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Facilitation of free residential training inside the country – The fundamental health service responsibility of the Government and its regulatory body

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ABSTRACT

For optimum Peripheral Health Service and implementation of various Vertical Public Health Programme Services, network of public Rural and Urban Health Centers with trained Specialists in General Practice (GP) is essential. Later such Specialist GPs will thus fulfill both comprehensive training and experience required for Health Management and Planning Service in the centre. About 40%-50% of all Residential Trainings and Specialists are required in GP. There are further up to 100 to 150 possible specialties in which remaining doctors can be trained for Specialty Health Services. Though free Residential Training has numerous advantages, its shortage inside country is the bottleneck to provide above mentioned Health Services. Planning for health service delivery by at least trainee residents under supervision or appropriately trained specialists guides Residential Training's regulations. Fulfillment of objective training criteria as its core focus is the concept now with the major role of Faculty as supervising residents to provide required service in the specialty and simultaneously updating themselves and their team for Evidence-Based Medicine practice. Similarly the need of Ambulatory Health Service and joint management of in-patients by specialists in hospitals has changed unit and bed divisions and requirements for Residential Training. Residents, already the licensed doctors, are thus providing required hospital service as indispensable part of its functional hierarchy for which they need to be paid. With such changing concepts and trends, there are some essential points in existing situation to facilitate free Residential Training inside country. For Government doctors, relevant amendment in their regulation is accordingly required.

Keywords: *ambulatory care; general practice; health service; hospitalist; medical council; medical education; public health; regulatory body; research; residential training.*

INTRODUCTION

1. Five interlinked Health Service responsibilities of the Government and its agencies

Providing access to the optimum Health Service to the people by the Government is achieved through public Peripheral Health Service (PHS) for common conditions in the Rural and Urban Health Centers and through Specialty Health Services (SHS) in various Public Hospitals and Medical Teaching Institutions in all required specialties. Then there are varied Vertical Public Health Programme Services (VPHPS) which plan to provide preventive, promotive and curative health

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services to the people with focus on particular health programmes. For all such services and programmes, appropriate Health Management and Planning Service (HMPS) at the Central, especially Health Ministry and Health Department, and Regional levels are essential. For the above four vital health services of PHS, SHS, VPHPS, and HMPS, free Residential Training (RT) in hospitals inside the country is required as the foundation to provide the well-trained medical professionals at all levels. The five fundamental Health Service responsibilities, viz. PHS, SHS, VPHPS, HMPS, and RT, of the Government and its agencies are interlinked (Figure 1). However the shortage of free Residential Training in hospitals inside the country has become the bottleneck to provide the above mentioned four Health Services in the developing countries like ours. The five fundamental Health Service responsibilities, followed by the relevant concepts of Residential Training and lastly some essential points in the existing situation to facilitate free Residential Training in hospitals inside the country will be discussed in the article in the background of the contemporary concepts, trends, and evidences.

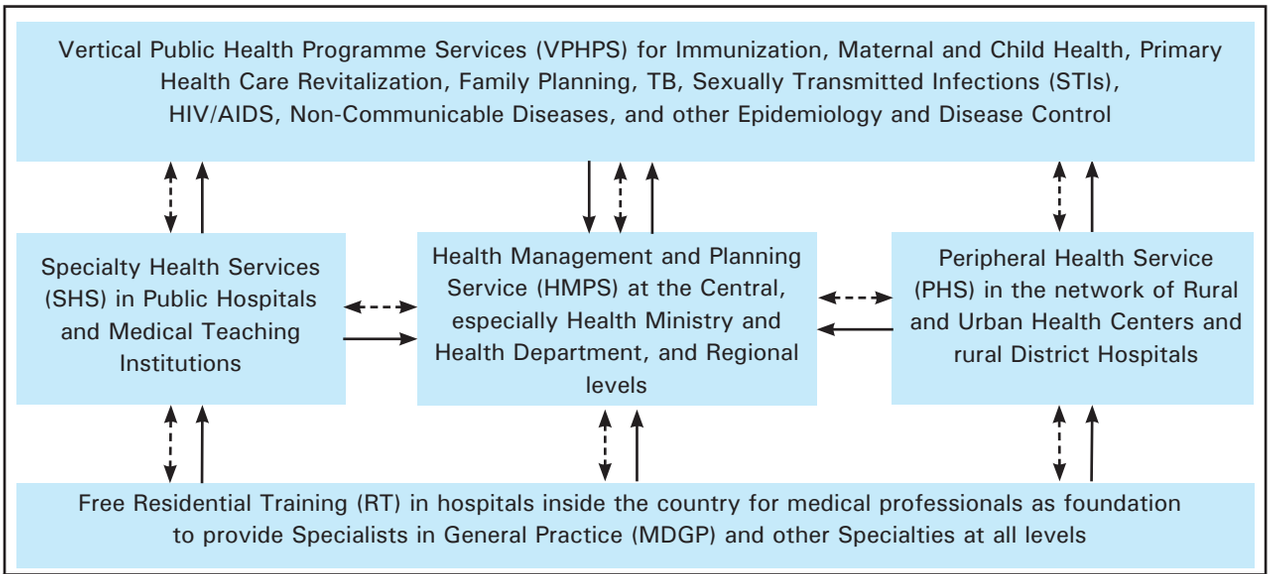

Figure 1. Five fundamental Health Service responsibilities of Government and its agencies including the regulatory body: Peripheral Health Service (PHS), Specialty Health Services (SHS), Vertical Public Health Programme Services (VPHPS), Health Management and Planning Service (HMPS), and free Residential Trainings (RT) in hospitals inside the country.

Solid arrows ——→: Source of Specialist medical professionals
Dashed arrows ←- - →: Support to the programme or service directly or indirectly

1.1 Peripheral Health Service (PHS) in the rural and urban areas

1.1.1. PHS in the rural areas through Rural Health Centers (RHCs) and pertinent District or Community Hospitals – By Specialists in General Practice (GP): A medical professional posted in a rural area is expected to manage from medicine to surgery, pediatric to geriatric, orthopedics to obstetrics, and postmortem to public health programme administration.[1] In a study of experience of doctors working after MBBS (Bachelor of Medicine and Bachelor of Surgery) in various parts of the country, about 85% of the participants indicated the major problem faced while posted in remote areas as difficulty in handling varied situations with no guidance or seniors available around.[2] This is consistent with the observation that doctors with just MBBS often have difficulties in conducting complicated deliveries and in performing required surgeries and procedures.[3] The insufficiency of MBBS education alone to give enough confidence to medical students or doctors to practice independently was indicated by various publications in the country.[2,4,5] To teach anatomy in cadavers also, further three years of training is made mandatory by the regulatory bodies for doctors with MBBS who have already passed anatomy earlier during their study. The responsibility of the Government and its agencies to provide optimal Peripheral Health Service to people

may not be achieved by just posting the MBBS doctors without Residential Training.[2] Ensuring access to the skilled health workers is a necessary condition for realizing the human rights to health.[6]

While city hospitals regularly conduct lifesaving caesarian sections, less than 20% of district hospitals did even a few years back due to the lack of Specialists in GP, called here MDGPs i.e. Doctor of Medicine in GP, available to do this operation.[3] The coverage by various specialists trained in anesthesiology, obstetrics and gynecology (OBG), and pediatrics can't be ensured currently and in near future even at district level hospitals.[7] Moreover such focused Specialists require other medical professionals of the same as well as other specialties to provide their service 24-hours a day and their skills will not be of much use in the health centers without in-patients or with fewer numbers of patients of their specialty (Figure 2).

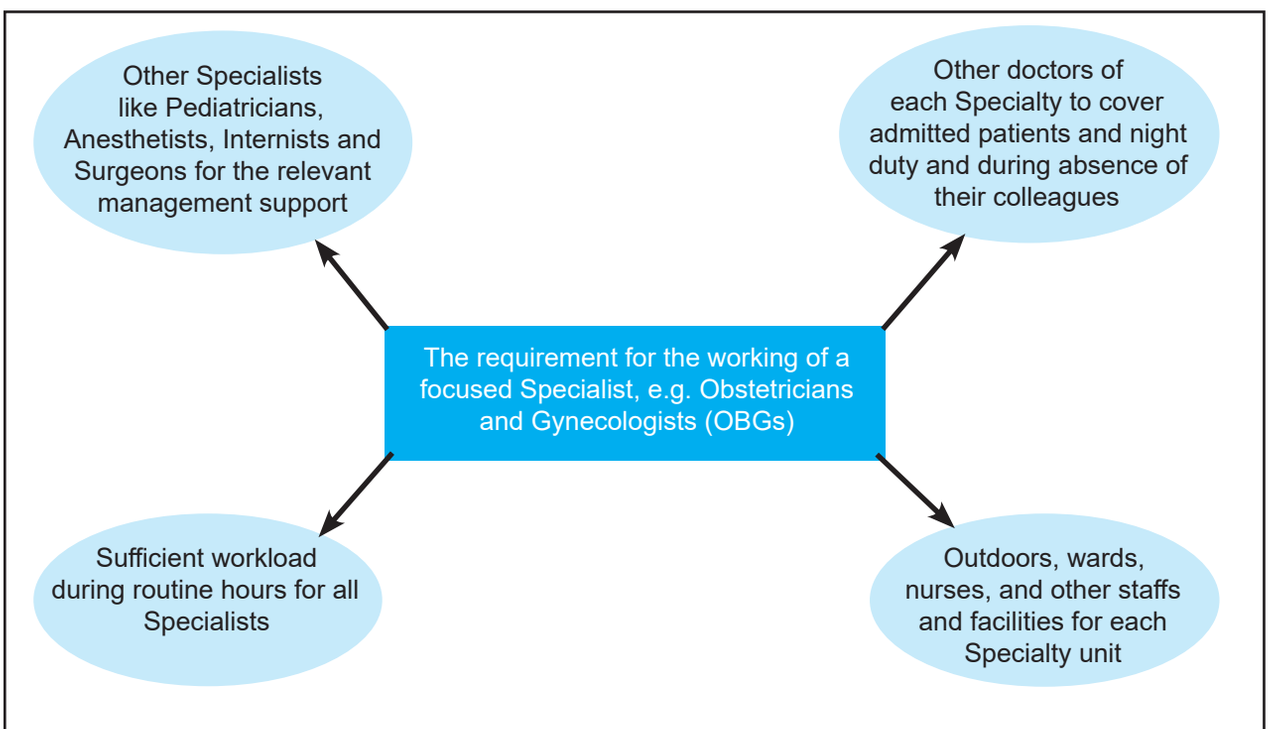

Figure 2. At least two to three focused Specialists of each of different specialties with sufficient workload and supporting facilities and staffs are required for their appropriate functioning and utility in any hospital – Which may adequately be provided by two or three Specialists in General Practice (GP), the MDGPs, in Rural and Urban Health Centers or rural District or rural Community Hospitals with scattered or limited population covering the basic and emergency along with preventive and promotive healthcare of the people.

MDGPs are trained to be competent in each of the main specialties.[3] Two to three MDGPs can provide the required services in district hospitals[7,8] with appropriate patient-loads. In Health Centers, one or two MDGPs can similarly initiate the service. The authors, experts and participants of various studies in our country have indeed been pointing out the need of posting of trained MDGPs with appropriate career to provide adequate Peripheral Health Service.[1-3,7-17] Lack of other Specialist support is not an important issue for MDGPs.[13] The first Residential Training programme of MD/MS (Doctor of Medicine/Master of Surgery) for medical doctors to be started in Nepal indeed was MDGP in 1982,[18,19] more than a decade earlier than such programmes in other specialties. It must be developed and utilized to the fullest for the optimum Peripheral Health Service.

1.1.2. Peripheral Health Service (PHS) in urban areas – Network of public Urban Health Centers (UHC) with MDGPs essential: With increasing burden of Non-Communicable Diseases (NCD) on the top of Infectious Diseases (ID), the access to basic health care in the dense urban population warrants urgent attention. The risk factors for sexually transmitted infections (STIs), including HIV/AIDS, are urban migration and displacement, increased levels of commercial sex due to economic hardships, and lack of access to effective and affordable health services beside others.[20,21] About two thirds of all death even in low and middle income countries including ours are now due to four major NCDs where more than half are due to cardiovascular diseases (CVDs).[22,23] In urban areas in Nepal about one fourth of the people aged 20 and above and one third of those aged 40 and above have diabetes or pre-diabetes with similar burden of hypertension.[24,25] The risk of transmission and spread of tuberculosis (TB) is also of real concern in the overcrowded urban population with high prevalence of diabetes, HIV/AIDS and elderly and migrant poor

people[26]. TB patients with cough, intermixed with other patients of chronic respiratory diseases, may repeatedly just visit to medical shops for cough medicines while expelling TB bacilli with their cough before diagnosis. Access to the basic health service for minor problems, regular check up, cost-effective treatment, including free essential drugs supplied by the Government, and preventive measures are limited in the urban areas.

In the urban areas, apart from the particular specialist consultation and procedure, the hospitals mostly provide the acute management of sick patient especially requiring admission. Visiting the busy scarcely available public hospital outdoors is time consuming and discouraging for the patients for seemingly minor problem or regular follow-up. The patients are more likely to visit hospitals late for crisis management only when the symptoms start bothering them much or complications develop when it is also likely to consume the hospital resources more. With high population density in urban areas, the network of Urban Health Centers with well trained MDGPs is essential to manage, educate, motivate, and follow up, i.e. for comprehensive longitudinal health care, of the patients with hypertension, diabetes, heart diseases, TB, STIs, HIV/AIDS, and other day-to-day ailments and Mother and Child Health (MCH). Improved access to essential preventive, curative and promotive care of NCD, TB, STIs, and other seemingly minor illnesses will reduce costs of avoidable hospital admissions and complications[20,21,27,28] and also of the outdoor burdens of hospitals. The network of health centers with MDGPs can implement the guidelines not only from different Vertical Public Health Programme Services (VPHPS) and expert groups of other specialties but also from hospital consultants (Figure 3). With such Vertical Public Health Programme Services including now the additional globally funded NCD health care packages[27] along with other feasible free essential drug supply, much of the basic health care could thus mostly be covered in the accessible Rural and Urban Health Centers (Figure 4). This will help to achieve the Primary Health Care of the people as highlighted by the World Health Organization (WHO)[29]. Without such accessible basic health care both in rural and urban areas, restriction of the over-the-counter (OTC) sale or any dispensing of antibiotics without the medical practitioners' prescription may not be possible. As per the population density, the required numbers of Urban Health Centers in each Ward or Electoral Constituency of the urban areas may be established incorporating and strengthening the available urban clinics of municipalities. The newer Urban and Rural Health Centers may be built with appropriate planning including for the preparedness for natural disasters like earthquake, flood or landslides with a hall for disaster management and helipad. In the Health Centers, the basic investigations of radiology, electrocardiography, and laboratory and the required numbers of MDGPs may gradually be made adequately available considering the health service need of the people.

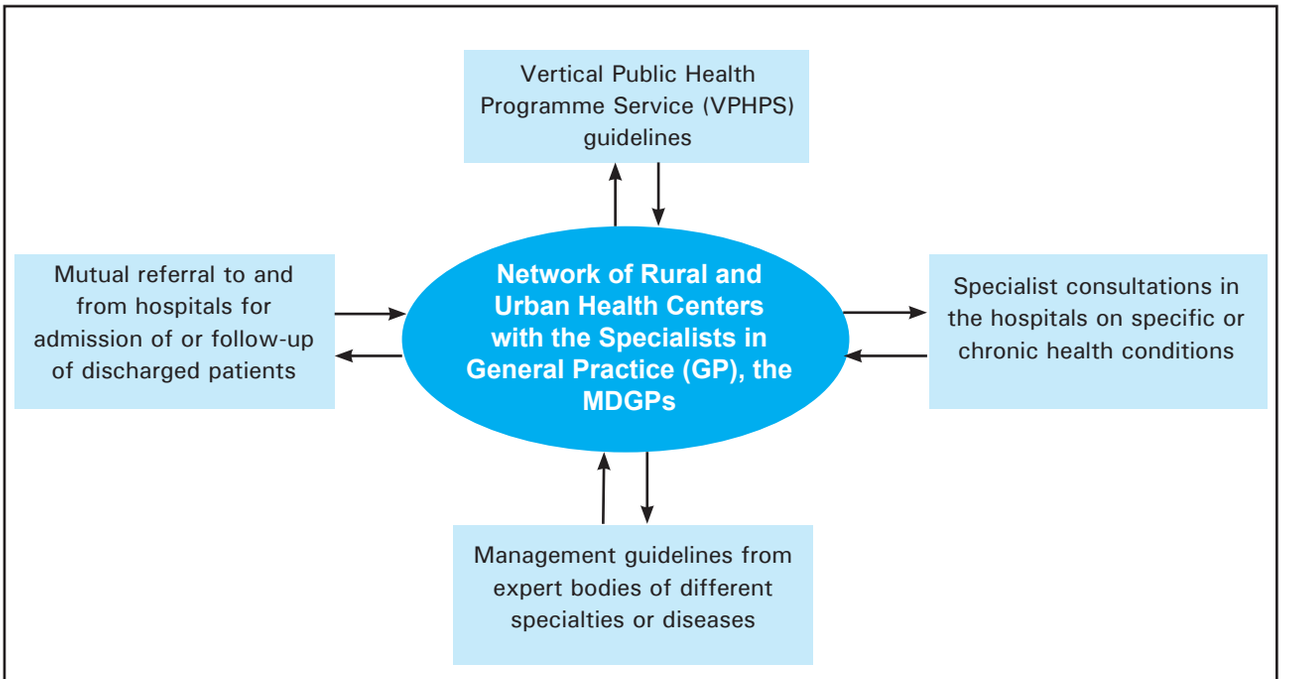

Figure 3. The network of Rural and Urban Health Centers with the Specialists in GP, the MDGPs, for implementation of the guidelines from different programmes and expert groups and for systematic referral practice to and from the other Specialists for the optimum promotive, preventive, curative, and rehabilitative health service with comprehensive longitudinal care of the people – Without such availability of network of Peripheral Health Services (PHS) with MDGPs to implement, the utility or even the need of the guidelines based on the available local resources and health system may not be fully realized in the non-industrialized countries.

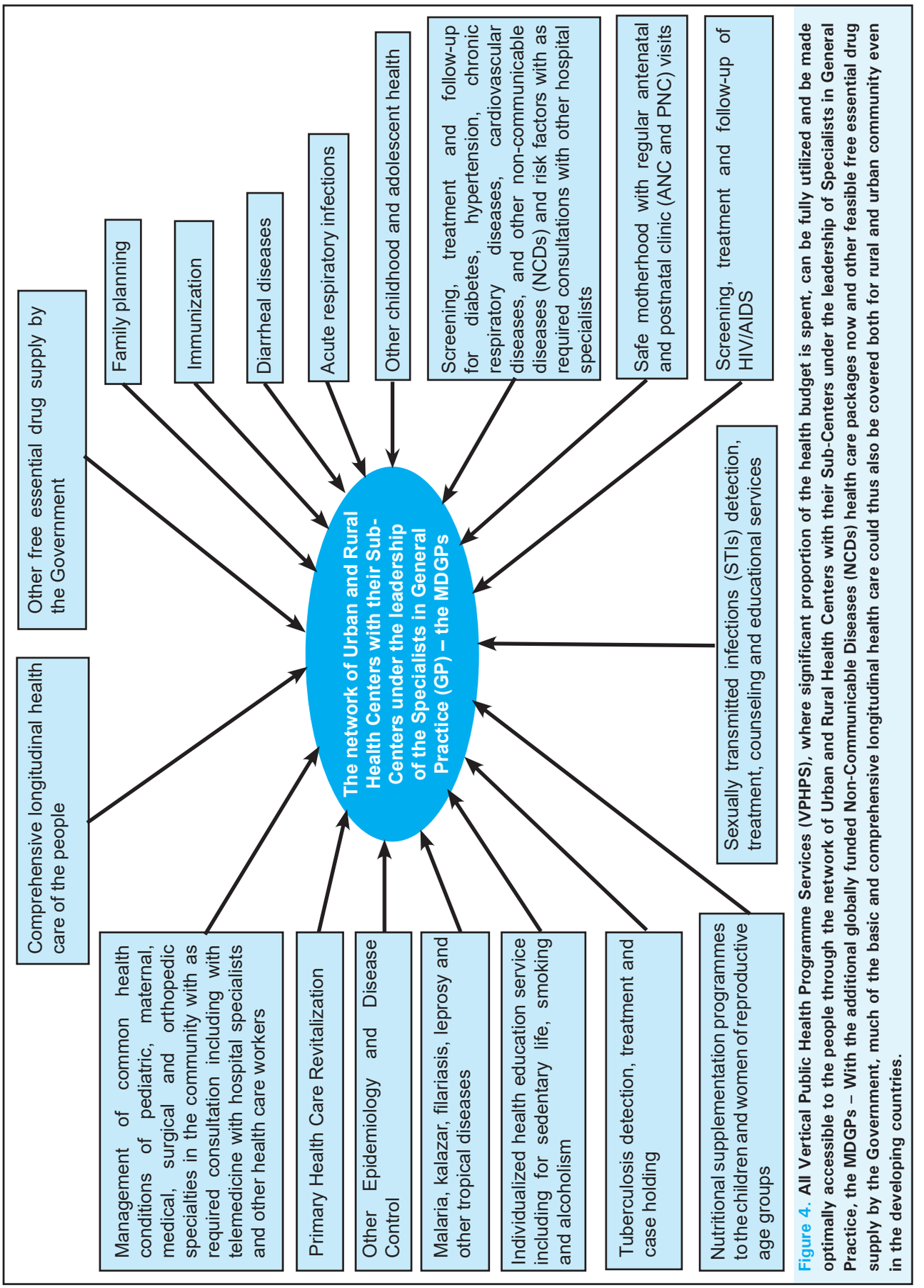

Figure 4. All Vertical Public Health Programme Services (VPHPS), where significant proportion of the health budget is spent, can be fully utilized and be made optimally accessible to the people through the network of Urban and Rural Health Centers with their Sub-Centers under the leadership of Specialists in General Practice, the MDGPs – With the additional globally funded Non-Communicable Diseases (NCDs) health care packages now and other feasible free essential drug supply by the Government, much of the basic and comprehensive longitudinal health care could thus also be covered both for rural and urban community even in the developing countries.

1.2. Vertical Public Health Programme Services (VPHPS) – Their successful implementation and utilization also require the efficient leadership of MDGPs in the network of Rural and Urban Health Centers

The programmes of the VPHPS are well spelled out with the help of international experts including WHO.[20,21,27-30] But the major problem lies in their final implementation. The vertical programmes for various diseases and services like HIV/AIDS, TB, MCH, family planning, and NCDs and others require regular interaction between the people and medical professionals. The prevention of TB, HIV/AIDS, and STIs is based, i.e. dependent, on the management of the source patients. With the unstable RNA HIV and with increasing MDR-TB, the non-adherence to the treatment of TB, HIV/AIDS and others could be counter-productive to the vertical programmes creating resistance and complications. The source patients are difficult to locate in the dense urban and scattered rural populations, who are likely to visit regularly in the accessible Rural and Urban Health Centers, sub-centers and clinics managed or supervised by well trained MDGPs. For the prevention of cardiovascular diseases, appropriate control of risk factor like hypertension, diabetes, dyslipidemia, smoking, or sedentary life with regular follow-up in such public Peripheral Health Service is essential. Mother and Child Health (MCH) is also crucial for the control of epidemic of diabetes.[31]

Support and motivation for adherence or case-holding and change of health-related behavior along with clear guidelines on diagnostic and referral procedures with follow-up teams are equally applicable to such Infectious Diseases (ID) and NCDs,[21,27,28] as well as family planning and MCH including breastfeeding. For the implementation, from Paper to the Practice, of the guidelines of various vertical programmes, the leadership of well trained MDGPs in the Peripheral Health Services is essential (Figure 3).To meet now the grave challenge of NCDs especially hypertension, diabetes and resultant CVDs affecting relatively young active populations in the developing countries[31-33] the Peripheral Health Services will have to be strengthened[34] for the comprehensive, longitudinal healthcare of the people. Thus there appears two kinds of leadership required for the success of any vertical programmes; one at the central level, the Central Leadership, for planning and monitoring of the particular focus area and the other at the peripheral level as the horizontal interface with the target populations under the Peripheral Leadership of MDGPs for implementation of programmes and supervision of different cadres of health care workers (Figure 5). For their own effective implementation and utilization, the Vertical Public Health Programme Services (VPHPS) should share their resources and expertise to strive to establish Peripheral Health Service with the network of Rural and Urban Health Centers under the able-leadership of MDGPs. The resources also need to be shared and utilized for the Residential Training programme of MDGP, the key medical professionals. The World Health Report of WHO clearly states under the heading of responding to workforce crises "Donors must facilitate the immediate and longer-term financing of human resources as a health systems investment. A 50:50 guideline is recommended, where 50% of all international assistance funds are devoted to health systems, with half of this funding devoted to national workforce strengthening strategies".[35]

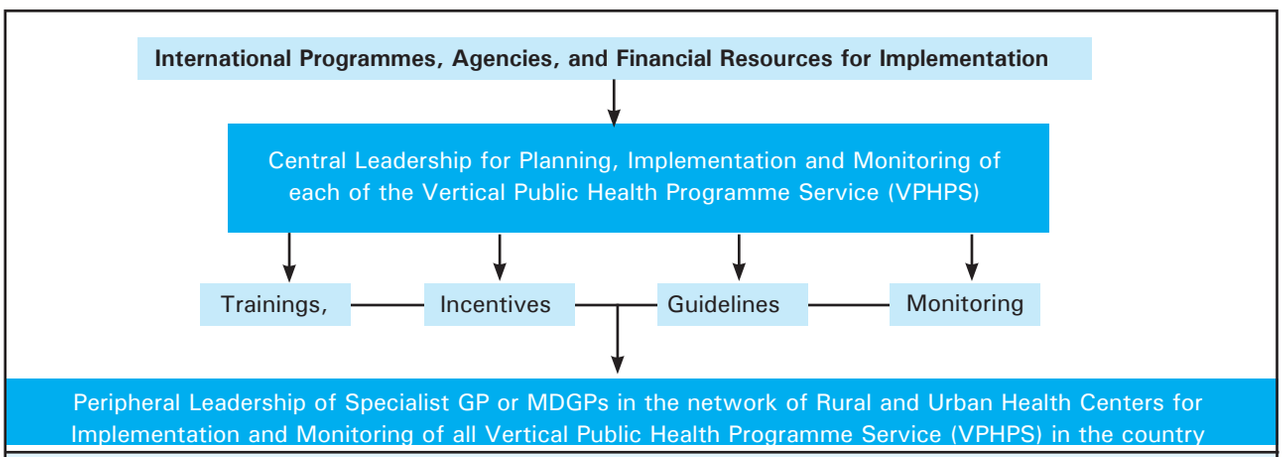

Figure 5. Apart from the Central Leadership, the vital need to develop and support the network of Rural and Urban Health Centers with Peripheral Leaderships by the Specialist in General Practice (GP), the MDGPs, for the successful implementation from 'the Paper to Practice' of various Vertical Public Health Programme Service (VPHPS) like Non-Communicable Diseases (NCDs), TB, leprosy, Sexually Transmitted Infections (STIs), HIV/AIDS, diarrheal diseases, acute respiratory illnesses, flu, malaria, kalazar, other Epidemiology and Disease Control, Primary Health Care Revitalization, Maternal and Child Health (MCH), immunization, family planning, and others.

1.3. Leadership for Health Management and Planning Service (HMPS) from the central to peripheral levels by the Specialist in GP (MDGP), i.e. the Health Specialist

1.3.1. Comprehensive training and service experience required for Health Management and Planning Service (HMPS) in the centre: Earlier the doctors with MBBS appointed as medical officers were used to be given the unstructured rotation experience in major fields

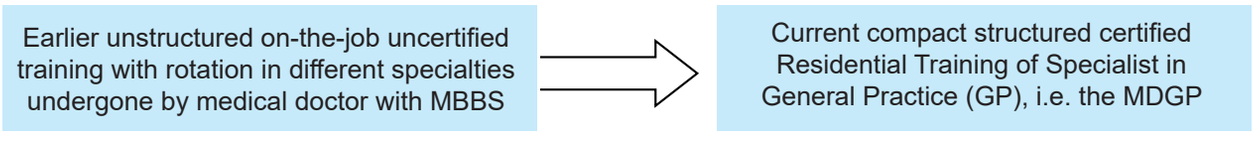

Figure 6. Evolution of the comprehensive, supervised Residential Training and certification in General Practice (GP), the MDGP, from the earlier broad, apprenticeship-based training undergone by medical doctor with MBBS - Certification is essential now to establish the system of health service by adequately trained MDGPs as well as the career path for them.

before they were posted in the districts. Now the earlier broad, unstructured, apprenticeship-based, on-the-job, uncertified training has gradually evolved into the more compact, comprehensive, structured, supervised, hands-on Residential Training and certification of MDGP programme (Figure 6) following the contemporary medical education concepts and trends. Certification is essential now for planning the appropriate structured training and to establish the system of health service by adequately trained MDGPs as well as the career path for them. Thus at the Peripheral Health Service, MDGPs are now required to provide comprehensive clinical and public health services; to manage administration and finance; and to provide leadership to different cadres of Health Care Workers. Subsequently they can also be posted for management of the department of emergency in the existing system here of just referring the attending patients to various specialty units in the hospitals[1] and also for overall administration in bigger hospitals and Medical Teaching Institutions. Later with such experience of providing comprehensive Peripheral Health Service in different parts of the country after their Residential Training in GP, MDGPs become well trained and experienced, the ideal, human resources for Health Management and Planning Service (HMPS) at the Center and in the Vertical Public Health Programme Services (VPHPS) as required with the additional relatively shorter, as compared to the residency in GP, training of Master in Public Health. Thus MDGPs provide comprehensive health services to the people from periphery to the center and are truly the holistic 'Health Specialists' for the health of the people as well as of the nation (Figure 7).

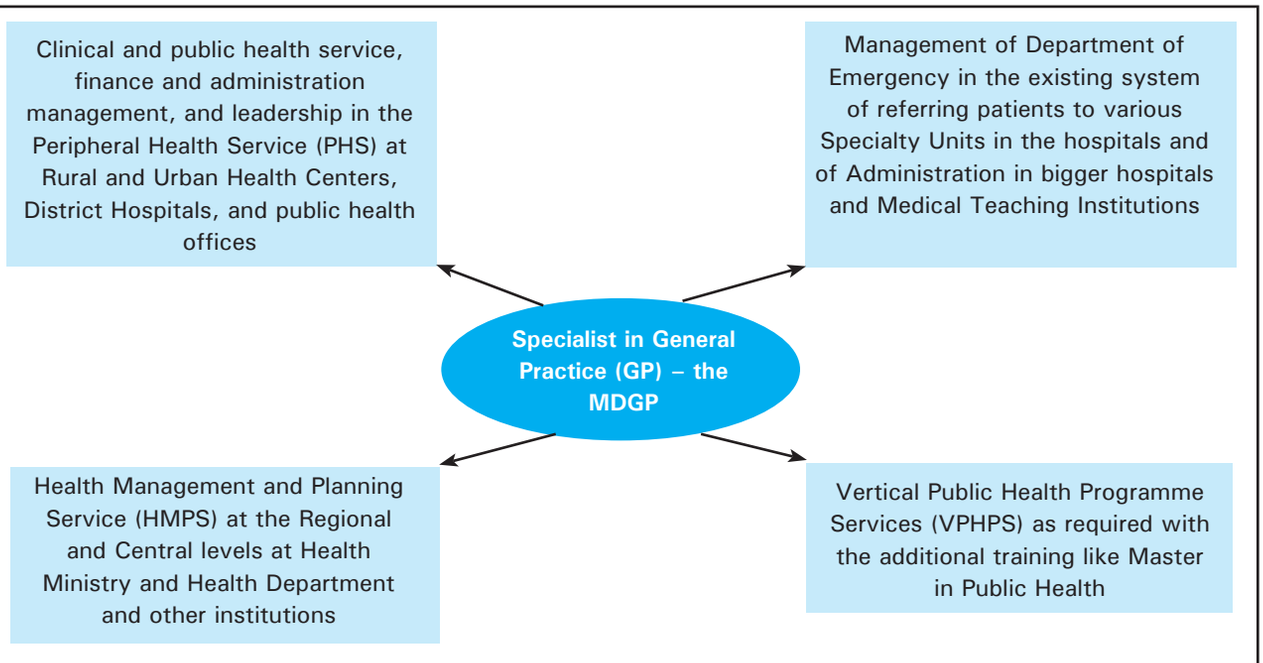

Figure 7. Comprehensive areas of health care service from the Peripheral to Central Levels by the able-leadership of Specialists in General Practice (GP), the MDGPs, – the Community Generalists or 'Health Specialists' for the holistic health care of the people as well as of the nation, in contrast to other focused Specialists who are mostly the Disease Specialists providing service in the hospitals dependent on the team comprising many other similar Disease Specialists.

After the available apprenticeship-based and other trainings of their time and later years of experience in Peripheral Health Service, the Vertical Public Health Programme Services (VPHPS) and Health Management and Planning Services (HMPS) at the central levels are currently mostly being provided by the senior medical professionals in the General Health Group. They need to be recognized by merging their posting into the GP Group for smooth transition of the system now towards such management by the Specialists in GP, the MDGPs, in the Health and other Ministries.

1.3.2. Nomenclature of the specialty of General Practice (GP): Much of the literature in the country have used and highlighted the terminology of GP, though there are alternative names for the specialty e.g. Family Medicine, Family Physicians, Primary care or Family Practice. [3,7-17] The terminology and spectrum of GP in the health delivery and coverage of the population is well popularized by the health system in the UK and also in Australia, New Zealand and other countries. Nepal's MDGP are also more skilled in surgical procedures such as Caesarian Section,[3] which are not relevant to the terminology or practice of Family Medicine

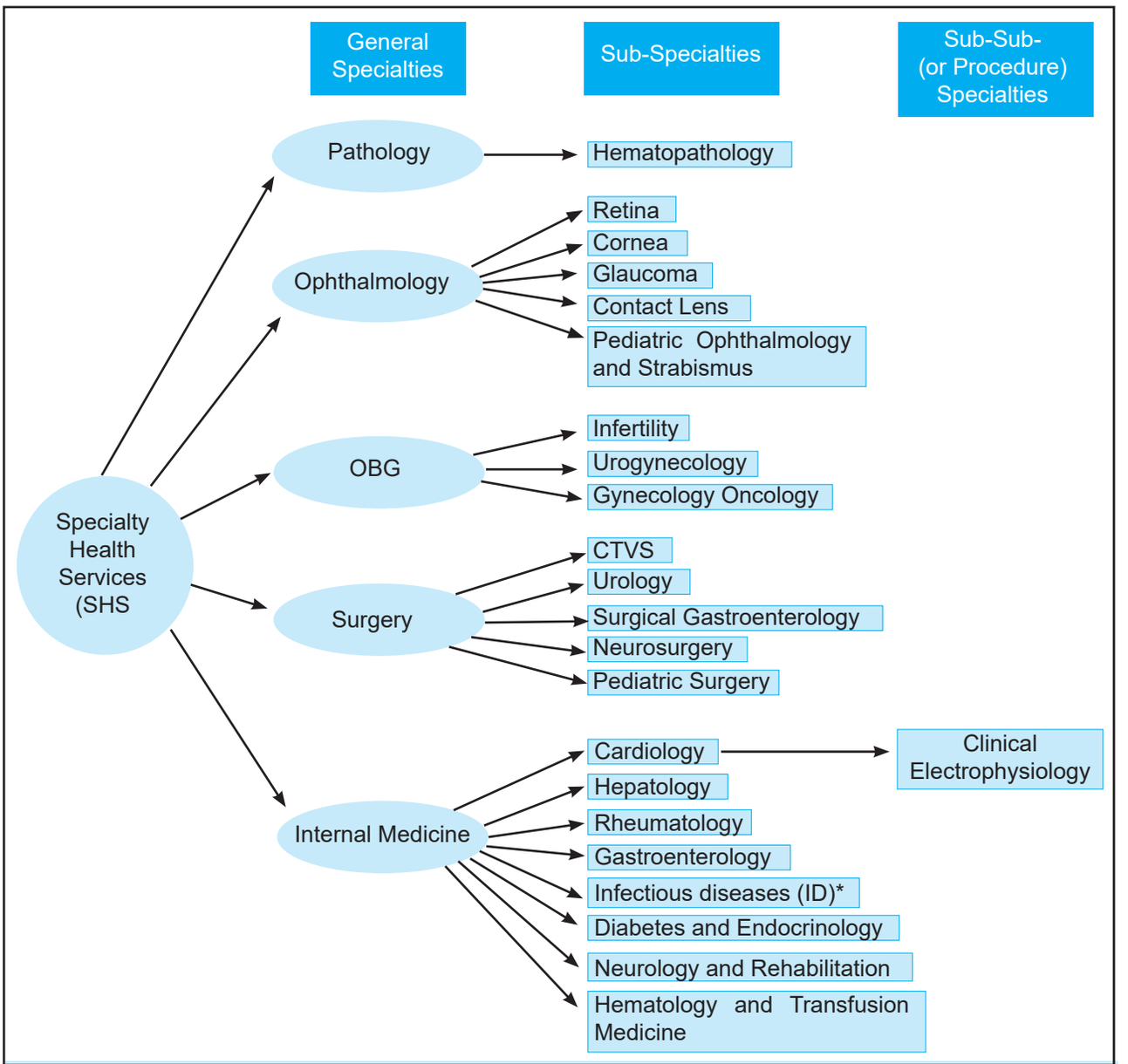

Figure 8. Out of up to 100 to 150 possible General and Sub-Specialities, depending on the community need and medical practice, in which the medical professionals can be trained and certified, some examples of residential Sub-Specialist Trainings which are already developing or need to be given due priority for development in the country to establish the required Specialty Health Service (SHS) for the people.
***Includes TB, HIV/AIDS, and Tropical Medicine**

or Practice. The horizon of the MDGP is just not a family, but almost the whole health system of the country with wide career opportunity[1,15] (Figure 7). It also clarifies the need of residential Specialist Training in GP to practice as a General Practitioner highlighting clearly the concepts and continuity of the MBBS education and Residential Training process. Thus from the perspectives of Residential Training of medical doctors to the wide career horizon of MDGPs, the terminology of General Practice appears appropriate in the developing countries like ours. As per the curricula of trainings conducted in different medical institutions in the country, it may be acknowledged and common terminology of General Practice may be adopted for the prevailing different nomenclature with the consensus of the concerned stakeholders.

1.4. Specialty Health Services (SHS) to the people – The prime concern in Public Hospitals and Medical Teaching Institutions (MTIs)

The Specialty Health Services to the people in most of the sub-specialties have not been fully developed even in the oldest public Medical Teaching Institute, established for four decades now, and the central and regional Public Hospitals in the country. There is difficulty in continuing a few of the existing Sub-Specialty Services due to dearth of the Faculty to take over. The increasing medical colleges, private hospitals and public institutions are facing the scarcity of Specialists in various General and Sub-Specialties in the country[18,36,37] and in the region.[38] Depending on the community need and health practice system, there are up to 100 to 150 possible General Specialties and Sub-Specialties in which the medical professionals can be trained and certified to provide service.[39-43] In the country, there are about 41 types of document specialists.[44] A few of the Sub-Specialties which are already developing or need to be given due priority for development in the country are shown in the Figure 8. The Sub-Specialty Health Services include and help to develop their related laboratory services and the Specialty experts take leadership not only in the clinical but also in the laboratory, preventive and educational fields in their respective Sub-Specialties. Rehabilitation after stroke and paraplegia in Neurology and microscopic examination of urine by Fellows and Faculty in Nephrology are examples of inherent elements of such Sub-Specialty Health Service and training. Similarly development of the Specialty Health Services and residential Sub-Specialist Training, like DM/MCh (Doctorate of Medicine/Master of Chirurgiae), in Infectious Diseases (ID) is a dire need here with huge burden of communicable and tropical diseases.[10]

A team is required for the development, continuity and expansion of any Specialty Health Service. Even in the existing situation of dearth of the specialties, if the service is already being provided by one or two Faculty members, with the initiation of Residential Training the enrolled trainee Fellow will work as a junior Faculty providing the required service. The Fellows will later become senior Faculty of the Specialty within a few years and with the generation of necessary human resources the Specialty Health Service will become regular and get established. Thus the development of Specialty Health Services and Residential Training in the specialty is closely linked with, almost dependent on, each other, i.e. they are complementary to each other (Figure 9). Residential training is built on the existing and required Specialty Health Services for the hospitals and community strengthening both the service and training.

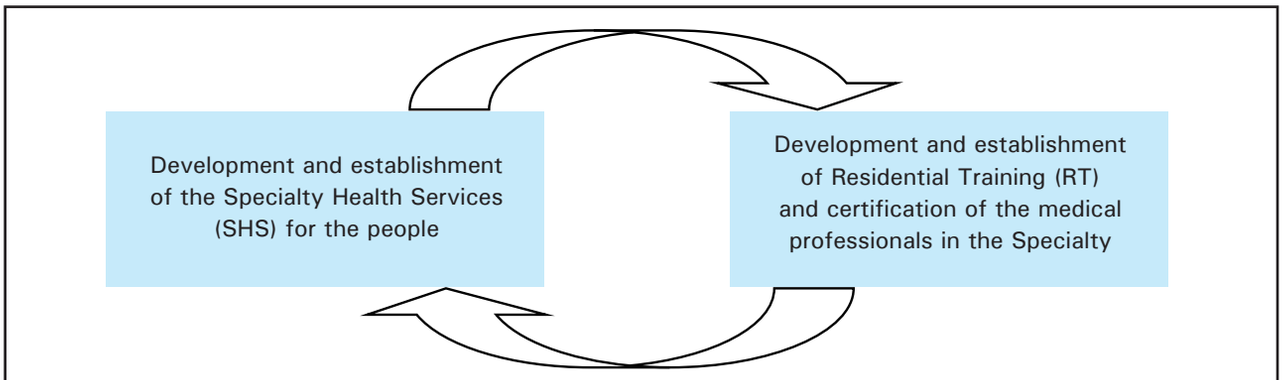

FIGURE 9. The complementary interlinked relation, with virtual dependence on each other, of development and establishment of the Specialty Health Services (SHS) for the people and of Residential Training (RT) of the medical professionals in increasing specialties requiring institutionalization of both simultaneously with the fundamental aim of providing accessible quality Specialty Health Services (SHS) to the community.

1.5. Shortage of free Residential Training in hospitals inside the country – The bottleneck to provide optimal Health Services to the people

1.5.1. The way to plan and manage the Regulation of Residential Training is to look at the optimum Health Service needs of the community: The doctors per 1000 population were reviewed and quoted to be 5.91 in Cuba in 2002 and 0.6 in India in 2007 compared to 0.063 in 1992 and 0.24 in 2008 in Nepal.[37] The requirement of the population-to-doctor ratio is estimated to be about 750:1 based on the global average ratio and 1500:1 based on local average ratio in 2020 in Thailand[45,46] and has been recommended as 1000:1 for India.[47,48] The proportion of doctors required for the population needs in fact to be considered in terms of trained Specialists with full license and thus is further

subdivided for various specialties in abroad[49] and in Nepal.[36,37,44,50] Up to 40%–50% of total medical professional workforce and all specialist trainings may be required in specialty of General Practice, which will help to provide comprehensive as well as longitudinal health service to the people. [51,52]

If we consider such available recommendations including the population-to-doctor ratio of 1000 to 1500:1 in the region[45-48], based on the current population of 26 million in Nepal,[53] up to about 17 to 26 thousand various Specialists, including 7 to 10 thousand MDGPs, may be required. The numbers of medical and dental graduates registered in the medical council in the country at the end of December 2012 were 11,359 and 1,222 respectively and of various Specialists 2,617.[44] Currently about 1,800 new doctors are produced annually in Nepal and about 400 others comeback to the country after training elsewhere.[44,54] But the number of residential training slots are only about 300 inside the country.[44] The available free Residential Training seat numbers inside the country are further quite less than MBBS doctors already available and being produced annually and even lesser than the Specialist GPs and other non-GP Specialists required for the optimum Health Service to the population. Such need considering the rough current situation of available MBBS doctors and free Residential Training slots are arbitrarily depicted, to stimulate discussion, in the Figure 10. It indicates shortage of free Residential Training in hospitals inside the country as the bottleneck to provide the optimum Health Service delivery to the people. The dire need of Residential Training has also been indicated by various reports in the country.[2,4,5,44] In a study, about 70% of the senior medical students even pointed out they need to leave Nepal to get the necessary training, as there is not much Residential Trainings available in the country.[4]

1.5.2. The lessons learned from the history – Matching and updating the regulations of Residential Training in steps as per its development inside the country as an amicable change management process: The Residential Training programme in many General Specialties, called here MD/MS, mostly started in the country with the formation of Postgraduate Medical Coordination Committee (PGMECC) in 1993 incorporating a public Medical Teaching Institution and valley group of Public Hospitals. Subsequently almost as an extension of PGMECC, the Government in the year 2002 established the National Academy of Medical Sciences (NAMS) incorporating the public hospitals[18,19] and Institute of Medicine started its own such programmes fully independently. The author was associated with PGMECC from its beginning and was the Member-Secretary initially of Task-Force to establish the NAMS

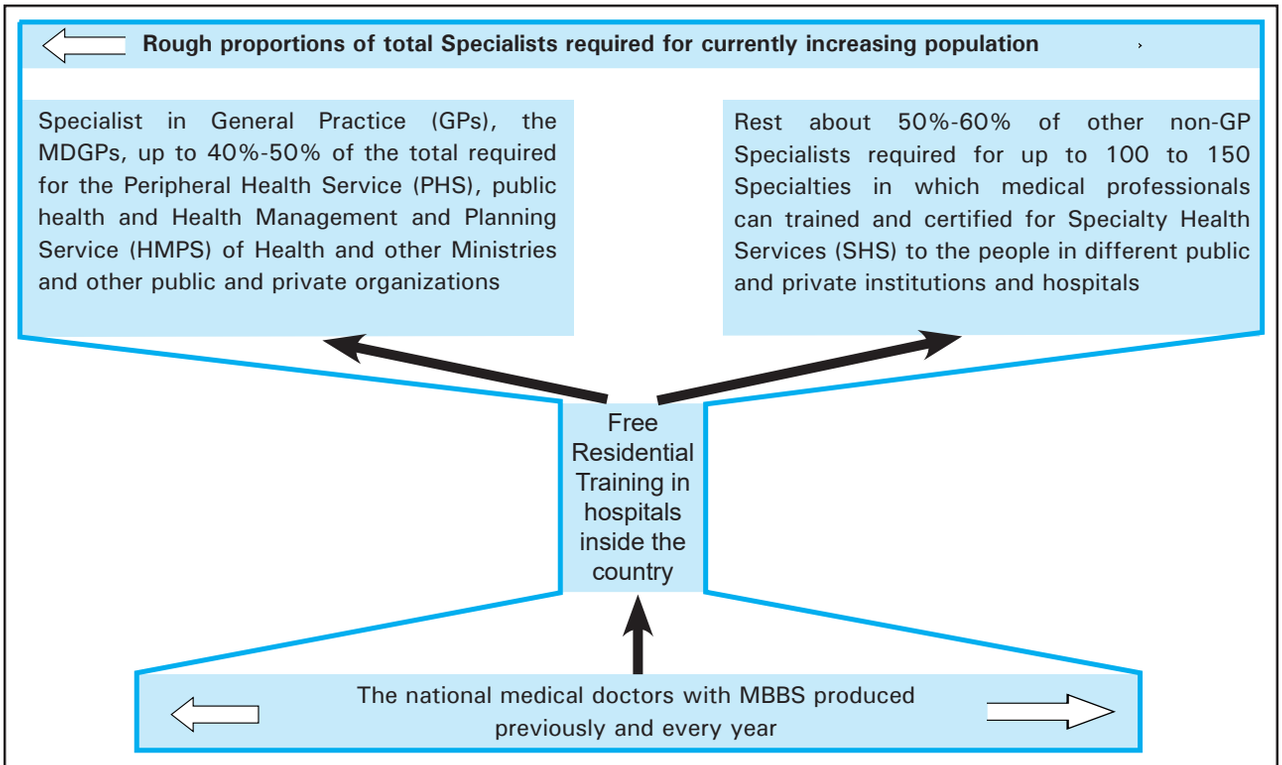

FIGURE 10. The requirements of the MDGP and non-GP Specialists, based on the various recommendations, for the population along with the existing situation of medical doctors with MBBS and free Residential Training available inside the country (the proportions shown arbitrarily to stimulate discussion) need to be considered for planning and making regulations – The shortage of free Residential Training in hospitals inside the country is the bottleneck to provide the optimum health service to the people.

and subsequently of its Academic Council as well for about two and half years. The two programmes have enrolled total more than 1100 residents in different General Specialties, with PGMECC contributing more than 200 from 1993 to 2002 and NAMS about 900 from 2003 till 2014. This contribution has helped to face the existing acute crisis of General Specialists in the last two decades and thus to pave the way for establishment of the system of General Specialist Training of MD/MS, followed as required by Sub-Specialist Training, like DM/MCh.

In the MD/MS programmes of PGMECC when there was dearth of faculty of MD (Internal Medicine), the residents were enrolled under the faculty with MD in a related specialty subject, not necessarily Internal Medicine, who were managing the General Medicine units. Similarly the Specialists and Consultants of other hospitals were also awarded PG Teacher or Preceptor, not as Professor or Associate Professor, for supervision and/or thesis study of the residents. This is how the residential General Specialty Training of MD/MS was established in the country and the experience helped to shape its regulations made for the first time in 2002,[55] i.e. decades after the initiation of such programmes, and successively later till the last one in 2012.[56-58] Now there is similar need of development and establishment of residential Sub-Specialist Training like DM/MCh as per the existing and required Specialty Health Services to the people and of matching and updating its regulation steadily in steps as an amicable change management process. The basic aim is the development of optimum health care and training systems in the country, not just making the rules. The regulations of the regulatory body have legal mandatory implications. Even the necessary regulations if prematurely made without considering the prevailing situation may hinder the required system development. The training of the medical professionals is driven by the optimum Health Service needs of the community and the curriculum, and regulations, are dynamic according to the changing situation.[59]

2. Residential Training of the medical professionals – The concepts to consider

2.1. Planning for Health Service delivery by at least trainee residents under supervision or appropriately trained Specialists guides the management and regulations of Residential Training

Broadly there are three domains of regulatory functions and criteria required for accreditation of institutions and programmes of MBBS education and Residential Training and of medical professionals (Figure 11). The Licensing of Medical Professionals starts after MBBS and continues in different steps[60] as per the development and establishment of the system of Residential Training inside the country. With the need of practice of Evidence Based Medicine (EBM) in each patient management and thus of planning for the Health Service delivery either by at least trainee residents under supervision or appropriately trained Specialists, the Licensing System to plan and allow such practice guides the management and regulations of MBBS Education and Residential Training. The Residential Training is now not just an extra requirement for medical professionals, but has become essential for medical practice as the continuum of MBBS Education. For such functions appropriate body/ies and/or their division/s is/are required or modified as per the situation. Various suggestions have been made for the management of MBBS education and Residential Training in the country.[15,18,37,54,56,61-63] The different regulatory functions need to be managed with the national perspective of developing the appropriate Licensing system to provide optimal Health Service to the people. For Residential Training, the American Board of Medical Specialties (ABMS) is made up of 24 ABMS Member Boards that oversee the Specialist certification in the US.[42] For Residential Training in the UK, apart from General Medical Council (GMC), various bodies like postgraduate medical education and training board (now subsumed into the GMC), Specialist Training Authority, different Royal Colleges and Faculties, Deaneries, and Committees for GP Training are involved.[64-66]

2.2. Criteria, sequence and duration of Residential Training – Not just an issue of names of particular degrees like diploma, MD/MS, DM/MCh, or Fellowship training

2.2.1. Residential Training - The training of doctors after MBBS education to provide the required service in different Specialties: The Residents get the training actually performing the required job in a graded manner as a part of the team within the functional hierarchy of hospitals. Various names as degrees of Residential Trainings like Diploma, Master Medicine, MD/MS, DM/MCh, Fellowship and others, distract from focusing on the basic training concepts and criteria which hampers the development of Residential Training inside the country.[1] Moreover the different definitions[67] of the terminologies of 'degree', 'diploma' or 'Fellowship' are as such variedly used creating further confusion. For the training of Residents and Fellows, appropriate Entry Criteria to enroll in the programme and Eligibility Criteria for the Certification Process are considered, as discussed in the next section. The residential General Specialist Training and Sub-Specialist Training are included under the Graduate Medical Education (GME) in the USA[42,68] and currently under the Certificate of Completion of Training (CCT).[41,65] which is also now proposed as Certificate of Specialty Training (CST),[66] in the UK as the training of doctors between medical school and clinical practice in a specialty. Then after the Residential Training in these countries, the medical professionals are just awarded the certificate of training in the specialty to provide the required

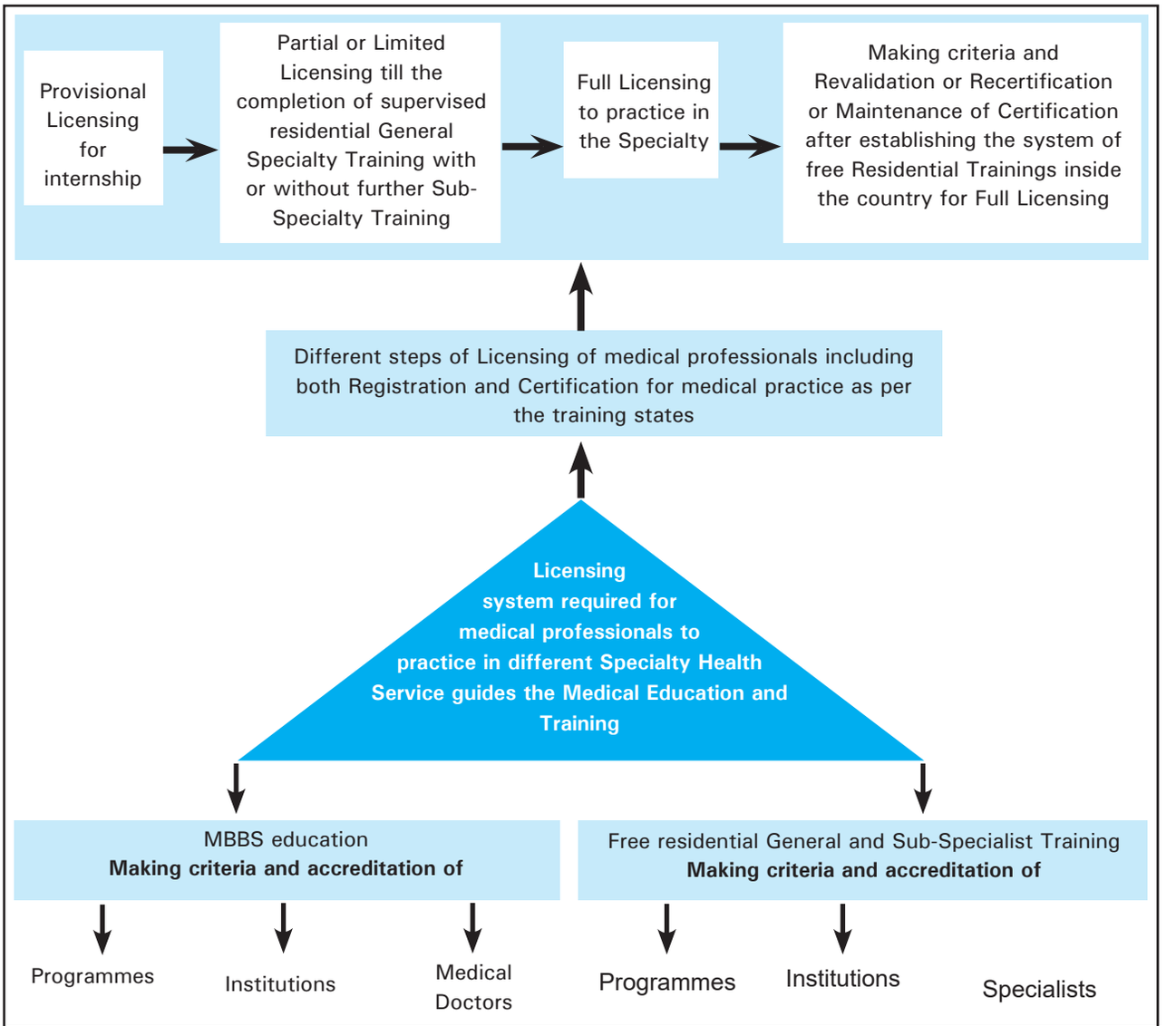

Figure 11. The three domains of the functions required for the medical professionals for which specific criteria may need to be worked by the appropriate regulatory body/ies and/or their divisions with the coordination among each other with the ultimate aim of developing free Residential Training in hospitals inside the country for all medical professionals going to practice in different Specialties for the optimum health service to the people through the final process of licensing.

service as Specialists in the field. As authors in any textbook, the Specialist Faculty in the industrialized countries like the US often just indicate MD (MBBS is called MD in the US and many other countries) to signify medical profession and write the department of their specialty. Thus as per the prevailing concepts and trends of Residential Training, the medical professional may provide General Specialty Health Service after General (or Basic) Specialist Training, called here MD/MS, or Sub-Specialty Health Services after further Sub- (or Higher) Specialist Training, like DM/MCh (Figure 12). A few examples were already shown in Figure 8.

2.2.2. Shorter training, Fellowship, and DM/MCh – The basic issue is Training of Specialists inside the country to provide Sub-Specialty Health Services to the people: MDGPs are the cornerstones for Peripheral Health Service as discussed earlier. The practice of Evidence-Based Medicine (EBM) in each patient management requires the understanding of the concepts of research for all medical specialists. In the country, various shorter duration diploma programmes in eye, OBG, pediatrics, anesthesia and others were started and subsequently stopped and substituted by three years Residential Training courses of MD/MS[18,55,57,58] to provide the team of Specialists for any hospital (Figure 2). Similarly different public Medical Teaching Institutions ran various programmes, like MSc and MD for the specialists with shorter duration training of diploma. The duration of Sub-Specialist Training of DM/MCh was initially planned for two years by the regulatory body,[55] but institutions ran three years programmes as per the

regional trend. In the NAMS the Sub-Specialist Training was initially started with the name of Fellowship as FNAMS, which was subsequently changed to DM/MCh for the sake of uniformity in the country and region. Various relatively shorter trainings like Fellowship, diploma and 2 years Masters' courses conducted in the country are not mentioned or restricted in the concurrent regulations,[57,58,69] but there is no doubt the medical professionals with such training have to be recognized as Specialists. Moreover various public and private Medical Teaching Institutions or Public Hospitals, according to their regulations, have been appointing medical professionals with varied duration of training as Faculty in different Sub-Specialty unit and they are practicing as Specialist of that field. It is not an issue whether any university or institutions may start any programme or service or keep other extra criteria as per their requirements or not. However there would not be any point in making strict criteria, mostly focused in bed and Faculty requirements, and thus restricting only the longer duration and more rigorous residential Sub-Specialist Training, like DM/MCh, inside the country by the regulatory body,[69] when the basic issue is training the specialists inside the country.

2.3. Criteria of residential General or Sub-Specialist Training for formal Certification – The core focus of Residential Training

The criteria of certification of Residential Training are based on the principle of "Fitness for the purpose",[70] i.e. fitness to practice in the concerned specialty. It involves actual doing the job in a graded manner under supervision of the Faculty for certification of the fitness for the purpose. This certification cannot be achieved just by the theory or clinical practical examination in the exit examination alone. The certification of the fitness to practice in any specialty is assured by the fulfillment of the objective training criteria actually performing the job,[10,71] viz the Entry Criteria to join the concerned Residential Training and the Eligibility Criteria for the Certification Process with exit examination of the concerned Residential Training (Table 1). Much of such criteria of Residential Training are getting established as per the global trend but the requirements of research study are different here even causing some confusion.

Research study is more relevant in the Sub-Specialist Training like DM/MCh or Fellowship than in the General Specialist Training of MD/MS where there is some debate[1,10]. At this stage of Sub-Specialist Training after completion of MD/MS, the Fellows are already experienced in the Residential Training and focused to a limited field where research study will be directly relevant to them for learning and for future use. Moreover the Fellows of the Sub-Specialist Training like DM/MCh or Fellowship are the part of the hierarchical system of Sub-Specialty Health Services in the hospitals and work as and are equivalent to the junior Faculty (Table 2). Thus the requirements of the research study will be equally applicable and reasonable to them. If the criteria do not match due to the lack of thesis and research study, it may hinder the Fellows in their career later requiring further research work of a few more years which has to be initiated in future and conducted even as one's sole responsibility only. If the thesis research work is included in the residential Sub-Specialist Training, it will also help the trainer Faculty to get involved and guide the research work and publish the papers representing their specialty units or departments. With the inclusion of research, the duration of Sub-Specialist Training, like DM/MCh or Fellowship, will be about three-year minimum and may even be longer in certain surgical branches. Such compact, comprehensive, structured, residential Sub-Specialist Training with research studies with certification will be equivalent to the prevailing unstructured on-the-job uncertified longer experience along with paper publication as junior Faculty (Table 2).

In fact, it may be gradually be planned to make the period of the junior Faculty, e.g. Assistant Professor, Attending Physician, or Registrar, in the General Specialty similarly structured and compact like that of Fellows in the Sub-Specialty and certified subsequently to practice as consultant level Faculty as per the evolving trend[65,66]. In the tertiary care hospital and Medical Teaching Institutions the domains of general Specialty Health Service in different fields like General Surgery, General Medicine, OBG and others may need to be expanded for senior faculty by the development of either required procedures and services[76] for the patients or the required newer field of specialty like Infectious Diseases (ID), Hematology, Rheumatology, Infertility etc.

2.4. Increasing Ambulatory Health Service (AHS) and the emergence of the post or terminology of "Hospitalist" and "Acute Physician" for joint management with different Sub-Specialists for holistic care of in-patients – Limitation of unit and bed requirement criteria for residential General and Sub-Specialist Training

With increasing technology, Health Service is now shifting towards ambulatory care for accessibility to expert consultation, investigations and outdoor procedures like endoscopies, ultrasound/echo, invasive imaging, electrophysiological tests and therapy, chemotherapy, day-care-surgeries and others. The current trend as such is to admit patients only if the clinical needs require it.[77] Sub-Specialty units in hospitals particularly have the responsibility to focus on

Table 1. The examples of the Entry and Eligibility Criteria for Certification Process of the Residential Training for accreditation of the medical professional of the achievement of the objective training criteria in the Specialty concerned.[10,71]

Entry criteria
• Minimal education and training required:
• For residential General Specialist Training like MD/MS: Having completed MBBS
• For residential Sub-Specialist Training like DM/MCh: Having completed General Specialist Training, like MD/MS in a General Specialties e.g. Internal Medicine, General Surgery and others to join their respective Sub-Specialties
• Ranking in the open-competitive enrollment process: Apart from for General Practice (GP), the enrollment may also need to be managed separately for different specialties considering competition, need and whether the specialties are relatively focused or broader ones.
Eligibility Criteria for Certification of the concerned residential training
• Completion of the required attendance of regular and emergency duties actually performing the job in the relevant specialties under supervision of the specialty Faculty
• Completion of horizontal and vertical rotation training postings*
• Completion of minimum numbers of the procedures and/or experience, e.g. most important top 10 procedures and/or experiences
• Completion of relevant appropriate mandatory basic courses, like Advanced Cardiac Life Support (ACLS), Communication Skills including Breaking Bad News, Learning Principles and Methods, Evidence-Based Medicine, Basic Surgical Skills, Trauma-Life Support, Palliative Care, relevant Skill Laboratory Exposure Course required for each procedure before actually conducting on the patients,† and others.
• Theory assessment during, e.g. initial and/or middle and/or later parts (as per the concerned specialty need) of, the residential General Specialist or Sub-Specialist Training, NOT at the end.‡
• Completion of thesis.§
• Completion of specified number of Mini-Clinical Evaluation Exercises (mini-CEX), Directly Observed Procedural Skills (DOPS), Multi-Source Feedback (MSF), Case Based Discussion (CBD) or Record Review or Learning-Portfolio Focused on Communication as appropriate. ||
• Completion of minimum numbers of presentations, e.g. journal, case, topic and other discussions.
• Completion of minimum numbers of teaching to juniors, residents, interns, medical students and/or nurses
Certification Process
• Reviewing of the completion of the Eligibility Criteria by the External Reviewer along with Exit examination of clinical practical.¶

Note: The numbers of the residents to be enrolled in any Medical Teaching Institutions or hospitals are based on the workload, resources, and fulfillment of the required training criteria.

* During the rotation postings, different Sub-Specialties to be covered and the duration required may need to be decided considering the types of patient-conditions which the Residents in future have to manage in their specialty and existing health service and whether they have to do the related procedure or not. The period of rotation posting in different required Sub-Specialties may preferably be kept during about one to one and half years in the middle part of the training. In the final year, the Residents' postings should be in their own Specialty to learn decision making and supervision and overall management of the Specialty efficiently. With increasing medical technologies and difficulty in providing all the services required for training under one roof, the rotation postings in the related Sub-Specialties and hospitals may need to be planned with the "Basic and Rotation Training Venues as a Unit for any Programme or Institutions" and reviewed regularly as per the requirement.

† Access to the relevant training in fully equipped Skill Laboratory to all Medical Students, Interns, Residents, Fellows, and Faculty of all hospitals is essential now for the health and safety of the people. International agencies like WHO and industrialized countries may help in the establishment of such fully equipped Skill Laboratory in the developing ones.[10,15]

‡ Residents need to learn and apply their required theory knowledge, along with the basic clinical approach

components, during the context of their training, NOT at the end. Students tailor their preparation as per the demands of the assessment system.[72] Keeping the theory exit examination at the end, with the attention of the examiners mostly on the clinical practical components, may result in the weak theory base and fund of knowledge particularly affecting the decision making training of the Residents and Fellows. Such theory examination if conducted on-line by each concerned specialty expert board on the national basis helps to maintain uniformly the quality of training and assessment and also prevents duplication of works.

§ Research study is more relevant to the Sub-Specialist Training than in the General Specialist Training as discussed in the text of the article.

|| Such methods can be used as workplace-based assessment of the Residents and/or Fellows.[73,74,75]

¶ Keeping clinical practical component at the exit examination, as appropriate for different General and Sub-Specialist Trainings, will have the educational impact of stimulating the Residents to give priority of and thus practice the clinical and communication skills required for that level of training. The examiners may ideally assess by independent markings and only the residents who are not directly trained under them.

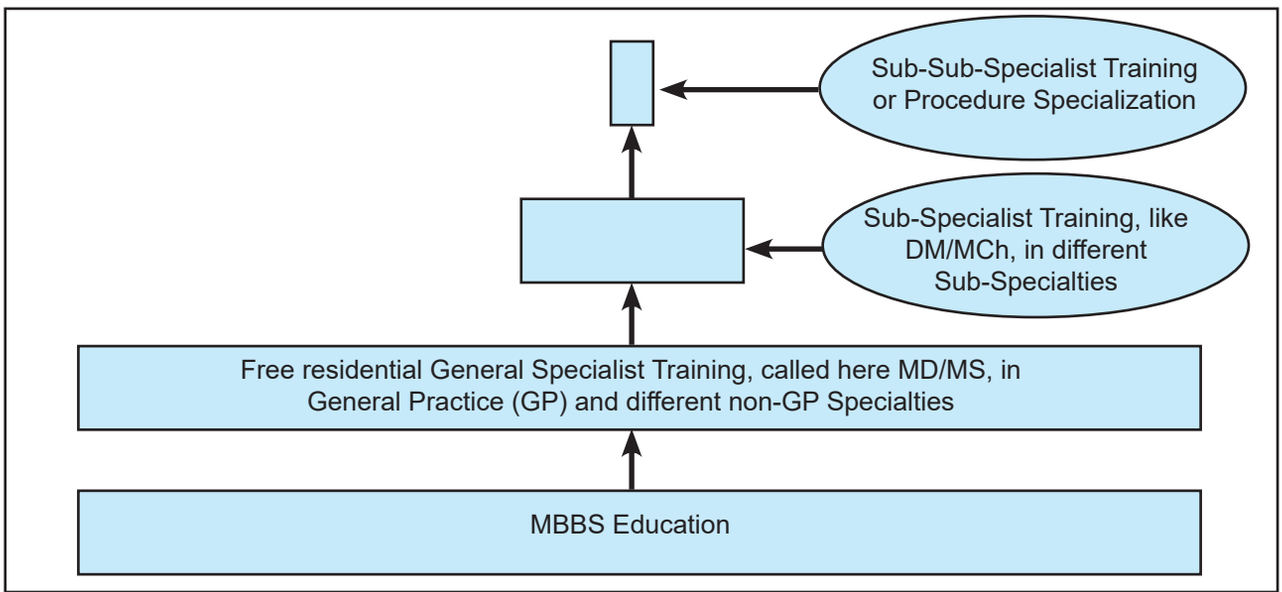

Figure 12: To provide the required service in a Specialty after MBBS, the general scheme of the free residential General (also called Basic) Specialist Training for all medical professionals with decreasing proportions (shown arbitrarily) undertaking further Sub- (also called Higher) Specialist Trainings and Sub-Sub-Specialist (or Procedure Specialization) Trainings as per the health service requirement of the community and trend and concepts of training – The criteria, sequence, and duration of residential General and Sub-Specialist Trainings to provide the required service later as Specialists are not just an issue of the names of particular degrees like MD/MS, diploma, DM/MCh, or Fellowship trainings.

Table 2. Functional hierarchy of Residents, Fellows, and Faculty with three-tier system of Faculty levels providing Specialty Health Services comprising of different General and Sub-Specialty Services to the patients.

Functional Hierarchy	Sub-Specialty Health Service	General Specialty Health Service
4.	Higher level Faculty‡ in the Sub-Specialty Unit	Higher level Faculty‡ in the General Specialty Unit
3	Mid-level Faculty† in the Sub-Specialty Unit	Mid-level Faculty† in the General Specialty Unit
2	Fellows* of Sub-Specialist Training (e.g. DM/MCh) working as junior Faculty	Junior level Faculty* in General Specialty Unit, e.g. Internal Medicine, General Surgery
1	Residents in General Specialist Training (e.g. MD/MS) in the General Specialty	

Note: The functional unit for the management of patients and working of the hospitals may be headed by the mid-level Faculty as per the workload and requirement of the hospital, availability of human resources, and budget. It may change in future with establishment of services and increasing technologies, and human resources.

* Junior Faculty Level: Fellow, Registrar, Assistant Physician, or Attending Physician – The junior Faculty period in the General Specialty may be made similarly structured, compact with relatively shorter duration, and certified like that of Fellows in the Sub-Specialty to achieve the required competency to become Consultant level Faculty. [65,66]

† Mid-level Faculty: Associate Professor in medical institutions or colleges or Consultant in other hospitals.

‡ Higher level Faculty: Professor in medical institutions or colleges or Chief Consultant in other hospitals.

Table 3. With increasing technologies and Sub- and Procedure-Specialization, the roles and fields of the Hospitalists/ Acute Physicians/ Internists and other relevant Sub-Specialists in the evolving trend of Ambulatory Health Service (AHS) and the joint management of in-patients for holistic care.[79,80,81]

Areas	Hospitalists/ Acute Physicians/ Internists	Other Sub-Specialists in the hospital
In-Patient Health Service (IPHS)*	• Patients not clearly requiring any Sub-Specialty unit care • In-patient management along with concerned Sub-Specialist/s • May include co-management of surgical, emergency, high dependency and intensive unit patients	• Patients without other significant co-morbid conditions • Usually joint consultation and referrals with Hospitalist in their related field • Elective admission from the outdoor for specific assessment or management
Interventions and procedures	• Limited	• Increasing numbers in their fields
Ambulatory Health Service (AHS)†	• Not requiring any particular Sub-Specialty service/s • Complex multisystem involvement • May include initial post-discharge	• Accessible relevant specialty consultation • Accessible relevant specialty procedures

* The horizon of in-patient health service is varied and increasing, including various areas of hospitals as indicated in the Table, residential care home[82] and home care.[77] A greater proportion of doctors may need to be trained as internists[77] for their increasing role for holistic care of patients as Hospital Generalists, akin to MDGP as Community Generalists.

† Apart from the Out Patient Department (OPD) service, Ambulatory Health Service (AHS) including consultation and/or procedure may also be provided not only in the Day-Care-Wards in the hospitals but also in the public Rural or Urban Health Centers to the assembled group of patients of the concerned specialty under a single or different General Practice (GP) jurisdiction. This will help to provide Continuing Medical Education (CME) to the MDGPs, to develop Peer-Group of the patients and their family members, and to foster mutual collaboration among the patients, MDGPs and hospital Specialists.

With increasing Sub-Specialization and Procedure Specialization, there is evolving newer post or terminology of Hospitalist (and Acute Physician) for internists trained in Internal Medicine for joint management of hospital in-patients with other Sub-Specialists for holistic care of the patients (Table 3).[79-81]

The internists are Hospital Generalists, akin to MDGP as Community Generalists, and practice as Hospitalists without any additional training. A greater proportion of doctors may need to be trained as internists.[77] The patients in the wards, intensive care units and emergency department in the hospitals may thus be jointly managed by

the Hospitalists (or Acute Physicians) and different Specialists and Sub-Specialists. Otherwise in a busy hospital routine schedule, it may take some time to identify the problems and refer an admitted patient in a sub-specialty unit to the appropriate specialists and to see and start appropriate joint management of the referred patient. Thus unnecessary bed divisions and requirements i.e. bed criteria for Residential Training and Specialty Health Services not only increases financial burden to the hospitals and hindrances to the residential General and Sub-Specialist Training but also may not be basically safe for the patients (Figure 13). The numbers and divisions of beds and units are guided by the required In-Patient Health Service (IPHS) and the Residential Training by the fulfillment of the training criteria of the Residents and Fellows (Table 1). The increasing trend of allowing admission in beds of any units in a ward in hospitals here also reflects the similar views.

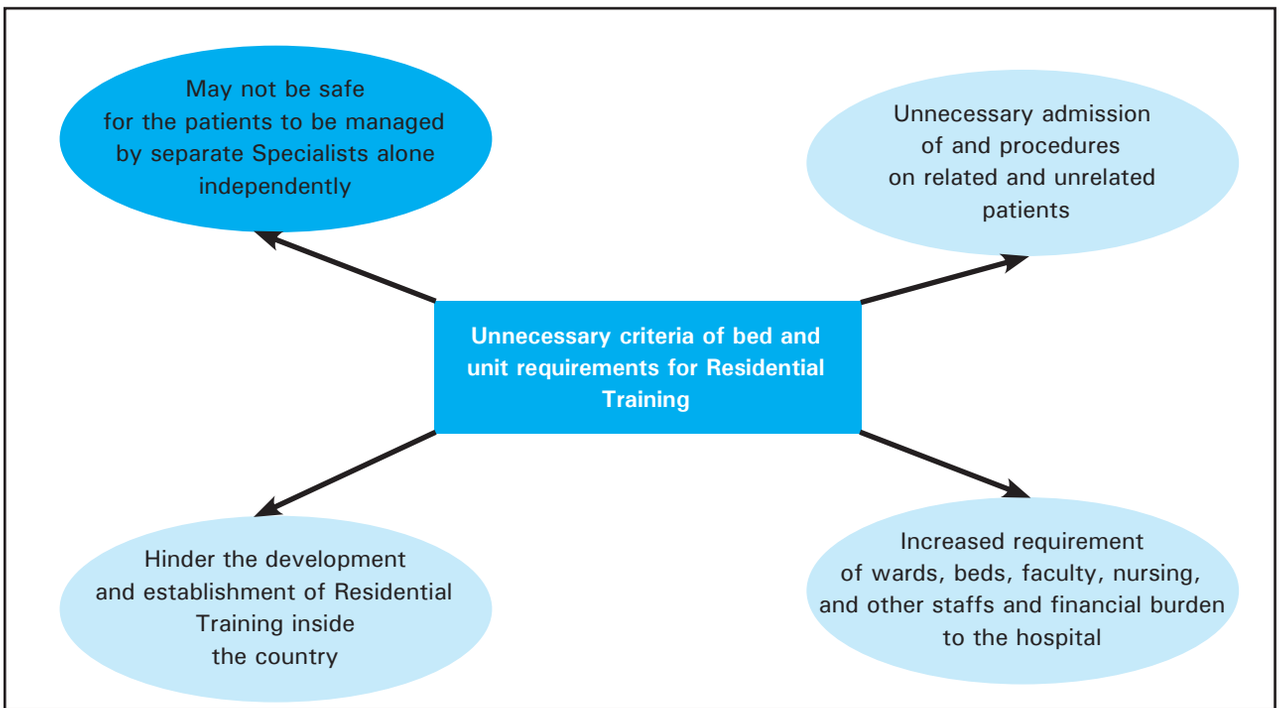

Figure 13. The possible effect of unnecessary criteria of bed and unit requirements for Residential Training – The numbers and divisions of beds and units are guided by the required In-Patient Health Service (IPHS) for the patients and the Residential Training by the fulfillment of the training criteria of the Residents and Fellows*. *See Table 1 for outline of the training criteria of Residential Training.

2.5. The major role of Faculty is to train Residents and Fellows to provide the required service in the Specialty – Diverse academic and administrative designations and practice of upliftment and limitations of Faculty criteria for Residential Training

The functional hierarchy of a specialty unit may be headed by the mid-level Faculty like Associate Professor in the medical institution or college or Consultant in other hospitals (Table 2) as per the availability of human resources, trend of promotion and criteria and workload and budget of the hospitals. Even in the industrialized countries, mid-Faculty like Associate Professor can be the programme director of Specialist Training. The basic aim of Residential Training programme is to train the medical professionals to provide the required service in a specialty by performing the relevant job under the supervision of the specialist Faculty. Thus the Residents and Fellows in any specialty are essentially trained by the Specialists, who are actually working in the field, as a sort of on-the-job role model[83]. This major role, need and criteria of Faculty required for both in the Residential Training and Specialty Health Service is often overlooked in the confusion of their varied designations, tires and other criteria. Thesis work also is to be supervised by the ethical (institutional) review board (committee); subject committees; guides; co-guides who could be increased as necessary with their mandatory involvement and due recognition; biostatisticians; and research methodology training correlating with the

steps of research work of the residents. Thesis work is thus a part of the training of the Residents to be achieved by the collective institutional responsibility and supervision and considered accordingly along with other training criteria for the enrollment of Residents or Fellows. Without the institutional responsibility and strengthening, any research work as also required for all individual junior and senior Faculty members may be difficult to be conducted or given permission.

The process of research and their training and monitoring may need to be more formalized and strengthened by the Epidemiology (Research) Department or Unit of the institutions. It is essential to provide face-to-face and/or online, part- or whole-time training and certification programmes of Residents, Fellows, and Faculty in EBM, research methodology, ethics, Good Clinical Practice, Good Laboratory Practice, Good Manufacturing Practice, and others. Research activity in an institution is also closely related with fund generation and utilization. In the medical colleges, the existing Community Medicine Department can be broadened out to form the Epidemiology Department encompassing and strengthening the research and its training activities and generation and utilization of fund. MDGP with additional training of Master in Public Health or of research may also be included as Faculty. With such resources of medical professionals and Medical Teaching Institutions, the research environment in the country could further be promoted by a regulation to make the pharmaceutical companies to invest certain percentage of their net profit on research to identify new drug molecules.[84] The pharmaceutical companies have the required infrastructure of laboratory, drug experts and supporting staff. Under the Corporate Social Responsibility (CSR) legislation in India, the companies with specified per annum turnover should mandatorily spend 2% of their net profit per fiscal for CSR activities.[85] The pharmaceutical companies may more rationally invest on research to identify the new drug molecule in this region rich in both biodiversity and various traditional medicinal systems.[84]

Confusion is also sometimes caused by considering the various academic Faculty positions, like Professors and others, only as the 'posts' created for the administrative reason in the closed-wall medical college system. However, a medical professional working in a hospital as a consultant or registrar can be conferred an academic faculty position, like Professors and others, by academic body of another Medical Teaching Institution or University without the need of further service commission appointment. Such dual designation is done by the NAMS in the country, as per the practice in other parts of the world. The authors in many international books often indicate such dual designations. In fact, even in some closed-wall systems of medical colleges in the country, there seems to have been promotion to the highest academic faculty position of Professor after fulfilling the necessary academic requirement carrying the lower administrative faculty-post to the higher academic one and the numbers of senior academic faculty members are proportionately more than the junior ones. The criteria, tires, and practice of upliftment of Faculty are also varied in many institutions in the country, as well as their nomenclatures, like senior resident, tutor, clinical tutor, registrar, assistant lecture, lecturer, senior lecturer, assistant professor, associate professor, reader, additional professor, professor, clinical professor and others. The recommendations of nomenclature have also been changing often in such background.[55,57,58,69,86] However the recent ones with three tier system with junior, mid- and senior levels, of Faculty positions, designed as Assistant-, Associate-, and Professor, for the Medical Teaching Institutions[58,69] may as well be followed in other non-teaching hospitals with possible nomenclature of Registrar or Attending Physicians, Consultant and Chief Consultant respectively (Table 2).

2.6. Certification in the first place or recertification or promotion later – Both are academic requirements to be fulfilled by all medical professionals simultaneously providing the required service for which they need to be paid by the hospitals

The Residential Training helps to develop and establish various Specialty Health Services (Figure 8). With the numerous advantages of Residential Training as depicted in Figure 14, the Residents are the obvious need of all hospitals of public or private Medical Teaching Institutions. The advantages of Residential Training are also well known in different perspectives even in the industrialized countries like the US.[87] Residential Training is training of doctors between the medical school and clinical practice in a specialty[41,42,64-66,68] quite different from other academic education like MBBS or other medical or non-medical qualification. Under supervision of the Faculty, the residents provide the actually required services of the hospitals. Thus after MBBS education, the title 'Doctor' is conferred by the council giving License to provide the required service, i.e. to work, under supervision (Figure 11). Then for all medical professionals, almost lifelong on-the-job training, certification, and recertification are required. Thus whether Faculty, Fellows, or Residents, all are similarly required to be continuously updated in their fields and the academic or regulatory bodies need to assess, monitor, promote, certify or recertify[88,89] them periodically, for which modest fees may be required. For example, the fees charged only for the academic management of Residents and Fellows even by the

private University and open international institutions like College of Physicians and Surgeons Pakistan (CPSP) in the country are about 100 to 150 thousands Nepalese Rupees[90,91] and by the National Board of Examination for Diplomate of National Board (DNB) in India are still less[92]. However, the hospitals need to pay all the medical professionals, whether Residents, Fellows or Faculty, for their service without charging further any extra fee.

The two different roles of service delivery and academic requirement fulfillment faced similarly by all doctors, whether Residents, Fellows or Faculty, have to be considered independently (Figure 15). Residents and Fellows are thus paid adequately even in the industrialized countries with free market or capitalist economy. For quality care, Evidence-Based Medicine (EBM) practice, teamwork and patient safety, the educational activities updating themselves and all the team members are now just the parts of regular work of all medical professionals. The consultants and Faculty also have to provide evidences of educational activity, communication and presentation skills, continuing professional development, quality improvement activity, lifelong learning and practice performance assessment for recertification or revalidation.[88,89]

3. Ten essential points to facilitate the establishment of Residential Trainings and Specialty Health Services inside the country: Need to amend now and to later update the regulations as per the prevailing situation

3.1. Free Residential Training in hospitals, whether public or private, with adequate payment for the Residents' service – The relatively nominal cost of its academic management may be charged by the universities or supported by the Government.

3.1.1. Residents and Fellows are such a need of hospitals that all institutions work hard to fulfill the requirements for Residential Training: For the functioning of any hospitals, medical professionals are required for ward, operation theatre, outdoor, emergency and other management for days and nights continuously. It may not be easy to appoint adequate, or even the minimum, number of specialists in all the specialties here to provide such care round the clock due to the shortage of budget and specialists and due to the liability or lengthy procedure of permanent appointment. As such, it takes some time to get trained and provide the service adequately for the MBBS doctors without Residential Training in that specialty and by that time they may quit to try other specialties or to join Residential Training in any specialty inside or outside the country. Health Service to the people is the basic concern for the hospital and community. There are many advantages of Residential Training (Figure 14).

The functional hierarchy of Residents, Fellows, and Faculty provide the required hospital service most efficiently collectively by the trained Specialists and trainees under supervision (Table 2). Residents have become almost the indispensable parts of such functional unit. Residents and Fellows are the quality and economical human resources to provide Health Service in any hospitals including the hospitals necessary to enroll MBBS students in the medical colleges. The hospitals of the public or private medical colleges are the inherent requirements for MBBS education and the basis for their establishment itself to enroll MBBS students, irrespective of whether they now provide Residential Training or not.[86] Thus, all hospitals work hard to fulfill the requirements for the access to the invaluable human resources of Residents who are already the licensed doctors and now committed to their specialty and need to be paid for their service adequately without charging any extra fee by the hospitals.

3.1.2. Formal establishment of the continuing trend of free Residential Training in hospitals inside the country: Nepal Government has been providing expensive scholarship with paid leave to go outside the country for Specialist Training in different Specialities. PGMECC established by the Government involving Health and Education Ministries also provided Residential Training with stipends and allowances to the medical professionals for the General Specialty Training of MD/MS in various subjects. Similarly, now NAMS has been providing free residential General Specialist Training of MD/MS and Sub-Specialist Training of DM/MCh to the doctors of Health Ministry, Police, Army, and other affiliated Hospitals. Other public institutes have been mostly providing similar trainings of Masters and DM/MCh to their Faculty with adequate payment with even continuation of their service. The private medical colleges initiated the Sub-Specialist Training of DM/MCh to medical professionals along with appointing them as a Faculty with adequate payment which is perhaps more than the stipend, allowances and facilities of the senior Faculty of public Medical Institutions like NAMS. The private and public institutions are providing scholarship with as required continuation of job for education in the basic sciences like anatomy and physiology and are sponsoring their Faculty for Sub-Specialist Training like DM/MCh. The Faculties, whose service the Public and Private Medical Institutions are now utilizing, were to the great extent trained freely in this way. Similarly, many of the doctors with MBBS produced by private or public Medical Teaching Institutions charging substantial fee, are being provided free Residential Training by other institutes with adequate payment. Significant proportions of Nepalese medical professionals in fact have been freely trained in US and UK as well as in AIIMS, PGI Chandigarh, and other places in India. Thus

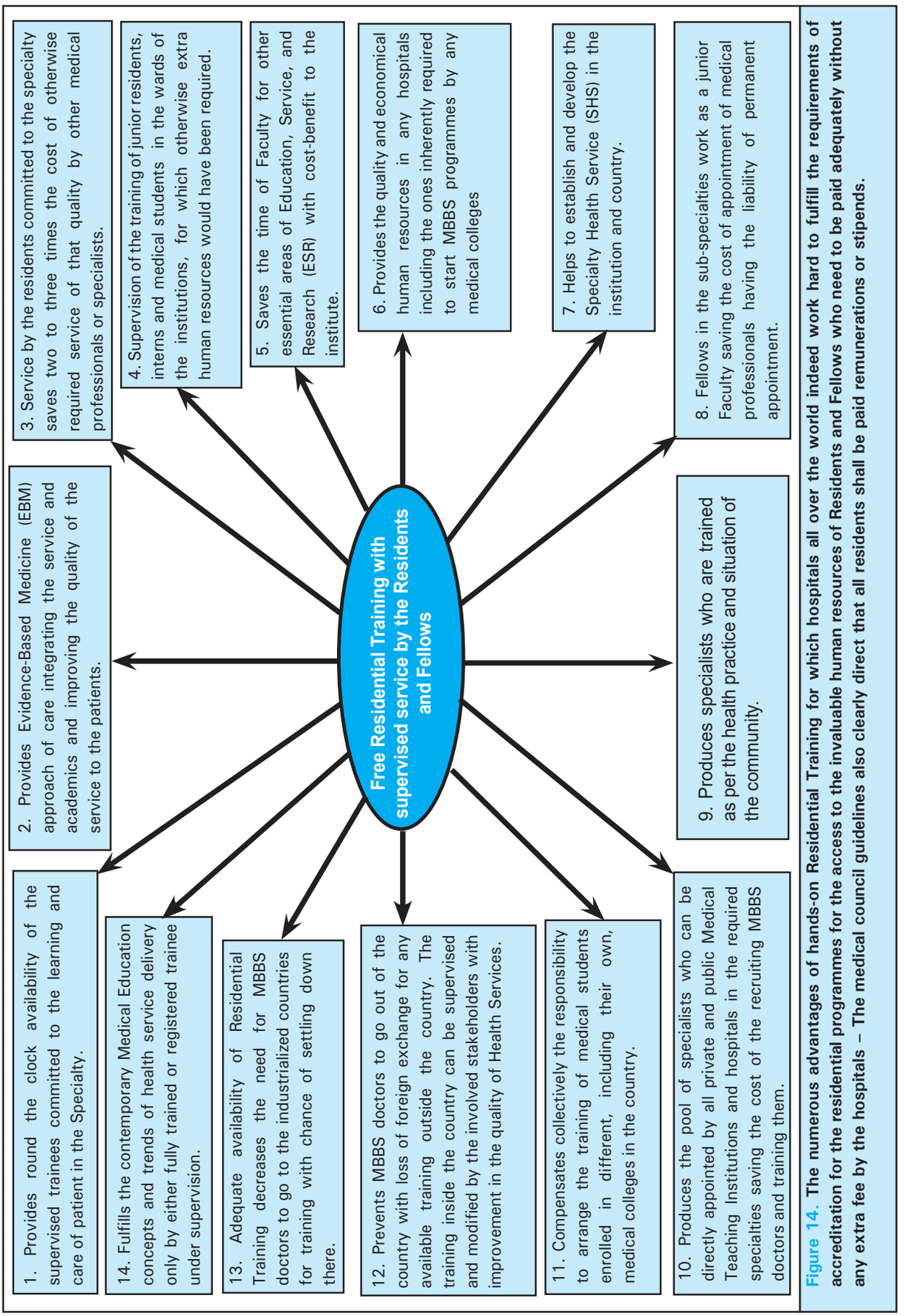

Figure 14. The numerous advantages of hands-on Residential Training for which hospitals all over the world indeed work hard to fulfill the requirements of accreditation for the residential programmes for the access to the invaluable human resources of Residents and Fellows who need to be paid adequately without any extra fee by the hospitals – The medical council guidelines also clearly direct that all residents shall be paid remunerations or stipends.

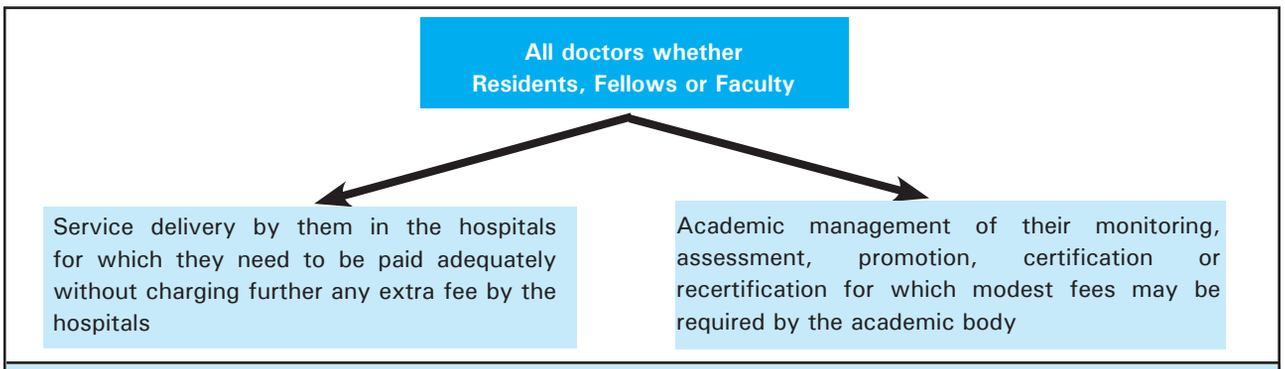

FIGURE 15. The two different roles of service delivery and academic requirement fulfillment faced similarly by all doctors, whether Residents, Fellows, or Faculty, which are to be considered independently – The hospitals have to pay the Residents, Fellows, Faculty or anyone else for the service rendered.

the continuing system of free Residential Training with adequate payment by the hospitals counting the service of the Residents needs to be formally established. The relatively nominal cost of the academic management of Residential Trainings, as discussed in the section 2.6, may be charged by the universities or supported by the Government (Figure 15).

The medical council regulations also clearly direct that all residents shall be paid remunerations or stipends.[55,57,58,69,93] The legal regulation to pay anyone for their service obviously can't mean to be fulfilled by charging the service-provider themselves initially the huge fees to pay them back later a part of it as stipends. To be paid by the hospital for the service is the basic right of the any service providers, whether they are residents, Fellows, or the Faculty or anyone else. Its violation would be like open super-exploitation of young professionals, demoralizing them early in their career, in the lawful human society and thus obviously the false economy with various potential serious long term health, economical and social consequences[15] in the community.

3.2. Expansion of Residential Training programmes to other appropriate hospitals utilizing the available facilities cost effectively without keeping unnecessary requirement.

Different public hospitals and other medical institutions fulfilling the criteria were involved in the Residential Training by the PGMECC and NAMS as a sort of open-institution, in a way akin to CPSP, DNB, or even ABMS, without requiring or being limited by the need of any particular hospital of their own. Thus both PGMECC and NAMS were formed virtually without much investment to run Residential Training in different hospitals unlike the huge funding and international support required for establishing other Government Medical Teaching Institutions in the closed-wall medical college type model along with their own hospital required also for MBBS and many other education and training of different health care workers. The management of the residential General and Sub-Specialist Training is vital and intricate closely related to the working of medical professionals in the hospital. In any hospital different kinds of education and training may be conducted for health care workers by various institutions like medical colleges, universities, and/or other open institutions and/or other bodies. However, the open academic institution or board designated by the Government to focus on residential General and Sub-Specialist Training may not be able to appropriately manage other education or trainings of health care workers which require different approaches of teaching and training, curriculums, other infrastructure, financial and human resources, related teachers and their criteria, and supervising expert bodies. A medical or nursing or other college may be required to manage other such education and training fulfilling the guidance of concerned university, institution or council. On the other hand the Residential Training is managed by the hospital consultants and other faculty under the guidance of academic regulations of the related institutions. For example, PGMECC and NAMS as a sort of open institution till now have together enrolled in different hospitals the significant proportions of trainee specialists, e.g. more than 1100, out of the total about 2617 specialists[44] trained in various institutions inside or outside the country. The open institution designated for residential General or Sub-Specialist Training should remain focused to their vital specific responsibility and can involve the hospitals which fulfill the criteria for Residential Training.

Further expansion of Residential Training to the appropriate regional, zonal and district hospitals with bulk of common problems and surgeries will also benefit the people and the residential General Specialist Training of GP, General Surgery, OBG, Medicine and others. It will also provide the academic atmosphere

for consultants and other specialists for their evidence based medicine practice and continuing medical education and professional development. The quality structured Residential Training to the mass of medical professionals is not possible outside the country and any available facilities, technologies, expertise and resources in the country may need to be utilized not only for optimum health service but also to produce the required specialists for various hospitals and Medical Teaching Institutions.

The word resident in the laymen use is related to the residence, house or the state of living in a particular place.[67] However in the context of medical field the Resident is a doctor working in a hospital who is receiving special training,[67,68] not necessarily residing in, or related to, the hostels or quarters. Such residential facility for Residents and Fellows entails utilization of the scarcely available precious land; substantial cost of building and maintenance; the quality of facility for the Residents and Fellows who are already 'doctors' living with their family, parents, or others; continuous management of the lodging and food with necessary extra staff to be borne by the hospitals; and thus also the issue of rent to be paid. Then there are other staffs, medical officers without Residential Training, and junior and senior Faculty who are also providing the hospital service similarly like the Residents and Fellows. The time, effort and resources of the hospitals are mostly required to be cost effectively spent on facilities and service to the patients and, in our situation, if possible also on basic safety and need of the caring family members who have to stay in the hospitals with the patients. The hospitals here generally don't provide all the nursing care, medicines, food and medical appliances to the admitted patients. Individual hospitals, as per their need, resources and discretion, may provide residential facilities to their all or selected Residents, Fellows, Faculty, nurses, or other staff. However, inclusion of residential facility as a minimum requirement for institutions providing Residential Training[58] has legal mandatory implication and may increase the cost of and thus hamper the expansion of free Residential Training inside the country. There is not such universal requirement or provision even in the industrialized countries. Provisions of appropriate facilities for in-hospital duty, e.g. duty-room, applicable to all staffs or for short-term postings of Residents and Fellows from distant places are separate issues to consider by the hospital management.

3.3. Allowing initiation and/or continuation of residential General and/or Sub-Specialist Trainings in any Medical Teaching Institution to their maximum capacity fulfilling the training criteria – Unrelated to the presence or recent start of MBBS education or other General Specialist Training of MD/MS

As soon as any hospital is allowed to run, the service to people has preferably now to be provided round the clock either by the trained specialists or at least the trainee Residents committed to their specialty under supervision of the structured programme and Faculty. The medical colleges do not provide free Residential Training to all the medical students they enroll to wait to start Residential Trainings in their hospitals till the first batch of medical students complete their internship[58]. The courses, criteria, and management of MBBS education and varied residential General and Sub-Specialist Trainings are as such different, like that of nursing and other trainings of health care workers being run in a hospital. As discussed above in the section 3.1.1, the Residents and Fellows are the quality and economical human resources for any hospitals including the inherently required ones for medical colleges for their MBBS programme. Moreover early clinical exposure of medical students is increasingly emphasized now. The residents teach and groom the medical students and interns. The presence of Residential Training in the hospitals thus allows medical students to shadow the residents and supports the MBBS education. Similarly, if some hospitals have the required facilities to fulfill the criteria of residential Sub-Specialist Training, like DM/MCh, they may be involved in such programmes whether they have already started or completed the MBBS education or residential General Specialist Training like MD/MS or not[58,69]. The PGMECC and NAMS have conducted residential General and Sub-Specialist Training programmes in various hospitals without any previous MBBS or residential programme. Contrariwise the army hospital has been affiliated with NAMS and Patan Hospital with Institute of Medicine and NAMS for Residential Trainings and later both the institutes started MBBS education with continuation of Residential Training. The workload and training criteria should decide the number of residents to be enrolled or posted in any hospital as required even under different programmes, institutions or universities. In any hospital or Medical Teaching Institution, if there is need of appointing medical doctors with MBBS without Residential Training, it indicates the availability of the workload to possibly include more Residents for training.

3.4. Need of continuation of the prevailing practice of residential Sub-Specialist Training like DM/MCh with the existent Faculty focusing on the fulfillment of the required training criteria of the Fellows

The Sub-Specialist Training of DM/MCh fulfilling all the training criteria (Table 1) by the Fellows who have already completed the General Specialist Training of

MD/MS would make them quite competent to provide the required service in their specialty inside the country. It is really difficult for the mass of medical professionals to get such hands-on structured training outside the country with varied language, culture, and training and health systems and return back to provide the service as per the need of the people and health system here. Many of the Sub-Specialist Trainings of DM/MCh in different Specialties have been started and conducted in the country in Public and Private Medical Teaching Institutions under a single mid- or higher level academic Faculty. Other trainings like Fellowship are also running under a single such Faculty. The Fellows enrolled in the Sub-Specialist Training usually would have already conducted the research thesis study during their General Specialist Training of MD/MS. As discussed earlier, the Fellows have to be trained by the Specialist actually working in the field and the required available Specialty Health Service with its workload is the base for training. Thus, if the basic requirement of Entry and Eligibility Criteria of the training are fulfilled (Table 1), the ongoing practice of residential Sub-Specialist Training needs to be allowed to be formally continued at least for now in any Sub-Specialty Health Services managed by a single mid- or higher level Faculty with MD/MS in General Specialty or DM/MCh in the concerned sub-specialty along with the existing bed and unit facilities. There appears the need of such amendment in the existing regulations.[69] The number of Fellows to be enrolled depends on the workload, resources, and fulfillment of the training criteria, rather than on the ratio with the Faculty.[69] Considering the scarcity of the specialists in the country, it may not be easy to get or appoint appropriate junior Faculty in different Specialties and meanwhile the existing single mid- or higher-level Faculty may retire with the risk of closer of the Specialty Service. The initiation of residential Sub-Specialist Training with inclusion of Fellows as junior Faculty will strengthen the Specialist Health Service to the patients.

In the initial stage of developing Residential Training programmes of MD/MS in PGMECC programme, the Specialists with MD in nephrology, cardiology, neurology or others with their working experience in internal medicine became Faculty to run MD medicine programme. Now similarly the Faculties with MD/MS in Medicine, Surgery, OBG, Pediatrics, Ophthalmology and others who are providing the Sub-Specialty Health Services have the responsibility to establish the residential Sub-Specialty Training of DM/MCh and the regulatory body and Medical Teaching Institutions need to duly recognize them.

3.5. Functional hierarchy of Fellows as junior Faculty in the Sub-Specialty unit and upliftment later to mid-Faculty – To develop Specialty Health Services and Sub-Specialist Training

The Fellows have been working as junior Faculty in many institutions running the residential Sub-Specialist Trainings within the functional hierarchy (Table 2) of the Sub-Specialty Health Services. They are also simultaneously fulfilling the requirements of thesis research studies and of teaching and supervision of juniors and Residents. Thus the extra requirement of two years to become eligible for mid-Faculty of Residential Training in the Sub-Specialty Unit[58,69] do not seem to be essential at least for now in the existing situation of dearth of specialists and training. The practice of the upliftment of the Fellows to the mid-level Faculty after the residential Sub-Specialist Training of DM/MCh helps to establish the Specialty Health Service to the people and has to be formalized at least for now in any Sub-Specialty. The Fellows, who are working as junior Faculty in the Sub-Specialty unit and are supervising and teaching the Residents of General Specialist Training of MD/MS, needs to get stipends and allowances with continuation of their service. The junior Faculty position per se is also otherwise difficult to be adjusted in the functional hierarchy of working of the Sub-Specialty unit without sufficient workload and budget and there is as such scarcity of sub-specialists in the country. Thus it also seems neither necessary nor possible to make the requirement of junior Faculty[69] mandatory at least for now. If there is extra sufficient workload to fulfill the training criteria, the number of Fellows may be increased for enrollment providing the training opportunities to others and without bearing the liability of permanent appointment of junior Faculty.

3.6. The age limitation on the Faculty of Residential Training – Should be left to the employer institutional criteria as in case of clinical practice and MBBS teaching

The retirement age of the permanent Faculty in public Medical Teaching Institutes or Public Hospitals is varied and will be as per the regulations of the Government. With the integration of academy and service and conduction of Residential Training in the public hospitals or Institutes established and supported by the Government only, the retirement age of Faculty in all such public Medical Teaching Institutes and public hospitals should be considered similarly now by the Government. However in the private medical colleges, apart from the respective institutional criteria, the upper limitation of age of Faculty as sixty-five for residential General and as seventy for Sub-Specialist Trainings by the regulatory body[58,69] needs to be revised to match with that required for both clinical practice and MBBS teaching. The clinical practice, which is the basic responsibility of the regulatory body by providing the

required License, is likely to be equally, if not more, hectic especially in private working alone here than working as Faculty with Residents and Fellows under supervision. There is no upper limitation of age for clinical practice in a private hospital, medical college or clinic here like in many other countries. For teaching in basic science and MBBS education also, there is no upper limitation of age of sixty-five or seventy in private Medical Teaching Institutions.[86] The residential General and Sub-Specialist Trainings incorporate basically the similar two components of clinical practice and academy. The age limitation on the Faculty of Residential Training should accordingly also be left to the employer institutional criteria particularly in the existing situation of scarcity of the Specialists and Faculty.

3.7. Additional licensing examination and registration separately for the Specialists by the medical council: Need to discontinue and to rather focus on facilitation of free Residential Training inside the country

In India as well as in the industrialized countries like US, UK, extra licensing examinations of Specialist separately by medical council is not done.[42,65,66,93,94] The trend should similarly be followed here. Specialist registration by the medical council is a part of the continuous process of Licensing for medical practice which guides the development and establishment of the Specialty Health Services and residential General- and Sub-Specialist Training inside the country.[42,65,66] Instead of planning for such development (Figure 11), there is no point just recording and registering as specialist with whatever the certificate of training is submitted. After the development and establishment of system of Specialty Health Services and free Residential Training in hospitals inside the country adequately, the regulations can be updated recognizing all those who have been trained earlier inside or outside the country. The theory or any other clinical examination alone even by a national board of examiners[69] can't be the substitute for the requirements of various Entry and Eligibility Criteria to be fulfilled in the residential General- and Sub-Specialist Training (Table 1). All the resources, time and efforts of the medical council should be utilized and focused now on the facilitation and development of the system of free residential quality General and Sub-Specialist Trainings inside the country leading to full Licensing.

3.8. The legal process of recertification or revalidation or re-registration comes only after the establishment of the system of free residential General and Sub-Specialist Trainings inside the country unrelated to the individual or institutional Continuing Medical Education and Professional Development activities

The issue of re-registration of medical doctors has been raised in the country with mandatory or verifiable areas and other general and useful areas.[95] However currently the vast majority of medical doctors do not have access to the residential General and Sub-Specialist Trainings inside the country. Without the certification or validation of achievement of their competency of medical training in the first place the issue of 'legal' system of recertification or revalidation or re-registration does not come (Figure 11). The individual or institutional activities or requirements for Continuing Medical Education (CME) and Continuing Professional Development (CPD) are separate issues. Even with the years of system of compulsory Residential Training of all medical professionals before they practice independently, regulation of periodic recertification is implemented since 2006 in the US involving four-part process and six core competencies.[88] In the UK it is planned that vast majority of doctors will have been revalidated, involving relicensing and recertification, for the first time by the end of March 2016.[89] Such revalidation in the UK is based on the continuous evaluation of doctors' performance in their workplace with evidences of continuing professional development, quality improvement activity, significant event, feedback and complaints and compliments.[89] Such system of recertification or re-registration is not planned till now in India.[94]

3.9. Health Ministry needs to establish the budget heading and appropriate channel, e.g. a separate open institution or academy without having its own any particular hospital, to specifically manage the Residential Trainings in Public Hospitals without mixing other education or training of any health care workers.

The Public Hospitals in the developing countries like ours are most needed for the mass of people who can't afford private service requiring out-of-pocket payment for admission for acute conditions and Specialty Health Services. In the Public Hospitals, the non-affording people particularly require Government support in the form of provision of at least the free life-saving surgeries and procedures with free essential drugs and antibiotics and free ward with food. Prioritization of health services, treatments and procedures as per the population and situation need and the provision of financial mechanism to support them should be done. With the health service and technologies becoming quite expensive, the limited health budget allocated to the hospitals for Specialty Health Services (SHS) has to be prioritized and spent according to the essential health service and programme requirements for the community, rather than just divided for different institutions. However, the facilities to the Faculties of different Public Hospitals are disproportionately less even as compared to the other public Medical Teaching

Institutions in spite of much contribution in terms of free health service, e.g. free life-saving surgeries and procedures, free essential drugs and antibiotics, and free ward with food to the poor people and free Residential Training to the significant proportion of medical doctors of Government and other institutions. The facilities in the Public Hospitals should be linked with academic designations, not just with administrative posting, as in other public Medical Teaching Institutions and it should be proportionate in all the Government institutions. With the need of practice of Evidence-Based Medicine (EBM) and the integration of service and academy and expansion of Residential Training in the Public Hospitals, Health Ministry needs to establish the budget heading and designate the appropriate channel (e.g. a separate open institution or academy without having its own any particular hospital) for allotment of the resources specifically to specifically manage the Residential Trainings in the public hospitals and health institutions without mixing other training or education of any health care workers as discussed earlier in the section 3.2. Similarly a clear policy should be made to channel the certain proportions of all international health funds for the purpose. Such longer-term financing from all international assistance funds has been recommended to strengthen the national workforce.[35]

3.10. Integration of the selective enrollment of MDGP Residents with their simultaneous appointment in the permanent Government service as 'Resident GP Group'

For optimum Peripheral Health Service (PHS) and implementation of various Vertical Public Health Programme Services (VPHPS) and Health Management and Planning Service (HMPS), residential General Specialist Training in GP, the MDGP, is the prime responsibility of the Government. For such priority programme of MDGP, selective admission policy is essential.[13] The international symposium on GP organized in the country strongly recommended to expand the number of sites of training and to have multiple possible routes for training enrolling the MDGP residents with separate admission policy and entrance track, separate from other Residential Trainings, with interview with or without other methods.[16] Most available rural work is in Government,[13] where the GP residents can be trained and posted later. Training of Specialist in GP (MDGP) has evolved from the earlier unstructured apprenticeship based on-the-job training (Figure 6) especially practiced in the Health Ministry. Similarly, to fulfill the dire requirements of MDGP in the Health Ministry now from periphery to the center, Health Ministry needs to combine the enrollment of the Residents in the MDGP programme following the recommended Entry Criteria, e.g. with interview with or without other methods, along with their simultaneous appointment in the permanent Government service as the 'Resident GP Group' integrating their career perspectives. Apart from the continuation of the service and stipends, extra incentive as training allowance or scholarship to the GP residents has also been recommended[16] which will also help to establish the system. Other governmental and non-governmental organizations and institutions, for example army or police, having network of Peripheral Health Service may also similarly enroll the medical graduates in the Residential Training of GP along with their simultaneous permanent appointment in the 'Resident GP Group'.

Considering the dire need of Residential Training of MDGPs for optimum Health Service of the community, the recruitment and upliftment of its Faculty is a priority. Senior GP working outside the Health Ministry can be recruited as Faculty with the involvement of their institutions or hospitals as appropriate. Senior medical professionals in the GP Group working at various district, regional, and central hospitals and offices and the retired ones can be recruited or involved as Faculties with due recognition by the public Medical Teaching Institutions. For inclusion or promotion in the GP Faculty, publication of audit, critical incident review, critical appraisal, epidemiology, review or annual report, or research study may be considered. In view of the dire need of MDGP training, separate criteria for GP Faculty may even be required to be made at least for a few years now. Similarly, retired qualified Nepalese and other national Specialist GP in abroad can also be encouraged to join as Faculties. In MDGP training, the GP residents significantly spent their time in different departments under respective Faculty and the few available GP Faculties may easily coordinate the training and thus enroll relatively more number of residents.

THE WAY FORWARD

In summary, the Government and its agencies including the medical council need to consider the five fundamental health service responsibilities holistically and facilitate the free Residential Training in hospitals inside the country (Table 4). With facilitation of free Residential Training in hospitals inside the country with enrollment through open competition, all hospitals and institutions can directly appoint the required trained Specialists cost effectively. There may not be any further need of appointing medical doctors with MBBS and later sponsoring for their training, thus saving the time, efforts and resources of different public and private institutions. The Residential Training is closely linked with the career and posting of the Government doctors. The importance of appropriate management of postings and career of Government doctors have been emphasized by many studies and publications in the

country.[2,9,12,13,17,96] For promotions and appointment by the Public Service Commission, the required minimum duration for the level of posting after the Residential Training in the concerned Specialty should be considered (Table 2), rather than just the duration after MBBS or other General Specialist Training or initial appointment in the Government job. In view of the increasing urbanization and transport, the issue of working in remote or rural areas or outside the capital for some time may not be applicable to the promotion of the non-GP specialists who need to work in well equipped Public Hospitals with a team of other specialists in the urban or semi-urban areas (Figure 2).

Table 4. Ten essential points now to facilitate the establishment of Residential Trainings and Specialty Health Services inside the country*.

1. Free Residential Training in hospitals, whether public or private, with adequate payment for the Residents' service – The relatively nominal cost of its academic management may be charged by the universities or supported by the Government.
2. Expansion of Residential Training programmes to other appropriate hospitals utilizing the available facilities cost effectively without keeping unnecessary requirement as discussed in the text.
3. Allowing initiation and/or continuation of residential General and/or Sub-Specialist Trainings in any Medical Teaching Institution to their maximum capacity fulfilling the training criteria – Unrelated to the presence or recent start of MBBS education or other General Specialist Training of MD/MS.
4. Need of continuation of the prevailing practice of residential Sub-Specialist Training like DM/MCh with the existent Faculty focusing on the fulfillment of the required training criteria of the Fellows.
5. Functional hierarchy of Fellows as junior Faculty in the Sub-Specialty unit and upliftment later to mid-Faculty – To develop Specialty Health Services and Sub-Specialist Training.
6. The age limitation on the Faculty of Residential Training – Should be left to the employer institutional criteria as in case of clinical practice and MBBS teaching.
7. Additional licensing examination and registration separately for the Specialists by the medical council: Need to discontinue and to rather focus on facilitation of free Residential Training inside the country.
8. The legal process of recertification or revalidation or re-registration comes only after the establishment of the system of free residential General and Sub-Specialist Trainings inside the country unrelated to the individual or institutional Continuing Medical Education and Professional Development activities.
9. Health Ministry needs to establish the budget heading and appropriate channel, e.g. a separate open institution or academy without having its own any particular hospital, to specifically manage the Residential Trainings in Public Hospitals without mixing other education or training of any health care workers.†
10. Integration of the selective enrollment of MDGP Residents with their simultaneous appointment in the permanent Government service as 'Resident GP Group'.

* The regulations of Residential Trainings can be updated later in steps with the national perspectives as per the prevailing situation. To adapt to the system of almost lifelong on-the-job trainings and certifications, there also appears the need of separate Doctors Service Regulation for the Government doctors incorporating the relevant aspects as discussed in the text.

† In future, different subject committees or specialty boards formed for various specialties of Residential Training under different public and private institutions and universities in the country may be amalgamated as the national ones under the medical council with the Government support upgrading such existing channels without mixing any other education or training of any health care workers.

The system of management of Peripheral Health Service (PHS), Vertical Public Health Programme Services (VPHPS), and Health Management and Planning Service (HMPS) by MDGP is a priority. The posting of the senior medical professionals of mid- and higher-levels, and with certain cut-off years of experience for junior ones, in the General Health Group providing such service now may be merged into the GP Group for smooth transition of the system. Those in the existing General Health Group who like to get trained in MDGP may need to be given preference for enrollment and others may compete for other specialties of their choice phasing out the General Health Group after managing all those already appointed in the group. If they pass the competitive entrance examinations, there should be provision to post them for free Residential Training anywhere inside the country. As they are serving the people inside the country, their service and stipends may be continued as per the trend, apart from the hospital allowances for doing the duties and guiding and grooming the juniors

in the non-practicing situation. Instead of the General Health Group, 'Resident GP Group' is required to appoint medical doctors with MBBS in the permanent service in the Health Ministry along with their simultaneous enrollment in Residential Training in GP.

All such points require some amendment in the service regulation of the Government doctors as well. However the common regulations encompassing all other health care workers or administrative workers may not be now able to adapt the system of almost lifelong on-the-job trainings, certification, and recertification of Government doctors required for the optimum health service delivery to the people. Thus there appears the need of separate Doctors Service Regulation for the Government doctors incorporating all such aspects. The concepts and trends in the UK and US have largely been guiding the development of basic MBBS education and Residential Training of medical professionals in the region. Visit by members and officials of the medical council, Health Ministry and other stakeholders like parliament sub-committee members and experts to the US and UK, where the free Residential Training with adequate payment are being provided even to other nationals including our before they are allowed to practice independently, may help to develop appropriate system cost effectively here. For example, different subject committees or specialty boards formed for various specialties of Residential Training under different public and private institutions and universities in the country may be amalgamated in future as the national ones under the medical council with the Government support upgrading its channels like the open institute or academy for Residential Training without mixing any other education or training of any health care workers. Even the international health organizations particularly the WHO may have a separate Division, not including other health manpower development, specifically for facilitating Residential Training so much required in the developing countries for the optimum Health Service to the people. However for now, the ten essential points (Table 4) discussed to facilitate Residential Training inside the country need to be considered. In essence, the facilitation of free Residential Training in hospitals inside the country is the pivotal responsibility of the Government and its agencies including the medical council linked with other health service responsibilities and with career of medical professionals, i.e. with the whole health care system.

"To fit the tail, legs, body or trunk, visualize the whole elephant; lest the whole will be lost in its own parts."

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