "Chief of Army Staff Commendation" award, one got "Military Medal", one got "Nelson Mandela padak", 2 got "Creative Media Vision Award".

2 respected fellows got "Shwadhinota podok" which is the highest state award given by the Government of the People's Republic of Bangladesh.

6.8% received award from abroad for their outstanding contribution including "Young "Gynaecologist Award", "Young Psychiatrists Fellowship", "Young Investigator Award", "President award of Excellence", "Outstanding Award for innovation of Bari device from World Congress of Ophthalmology (WOC)", "UN peace medal in United Nations Mission in Liberia" etc.

Philanthropy activities (for example: establishing the Heart Foundation at national and in a district,

establishing Hypertension Clinic & Research centre in a district, establishing a charitable hospital in community, running a health-education, community engagement project etc) are done by 13.1%.

**Post fellowship training:** Fellows of BCPS are the specialist medical professionals in almost self sufficiency in number in the country although trained and groomed in resource constrained situations. Fellows are taking advanced skill based training from different sources, through government or other scholarship, or by own initiative or by participation in professional scientific meetings. Thus, technology is being transferred to the country. FCPS is an exit degree, in country like ours advanced training may not be feasible during the clinical training which can be covered by a routine skill based training in regional, or extra-regional centres. At the government level so far such limited training was provided to the fellows. Overall only 2071 workforce in clinical subjects, public health and others were trained from abroad during 2009-2020 without any segregation of data with fellows.<sup>7</sup> During nineties of the last Century and in recent years a good number of fellows were trained abroad by MOHFW, GOB leading to Ph D through WHO, Commonwealth and other support. Those who returned, they have been contributing in the development of science based academic medicine in the country.

#### 'Moving forward/BCPS might contribute in future':

To identify the future contribution of BCPS, a policy discussion was held among 12 senior fellows and members to have their expert opinions and suggestions on 'what BCPS should do in future' in upholding integrity and ensure quality of education for future leaders of BCPS. On the basis of the summary findings that received from the fellows by email before the dialogue themes and contents were prepared to mobilize the forum promptly for advance consultation. As a result of the policy consultation and the written comments received, the senior fellows highlighted the following challenges:

- Quality assurance strategy for training-learning
- Institutional development
- Enrich effectiveness of exam system and question bank (QB)
- Bridging in between the curricula and endowed gradation of under-graduation and post-graduation

- Effective branding
- Increase allocation
- Creating a conducive environment for conducting research.

#### **Quality assurance strategy for training-learning**

The policy discussion participants underlined the importance of an effective training learning strategy for BCPS fellows. BCPS may need its own hospital to conduct clinical exams as part of the concept. Develop standard operating procedures (SOPs) and job descriptions for the trainer and other staff involved in the curricula's implementation, establish a system for regular scrutiny and periodic audit of performance documents, establish active monitoring committees, and include provisions for incentives and disincentives for the best versus worst documented performance. Implement process documentation logbook, portfolio, administrative records effectively, strengthen patients' medical records including POMR, referral notes and replies, procedure notes, discharge summary, nursing documents and logs, develop standard operational procedures (SOPs) and job descriptions for the trainer and other staff engaged in the implementation of the curricula, induce a system for regular scrutiny and periodic audit of the performance documents, form active monitoring committees, introduce provisions for incentives and disincentives for best versus worst documented performance.

It is necessary to involve more college fellows rather than council members in the training events and invite external renowned fellows from abroad simultaneously. Also need to organize some courses to increase the comprehension skill in English for those students who have studied in Bangla. Various faculties must have full time teachers, own department, office and human resources. In-depth orientation is needed to be introduced for the trainers' pool to increase training quality.

A formative assessment mechanism is needed for evaluating the teachers, faculties efficiency rather than summative. In this regard, a forum of qualified academicians can be formed where retired or in-service personnel would involve as member. The responsibilities of the fellows should be specific and monitored by a surveillance mechanism. Continuous

assessment of every accredited medical institute should be introduced once or twice in a year with surveillance and supervision with a unique system countrywide. Also an accountability mechanism through annual audit with documentation, performance incentives/disincentives should be developed in existing training facilities. The monitoring cell in each medical college should be strengthened through the structured assessment/accountability system.

#### **Institutional development**

Library and museum development should be taken as plan of action. National protocol in health system can be introduced to follow a unique way for better coordination among programs and establish active arrangement for transfer of knowledge countrywide. Furthermore, online or offline part-I course with or without fees can be started as now students are participating the course through coaching. One of the fellow participant mentioned,

“Classes of each subject should be mandatory to be oriented to enrolled fellow students. Basic surgical, research methodology, IT related subject should be taught by experienced fellows with proper remuneration”.

Monitoring team of this institute should be strengthened through providing frequent training to perform their responsibilities of conducting surveillance, documentation and monitoring with effective way including storing training monitoring system: log book, e-log book etc.

Enrich effectiveness of exam system and question bank (QB)

The regulatory body must be independent, but should be linked with the examination department and medical education department of BCPS. The QB (i.e. MCQ, SBA, SA, essay) is not based on the text book question but rather what is important from the examination perspective. QB is needed to be categorized and reused in different lessons. The characteristics of QB should be using simple and clear language as per the level of comprehension by students without creating confusion. This department with selective dedicated person need to be involved to enrich QB by reviewing it throughout the year.

Question moderation should be done by BCPS employed faculties. Dedicated and well-informed members should be in the QB committee. Workshops for the members are needed to strengthen the process of QB moderation.

Bridging in between the curricula and endowed gradation of under graduation and post-graduation.

Most importantly is required to develop up to date and upto the mark need based curriculum for under-graduate and post-graduate. A rational bridging between the curricula of under graduation and post-graduation is needed. Besides, under-graduate and post-graduate medical education can be through both fellowship and university based.

### **Effective branding**

Accreditation from renowned organizations and colleges abroad such as Royal Colleges of UK, American College of USA etc. is needed to be brought in country. BCPS would follow the best practices of other countries to enrich the service and quality. To make BCPS more effective collaboration with international institutes can be a window to go onward for betterment of fellows here. Besides, more exchange training programs would be explored for the young fellows. More plan is required from the fellows in increasing the visibility of BCPS by organizing and implementing multiple activities throughout the year.

### **Increase allocation**

Need to increase government allocation for executing plan to upgrade quality of education and service of BCPS. Continuous lobbying is needed to convince and mobilize government and policy level to approve more allocation as investment.

Creating a conducive environment for conducting research.

All of the senior fellows underlined the importance of making the BCPS a conducive environment for learning and conducting research in order to provide evidence not just for contributing to global knowledge but also for effective health care management in Bangladesh. One renowned fellow expressed his thought in the following,

“..... We should work research based. But question what type research will be conducted. Basic research would be the option ..... Or health system research should be included. Though we conducted different

type of health related researches, for improving the health system our fellow should be involved more”.

All senior fellows decided to present the task of ensuring quality assurance in BCPS fellows’ training-learning to future leaders, out of all the issues mentioned.

### **Discussion:**

Enormous clinical services in health care mostly in the public sector in different tiers of health care delivery in government sector being provided by the trainees while they are acquiring skill based training in a prescribed format of BCPS.<sup>16</sup> Training is closely linked with clinical service both in directorate general of health services of MOHFW and directorate general of medical services of armed forces. This needs appreciation. A formal tracking system of each one who enters into five-year long training program is needed.

The intake of number of fellows in Part-I and Part-II is not based on need assessment of the number and type of specialists needed for the country, rather driven by the interest of the individual aspirant graduate doctor. Although we have a strategy for health human resources, the need for assessment of various types of specialists and sources have not been objectively measured/quantified by neither the government or the BCPS/University<sup>17</sup>. There are two streams of clinical post graduate degree in the country- university based MD/MS/Diploma/M Phil/Ph D and BCPS based FCPS and MCPS. The Bangladesh Medical & Dental Council is entrusted to develop the course-curriculum of post-graduate courses<sup>18</sup>. No serious attempts have been made to harmonize between the two types degree. In fact, many post-graduate doctors are having more than one type of same degree which is rather wastage of limited resources.

It is very important to note that most of the specialists are home groomed to start with product of BCPS which saved a significant public exchequer of Bangladesh. Most of the training of the fellows and members was held in public health facilities which has associated limitations. This can be overcome by further improvement of the skills of the fellows by an initial additional post fellowship training to be offered to ALL new fellows along with periodic continuous professional development by arranging and strengthening ongoing continuous professional development and skill acquisition programs of BCPS.

MIS for post-graduate professionals including FCPS and MCPS is not readily available. A structured document (MIS) of post fellowship performance conducted by fellows and positions acquired by them will give more detailed records which will help in better policy making objectively.

Contribution by fellows in a wide range of arena including clinical consultancy, academic contribution in human resource professional development, grooming future fellows in taking the responsibility of professional tasks of service, education, research and in the policy level are not always visible contribution of BCPS through its fellows.

Most of the fellows and members are clinicians who are equally contributing in the public health achievements of Bangladesh.

In future, academic year book should be prepared by BCPS compiling, grading, and recognizing major activities on thesis, publication for example. Quality assurance system be established for training program of BCPS. Branding of BCPS should be promoted by all concerned.

Limitations: There was limited data available on the trainees who enters into the program in different years and phases and when they will complete the training.

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