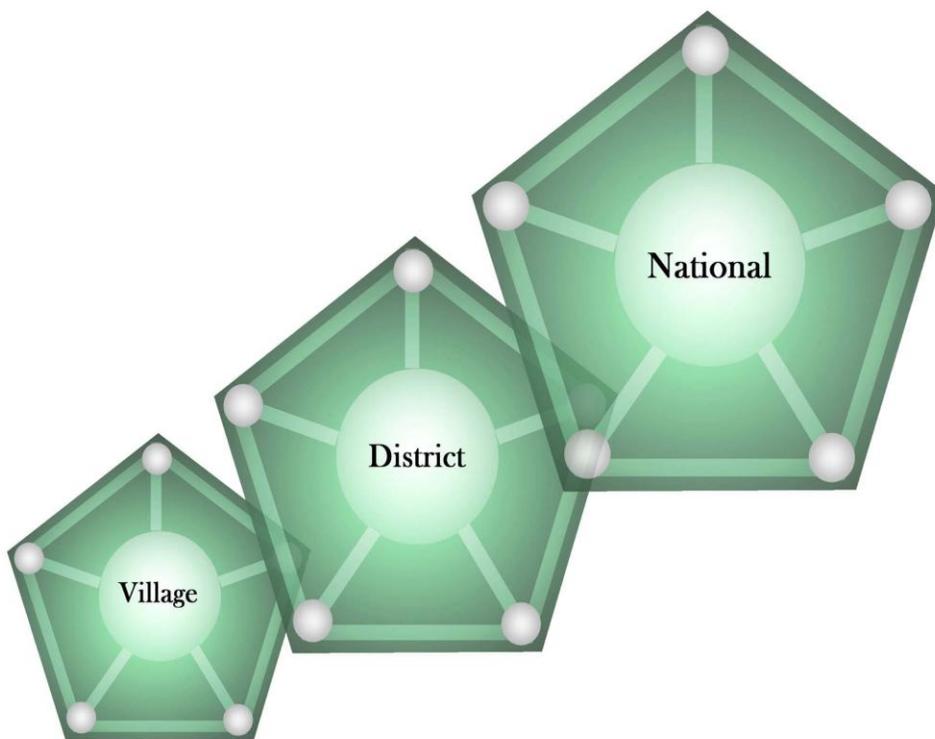


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# FEASIBILITY STUDY FOR THE PROPOSED PATAN UNIVERSITY OF HEALTH SCIENCES (PUHS)



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**Biographical Sketch**

Dr Woollard is Royal Canadian Legion Professor and Head of the Department of Family Practice, Faculty of Medicine at the University of British Columbia in Canada. He currently chairs the Committee on the Accreditation of Canadian Medical Schools (CACMS) and the Committee on the Accreditation of Continuing Medical Education (CACME) and sits on the Executive of the international Liaison Committee on Medical Education (LCME). He has chaired senior committees, councils and task forces for the BC Medical Association, Canadian Medical Association and the College of Family Physicians of Canada in the areas of medical education, environmental health and ethical relations with industry. His primary research focus is the study of complex adaptive systems as they apply to the intersection between human and environmental health. His book, *"Fatal Consumption: Rethinking Sustainable Development"* details his work in this regard. His background in the full continuum of the life-long-learning of physicians has informed his commitment to understanding the links between medical education and health outcomes. He is Co-Chair of the UBC Task Force on Healthy and Sustainable Communities and has provided leadership in a number of major initiatives grant-funded through the Science Council of British Columbia, the Tri Council Research Fund and is currently a co-investigator in a Major Collaborative Research Initiative (MCRI) grant being administered through the Sustainable Development Research Institute. He is a member of the SDRI, Centre for Health Services and Policy Research and the Institute of Health Promotion Research. He is Past Chair of the Board of the Canadian Hunger Foundation Partners in Rural Development, an international development organization. He has completed a five year, five university CIDA project on Localized Poverty Reduction in Vietnam.

He has assisted in the development of a rural practice undergraduate program, the design and development of the distributed expansion of UBC Medical School, and continues the active practice of medicine.

During his first term as Department Chair he led a Faculty initiative on *Integrating Study & Service* which contributed to the success of the *Strategic Teaching Initiative*, a substantial, targeted increase in resources for the Faculty of Medicine to help focus its research and educational capacity on the priority health needs of British Columbians. He currently chairs a Task Group of the Association of Faculties of Medicine of Canada (AFMC) charged with implementing the policy paper *Social Accountability: A Vision for Canadian Medical Schools*. At these various levels he is leading the development of five-way partnerships (policy makers/health managers/communities/ professional organizations/academy) to build responsive and responsible academic systems in support of responsive and responsible health care systems.

He is currently working in a number of venues. These address issues relevant to social responsibility of the profession and range from local (Departmental pilot initiatives) through regional (BC Academic Health Science Initiative on *Towards Unity for Health*) through provincial (Steering Committee for the Primary Health Care Transition Fund, BCMA Board of Directors, BC Cancer Agency Primary Care Oncology Network, etc.) and to national (Primary Health Care Transition Fund National Envelope initiatives with AFMC) and international realms (World Federation of Medical Education and Localized Poverty Reduction in Vietnam initiatives).

He has worked on the development of primary care electronic networks in the rural undergraduate program at UBC and has been part of an interdisciplinary team looking at community preparedness for information technology and telemedicine.

He is married to Erlene and has three sons and one granddaughter.

# FEASIBILITY STUDY FOR THE PROPOSED PATAN UNIVERSITY OF HEALTH SCIENCES (PUHS)

## INTRODUCTION

The health status and health services available to the people in rural Nepal is among the worst to be found in the modern world. While undoubtedly aggravated by the current conflict situation, the gross inequities in health status and services between rural citizens and those living within the Kathmandu Valley are longstanding and may even be considered a contributing cause to the current strife. Review of the health policy and planning documents of His Majesty's Government of Nepal (HMGN), together with some of the health surveillance data available, would indicate that while some improvements have been made, these gains have been variable by program and location, somewhat limited in their overall impact and currently made tenuous by a chronic lack of adequate personnel and leadership for effective deployment in the rural areas of the nation. This fact is particularly troublesome because the major causes of morbidity and mortality in the relatively youthful population of rural Nepal are in general remediable by well-tested public health and clinical interventions were they available at the District and village level.

Coincident with these facts has been a virtual explosion of medical schools in Nepal within the last decade. The bulk of this increase in training capacity is in private, for-profit medical schools whose high tuition fees and hospital derived profits do not encourage particular attention to the poorer areas and patients that bear the greatest burden of disease. The capacity to establish and apply standards for the quality of the programs, their faculty and their students are currently limited. Whatever merits there may be within this plethora of medical schools the inequity in physician distribution as recently as 2003 (Marasini 2003) is almost breathtaking and parallels the degraded population health status in Nepal's various regions:

S No	Ecological Zone	Physicians in public sector +	Physicians in other sectors	Total physicians	Total populations	Population per physician
1	Mountain	51	8	59	1,829,649	31,011
2	Hill	225	206	431	9,418,305	21,852
3	Kathmandu Valley	709	497	1,206	1,604,363	1,330
4	Terai	623	433	1,056	11,955,578	11,322
	National	1,608	1,144	2,752	24,811,912	9,016

There are reports in the popular press of underemployment and even unemployment among physicians in Kathmandu. While physicians are only one resource necessary to address the profoundly disturbing health status of rural Nepalese, this maldistribution represents a tragic misapplication of the human resources needed for health in a nation where the needs are so profound. Judging from both the limited local and more complete world literature on factors which influence physician distribution, it is likely that this maldistribution is multi-factoral including policy, structural, selection, training, skill and attitudinal issues. Whatever the particular mix of influences may be within Nepal, their collective impact is not moving towards any solution. We must consider Donald Berwick's axiom that *"every system is exquisitely designed to get the results it does."* It is therefore apparent that innovation and creative solutions must be encouraged.

It is against this background that the proposal for a Patan University of Health Sciences (PUHS) was brought forward by an experienced group of physicians and medical educators centered around Patan Hospital but distributed in other institutions (Appendix A). This represents a forthright plan to use the available worldwide evidence to design a medical training program that integrates our knowledge about the educational influences on physician leadership and distribution into the selection, curriculum, deployment, attitude development, life-long learning and follow-through of its graduates.

While most of the elements contained within the proposal have been tried and proven effective in other jurisdictions, what is truly innovative is the integration of these elements within the initial design of the program. An initial attempt to establish such a program in conjunction with Kathmandu University (KUMS) foundered in large measure due to the very complex interrelationships in a university that had other medical schools and hospital agreements to manage. The manner in which those relationships were compromised and irretrievably damaged are not part of this feasibility study. However the "lessons learned" from that painful experience are evident in discussions with a wide range of interviewees and groups undertaken during the visit. While there is understandable caution in all parties, what comes through in virtually all interviews is the willingness and optimism to learn from events and build in the kind of solutions that might prevent a recurrence. One cardinal lesson that is embedded in the PUHS proposal is that the planned health science university would need to achieve the degree of autonomy required to manage the complex inter-institutional, organizational and community partnerships required to ensure that the integrated plan is achieved. Given the current state of affairs in medical education in Nepal it seems reasonable to assume that the most likely route to success of PUHS is through its establishment as a free standing health sciences university growing from the existing elements as outlined below.

The actual deployment of the school is then envisioned to take place within the framework of the social accountability of medical schools, a framework outlined in *Towards Unity for Health: Challenges and Opportunities for Partnership in Health Development*, a Working Paper of the World Health Organization (2000). This contains an explicit commitment on the part of the medical school to address the needs of its society:

*"The definition of social accountability of medical schools is the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public."*  
WHO, 1995

Thus, what is planned is a Health Science University in robust partnership with its society and which in turn produces graduates disposed and skilled to serve that society in the areas where they can have the greatest impact – in the case of Nepal, its rural areas.

It should be clarified at this point that the concept of "social accountability" is not at all inconsistent with a commitment to unfettered scientific excellence and curiosity driven research in the basic and clinical sciences. In the Canadian discussions on precisely these issues Professor Alan Bernstein, the President of the Canadian Institutes for Health Research (CIHR) makes the point that the two ideas marry well, to the

benefit of both. Therefore, while the urgent and specific emphasis on the development of rural practitioners and leaders forms an important part of the PUHS proposal (and this study), the sustainability of PUHS is dependent upon achieving the overall vision and mission which embraces the necessary elements of a *complete* medical school. It is only in this way that the national potential of PUHS (and the policy intent of HMGN Ministry of Health) can be achieved. It is likely that a limited vocationally focused rural health school in isolation from the development of professionally based primary and specialty care would have a limited and transient effect. While such a specific probe is both useful and necessary, it should not be seen as diminishing the importance (and challenge) of the other elements in the vision and mission of PUHS. As noted above, such an approach would be self-defeating in the long run.

This bold venture is being directed by the Medical School Steering Committee (see Appendix B). As a part of the development of its relationship with the various partners that will be needed for its ultimate success, the Steering Committee established two feasibility studies. One relates to the financial, political, structural, managerial/administrative and legal factors in its development. The other relates to the academic leadership, structure, faculty and resources required to achieve that intended purpose. The present report is the response to this latter commission from the PUHS Steering Committee.

## **FEASIBILITY STUDY**

### **Objectives**

The terms of reference for the study were discussed in correspondence leading up to the visit and were confirmed in discussions with the Steering Committee and various members of the leadership team. They were then articulated in the course of the interviews conducted in Patan and Kathmandu. In essence the Feasibility Study was designed to address four interlinked questions:

#### **1 Is the pedagogic structure and deployment of the educational program likely to result in the desired characteristics in its graduates?**

*The Vision (Nepali people become and stay healthier regardless of their location or socio-economic status) and Mission (To establish a New Health Science University dedicated to improving and sustaining the health and well being of the Nepali people, especially those who are poor and living in rural areas by: producing highly competent, caring and socially responsible physicians, health care professionals and health care leaders of tomorrow; providing high quality, cost-effective and humane health care and; generating new scientific and practical knowledge) of the PUHS Project Proposal quite properly envisions a diverse output of graduates who will make major contributions and provide significant leadership in research, teaching and service. Because of the urgency in developing certain relationships and addressing urgent and demonstrable "priority health needs" this report places some emphasis on rural health practice and leadership. Such an early concentration could have a very positive effect on the feasibility of the proposal.*

The objectives of PUHS in this regard are specifically to:

- "Train technically competent, caring and socially responsible physicians and other health care professionals who believe in compassion, love, respect and fairness.
- Produce physicians and health care professionals who communicate well with patients, family and colleagues, who are committed to life-long learning and who have the willingness and ability to become inspiring leaders in their respective fields."

To this end, the present study involves an application of knowledge in the world-wide literature as well as detailed knowledge of the activities of the 143 medical schools accredited by the Liaison Committee on Medical Education in North America. Additional involvement in and knowledge of the international development of the concept of social accountability of medical schools is relevant.

**2 If successful in producing such graduates, in the manner outlined, are the graduates likely to be deployed and effective in addressing the priority activities as enunciated by the planning and policy documents of the HMGN Ministry of Health?**

This is a critical question because imbedded in the very idea of social responsibility is the notion that it is only through robust partnerships that the products of a medical school (and health sciences university) are likely to have the impact intended. Addressing this question involved review of the last half decade of policy analysis and planning documents of the Ministry of Health (see Appendix C) and various relevant documents. The issue was explored specifically in a large number of the many interviews conducted – ranging from frontline practitioners through civil society to policy makers and international agencies.

The author's involvement in a five-year, five university project on Localized Poverty Reduction in Vietnam (LPRV) is relevant to the broad questions of integrating academic output with national policy goals – albeit in a very different context.

**3 Is the project seen as *desirable* by its internal and external stakeholders?**

**and**

**4 Is the project *doable* given current leadership, present and projected resources?**

The feasibility of any complex and uncertain undertaking is highly dependent upon positive answers to two interlinked questions. The project must be seen as *desirable*, not only by its proponents but by such other stakeholders that may be required to participate, provide resources, facilitate or at least not impede the likelihood of success. In the case of a proposal significantly dependent upon active engagement with a range of communities, this is a particularly acute question because even if the project is eminently *doable*, it may not be undertaken. On the other hand, *desire* alone is insufficient if the task at hand could not be accomplished for reasons of lack of effective leadership, sufficient resources, or a facilitative environment. The answers to these questions were sought in review of literature from stakeholder organizations and in-depth interviews with a wide range of stakeholder leadership and individuals (see Appendix D). The author's leadership of a process of major curricular innovation, national initiatives in social accountability of Canada's medical schools and privilege of

reviewing (for accreditation purposes) a broad range of medical schools in North America provides useful experience in judging these issues.

## Methods

Data gathering consisted of three stages:

- a initial detailed review of the proposal, the cardinal ministry of health planning and policy documents with regard to health system devolution and rural health (see Appendix C) and the standards and requirements of the Nepal Medical Council for various sizes of medical schools.
- b a broad series of in-depth stakeholder interviews conducted over an intensive seven day on site visit to Kathmandu and subsequent telephone interviews(see Appendix D), and
- c review of acquired published and grey literature arising out of literature review, contacts and suggestions suggested from interviewees.

While clearly not sufficient to provide a detailed understanding of the complex and changing medical education and health care delivery systems in Nepal, the range and number of interviews as well as the copious literature available, was sufficient to identify, cross-reference and in some measure validate the cardinal issues that would have a major impact on the likelihood of success of this project. The interpretation of the reality of the strengths and the tractability of the challenges rests with the readers of the report.

## Summary of Strengths and Challenges

The question of the feasibility of such a complex undertaking as the establishment of a medical school situated within an institution such as PUHS, does not reduce itself to a simple yes/no answer. There are many variables that interact and many of those are dependent upon choices that are made or not made, on forces that arise or dissipate, and on timing of events. As Shakespeare famously noted "*... there is a tide in the affairs of men which, taken at the flood, leads on to fortune, omitted, all the voyage of their life is bound in shallows and miseries...*". Therefore, a feasibility study should not have as its goal a bloodless judgment of the *likelihood* of success but should seek to provide an assessment of:

- factors that enhance the likelihood of success (strengths)
- factors that, if unattended, would compromise success (challenges)
- opportunities to mitigate the challenges, and
- an assessment of issues surrounding timing

## Strengths

- A well conceived model for the development and delivery of professionals that can provide needed leadership at the localized level. There is increasing evidence that the development of community level advocacy and professional capacity is a key element in successful transformation of

health systems and positive health outcomes. (Paul 2004, Richards 2004, Berwick 2004, Marsh et al 2004). The model contained herein, if realized, should deliver such a cohort of physician leaders among other more “traditional” outputs such as researchers, teachers and specialized physicians.

- Focused, sustained and experienced leadership by a group of physicians and medical educators dedicated to its success.
- A well-respected hospital with a culture deeply committed to the care of patients.
- A Governing Board that is open to supporting the development of PUHS should it be considered feasible.
- A Patan Hospital Board Chair who is knowledgeable about systems/cultural change, the current armed conflict in Nepal, the creative role of Boards of management (such as the Governing Board of Patan Hospital) and is optimistic about the possibilities for peace and positive change.
- A copious amount of clinical experience with many patients across the broad spectrum of diseases and procedures necessary for the training of independent practitioners.
- A range of potential sub-specialty relationships with other institutions such as the Tilganga Eye Center. Willingness to undertake such academic collaborative partnership was expressed by its Medical Director, Dr Sanduk Ruit. This would include their considerable experience in community outreach teams.
- A community of physicians at Patan Hospital in the various clinical departments who are providing exemplary care and would provide role models and a practice culture in keeping with the expressed goals of PUHS.
- A series of clinical departments who are cohesive, clear-eyed about the practical challenges of being involved in a medical school, thoughtful about the impacts of teaching and enthusiastic about the overall benefits to personal and professional satisfaction.
- There are also physicians in Patan Hospital and in the Medical School Steering Committee who have first-hand experience in setting up and/or running a medical school and still retain a willingness to apply their experience and wisdom at PUHS.
- The fact that a significant amount of teaching is currently taking place with students and trainees from other medical schools and/or academic institutions – often junior MDGP residents and Postgraduate residents in Internal Medicine, Surgery, Obstetrics/Gynecology and Pediatrics, but not senior residents that might assume more responsibility and clinical support.
- A recognition across departments that an integrated “ladder” of learners from undergraduate, postgraduate, registrar, junior faculty and senior faculty is likely to enhance both professional satisfaction and the recruitment of new colleagues.
- A number of staff physicians and even whole departments (notably obstetrics and gynecology) who are already organized in terms of sharing organizational and delivery aspects of teaching.
- An existing learning environment for nursing education and an obviously dedicated nursing staff that are likely to ensure that the desired values are represented and supported in medical students.

- An innovative Birthing Centre that currently trains midwives and generates the possibility of the interdisciplinary training envisioned in PUHS.
- An existing set of connections with a series of peripheral hospitals originally directed by United Missions for Nepal (UMN) that would form a basis for a network of teaching sites. There is stated positive interest on the part of the Executive Director of Human Development for Community Services (HDCS) the NGO that has assumed their operation.
- A history of producing a cadre of MDGP graduates that do go into rural practice for a period of time. This is likely to be sustained and enhanced if a feeder system of students is presented for distributed training.
- The expressed support of the Minister of Health and the Acting Health Secretary for the concept of PUHS and their stated desire to do what they can to support its accomplishment.
- A health policy environment of devolution supportive of the aim and intent of PUHS and to which its programs and graduates could contribute.
- The opportunities being created by the current state of health system evolution are variable and difficult to delineate precisely but the documents of both intent (NHSP-IP, SLTHP, etc) and reflection (Neupane 2004) offer real optimism that the PUHS project proposal will be seen and supported as helpful (perhaps even essential) for successful change. This contribution can be at both national and district levels. (see below)
- An evolving Nepal Medical Council that has made a serious commitment to both enhanced standards of medical education and the development of Nepalese physicians and indigenous education focused on Nepal's needs. At the same time an expressed recognition that the current educational environment is *not* achieving these outcomes. The Council is also pushing for a national medical education policy – something that is sorely lacking and to which an institution like PUHS could be expected to contribute.
- Some assurance from representatives of civil society (Rita Thapa, Nagarik Aawaaz and Kanak Dixit) that the intended graduates, if successfully realized and deployed, could make significant contributions to positive transformational change needed to address inequities that are part of the current cycle of violence. These will need to be addressed if peace is to be achieved and maintained.
- There is some enthusiasm for the “new kind of doctor” that would use their relatively privileged position in service to the social good – while at the same time recognizing the family investment that constrains many current graduates who have rural backgrounds. There appears to be a willingness of civil society organizations to engage in such a venture if it retains the expressed values – as one party remarked: “...there is no way that this cannot work if it starts out on the right foot.”
- Expressed interest on the part of Public Health Concern Trust (PHECT-Nepal) in establishing a collaborative relationship with their existing community-based and professional development initiatives as well as the Kathmandu Model Hospital. This creates exciting potential for both interdisciplinary and distributed training.
- It seems apparent that Nepal is geographically and temporally at a very interesting time in its history. Notwithstanding the reality and the significance of the current armed conflict, the human geography of Nepal is one of quite remarkable diversity and a degree of ethnic and religious tolerance that is the envy of many other societies. While many of these cultures are ancient, Nepal as a nation state is a relatively recent

phenomenon and has undergone major political change in the last few decades. Nepal has significant geographic challenges but, its population base at 25,000,000 is (unlike its two giant neighbours) at a scale where national policy is not only conceivable but likely doable. It is also a scale at which an institution such as a successful PUHS could have a significant impact on the development of national policy and the possibility of that national policy being brought to life. Several knowledgeable individuals that the author had the privilege of interviewing brought considerable optimism to the proposed task. While one does not wish to be naïve, with one or two notable exceptions, the author found a spirit of optimism that Nepal's long night may be drawing to a close and that the PUHS proposal might be a worthy project to move things forward in a more creative way.

- The developing proposal for the Nick Simons Institute for Rural Health Training (an interdisciplinary rural training network) that was shared with the author could provide a remarkable opportunity for collaborative development. Distributed training is significantly more costly than traditional urban based training but experience in many jurisdictions demonstrates that it has a much greater success rate in enhancing the distribution of graduates to areas of need. The envisioned Institute would provide an infrastructure of communications, trainees and relationships that would likely both enhance training and reduce costs. The Appalachian Program in eastern Kentucky, USA, in conjunction with the University of Kentucky, is a reassuring example in this regard. The post-graduate trainees envisioned in the Nick Simons Institute could be an important part of the "ladder" of trainees identified by the Patan Hospital Departments but here deployed in rural areas.
- The World Health Organization regional office in the person of Dr Klaus Wagner is significantly enthused by the PUHS Project Proposal and wishes to take it forward to Geneva as a potential model for addressing distributed needs. There is an evolving policy framework at WHO that may see tangible support for NGO and public/private initiatives rather than straight forward funding through government. The possibility of WHO support for consultation by Dr Charles Boelen, the world expert on social accountability and the development of primary care was briefly discussed.
- An evolving literature on the process of change (Senge 1996) the role of academic health sciences (Bennett 2003, MacLeod 2003, Cortinos et al 2003) and the mutual benefits of international collaboration in health sciences and systems (Berwick 2004).

## Challenges

The above-mentioned considerable strengths notwithstanding, there are a number of challenges that must be addressed in order for PUHS to succeed.

- 1 The need to resolve the planned change in governance of Patan Hospital. This forces an urgency on the part of a broad series of partnerships that usually would need a longer time to develop.

There will need to be a considerable degree of good will on

the part of all if the required joint activities are to occur in a timely fashion. This creates a situation where passive opposition to the concept can be quite effective in bringing it to a halt. For this reason it is important that all parties are honest and frank in their concerns and intentions so as not to waste each others' time. There needs to be an opportunity for any concerns to be acknowledged and addressed if possible.

It is likely that the collective desire to maintain and promote the ethos of service so evident at Patan Hospital will be best served by establishing a teaching environment wherein the values are explicitly stated and transmitted to a new generation of healthcare leaders/workers. There did not appear to be any confidence that simple devolution to a state run institution or inexperienced NGO would be likely to achieve this end.

- 2 The rapid pace of consideration and change puts an added strain on the interactions of a number of organizations and organizational 'cultures' that are themselves under significant stress for other reasons.

There is a long and effective history of United Missions to Nepal (UMN) related hospitals and clinics that have developed an esprit and compassion evident in particular in the care given at Patan Hospital.

While clearly many others have engaged and expanded this esprit, the pending formal withdrawal of UMN from the operational activities of Patan Hospital raises the concern in some that this will result in an attenuation or even loss of the "values" that have been promulgated (and lived) in the works of the leadership and staff of the hospital. While in some there is a conflation of these values with the explicitly Christian values they reflect, the feasibility study interviews demonstrated a broadly consistent belief that the values inherent in the proposal for PUHS and the values that have guided the mission of UMN map well, one onto the other. However, it would be foolish to assume that this is readily apparent and equally meaningful to all parties and individuals in this major undertaking. Therefore, it will be important for all participants to have an opportunity to have their concerns acknowledged and addressed – see #3.

- 3 It will be important that the parties involved in the project pay specific attention to a number of issues that are perhaps best described as being between *cultures*.

The word "culture" should be seen in a broad sense that embraces a description of ethnic, religious, ideological, organizational, national and social dimensions. Recent history should provide some optimism that bridging these dimensions is not only possible but already exists in broad outline. However, it is worth specifically and openly addressing the following areas of potential misunderstanding:

- a *The culture of an academic institution and that of a non-academic institution*

In the best of all worlds there is no inherent conflict in bringing together two such cultures if both share the same ethos of service. However, the nursing leadership raised a very important issue in their perception of academic hospitals as being uncaring and exposing suffering patients to unreasonable demands for students to examine them to the patients' discomfort. This is a central issue in crafting the future culture of Patan Hospital should

it transform itself into the core of PUHS. In reality there are a breathtaking variety of institutional cultures in the academic hospitals that constitute medical schools in various countries. They range from the most dehumanizing to the most compassionate. In the case of PUHS, Patan Hospital has a well established culture of compassion. Under the PUHS proposal the hospital would be the core of PUHS so there is every reason to suppose that it would create an academic culture that is ideally suited to the stated aims of the school. It would have the added advantage of producing those who would transmit that culture into the future.

- b *The culture of service grounded in explicitly Christian values and the culture of service grounded in other religions, systems of belief and professional responsibility*

There are many examples of medical schools that co-exist and thrive in a variety of partnerships with institutions of various sorts. The hallmark of successful institutions (and there are many) is tolerance, mutual respect and humility – surely the characteristics that must shape PUHS if it is to be successful in *its* intent.

- c *The divide between urban and rural cultures that is the source of some of the inequities that PUHS is attempting to address*

This was poignantly described by one interviewee as: "...when they come to the city they forget the past, when they return to the country they live in the past..." . Like all cultural divides this one is undoubtedly grounded in inadequate communications, insufficient mutual exchange and misunderstanding of one another's motivations and beliefs. While the drive that animates PUHS and its potential institutional partners is based in idealism and altruism, it will be important to work hard and early to fully engage rural populations in the development of the students, the teachers and the school they represent. This may require the development of an explicit community advisory committee for the undergraduate program. However, it would be unwise for such a committee to have a direct management function since experience elsewhere has shown that special interests can have a deleterious effect on the school and its students.

- d *Differences in leadership style and approaches.*

If PUHS is to be realized, it will require the close collaboration of a broad range of leaders. The integration of service, educational and research missions that is the hallmark of a successful medical school will require not only leadership in these three core areas but in subsets of those core areas including, but not limited to:

- i The overall educational direction
- ii Development of educational objectives, curriculum, evaluation and management

- iii Maintenance and enhancement of high quality clinical services
- iv Development of physical and capital resources
- v Development and attraction of human resources
- vi Etc

There will undoubtedly be differences in leadership styles for this range of activities and even in the overall leadership of Patan Hospital and PUHS as they seek to blend their established and evolving institutional forms and leadership into a new institution and leadership team dedicated to achieving synergy in their considerable mutual strengths. The precise nature of this blend will be shaped and constrained by the complex "ownership" requirements of HMGN policy and those of the Nepal Medical Council. Precise legal issues of "ownership" are probably relevant but were not explored in detail for this study.

Notwithstanding these constraints, experience elsewhere indicates that with effective collaboration and goodwill, constraints can be a helpful spur to creative development of context specific and sustainable working relationships. Indeed, as Peter Senge (Senge 1990) points out – with no constraints there is no creativity. Therefore all partners in the development of PUHS should embrace an openness to exploring creative structures that support their joint work. In the North American context this would require clear decanal responsibility and authority for the admission, curriculum, evaluation, promotion and graduation of its students. This would need to be integrated with the clinical and research missions that are a part of all medical schools. However, the precise day to day operations of hospital and clinical partners are subject to a variety of arrangements and it will be important for all involved in the development of PUHS to explicitly address these issues – although their complete resolution may (and possibly *should*) await the fullness of time.

It will be important to make a collective and mutual effort to ensure that the inevitable tensions are handled in a creative way. It is unlikely and perhaps not even desirable that such tensions be completely resolved. Indeed, like the tension in a violin string, *some* tension is required to make music. The issue is not resolving whether the "tuning peg" or the "bridge" *win* in such encounters but rather that the tension is managed effectively. It will be most unhelpful if this complex interaction of leadership responsibilities and styles is allowed to be reduced to interpersonal conflicts. However, the history of creation and change in other institutions should make us aware that such tendencies are ever present and therefore effective mechanisms for bringing conflict to the fore and addressing it needs to be part of the design of the implementation team and its strategy.

- 4 There will be a significant challenge in recruiting, deploying and retaining sufficient basic science teaching faculty in order to deliver the program and to meet the standards of the Nepal Medical Council.

Interviews, the local literature and the reported experience of expatriate teachers indicates a chronic and serious shortage of qualified basic science faculty. A number of for-profit medical schools have imported retired professors from India. Quite aside from the issue of quality of teaching, this does not seem a particularly sustainable source for teaching and does not address the issue of building indigenous capacity for this important part of a medical school.

This lack of faculty may represent the biggest single challenge to the viability of a proposed medical school. Addressing this issue will require imaginative leadership, effective partnerships and a clear long-term strategy complete with obvious career pathways if the challenge is to be met. A number of potential strategies have been outlined including:

- secondment of active faculty from sister institutions in India – perhaps particularly those that share a similar set of values towards service (eg, Vellore)
- development of the non-MD scholars becoming available through Master of Science programs in Nepal
- use of volunteer overseas professors on a rotating basis
- searching out and fostering young, recently graduated clinicians that might be motivated to undertake basic science training and commit to teaching

In order to achieve success it is likely that a combination of the above with a staged plan for building indigenous capacity in the basic sciences will be required. A clear strategy will have to be developed with precise timelines and a defined number of recruitments. The use of a problem-based method curriculum may mitigate some of the requirements for active ongoing tutors insofar as clinician-based tutors can be used in part for some of the small groups. That fact notwithstanding, there needs to be a solid foundation in each of the basic sciences so that in the development of cases and the evaluation of students there will be sufficient in-house expertise in each of the basic sciences to ensure the full development of the student in the pre-clinical years as well as the assurance that the science of medicine is properly developed during the clerkship. Early recruitment is required to ensure effective development of learning objectives, curriculum, evaluation and deployment of this limited resource.

The leadership group has considerable experience in developing basic science teaching at KUMS including the attraction of significant numbers (approximately 30 per year) of expatriate scholars to implement the curriculum there. While this may be a source of some optimism, it should be kept in mind that it may be difficult to repeat that outcome if partners are concerned that their efforts were or might be wasted. The stated intent to increase the number of relationships with overseas medical schools seems a reasonable strategy rather than putting all of the eggs in one basket. Nonetheless, circumstances may make the development of such relationships a longer term proposition. It will also require a designated project coordination process and perhaps a "lead" institution to ensure inter-institutional relations are managed to the benefit of PUHS and its students. A solid commitment from all of the stakeholders of PUHS will be required in order to attract and maintain the interest of overseas partner institutions.

Lest this seem completely overwhelming, it must again be kept in mind that some degree of incrementalism is made possible by the fact that the full tutor requirement will not be felt until the second year class enters. Nonetheless, for reasons mentioned above, a solid foundation of expertise will need to be available to develop the

curriculum even before the first students arrive. Appropriate growth and long term sustainability of the cohort of basic scientists will be best served by a planning process that engages not only partner overseas institutions but EDP's, IFI's, HMGN ministries and the Nepal Medical Council. This will be required to:

- a) ensure the orderly development of capacity within Nepal
- b) ensure the longer term career pathways necessary to attract and develop basic science teachers and researchers
- c) ensure the development of the national resource of basic and clinical science researchers essential to the full flowering of Nepalese medicine.

- 5 There will be a significant challenge in developing sufficient space to house the basic science teaching, faculty and laboratories necessary for the success of the school and its ability to meet the standards of the Nepal Medical Council.

There is limited space on the current Patan Hospital site so either redevelopment of the campus or the development of a new campus will be required. While most of the relevant interviewees, when asked, felt the ideal situation would be a unified campus, all recognized that a separate campus could be made to work. The potential for raising the capital required for this and other building/renovation will be left to the consideration of the other feasibility study team. It should be kept in mind that the usual pattern for development of new schools is to take an incremental approach – often with temporary space to begin with for the first year or two until the full quota of students is in place. As we shall see, this has an impact of the feasible size of the initial class of students.

- 6 A plethora of new medical schools and physicians in Kathmandu appears to have created a local surplus (as reported in the press and in interviews) while having little or no impact on the presence of physicians in rural areas.

This has a number of relevant consequences:

- a a perception in some public quarters that the problem of rural physician manpower is on the way to being solved and is subject to solution through policy initiatives on physician distribution (unlikely to be successful given the nature of the graduates, their debt burden, out of country alternatives, and the general failure of isolated coercive/incentive based programs to achieve much in the many other, less complex, societies in which they have been attempted.)
- b a perception among others that the problem CANNOT be solved through the production of more physicians
- c a perception that refocusing postgraduate level trainees may provide a quicker and cheaper return on investment. This is probably true to a point, but experience elsewhere, (Canada, USA, Australia, etc) seems to indicate that as a SOLE strategy, (without in-feeding of new graduates with confidence and competence in rural practice) this uses up the pool of trainees predisposed to rural practice. The quick response of such programs owes some of

their success to selection bias and, while it is early going, the results of such integrated feeding programs as Flinders University in Australia and UBC in Canada MAY result in longer term rural commitment among graduates. It should be kept in mind that family and social factors place practical limits on the length of time a cohort of physicians is likely to remain in rural practice. The lifetime rural practitioner is a rare breed. Most successful strategies are now based on extending the length of stay of a much larger cohort that will commit five to 10 years to such a career. This appears to hold true across a number of social and health systems. These facts notwithstanding there are a number of reasons why the proposal for PUHS *must* integrate postgraduate training into its initial deployment:

i such postgraduate trainees are an important part of the education resource system for undergraduate trainees.

ii "forward feeding" of values being developed in PUHS undergraduate teaching/learning to existing postgraduate level trainees from other schools may have a positive effect on their ultimate commitment to rural practice (a rapid effect)

iii the Departments at Patan Hospital see the presence of postgraduate level trainees – especially senior trainees – as a net benefit for professional satisfaction and recruitment (see above)

iv transitional preparation of PUHS postgraduate programs will allow innovation, evaluation and clarification of the postgraduate programs best suited to the "new kind of doctors" that PUHS is dedicated to producing

v in order for PUHS to be sustainable it will need to develop and attract new academics. To be successful in this PUHS MUST develop a *career pathway* that bright and committed students can both see and follow. This was mentioned by a number of senior physicians, including orthopedics, surgery, emergency medicine, pediatrics, internal medicine, and obstetrics and gynecology – in both formal and informal discussions at Patan as a key requirement for success.

vi particularly with regard to rural placements, the rural network of hospitals will need a "payback"(in service and professional satisfaction) of more senior trainees for the "investment" (in time and supervision) they will need to make in more junior trainees.

- 7 There will be a significant challenge in funding and providing residential space for the students

If one presumes that PUHS will be a traditional residential school this will need to be addressed through the same mechanisms mentioned above. While the fact that the planned distributed nature of the program may be seen to mitigate the total space requirements, it would be unwise to count on this and not build with future expansion in mind. Again, the issue of co-location with one or the other of the basic science or clinical campuses (or both) will need to be considered.

8 A committee and process must be established for the development and implementation of the innovative curriculum.

The stated intent of PUHS is to produce “a different kind of doctor”. Beyond selection, a crucial part of this endeavour will be the curriculum whereby what students learn and how they learn it will be determined. This will involve the development of general and course-specific learning objectives, course structure, evaluation and promotion processes and learning resources required at each stage and place where the curriculum is given. This will require the establishment of an educational office which is both a necessity for success and a requirement of the Nepal Medical Council. While this may seem an intimidating task, a number of the clinicians at Patan Hospital have had considerable experience and success in developing, organizing and delivering educational programs. In addition, this area of endeavour is likely to attract the interest and participation of an array of international expertise that can bring to bear the knowledge of what works and what doesn’t and to assist in the adaptation of that general experience to the particular circumstances in Nepal. As the world literature is increasingly showing, the great deal of *mutual* learning between under-resourced and highly resourced nations takes place and makes this a desirable proposition for both parties. (Richards and Tumwine 2004, Berwick 2004)

When coupled with the observed existence of a large number of excellent role models and already committed teachers at Patan Hospital there is every reason to believe that this endeavour will be successful. In some measure it will be resource-dependent but the experience elsewhere is that thoughtful, engaged development will actually attract the necessary resources. Similar experience would indicate this is likely to be a two-year long process and therefore there is some urgency in beginning it.

## Timing

It is said of “greatness” that some are born great, some achieve greatness, and some have greatness thrust upon them. A similar case can be made for timing of a project such as this. Sometimes the timing is right, sometimes it can be made right, and sometimes a number of conditions combine to create an opportunity and an urgency that might not otherwise be present. It is to this last category that the current project belongs. A number of conditions, some of longer duration and some more recent, have contributed both to the opportunity and urgency to consider the feasibility of the PUHS proposal. These include among others:

- 1 The withdrawal of the United Missions to Nepal direct involvement in Patan Hospital and the necessity for a change in governance of that institution at a time when it has a high reputation for committed clinical service.

- 2 A similar change in management in a number of rural UMN hospitals that will be a potential network under the auspices of Human Development and Community Services (HDCS).
- 3 The failure to fulfill the initial promise of Kathmandu University Medical School (KUMS) and the transfer of the committed group of medical school innovators willing to work on a new project to fulfill the original aims. The "lessons learned" from this experience were explored in great detail with the core group of educators and there is justifiable optimism that their application will enhance the likelihood of success of the PUHS proposal. That this experience is so recent provides a palpable spur to its application at this time.
- 4 An increasing and broadening recognition that the current medical education situation in Nepal does not appear to be offering solutions for the dramatic maldistribution of physicians.
- 5 An evolving health systems policy environment seeking to pursue "deconcentration" or devolution of decision making more to the District level while there is increasingly a lack of local leadership to take this up.
- 6 A Health Minister and Health Secretary that state support for the concept .
- 7 An uncertainty in the legislative branch of government which leads to relevant policies being unrealized – one on medical education and one on university development and governance. This may either ease the matter of developing a specific senate governance structure for PUHS or make the entire matter considerably more difficult.
- 8 Klaus Wagner, the very supportive World Health Organization figure who has promised support for the development of the project will be retiring at the end of January 2005. (This issue should be followed up on an urgent basis.)
- 9 The welcome donation of the Simons Family for the construction of a new maternity care wing to be opened in 2007 creates significant opportunities. These include designing purpose-built educational space and creating possibilities for retrofitting the existing wards to address some of the acute space issues identified by various departments during the course of this feasibility study.
- 10 The generous proposal on the part of the Simons family to develop the Nick Simons Institute for Rural Health Training which creates a unique opportunity for co-development of distributed interprofessional education at both post graduate and undergraduate levels – to the clear benefit of both.

The Governing Board of Patan Hospital may wish to establish a working group to develop a work plan that could take some of these timing factors into account.

## Conclusions

The feasibility for success in the creation of PUHS with a foundation in Patan Hospital is directly dependant upon the vision, confidence and support of the hundreds of people and many institutions that are needed to co-ordinate that success. This report seeks to articulate both reasons for confidence in that success and concerns that *must* be addressed if that success is to be achieved and sustained. While no such study can be exhaustive nor can it predict the behaviour of internal and external forces, it may provide a useful foundation for a committed group of leaders to take the "next steps" in pursuing the achievement of the vision. There is no question that it is an intimidating task to undertake in the current uncertain situation. On the other hand, its importance in achieving some measure of certainty for a healthier future for the most unhealthy people in Nepal is considerable. As with any large human endeavor, there are many reasons why it might not work and one overarching reason why it *might*. This is the belief in the sufficient number of committed and talented people that the project is important to the future of Nepal and that it is both *desirable* and *doable*. During the course of this brief but intense study, it is apparent that this latter condition is indeed present. It is likely that no single person can, at this time, see the road ahead all the way through to its end. Therefore, the undertaking of the task is in some measure an act of faith. However, it is a faith grounded in a long history captured in many faiths and achievements and perhaps best articulated by the ancient Talmudic observation: "*It is not up to you to finish the work, but neither are you free to not take it up.*"

The Governing Board of Patan Hospital and the Steering Committee for PUHS should give serious consideration to the establishment of an **implementation working group** that represents the broad institutional partnerships required to make PUHS a success. One characterization of relationships that is in keeping with the "social accountability" character of the proposed medical school is the partnership pentagram outlined in *Towards Unity for Health*.

### PARTNERSHIP PENTAGRAM



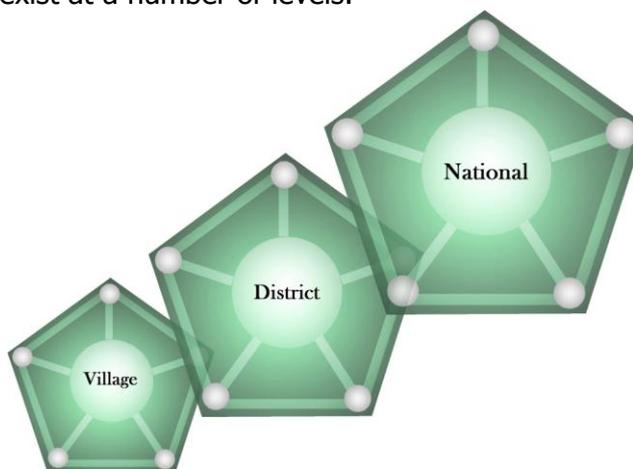
These relationships exist and need to be developed/nurtured at a number of different scales in a distributed program. Properly developed they have a powerful effect on recruiting and retaining practitioners in the field. In significant measure the expected "Program Outputs" of the health sector reform strategy (NHSP\_IP, 2004) create a

context in which an active academic partner could find venues (eg through the NGO Coordination Council outlined in Neupane 2004) in which to establish and foster the relationships necessary for success at both national and district levels.

One of the first and enduring tasks of an implementation committee will be to ensure a balance between the resources for the program, the number of students admitted in the first class and the timing for the implementation of the new class. Given the complexity of the undertaking it will be extraordinarily important to ensure that the initial class is neither too large nor too soon for the degree of preparation and resources present. While one cannot predict how well everyone will rally to the cause, it seems unlikely that an initial class size beyond 20-30 students would be wise under the current circumstances. This would be a sufficient volume to be manageable while institutional relationships, curriculum, evaluation and infrastructure foundations were solidified. It is also a reasonable sized cohort to deploy in the clerkship years as the clinical departments develop their faculty and infrastructure in turn. Subsequent expansion can be undertaken based on thoughtful evaluation and the further development of strategic resources.

As to the timing of the first entry class, this will depend entirely on addressing the numerous challenges that are alluded to in this report. While all of the challenges are subject to some measure of incrementalism, there would need to be a clear plan for the ongoing development of the school before it would be appropriate to admit the first class. Detailed admission procedures, curriculum, faculty, leadership and physical resources should be in place before applications are entertained. Reasonably detailed plans for the second year and assurance of full recruitment of faculty and availability of other resources would need to be assured as would a broad outline of the third and fourth year with further assurance of faculty availability at that time. Since, as noted above, there is less concern regarding the quality and quantity of resources for clinical teaching than for the first two years, it is apparent that intense and urgent efforts will be required to address the basic science years.

As to the distributed aspect of the training, it would be hoped that effective partnerships with hospital networks mentioned above and such developments as the proposed Nick Simons Institute could lead to mutually beneficial co-development. To return to the pentagram of partnerships mentioned earlier, it can be seen that these relationships must exist at a number of levels:



HEIRARCHY OF SUSTAINABLE  
COMMUNITY PARTNERSHIPS

It would be helpful to have representative perspectives from each of the five points of the pentagram in judging the actions that must be taken in order to build upon the observed strengths and particular challenges that are outlined in this feasibility study. Such a group will need to address each of the challenges outlined (and such others as may arise) in such a manner as to determine whether they can be overcome. What is clear from world wide experience and the deliberations of international bodies is that they are most likely to be overcome through the concerted and collaborative efforts of the perspectives which are outlined in these models.

Finally, to address the four questions posed at the beginning of this study:

**1 Is the pedagogic structure and deployment of the educational program likely to result in the desired characteristics in its graduates?**

The literature on pedagogy and the outcomes achieved in other relevant initiatives and jurisdictions would indicate that if PUHS is successful in establishing its selection, curriculum and deployment then PUHS is likely to achieve the outcome intended from its educational programs. This will be most successful if there is planned co-development of both the undergraduate and postgraduate initiatives.

**2 If successful in producing such graduates, in the manner outlined, are they likely to be deployed and effective in addressing the priority activities as enunciated by the planning and policy documents of the HMGN Ministry of Health?**

The policy *intent* of the HMGN Ministry of Health is quite clear in terms of the devolution of flexibility in the application of national policy to the District level. In order for this intent to be realized there will have to be very significant capacity developments at the District level. An important aspect of that capacity development will be leadership in both clinical and public health initiatives. In this sense the intended products of PUHS (if properly realized) could provide a necessary, though not sufficient, contribution to its success. A dedicated, confident, competent and committed cadre of physicians and other professionals trained and prepared to work with the community in deploying policies and services focused on the priority health needs of the District would be a powerful tool in changing the currently unacceptable health status in the 75 Districts in Nepal. Their effective deployment depends on factors beyond the direct control of PUHS but there is some optimism that a distributed educational program will not only respond to but actually *create some of the conditions necessary for that successful deployment*. Literature and experience elsewhere would provide some optimism for success, although clearly such success is far from guaranteed and will require joint commitment and accomplishment as outlined in the attached study.

**3 Is the project seen as desirable by its internal and external stakeholders?**

There appeared to be a broad consensus among the many stakeholders interviewed that the achievement of PUHS would be desirable. While there is clearly a spectrum of opinion as to whether this would be the most cost-effective short-term strategy, there was little dissent from the idea that the status quo is *not* going to produce the professionals necessary for the broad policy intent to be realized. Further, detailed discussion rested more on the likelihood of achievement in present circumstances rather than disagreement about the desirability and likely impact of the

project should it be achieved. In short, it was seen as desirable by most interviewees. (details available in notes of interviews)

#### **4 Is the project doable given current leadership, present and projected resources?**

The assessment of the *doability* of the PUHS project is founded on the realization of the Strengths and the management of the Challenges contained in this report. Any large and pioneering endeavour embarks with a significant amount of faith, of commitment and of expertise. This review found a significant and reassuring amount of commitment and expertise. The many people and organizations who must work together to realize this dream of service to those most in need will have to decide their own faith in its achievement.

Respectfully submitted

Robert F Woollard, MD, CCFP, FCFP

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*Draft for discussion*

Responding to the  
Health Care Needs of  
Rural Nepal

*A concept paper on establishing*

The  
Patan University  
of Health Sciences

Medical School Steering Committee / Task Force  
Patan Hospital  
September 2004

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### **Executive Summary:**

Despite significant investment and the unprecedented expansion in the number of health care institutions and medical schools in Nepal, the health care need of the rural population continues to be neglected. One of the main factors responsible for this state of affairs is the reluctance of physicians and other health care professionals to work in rural communities, e.g. District Hospitals and Primary Health Care Centres. There are many reasons for this.

In order to deal with the unmet health care needs of the rural population, and improve the quality of medical care, medical education and medical research in Nepal, a new Patan University of Health Sciences (PUHS), based primarily at Patan Hospital, is proposed. It is envisioned that the PUHS will introduce rural oriented, community based, innovation driven and high quality educational programs.

We believe, even in a country as poor as Nepal it is critical that health care providers be given a solid foundation in modern medical knowledge to allow them to provide the best possible care with the resources that are available. Moreover in settings such as rural Nepal, where delivering health care is particularly challenging, it is especially important that an attitude of service, altruism and use of analytical skills be fostered during the education of future health care professionals. Hence priority must be given to delivering high quality, innovative medical education to best meet the health care needs of Nepal now, and to train the leaders in Health care for the future.

The new Health Science University (i.e. PUHS) will be an autonomous, not-for-profit, self-sustaining academic institution of higher learning dedicated to improving the health status of the people of Nepal, especially those who are poor and living in remote rural areas. The PUHS will focus its efforts initially to develop the School of Medicine and then the School of Nursing and a School of Allied Health Sciences. Additional Health Care Professional Schools such as a School of Public Health etc may be added as new health care needs of the community are identified and the physical infrastructure and human resources of the PUHS are strengthened.

In terms of education, the PUHS vision is to produce high quality, caring and socially responsible physicians, nurses and other health care providers who are committed to serving the poor in rural and underserved urban areas of Nepal. This will be accomplished by:

1. Careful selection of at least 50 percent of the students from rural Nepal, with a bias towards those from socially disadvantaged groups, including women and marginalized ethnic groups.
2. Providing scholarships to enable poorer students from rural backgrounds to attend PUHS.
3. Designing an innovative curriculum and adopting a maximally effective teaching methodology for delivering medical training in the context of the Nepali culture and educational backgrounds
4. Providing the strongest possible background in biomedical principles including grounding in basic medical sciences and public health on a par with that provided at medical schools in the West while at the same time focusing on medical issues of the greatest relevance to Nepal.
5. Recruiting faculty committed to the accomplishment of the PUHS vision, mission and goals.

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6. Integrating learning and service activities in rural communities during their clinical clerkships, internship and even during the postgraduate residency-training program.
7. Setting up incentive programs that will encourage graduates to work in rural areas.
8. Helping upgrade the physical facilities in the rural hospitals where the PUHS students will be trained and / or work.
9. Coordinating activities with the National Health System (NHS) in order to meet the professional health care needs of the rural Nepal.

In addition, PUHS also aims to create a model of high quality, cost-effective and humane medical care, as well as innovative research that is geared towards the proper understanding and resolution of existing and emerging challenges / issues of clinical, public health and biomedical importance.

Needless to say, active support from and collaboration with the NHS is desirable for the establishment and successful operation of the PUHS. It is in this context that the PUHS seeks a meaningful partnership with the NHS, particularly as the Ministry of Health, together with the external development partners (EDP or donor agencies) embarks on its new health sector reform policies.

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## 1. BACKGROUND

### *1.1 Introduction:*

Nepal is one of the poorest countries in the world with an annual per capita income of US \$235 per year. There are three geographical regions in Nepal, namely High Mountains, Hills and Terai (plain) ranging from North to South. Administratively and politically the whole country is divided into 5 Regions (from east to west), 14 Zones, 75 Districts, 205 Electoral Constituency and 3995 Village Development Committees (VDCs). Population growth is high at 2.3 percent per year. Over the next 20 years the current population of approximately 23 million people (2/3 of them live in rural areas) is projected to increase by 60 percent. The number of women of reproductive age is expected to increase by 71 percent. Life expectancy at birth is low at 59 years but there are considerable regional disparities. It is reported to be 74.4 years in the Kathmandu valley where the elderly population is expected to rise more than threefold increasing demand for the treatment of non-communicable diseases (1).

### *1.2 National Health Policies and Plan:*

The following description will highlight the current policy framework guiding the thinking and action of our health care institutions:

- a) **National Health Policy (NHP)** was adopted in the year **1991** to bring about improvement in the health condition of the people of Nepal. The primary objective of the NHP was *to extend the primary health care system to the rural population so that they benefit from modern medical facilities and trained health care providers* (2)
- b) **Second Long Term Health Plan (SLTHP):** This is a 20 year long (**1997 – 2017**) health plan of the government the goal of which is *to guide the health sector development for the improvement of the health of the population, particularly those whose health needs are not often met ...and to develop appropriate strategies, programs and action plans that reflect national health priorities; that are affordable and consistent with available resources; and to establish co-ordination among public, private and NGO sectors and development partners.*

*The SLTHP vision is a health care system with equitable access and quality services in both rural and urban areas. The system would encompass the concepts of sustainability, full community participation, decentralization, gender sensitivity, effective and efficient management and private and NGO participation* (2).

*The objectives of the SLTHP were as follows:*

1. *To improve the health status of the population of the most vulnerable groups, particularly those whose health needs often are not met – women and children, the rural population, the poor, the underprivileged and the marginalized population;*
2. *To extend to all districts cost-effective public health measures and essential curative services for the appropriate treatment of common diseases and injuries;*
3. *To provide technically competent and socially responsible health personnel in appropriate numbers for quality health care throughout the country, particularly in the underserved areas;*

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4. *To improve the management and organization of the public health sector and to increase the efficiency and effectiveness of the health care system;*
5. *To develop appropriate roles for NGOs, and the public and private sectors in providing health services; and*
6. *To improve inter and intra-sectorial co-ordination and to provide the necessary support for effective decentralization of health care services with full community participation*

### c) **Medium Term Strategic Plan (MTSP):**

A strategic analysis of the health sector jointly conducted by the Ministry of Health and EDP in 1999 showed that despite the policy commitment, equity in access to health care remained elusive and concern was raised about the low rate of achievements when compared with the investment made (2). The following problem areas were identified:

- a. Weak management of public sector health facilities and institutions;
- b. Inadequate compliance with existing guidelines and quality of care protocols;
- c. Lack of clear roles and responsibilities of health authorities (central and district level) regarding decentralization;
- d. The absence of an effective system to ensure quality and fair pricing of private sector services; and
- e. The lack of policies for human resource development and management

The MTSP was the result of that strategic analysis. The key aims developed from this analysis were incorporated into the Tenth Five Year Health Plan.

### d) **Tenth Five Year Health Plan**

This covers the period 2002 – 2007 (5), and also incorporates the key principles contained in the document **Nepal Health Sector Strategy: An Agenda for Reform**. It has the following policy objectives:

1. *Making essential health care services (EHCS) available to all people with special emphasis on the rural, remote, poor, and disadvantaged population through the development of an effective and efficient health management system.*
2. *Establishing a decentralized health system with a participatory approach at every level.*
3. *Establishing Public – Private – NGO partnership in the delivery of health care services.*
4. *Improving the quality of health care provided by public/private/NGO partnership through total quality management of human, financial and physical resources.*

### e) **Millennium Development Goals (MDGs) focused on Health:**

In addition to the above mentioned national health policy the government of Nepal has also pledged its commitment towards the accomplishment of MDGs, a UN led initiative endorsed by almost all the countries of the world, including Nepal and comprised of the following goals:

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1. *Eradicate extreme poverty and hunger*
2. *Achieve universal primary education*
3. *Promote gender equality and empower women*
4. *Reduce child mortality*
5. *Improve maternal health*
6. *Combat HIV/AIDS, malaria and other diseases*
7. *Ensure environmental sustainability*
8. *Develop a Global Partnership for Development*

### **1.3 National Health System:**

A health system consists of organizations, institutions and resources devoted to producing health actions. The term health action refers to any efforts in personal health care, public health services or through intersectoral initiatives, whose primary purpose is to improve health of the people living in a given society and /or the country as a whole.

In the case of Nepal, even though there has been a mushrooming of profit driven, acute care oriented, private health care industry in the different cities, a state organized / run health care delivery system still remains as the backbone for the kind of health actions described above. State initiated efforts are supplemented by various curative and preventive health programs run by a range of national and international non-governmental organizations.

Though the structure of and the functional relationship between various components of state funded health care delivery system is somewhat tricky and complex, they could be divided into two broad categories:

#### A) Central level institutions:

In addition to 5 tertiary care level Hospitals (excluding the Army and Police Hospital) in Kathmandu (having a total bed capacity of 1100+) providing specialty and subspecialty services, there are several other central level units / bodies with a specialized function and is directly under the Ministry of Health (MOH). These bodies include, National Tuberculosis Center, National Center for AIDS and STD Control; or, National Health Education, Information and Communication Center and various high level policy and management units within the complex of MOH.

#### B) Department of Health Services (DOHS)

The main responsibility of the DOHS is to deliver preventive, promotive, and curative health care services throughout the country. The DOHS primarily does this through a network of specialized units focusing on a major public health problems, such as Child Health Division, Family Health Division, Leprosy Control Division, Epidemiology and Disease Control Division as well as some other units with broad supportive function such as Management Division, Logistics Management Division, National Health Training Center and various institutions directly involved in delivering the patient care services. Of the state owned health care institutions located outside the capital, there are five Regional Health Directorates (which also includes 5 regional hospitals and are directly under the MOH rather than that of DOHS), 11 Zonal Hospitals, 62 District Hospitals (DH; with 15-25 beds and mostly manned by non-specialist physicians), 188 Primary Health Care Centers (PHCC; one for each electoral constituency, has 5 beds and is manned by a non-specialist physician), 697

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Health Posts and 3129 Sub-Health Posts (HP & SHP; one for each VDCs, has no in-patient facility and is manned by paramedical personnel).

At the district level, in addition to the DH, there are also District (Public) Health Offices, which have a responsibility to implement preventive / promotive health activities and supervise / support the PHCC, HP and SHP.

Regional and Zonal hospitals are expected to provide the major clinical specialty (Medical, Surgical, Pediatric and Obstetric/Gynecologic) services; the SHP, HP, PHCC and DH are supposed to provide what is called Essential Health Care Services (EHCS) comprising of the following 20 areas:

- a) Appropriate treatment of common diseases and injuries.
- b) Reproductive health (Maternal and Perinatal health problems and other RH issues)
- c) The expanded program on immunization (Diphtheria, Pertusis, TB, Measles, Polio, Neonatal Tetanus and Hepatitis B)
- d) Condom promotion and distribution (for the prevention of STD/HIV, Hepatitis B and Cervical Cancer)
- e) Leprosy control
- f) Tuberculosis control
- g) Integrated Management of Childhood Illnesses (Diarrhoeal diseases, Acute Respiratory Infections, Malnutrition, Measles & Malaria)
- h) Nutritional supplementation, enrichment, nutrition and rehabilitation (Protein-Energy malnutrition, Iodine deficiency, Vitamin A deficiency, Anemia, Diabetes, Rickets, Perinatal mortality, Maternal morbidity etc)
- i) Prevention and control of blindness (Cataract, Glaucoma, Refractive error and other preventable eye infections)
- j) Environmental sanitation (Diarrhoeal diseases, Intestinal helminthes, Vector borne diseases, malnutrition)
- k) School health services (Diarrhoeal diseases, Helminthes, Oral Health, HIV/STD, Malaria, Visual & hearing problems, Substance abuse, Basic trauma care)
- l) Vector borne disease control (Malaria, Leishmaniasis, Japanese Encephalitis)
- m) Oral health services
- n) Prevention of deafness
- o) Substance abuse, including tobacco and alcohol control
- p) Mental health services
- q) Accident prevention and rehabilitation
- r) Community based rehabilitation (Leprosy, Congenital disabilities, Post trauma disabilities, Blindness)
- s) Occupational health (Chronic Respiratory Diseases, Accident, Cancers, Eye and Skin diseases, Hearing loss)
- t) Emergency preparedness and management (Natural & man-made disasters)

Hence even though the SHP could be conceptualized as the first contact point between the health care delivery system and the population seeking health care services, in reality

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the SHP is the referral center (in most rural areas) for the volunteer cadres such as Traditional Birth Attendants (TBAs; total no = 15000+) and Female Community Health Volunteers (FHCV; total no = 48,000) who are active in the rural village communities.

### **1.4 Current health scenario:**

The overall morbidity in Nepal is dominated by infectious disease, nutritional disorders, and maternal and perinatal diseases (Table 1). Half of all deaths and two thirds of all Disability Adjusted Life Years (DALYs) are caused by them. However non-communicable diseases are beginning to increase in relative importance, though not to the same extent as they have been in many low-income countries (1). Mental health is also a huge, but largely neglected problem in Nepal. It is estimated that between 15-25 percent of patients presenting to a general outpatients clinic in rural Nepal will have identifiable mental disorders. In addition tobacco and alcohol related diseases remain a major problem.

**Table 1: Comparison of "Deaths by Cause" and DALYs Lost by Cause (1, 2)**

Causes of Death	Cause-Specific Deaths as percent of All Deaths	DALYs Lost as percent of All DALYs Lost
<b>Group I: Infectious diseases and maternal, perinatal and nutritional problems.</b>	<b>49.7</b>	<b>68.5</b>
<b>Group II: Non-communicable and congenital problems.</b>	<b>42.1</b>	<b>22.8</b>
<b>Group III: Injuries and accidents.</b>	<b>6.9</b>	<b>8.7</b>
<b>Unclassified.</b>	<b>1.0</b>	<b>0.0</b>

*Source: Nepal: Operational Issues and Prioritization of Resources in the Health Sector, June 2000.*

The highest risk groups are children under five, particularly females, who account for 52.5 percent of all female deaths, and women of reproductive age. Although children under 5 years old represent only 16 percent of the population, they account for over 50 percent of the total DALYs lost from all causes, and 80 percent of the under-five deaths are due to Group I causes. Women 15–44 years old experience a 26 percent higher loss of DALYs than men of the same age group. Much of this excess loss is related to problems related to pregnancy (1).

As per the latest government report (2) on the current national health data, in the year 2059/60 (=2002/2003), the top 10 conditions diagnosed among patients attending outpatient clinics throughout the government run health care institutions were:

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<u>Diseases / Conditions</u>	<u>Prevalence or Burden</u>
Skin diseases	5.68%
Acute Respiratory Infections	4.04%
Diarrhoeal Diseases	3.68%
Intestinal Worms	2.65%
Fever	2.50%
Gastritis (=Acid-Peptic Disease)	2.35%
Ear Infection	1.67%
Arthritis / Rheumatism	1.36%
Chronic Bronchitis	1.32%
Sore eye	1.16%

Similarly, as per the data recorded from the entire government hospitals, the top 10 conditions that required hospitalization in the year 2059/60 (2002 / 2003) were as following:

<u>Diseases / Conditions</u>	<u>Prevalence or Burden</u>
Single spontaneous delivery	24.77%
Diarrhea & Gastroenteritis	5.80 %
Pneumonia (? organism)	4.84 %
Typhoid and paratyphoid fever	4.48 %
Acute Lower Respiratory infection	3.35 %
Unknown / unspecified causes	3.16 %
Chronic Obstructive Pulmonary Diseases	2.75 %
Abortion	2.06 %
Fever of Unknown Origin (FUO)	2.05 %
Injury of unspecified site	1.83 %

The issue of equity of access to health services compounds the impact of these diseases. Health Expenditure is very low in Nepal in spite of some real increases over recent years. Currently total expenditure is about \$10.50 per capita with \$7.40 being private – the majority of which is out of pocket expenditure. Of the latter it is estimated that approximately 70 % is spent on pharmaceuticals either through cost sharing at public facilities or in the private sector. Transport costs are a significant deterrent to the poor accessing health care in remote areas and the largest equity discrepancies relate to area of residence (1).

The challenges faced by the health sector in Nepal are similar to those facing other low income countries – namely an under resourced public health sector and a rapidly expanding and unregulated private sector. While the government needs to focus on ensuring access by the poor and vulnerable to essential health care service (EHCS), this will only succeed if it ensures that systems – both financial and regulatory - are in place to meet the expectations of the population who wish to access services outside the EHCS (1).

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### *1.5 Health Scenario in Rural Areas:*

As a result of substantial investment made in the health sector over the last several decades, a rich network of government funded health care institutions do already exist in the rural areas.

Unfortunately, however, recent studies clearly show significant disparities in the health care status of urban populations and the rural poor in Nepal. The under 5 mortality rate is 93.6 per 1000 for urban areas, 147.3 per 1000 in southern Nepal (Terai) and 201 per 1000 for those living in the mountainous regions of Nepal (Table 2). There are similar significant differences when you look at immunization coverage, diarrhea prevalence, malnutrition and maternal/perinatal problems. In every case it is the poor living in the rural areas of Nepal who suffer the most. The Nepal government acknowledges these disparities and is about to embark on major Health Sector Reform in order to address particularly the rural/urban divide (1, 4).

**Table 2: Mortality by Area of Residence (1, 4)**

<b>Area of Residence</b>	<b>Infant Mortality Rate (per 1000 live birth)</b>	<b>Under 5 Mortality Rate (per 1000 live birth)</b>
<b>Urban</b>	<b>60.4</b>	<b>93.6</b>
<b>Rural</b>	<b>100.2</b>	<b>147.0</b>
<b>Mountains</b>	<b>132.3</b>	<b>201.0</b>
<b>Hills</b>	<b>85.5</b>	<b>131.3</b>
<b>Terai (Plains)</b>	<b>104.3</b>	<b>147.3</b>

*Source: NDHS, 2001*

During the last 10 years or so, several for profit, private health care facilities have been established in Nepal. Accessibility to these health care facilities, however, has remained a problem for most Nepalese people especially the rural population. Most health care facilities in rural Nepal do not have a qualified physician. This is because of the unwillingness of physicians to go and serve in rural areas. There are several reasons behind this attitude. Some of the major reasons cited are:

- a) Poor infrastructure / supply (in DH & PHC)
- b) No support system (technical & non-technical)
- c) Intellectual isolation (no access to medical books / journals, regular refresher courses, internet facilities)
- d) Inadequate incentives (low salary, uncertain career advancement / postgraduate education opportunities etc)

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e) No private practice opportunities (therefore no supplemental income to raise a family in a decent way)

f) Family needs (poor educational facilities to educate the children)

g) Security concern (recent phenomenon)

In addition there is a lack of social responsibility and personal commitment on the part of many Nepalese physicians to serve the poor and needy of rural Nepal.

Most medical / health care professional schools are run commercially and are not generally affordable for poor, rural students. It is essential to sensitize health care professional students including medical students to the care of the rural population early in their training with the appropriate selection of clinical experiences. Few undergraduate health care professional and medical education programs in Nepal are addressing the medical needs of rural Nepal.

### ***1.6 Human Resource Development for Health in Nepal***

It goes without saying that human resources play a critical role in the proper functioning of a health system. No matter how sound the health plans and policies are, it is the competence and motivation of the human resources working in a given system that determines, to a large extent, as to whether or not those policies are translated into action. In the words of Dr. Halfden Mahler, the former Director General of WHO, *“Manpower is the cornerstone of any health system and unless manpower development patterns are appropriate to people’s health needs and social circumstances, countries will never be able to achieve a level of health that will allow their people to lead socially and economically productive lives (3)*

Despite such importance, the history of human resource development in Nepal is rather short. It was in 1933/34 AD that the first health training institution called Nepal Rajakiya Ayurveda Vidyalaya (=Royal Nepal Ayurveda School) was established in Nepal. Training for Compounders and Dressors (= sort of paramedics) started in 1934 under the so called Civil Medical School. The first Nursing School was formed in 1956 under the Ministry of Health (MOH). The Auxiliary Health Worker (AHW) School was opened in 1962 that trained Health Assistants as well as AHWs. From the July 1972, all these middle level health manpower training programs came under the aegis of Institute of Medicine which was established as an integral part of Tribhuvan University following a New Education Systems Plan (NESP) (3).

In terms of medical education, though there was a suggestion of starting up a new medical school in Nepal already in 1963 and a 5 members committee was formed in 1968 to carry out this task (3), it was only in 1978 that the Institute of Medicine enrolled 22 medical students for the first time ever in Nepal. Until that point in time all of the Nepali doctors were trained in other countries, mostly in India, the then Soviet Union, Bangladesh and China.

Political change in 1990 led Nepal to adopt liberal economic policies and was followed by the establishment of several medical schools most of which were established as a business venture and primarily for the purpose of making profits. Besides the two state funded medical schools, there are nearly a dozen medical schools operating in Nepal at present. The class sizes of these medical schools are not uniform. But it is estimated that together they have the potential of producing about 1000 graduates every year.

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Now let us take a brief look at the current physician scenario in Nepal. In the year 2002, there were a total number of 3265 Nepali doctors in the country, out of which 2752 (71%) were working in the hospital setting and 44 percent of them were working in the Kathmandu valley alone. The doctors working in the mountains and hills constituted 2 percent and 16 percent respectively (6). Given that there already are so many medical schools in Nepal, some may say that there is no need for another medical school. However, when we analyze the facts, we realize that:

- ◆ Only 50-60 percent of those 1000 graduates are Nepalese with the remainder returning to their country of origin once they have graduated from medical school. This means that 500 - 600 new Nepalese physicians are trained each year for a population of 24 millions people.
- ◆ Currently, several hundred Nepalese students go to countries such as China, Bangladesh and Russia for their medical studies. Most of them go on a self pay basis (i.e., without any scholarship). Had there been a reasonable prospect of getting a high quality medical education at an affordable cost, many of them may have chosen to study in Nepal itself.
- ◆ In addition a large number of new Nepalese medical graduates leave Nepal for post-graduate study and never return.
- ◆ There are many exceptionally talented young students in rural settings who do not have the opportunity to go to medical school.
- ◆ Most medical / health care professional schools in Nepal are for profit organizations and are not generally affordable for poor, rural students. Few undergraduate health care professional and medical education programs in Nepal address the medical needs of rural underserved Nepal.
- ◆ The problem in Nepal is not that too many physicians are being trained but that the majority of Nepalese physicians and other health care workers remain in urban Nepal with few providing health care in rural Nepal even though 86 percent of the population live in rural Nepal. (7). In the Kathmandu Valley, there is a ratio of 1 doctor / 850 people compared to 1/30,000 outside the Valley (8). In remote districts the ratio is 1/150,000. Prasai (9) suggests that more than 60 percent of doctors have only worked in Kathmandu Valley and those posted in remote areas hardly spend a year in that post. Most health care facilities in rural Nepal do not have a qualified physician.
- ◆ While the numbers of medical schools in Nepal have increased, their quality is uneven. Thus, many of the currently existing medical schools, especially the for-profit ones, use conventional curricula with most of their teaching faculty imported from India. This allows students to obtain a reasonable level of clinical proficiency, but is not adequate to address the current health care challenges nor to train the next generation of health leaders for Nepal.

Given the wide gap between the urban and rural areas in educational attainment, health care facilities, transportation, communication and economic status; the development of a new Health Science University dedicated to educating health care professionals for rural Nepal will assist the government in providing medical personnel for the areas in greatest need of curative and preventive health care.

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Studies from many countries including Indonesia, Thailand, USA, Canada and Australia suggest that a number of significant factors determine choice of work location. The doctor's background especially growing up in a rural area has been found to be the most important independent predictor of rural practice (10-12). Other factors suggested and studied have been exposure to rural practice during medical training both in medical school (13, 14) and residency (15, 16), personal intention and motivation (10, 17, and 18) and various financial, professional and lifestyle issues (19).

It is therefore essential to select prospective health science students from rural Nepal, sensitize them to the care of the rural poor early in their training and provide them with incentives to return to rural Nepal to provide health care. The program of the Patan University of Health Sciences (PUHS) will be designed to identify appropriate students, train them also in rural area setting and develop incentives for them to remain and practice in rural Nepal.

While the goal of PUHS is to assist the NHS to implement its vision of improving the health care of rural populations, we must be clear right from the outset that without real, positive and sustained support and cooperation from the NHS, our ultimate goal of improving the health and well being of the people of Nepal and especially those who are poor and from rural areas will not be accomplished. We must realize that health and the well being of the people are influenced by so many factors, many of which, strictly speaking, are outside the domain of medicine. In the opinion of Dr. Charles Boelen, "A good education for the health professions does not necessarily provide the nation with good health" and that "...socially accountable schools dare to look beyond their immediate educational intervention..." (20) Medical schools and Universities are parts of a larger social system. To truly impact on the health of the nation, PUHS, in addition to educational interventions, must proactively interact with and influence the Nepal government in broader social policy development.

### *1.7 Patan Hospital*

Though Patan Hospital operates under the governance of an independent joint board of United Mission to Nepal (UMN), the Community and His Majesty's Government, Ministry of Health (HMG/MOH), it continues to carry on the values and ethos of a Christian mission hospital. Historically, it has had a commitment to provide care for patients from both urban and rural Nepal. It provides health care for over 300,000 patients a year not only from the local area but also from all 75 districts of Nepal. Currently, it has 300 beds with active ambulatory outpatient and emergency services. In addition it provides specialized care for patients in Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, Orthopedics, Psychiatry, ENT and Critical care. It also serves as a main referral center for rural hospitals like Anandaban Leprosy Hospital, Okhaldhunga Community Hospital, Tansen Hospital and other peripherally located missionary hospitals.

Since 1994 the UMN hospitals, including Patan Hospital, have been involved in the supervision and training of 24 MDGP graduates (18 in Patan and 6 in Tansen) during their three year education program, in collaboration with Tribhuvan University. Patan Hospital also acts as a training centre for Lalitpur Nursing Campus, which has produced hundreds of nurses over the past 45 years. Tansen Nursing School (affiliated to Tansen UMN hospital), started in 2001 has produced 40 nurses. Patan Hospital supervises the education of 20 interns/year as well as post-

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graduate residents. Patan Hospital also provides training for midwives in Safe delivery practices under the safe motherhood project and also trains nurse Anesthesia technicians on a regular basis. Medical student, and paramedical (allied health professional) student education is the next logical step in expanding the impact of Patan Hospital on the health care of the Nepalese people.

In December 2003 the Medical School Steering Committee (MSSC) was formed as a result of a dialogue between the Patan Hospital Medical Director, senior medical staff and a group of medical educators having practical experience in designing and running innovative undergraduate medical education program in Nepal.

This committee explored several alternative options for the purpose of developing and running such innovative medical education. Under the current law of the land, a medical school could run the program but would not have the legal authority to award the degree to its graduates. In other words, it must have academic backing from a university. In light of this, there were only three options available for us to develop a new medical school:

### *1. To affiliate with one of the established universities.*

If we were to pursue this option, we were not only required to pay 10 million rupees to the affiliated university annually as an affiliation fee, but we were also expected to inherit their curriculum as a whole package, select the students and run the program in their particular way, leaving no room for innovation. We therefore did not think that this was a desirable option, for none of the MSSC members were interested in running a replica of existing medical education programs in the country

### *2. To be a constituent part of one of the established universities.*

The second option we had was to become the constituent part of a university that did not yet have medical faculty / programs. Being a constituent part would have exempted us from the affiliation fee. We could have obtained even a reasonable degree of autonomy to design and run the academic program in a way we thought were appropriate. However, being a constituent part of an established university meant the handing over of ownership of Patan Hospital to that particular university. Given this, MSSC members did not think that this proposal would be acceptable to the rank and file of Patan Hospital.

### *3. To form our own Health Science University*

Establishing our own new Health Science University, though a Herculean task, would give us the maximum academic autonomy possible. In the considered opinion of MSSC members, obtaining such autonomy was absolutely crucial. The concept of Patan Hospital evolving into a Health Science University and being governed by it was far more acceptable to the rank and file of the hospital as well as to the local community. Moreover, it not only had the potential of giving a sense of pride to all those who would be involved in its establishment but it would also provide an opportunity to leave a solid legacy behind. Of note, there has been considerable uncertainty about the future governance of Patan Hospital because of the United Mission to Nepal (UMN)'s decision to phase out from its involvement in supporting / managing all UMN hospitals, from November 2005. Therefore, the emergence of the concept of a university was regarded as the most viable and acceptable option to all the key stakeholders.

It might be worth remembering here that the question of whether or not Patan Hospital should pursue the goal of developing a new medical school and which of the above three options should be followed for that goal was discussed formally in a group setting with all the key stakeholders

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of Patan Hospital (i.e., Chiefs of Services, Senior Doctors, Department Chiefs, Staff Representatives) and all these groups have unanimously decided in favor of pursuing the goal of medical school through establishing a new Health Science University. In view of this situation, in the considered opinion of the MSSC, the development of a Patan University of Health Sciences (PUHS) was the best means of establishing a medical school dedicated to the training of health care providers for rural Nepal and presented this proposal before the Governing Board of Patan Hospital on 9<sup>th</sup> March, 2004. After a careful consideration of these options, the board agreed in principle to pursue the option of Health Science University.

In addition to the academic rationale, the Medical School Steering Committee favored the development of a Health Science University for the following reasons:

1. An excellent clinical teaching resource already exists at Patan Hospital and the other UMN hospitals for the development of a new Health Science University and Medical school. There will be a need for additional educational facilities to be built on the campus of Patan hospital or on adjacent land.
2. A competent team of academic and medical / health care professionals and educators exists within Patan Hospital and its partners.
3. There is wide spread support and enthusiasm within Patan hospital for the development of a new Health Science University.
4. UMN strongly supports the development of an appropriate Nepalese organization to run Patan Hospital. The establishment of a Health Science University will provide a governance structure for sustaining Patan Hospital. It will also allow educational integration with Tansen and Okhaldhunga Hospitals both of which have expressed support to be involved.
5. Donor funding interest exists to support the establishment of a new Health Science University and Medical School. Many partners linked through the team of medical educators currently involved in PUHS have indicated support to make the PUHS project a reality. In addition, Friends of Patan Hospital as well as other individuals might be potential donors for this purpose.

As a part of PUHS, Patan Hospital will have a unique opportunity to make a real impact on the health of the rural poor. In isolation we would struggle to make a difference, but in partnership with a reformed national health system, change is possible. We plan to work in close cooperation with the government to train health care professionals who are willing and able to serve in rural areas within the governmental system. The preliminary dialogue we have had with the government indicates that the government is planning to develop specific incentives and motivational packages to mobilize and retain the necessary workforce (4).

Within 10 years of the beginning of PUHS we expect to have approximately 100 doctors working in rural areas. These doctors will continue to have close links with PUHS through our alumni system, and will be an invaluable resource for evidence-based research on health issues in rural areas. Through this research base PUHS will be able to provide significant and valuable input to the relevant governmental bodies involved in the formulation of health policies and programs in Nepal.

## 2. THE PATAN UNIVERSITY OF HEALTH SCIENCES

It has been widely recognized that the "universities have unique potential to stimulate progress and transform societies, some of which is inherent in the talent and resources

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they possess, and some in their capacity to build productive partnerships with other forces in society. They generate and disseminate new knowledge, develop new methodologies and technologies, and prepare future generations to apply them....Driven by long-standing traditions of humanism, social justice and peace and development motives, universities can play a catalytic role in mobilizing energies to improve the cause of the health of the disadvantaged. Their assets are the generosity of the youth, the wisdom of the teachers, the methodic approach of researchers, the prestige of academia, and the way these factors are interwoven in the social fabric"(21).

PUSH is aware of such societal expectation and wishes to articulate its *raison d'etre* in the following paragraphs.

### 2.1 VISION

**Nepali people become and stay healthier regardless of their location or socio-economic status**

### 2.2 MISSION

To establish a new Health Science University dedicated to improving and sustaining the health and well being of the Nepali people, especially those who are poor and living in rural areas by:

*producing* highly competent, caring and socially responsible physicians, health care professionals and health care leaders of tomorrow;

*providing* high quality, cost-effective and humane health care and;

*generating* new scientific and practical knowledge.

### 2.3 OBJECTIVES

- Train technically competent, caring and socially responsible physicians and other health care professionals who believe in compassion, love, respect and fairness. (*directly addresses objective 3 of the Second Long term Health Plan*)
- Produce physicians and health care professionals who communicate well with patients, family and colleagues; who are committed to life long learning and who have the willingness and ability to become inspiring leaders in their respective fields
- Sustain and upgrade the quality of the current health services of the PUHS related hospitals preserving the tradition of giving special consideration to the needs of the poor and disadvantaged. (*directly addresses objectives 1 and 2 of the Second Long term Health Plan*)
- Undertake appropriate clinical, public health and biomedical research.
- Work in collaboration with the NHS to contribute to the improvement of the health status of the Nepalese people and proactively encourage the National Government in

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the development of appropriate Health policies, programs and systems to uplift the health of the rural poor. (*correlates with objectives 3 and 4 of the Tenth Five Year Health Plan*)

- Enable deserving students from disadvantaged sectors of Nepali society to access health science education including medical, nursing and other allied health science education.

### 2.4 IMMEDIATE GOALS

Our initial aim is to establish an innovative medical school as a part of the PUHS that will be dedicated to producing competent, caring and socially responsible Nepali physicians willing and able to serve the people of rural Nepal. This would be in active collaboration with Tansen Hospital, Okhaldhunga Community Hospital and other hospitals with a similar mission and vision. Our relationships with all the partner institutions will be based on shared values and belief in compassionate, holistic care for those who are poor and undeserved.

#### 2.4.1 The MBBS Program:

##### a) Goals:

The ultimate goal of the curriculum is to turn out physicians who are willing and able to support the institutional vision mentioned above and thereby address the health-care needs of the Nepali people, especially those living in rural areas.

Furthermore, we endorse the guiding principles proposed by the Medical Schools Objectives Project (MSOP) of the American Association of Medical Colleges. Today, medical schools must produce doctors who can both serve the fundamental purposes of medicine and meet society's increased expectations of health-care professionals. We should therefore focus our efforts on producing physicians with the four key attributes articulated by the MSOP: *altruism, knowledge, skill, and duty*.

##### b) Objectives:

These broad goals are supported by the following framework of specific objectives. Before graduation each student will have demonstrated, to the satisfaction of the faculty, the following:

- Understanding of the structure and function of the human body in both healthy and disease states; understanding of the causes of diseases; and the ability to interpret the dynamics and determinants of good and poor health, in a holistic way and within the broader societal context.
- Ability to diagnose and treat patients with a wide range of common conditions, institute initial therapy for patients with immediately life-threatening conditions, perform routine technical procedures, and recognize when to refer patients to the next level of care.

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- Ability to institute preventive and promotive health programs for the wellness of both individuals and populations at large.
- Ability to identify, access, and critically appraise relevant biomedical literature and apply it judiciously to solve clinical and public health problems in a given patient or population.
- Compassionate, respectful, non-judgmental, and honest treatment of patients, families, and other health-care professionals, as well as knowledge of the theories and principles of making ethical medical decisions.
- Dedication to developing and sustaining an equitable system of cost-effective, high-quality, and comprehensive health care for both individuals and populations at-large.
- Commitment and relevant skills for continuous life-long learning.

### c) Degree Awarded:

MBBS (Bachelor of Medicine and Bachelor of Surgery)

### d) Curriculum:

An entirely new and complete set of curriculum with an optimal balance of basic sciences, clinical sciences and community health sciences components sufficient enough to accomplish the above mentioned goals needs to be developed. We also need to seriously look into the possibility of adopting the principles of Calgary's Clinical Presentation Curriculum

### e) Duration:

**5½ years (including one compulsory year of Rotating Internship)**

The first two years of study will be devoted to learning the fundamental principles of basic sciences in an organ-system-based, integrated and problem based format. In addition, the curriculum will allow a half-day per week for introducing students to the practice of clinical medicine and includes a course on community health sciences that features six to eight weeks of community field postings each year.

Over the last 2½ years, students will learn the principles and skills of clinical medicine by rotating through various clinical departments of Patan University Hospital and other affiliated teaching hospitals, some of which will be located in remote rural areas. On successful completion of the MBBS coursework, students will then undergo a year long rotating internship followed by a National Medical Licensing Examination (administered by the Nepal Medical Council) before they are allowed to practice medicine independently or pursue postgraduate residency training programs.

### f) Educational Strategies:

In order to integrate the underlying science and the practice of medicine in the most effective and meaningful way, PUHS aims to use Problem-Based and Community-Based Learning as its principal educational strategies.

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### *i) Problem-Based Learning (PBL):*

PBL consists of small group tutorial sessions in which students are confronted with carefully selected common clinical problems. Even though a faculty member is assigned to each group as a “tutor,” his or her role is not to furnish information to the students, but rather to optimally facilitate the group learning process.

The need to master relevant subject matter to understand and resolve these clinical puzzles motivates students to initiate self-directed, independent learning. Thus, in contrast to the “traditional” approach, PBL is an active learning process that ensures that the students learn the principles and concepts of basic and clinical science in the most relevant and integrated manner possible.

Furthermore, the PBL approach fosters the values of teamwork and effective communication, both of which are crucial for the successful practice of medicine.

To supplement the PBL-based learning, the students will also attend didactic lectures on selected key topics in various basic science disciplines and get hands-on learning experiences in relevant laboratory activities.

### *ii) Community-Based Learning (CBL):*

The underlying philosophy of CBL is that the medical curriculum should not only reflect the actual health needs of the community but also utilize the local setting and resources to teach students. This focus gives the students insight into the biological and socio-cultural environment in which people live, as well as how the dynamic interaction between people and their environment influences health.

The direct experience of working in a community and interacting with the people there gives medical students an enormous advantage in understanding the concepts of health and disease in broader context, and is essential for inculcating the values needed in a socially responsible physician.

## 2.5 LONG TERM GOALS

In the future the PUHS will expand its educational mission by imparting appropriate knowledge, skills and values for other health care professionals including

- nurses, allied health professionals (physician assistants, laboratory assistants and technologists, occupational therapists, physiotherapists, speech therapists and others),
- public health leaders,
- health care management professionals (including Hospital management, Health economics etc)
- post-graduate residency programs (MD/MS) in clinical / paraclinical disciplines
- doctoral (PhD / DSc) level education in basic science, nursing, public health and allied health areas as and when felt necessary and appropriate.

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PUHS aims to be a national academic medical center of excellence. It is committed to excellence in all the traditional domains of an academic institution, i.e. education, research and service. Besides, it is also committed to play a constructive role in the area of health development in Nepal. In accordance with our vision for a community orientated University, PUHS will also be aiming to develop some of its schools as centers of excellence not just in Kathmandu, but in more rural areas associated with our educational partners. In addition, PUHS will implement a system for ongoing monitoring of the quality of its work to ensure that a spirit of high academic standards and social relevance are maintained and enhanced.

### **2.6 INNOVATIVE FEATURES OF THE PUHS**

- The PUHS will be an autonomous, not-for-profit, self-sustaining institution, which will support the admission to the health care professions educational programs of those who are from rural areas and / or are disadvantaged by their ethnic group, gender and social status.
- The program will have as a priority the improvement of the rural and urban poor's access to health care by training socially responsible physicians and health-care workers who recognize the importance of a holistic, patient centered approach in their clinical practice, and who will work in partnership with relevant non-health sector organizations in the community.
- The PUHS will be committed to academic excellence through designing a cutting edge curriculum that will provide a sound foundation on biomedical sciences as well as the population health perspective. Medical ethics, evidence based medicine and medical informatics will be adequately covered in the curriculum.
- The PUHS will nurture a value based educational program that supports compassionate care, serves the poor, and is committed to providing health care in remote rural as well as underserved urban areas.
- PUHS will utilize innovative teaching and assessment methods. These will include: Problem based learning (PBL); Calgary's Clinical Presentation Curriculum; Community based learning (CBL) and other appropriate innovative strategies adapted to the local situation.
- All students will be strongly encouraged to serve in rural Nepal for 2 years after being qualified, i.e. after passing the NMC administered National Medical Licensing Examination.
- Given the pervasive poverty in rural areas, it is likely that a large proportion of the students coming from rural areas will require financial assistance to cover the expenses incurred during their medical studies. A financial plan will be developed which will cover the tuition fee for students in need. Funding

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for this plan will come from either endowment funds or from scholarships provided by donor agencies or private individuals.

- Students receiving scholarships would be required to serve in a rural area at least for a period of two years. They would, of course, receive the normal salary for a doctor working in a rural area during this time period.
- To ensure that students do not disappear after their graduation without doing their mandatory rural service and / or paying back their loan, the PUHS plans not to issue their original diploma until they have completed their obligation and / or are fully committed to refund the support received. Prospective students would be made fully aware of their obligation at the time of applying for admission to the medical school.
- PUHS will co-operate with and form linkages between different organizations and stakeholders, developing a network of like minded partners both within and outside of Nepal.

### 2.7 STRATEGIES TO SUPPORT OUR OBJECTIVES AND GOALS

- ***Student selection:*** The PUHS will give priority to selecting students from rural Nepal. At least 50% of the student body will come from rural Nepal. Many studies (9-11) have shown that this increases the likelihood of graduates being willing to work in a rural setting after graduation. We will operate stringent admission policies to ensure that students have actually been brought up and educated (at least up to 10<sup>th</sup> grade) in a rural area as opposed to just having a family home there.
- ***Student loan:*** All graduates of the PUHS will be strongly encouraged to provide at least 2 years of rural service after graduation. This will be mandatory for those who had received scholarship to complete the MBBS study. It is estimated that the average student debt for those on scholarships will be approximately \$20,000. For each year of rural service the student will receive a \$2000 reduction in their student loan. If a student elects to leave rural service before the 2 year long mandatory service obligation is fulfilled, s/he will be required to pay back in full the tuition loan s/he received as a student. It should be realized that the implementation of this scheme is dependent upon the availability of funds and the details of modus operandi of this scheme needs to be worked out.
- ***Innovative Curriculum:*** A fully integrated clinically based curriculum will be designed with an emphasis on public health, mental health and preventive medicine and with an awareness of the impact of socioeconomic factors on health. We will instill attitudes of compassion, social responsibility and professionalism via our teaching methodology and by the role models provided by our faculty, many of whom have experience of working in a rural setting. In the future the PUHS plans to have a Master in Public Health (MPH) program open to a wide range of health professionals at the Health Science University.

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- **Teaching methodology:** The PUHS will use **Problem Based Learning** (PBL) and the **Calgary Clinical Presentation Curriculum** to develop skills in critical thinking. The scenarios will be taken from faculty experience in rural areas to familiarize students with the specific problems related to rural medicine. PBL also allows incorporation of public health issues and socioeconomic factors to many varied situations. This should produce good, innovative clinicians who can cope with a low resource setting.

The PUHS will also employ **Community Based Learning**, utilizing a network of urban and village clinics already associated with Patan hospital, as well as the rural District General Hospitals of Tansen and Okhaldhunga. Learning medicine in a community context has been demonstrated to increase the likelihood of students later choosing to work in a rural community setting. (19)

- **Postgraduate training opportunities:** It has been well recognized that one of the main reasons why the young doctors decide not to go to rural areas has to do with their postgraduate education. They feel that because getting a slot in the postgraduate residency training is important as well as competitive, they must start preparing for their test and ensure a position.

In view of this, there is a unique opportunity to dovetail the postgraduate training opportunities at the PUHS with that of rural service and enhance the willingness of the PUHS graduates to go and serve the rural areas. Given that Patan Hospital is already participating in providing postgraduate clinical residency programs, it has the capability to start such training programs under the aegis of PUHS itself. This will allow PUHS to offer preferential selection for post-graduate studies to doctors who have completed at least 2 years in a rural district general hospital or Primary Health Care Centers. This has been shown in other developing countries to be a significant factor encouraging rural service. (21). Patan Hospital's current reputation as a center of academic excellence for postgraduate education will be further enhanced by the opportunity for innovation once free to design its own training programs as part of PUHS.

As it will be about 5 years before students graduate from PUHS, there is time to develop specific details about the postgraduate training programs. Suffice to say here that we should plan for that part of education once the undergraduate medical education program is up and running.

Given that PUHS may not have the adequate slots in postgraduate residency training programs for the entire class, especially during the initial years of its establishment. Hence, those graduates who have completed their rural service but did not manage to get enrolled in the postgraduate educational programs, will be given preference, as far as possible, to work in the Patan University Teaching Hospital (PUTH).

- **Research:** PUHS will be actively involved in research appropriate to the needs of rural Nepal. Our graduates will be ideally placed to undertake such research with support from PUHS. Our expertise will allow us to have significant input to HMG strategy and policies with regard to health issues.

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- **Telemedicine program:** In an attempt to address the problem of intellectual isolation and lack of technical support which is a commonly experienced phenomenon while working in rural health care institutions, we are also exploring the possibility of using information technology to provide tele-consultation as and when those doctors working in rural areas encounter difficult diagnostic and therapeutic challenges. In addition, once the needed infrastructure is installed enabling the use of Information Technology, we will also be developing distance-learning modules for continuing medical education so that health professionals don't feel isolated while working in rural Nepal.
- **Social Recognition:** The lack of social recognition of physicians and other health care professionals who have endured the challenges of working in resource-constrained rural health care institutions is another area shown to be important in some studies (22). PUHS will address this by developing an alumni system where each year awards and recognition are given to PUHS graduates who have made a significant contribution to rural health care. We will also invite doctors and other health care professionals who have served for many years in rural areas to come as lecturers to the PUHS. These activities will help address the feeling that there is no growth and no opportunities when one is assigned to rural health service.

### 2.8 FINANCIAL MANAGEMENT

- The exact amount of capital investment to be made in the development of needed infrastructure and the establishment of medical school / PUHS as well as the specific details of operating costs and annual revenue source will be addressed by the ongoing feasibility study.
- It is envisaged that there will be a separate financial accounting systems for PUTH and for the academic schools under PUHS with an auditor appointed by the PUHS senate.
- The goal of the PUHS is having up to 50 % of students on full or partial scholarships, with the other 50% being fee-paying. The realization of this goal, though desirable, will, however, depend upon the availability of an endowment fund and / or adequate number of sponsors.
- Basic science faculty will be paid for by the PUHS, while Clinical faculty salaries will be shared by Patan hospital and the PUHS. It is envisaged that expatriates seconded to work in the PUHS will have the local equivalent of their wages paid by the PUHS directly into the scholarship fund.
- We are looking for external donor support for the capital sum necessary for infrastructure development. We are also looking for a broad base of supporters who would be willing to commit to ongoing funding for the provision of scholarships for our rural underprivileged students.

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### **2.9 ACCOUNTABILITY**

PUHS will be legally accountable to the Senate. Civil society is an obvious stakeholder in such a university and we plan for there to be adequate representation of this group on the Senate.

One of the reasons for the desire to develop an independent University of Health Science was the academic autonomy thus gained with greater control over our own policies. The additional advantage of having the PUHS is that we could institute policies uniquely suitable to health profession educational programs run under various schools under it. Experience have shown that a university that has a multiple faculty / discipline under it seems to create a conflict when it comes to the level of remuneration, working hours, faculty recruitment, development and promotion.

To ensure that PUHS remains true to its original vision and mission statements we will set up policies and regulations with regard to faculty recruitment, finance and administration. A quality assurance system will be set up to ensure regular monitoring and review of these policies as well as ongoing assessment of teaching methodology and curriculum implementation.

### **2.10 GOVERNANCE STRUCTURE**

At the moment there are two committees in place:

- The Medical School Steering Committee which has 7 members all of whom are physicians
- The Task Force Group with 11 members

The Steering Committee has the overall responsibility for the planning and the successful implementation of the Health Science University Project Plan while the Task Force was envisaged to work on specific tasks and report back to the Steering Committee.

The present Patan Hospital Board will remain in place until the government has approved the PUHS as a legal entity. At that time the Senate as described below will become the governing body.

The Senate will be the highest policy making body of the PUHS. It generally meets twice per year. The Vice Chancellor (VC) is appointed by the Chancellor of the University as recommended by a committee formed by the Senate. The VC is the Chief Executive Officer of the University and is ultimately responsible for the day to day running of the University affairs within the broad policy guidelines provided by the University Senate. The Pro-Chancellor appoints the Rector (Chief Academic Officer of the University), Registrar (Chief Administrative / Financial Officer of the University) as recommended by the Vice-Chancellor. The Vice-Chancellor appoints the Deans of

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various schools under the University. An Executive Council, headed by the VC and comprising of the above mentioned officers and the Medical Director of the Patan (University) Hospital will be collectively responsible for the day to day operation of the PUHS Affairs. The VC may form additional committees or units as deemed necessary and appropriate.

### 2.11 THE PUHS AND PATAN (UNIVERSITY) HOSPITAL RELATIONSHIP

In the process of MSSC's thoughtful deliberation on the issue of medical school / PUHS, it has been the common understanding that Patan Hospital will be designated as the Patan University Teaching Hospital (PUTH). In this capacity, the PUTH is expected to be fully committed to fulfill the academic mission of the PUHS. It is also envisaged that PUTH will be an integral part of the PUHS system and will ultimately be accountable to and governed by the PUHS senate. However, because of the need to preserve the unique values and distinguished service that the Patan Hospital (PH) has been rendering to the Nepali public for the last several decades, it is important that PH, while legally an integral part of PUHS, retain adequate autonomy that will enable PH to continue on its current practices. Needless to say PH should have a sizable representation in the PUHS Senate and Academic Council. Furthermore, the PH Medical Director should also be represented in the PUHS Executive Council. Likewise, key PUHS leaders will be represented in the Management committee of PUTH. The specific details regarding the issue of the autonomy for PH and its modus operandi need to be thoughtfully discussed and clearly resolved. While the professional team undertaking the feasibility study of PUHS project might come up with alternative models for resolving this issue, the MSSC should play an active role to build a consensus in this matter. The consensus model thus chosen should also be endorsed by the Patan Hospital Board before it is incorporated in the draft PUHS Act and submitted for government approval.

## 3. IMPLEMENTING THE PATAN HEALTH SCIENCE UNIVERSITY

### 3.1 Planning Process for Implementation

There is now a steering committee (i.e. MSSC) in place with a mandate to plan and take appropriate actions required for the establishment of the PUHS. We also have a clear, realistic and shared vision for the PUHS/Medical school. Hence once the Patan Hospital governing board formally decides to formally apply for obtaining approval for PUHS from the government, a **Project team *having necessary mandate, authority and resources*** will have to be formed. That team will be responsible to spearhead / undertake / assist / facilitate the following tasks:

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1. Seek approval from the Government to establish PUHS and to convert Patan Hospital into a University Teaching Hospital that would function as the Central Teaching Hospital for the education and training of all the students under PUHS system.
2. Negotiate with and obtain the needed approval from Nepal Medical Council to run the undergraduate medical education program.
3. Plan, solicit and mobilize the needed funding and support for infrastructure and human resource development as well as for the scholarships for underprivileged students by mobilizing the donors both within and outside Nepal.
4. Formulate and carry out the plan for establishing an innovative medical school that will include, but not be limited to, curriculum design, faculty recruitment / development, student admission policies and procedures, library development, class rooms / laboratories etc
5. Finalize the negotiations with the Tansen Hospital, Okhaldhunga Hospital and other like-minded health care institutions with regard to partnership with the PUHS.
6. Communicate with and solicit support from all the key stakeholders both within and outside Nepal for the successful development and effective operation of PUHS.

### 3.2 Developing Faculty

The faculty of the PUHS will include Basic Science and Clinical Sciences. There are a large number of Clinical specialists presently on the staff of Patan hospital who are a potential resource for assuming the role of clinical faculty. To develop and run the PUHS academic program we will need to recruit Basic science faculty. There are several potential sources for this. Firstly, we need to explore, identify and recruit eligible basic science teachers from within Nepal. Preliminary dialogue is in process with the authorities in CMC Vellore (India) for seconding some of their faculty to our institution for the start-up period. In addition, there is great potential for basic science faculty volunteers from western institutions. Local faculty development will include participating in courses taught by foreign volunteer faculty so that there is a transfer of knowledge and teaching skills. In addition, to build up local capacity in running the basic science teaching programs, the PUHS will identify and send suitably qualified staff for further training in the basic sciences to affiliated Universities in the US, Europe, Asia and Australia.

### 3.3. BUILDING Management and Administrative expertise:

Since the establishment and smooth running of a top quality Health Science University is a complex task, we will also require a strong presence of management and administrative / financial expertise.

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### 3.4. Required Input from Stakeholders

- a) ***Patan Hospital Board*** supported in principle the Proposed Patan Health Science University –at the March 9, 2004 board meeting. They now need to commit and avail the needed financial and human resources to complete the task ahead.
- b) ***HMG (Nepal):***
- i. To approve the detailed plan and proposal for a PUHS/Medical School and to issue a statutory order (special Act or ordinance) regarding the establishment of the PUHS.
  - ii. To grant approval for Patan Hospital to become a university teaching hospital as an integral part of PUHS.
  - iii. To exempt customs duties for importing needed equipment and resources as required for the development and operation of PUHS and provide gratis visas in adequate number to maintain the PUHS and teaching hospital functions.
  - iv. To provide administrative support for the PUHS/Medical School
  - v. To be willing to collaborate with PUHS to develop and implement plans to encourage and enable the PUHS graduates to work in rural areas.
  - vi. To allow a representative from PUHS to be on Health Sector Reform Forum committees in the areas of Human Resources and Public/Private partnerships, so that we can have input to the setting of policy and strategies in these areas.
- c) ***UMN:***
- i. To assist in the negotiations with the Government at both a local and central level.
  - ii. To encourage other UMN hospitals (Okhaldhunga and Tansen) to be a part of the Patan Health Science University Hospital System supporting its educational goals.
  - iii. To facilitate the secondment of appropriately qualified personnel to support the development and operation of the PUHS. This could include medical school faculty in the basic sciences (Anatomy, Physiology, Biochemistry, Pathology,

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Microbiology/Immunology, Pharmacology and Community Health Sciences), clinical sciences and administrative staff.

- iv. To inform the member and partner organizations of its unanimous support for the project.
  - v. To participate in the governing body of the PUHS (i.e. the PUHS Senate)
  - vi. To affirm the development of a Health Science University as a means of continuing and sustaining the work and mission of the UMN hospitals.
- d) ***Community stakeholders***, Lalitpur Sub-Metropolitan City, Lalitpur District Development Committee etc.

Infrastructure and administrative support, Land, appropriate local community health care facilities for training

- e) ***Donors***: Funding
- f) ***Rural Hospitals' Management and Staff*** including Tansen and Okhaldunga and other partner hospitals
- g) ***Civil society***: To provide the needed support for and stand in defense of PUSH establishment / operation as and when required so that PUSH mission and goals could be accomplished.

### 3.5. The Task Ahead:

If PUHS goal is to be realized, it is absolutely critical that the MSSC should take the following decisions immediately:

1. ***Commission*** an appropriate team of consultants to undertake a detailed and systematic look into the issues such as administration, governance, infrastructures, financial and human resources, legal and academic matters.
2. ***Formulation of a PUHS Business Plan*** providing a road map for the realization of the PUHS project.
3. ***Have the Patan Hospital Board*** to take a decision regarding the PUHS Project and make a formal application to the government and initiate the needed negotiation to obtain the needed approval for PUHS.
4. ***Formation of a PUHS Project team*** consisting of 3 people with the interest and credentials in medical education and a commitment to work on a full time basis to move the PUHS project forward. With regard to the specific terms of reference for this team, some ideas have already been suggested and is outlined under 3.1.
5. ***Allocation of the required resources*** (physical, human and financial) for

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above purposes.

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## **APPENDIX B**

### **MEDICAL SCHOOL STEERING COMMITTEE (MSSC)**

Dr Mark Zimmerman, Chair  
Senior Consultant Physician and Medical Director, Patan Hospital

Dr Arjun Karki, Member-Secretary  
Consultant Physician, Department of Medicine, Patan Hospital and formerly at Kathmandu University Medical School (KUMS) as its Founding Director and Associate Professor of Medicine

Dr Hom Neupane, Member  
Consultant Physician, Acting Chief of Department of Medicine and Deputy Medical Director, Patan Hospital

Dr Neelam Adhikary, Member  
Senior Consultant Pediatrician and Chief of Department of Pediatrics, Patan Hospital

Dr Kundu Yangzom, Member  
Senior Consultant Obstetrician/Gynecologist and Chief of Department of Obstetrics and Gynecology, Patan Hospital

Dr Achyut Rajbhandari, Member  
Senior Consultant Orthopedic Surgeon and Chief of Department of Orthopedics, Patan Hospital; formerly at BP Koirala Institute of Health Sciences as Additional Professor of Orthopedic Surgery

Dr Rajesh Gongal, Member  
Consultant Surgeon, Department of Surgery, Patan Hospital

Dr Kedar Baral, Member  
Health Advisor, Plan International; formerly at KUMS as Assistant Professor of Community Health Sciences

Dr Saroj Dhital, Member  
Consultant Surgeon and Chief of Department of Surgery at Kathmandu Model Hospital; formerly at KUMS as Associate Professor of Surgery

Dr Bruce Hayes, Member  
Senior Consultant Family Practice Physician, formerly Chief of Department of OPD/ER, Patan Hospital

Dr Shambhu Upadhyaya, Member  
Community Health Consultant, Public Health Concern Trust; formerly at KUMS as Lecturer of Community Health Sciences and Director, Department of Medical Education

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### Itinerary for Dr Robert Woollard for PUHS Feasibility Study (11<sup>th</sup> – 18<sup>th</sup> Dec 2004)

Date (interviewed)	Time	Person / organization		Time	Meeting with Nursing Leadership at Patan Hospital Ms Ramshova Risal, Nursing Director Ms Indra Shrestha and Ms Ganaga Karranjit (both Deputy Nursing Directors) Ms Susan Clapham Health Adviser and Mr Phanindra Adhikary Deputy Program Manager Dept for Int Development (DFID) Dr Mark Zimmerman Medical Director Patan Hospital Dinner with Mr Bruce Moore Field Director, American Himalayan Foundation
Dec 11	1.00 PM 6.30 PM	Arrival from Canada Wedding Reception		12.30 PM	
Dec 12	9.00 AM  12.00 PM  3.00 PM  6.00 PM  7.30 PM	Dr Sanduk Ruit Medical Director Tilganga Eye Center Prof Hemang Dixit Principal, Kathmandu Medical College Member, Nepal Medical Council Hikmat Bista Chairman, Patan Hospital Governing Board Dr Ken Afful and Mohan Das Manandhar Institute of Development Management Studies Dinner with Dr Ed Bartlett and family		2.00 PM    3.30 PM  7.00 PM	
Dec 13	8.00 AM  9.30 AM  10.30 AM	Ms Genevieve Federspiel Deputy Director Swiss Development Cooperation (SDC) Prof PC Karmacharya Chairman, Nepal Medical Council Prof TP Thapa Director, Department of Medical Education Institute of Medicine, Tribhuvan University	Dec 14	8.00 AM    9.30 AM	Meeting with Dept of Medicine Patan Hospital Dr Hom Neupane (Acting Chief) Dr Ted MacKinney Dr Arjun Karki Dr Gyan Kayastha Dr Buddhi Paudel  Dr Angelica Schrettenbrunner Program Manager Health Sector Support Program GTZ (German Development Program)

## APPENDIX D

11.00 AM	Dental Department of Patan Hospital Dr Bishnu Sharma Dr Mira Joshi Mr Uttam Rajkarnikar	Dec 15	7. 30 PM	Dinner at Mark's Place
11.45 AM	Dr Achyut Rajbhandari Chief, Department of Orthopedic Surgery Patan Hospital		8.00 AM	Rita Thapa Nagarik Aawaz (A NGO involved in peace building and rehabilitation of victims of current conflict)
12.30 PM	Meeting with Department of Emergency/ Out-Patient Department, Patan Hospital Dr Bharat Yadav (Acting Chief) Dr Bruce Hayes Dr Katrina Butterworth Dr Sitaram Shrestha Dr Dipendra Singh		9.30 AM	Mr Kanak Dixit Journalist / Director, Himal Media Service
			11.30 AM	Dr John Dickinson Professor of Physiology Kathmandu University Medical School (As UMN secondee)
			1.45 PM	Dr Nirakar Man Shrestha Acting Health Secretary Ministry of Health
			2.30 PM	Dr Bharat Pradhan (ex-Health Minister) Director, Public Health Concern Trust (PHECT)
2.00 PM	Dr Tirtha Rana Senior Health Specialist The World Bank		3.15 PM	Meeting with ex-KUMS group Dr Saroj Dhital (General Surgeon) Dr Shankar Rai (Plastic Surgeon) Dr Ganesh Dangal (Ob/Gyn Specialist)
3.30 PM	Dept of Radiology (Patan Hospital) Dr Sudha Suwal (Chief) Dr Binod Parmer			Dr Arjun Karki Dr Shambhu Upadhyaya (Public Health/Med Education)
4.15 PM	Dr Kun-Young Sohn Professor of Biochemistry Kathmandu University Medical School (As the UMN secondee)		5.00 PM	Honorable Mr Ashok K Rai Minister of Health
5.00 PM	Dr Ted Mackinney Director, Team (A Christian organization like UMN)		6.00 PM	Mr Madhav Paudel ex-Chairman, Lalitpur District Development Committee (Patan Hospital is located in that region) former member, Patan Hospital Governing Board

## APPENDIX D

Dec 16	6.30 PM	Dr Tirtha Thapa Executive Director Human Development and Community Services (HDCS)	Dec 17	3.00 PM	Meeting with the Members of Medical School Steering Committee (MSSC) Dr Achyut Rajbhandari Dr Kundu Yangzom Dr Rajesh Gongol Dr Arjun Karki Dr Shambhu Upadhaya
	8.00 PM	Dinner at Arjun's home		6.00 PM	UMN Hospital Transition Team Mr. Prem Maharjan
	8.00 AM	Meeting with Dept of Surgery (Patan Hospital) Dr VK Jaisawal (Chief) Dr CP Maskey Dr Rajesh Gongal Dr Jay Shah Dr Sam Yang and House Staff		8.00 AM	Grand Rounds on "Social Accountability of Medical School"
	9.00 AM	Meeting with Dept of Pediatrics Dr Neelam Adhikary (Chief) Dr Srijana Shrestha Dr Imran Ansari		9.00 AM	Meeting with Dept. of Obstetrics /Gynecology Dr Kundu Yangzom (Chief)
	9.30 AM	Dr Klaus Wagner WHO Representative		12.30 PM	Debriefing with Dr Mark Zimmerman
	1.00 PM	Ms Jennie Collins Executive Director, UMN And Mr David McKonckey	Dec 18	3.00 PM	Debriefing with Dr Ken Afful and Mohan Manandhar
				9.00 AM	Debriefing with Dr Hikmat Bista
				11.30 AM	Departure for Airport

## **APPENDIX D**

### **Interviewees by Affiliation**

#### **Basic Scientists**

Dr John Dickinson, Professor of Physiology, KUMS  
Dr Kun-Young Sohn, Professor of Biochemistry, KUMS

#### **Civil Society**

Mr Kanak Dixit, Journalist/Director Himal Media Service  
Mr Madhav Paudel, ex-Chairman, Lalitpur District Development Committee

#### **Expatriate Professionals**

Dr Ed Bartlett

#### **External Development Partners**

Mr Phanindra Adhikary, Deputy Program Manager, Dept for Int Development (DFID)  
Ms Susan Clapham, Health Advisor, Dept for Int Development (DFID)  
Ms Genevieve Federspiel, Deputy Director, Swiss Development Cooperation (SDC)  
Dr Angelica Schrettenbrunner, Program Manager, Health Sector Support Program GTZ (German Development Program)

#### **Feasibility Study Colleagues**

Dr Ken Afful and Mohan Das Manandhar, Institute of Development Management Studies

#### **International Agencies**

Dr Tirtha Rana, Senior Health Specialist, The World Bank  
Dr Klaus Wagner, WHO Representative

#### **Medical School Leadership**

Prof Hemang Dixit, Principal, Kathmandu Medical College

Prof TP Thapa, Director, Department of Medical Education, Institute of Medicine, Tribhuvan University

#### **Medical School Steering Committee**

Dr Rajesh Gongol  
Dr Arjun Karki  
Dr Achyut Rajbhandari  
Dr Shambhu Upadhaya  
Dr Kundu Yangzom

#### **Ministry of Health**

The Honourable Mr Ashok K Rai, Minister of Health  
Dr Nirakar Man Shrestha, Acting Health Secretary

#### **NGO - Civil Society**

Mr Bruce Moore, Field Director, American Himalayan Foundation  
Rita Thapa, Nagarik Aawaz

#### **NGO – Institutional Service**

Ms Jennie Collins, Executive Director, UMN  
Dr Ted Mackinney, Director, Team  
Mr David McKonckey, UMN  
Mr Prem Maharjan, Team Leader, Hospital Transition Team, UMN

#### **Nepal Medical Council**

Prof Hemang Dixit, Member  
Prof PC Karmacharya, Chairman, Nepal Medical Council

#### **Patan Hospital**

Dr Mark Zimmerman, Medical Director

## **APPENDIX D**

### **Interviewees by Affiliation**

#### **Patan Hospital – Clinical Departments**

##### **- Dental Department**

Dr Mira Joshi  
Dr Bishnu Sharma  
Mr Uttam Rajkarnikar

##### **- Department of Emergency/Out Patient Department**

Dr Katrina Butterworth  
Dr Bruce Hayes  
Dr Sitaram Shrestha  
Dr Dipendra Singh  
Dr Bharat Yadav, Acting Chief

##### **- Department of Medicine**

Dr Arjun Karki  
Dr Gyan Kayastha  
Dr Ted MacKinney  
Dr Buddhi Paudel  
Dr Hom Neupane, Acting Chief

##### **- Department of Obstetrics and Gynecology**

Dr Kundu Yangzom, Chief and four colleagues

##### **- Department of Orthopedic Surgery**

Dr Achyut Rajbhandari, Chief

##### **- Department of Pediatrics**

Dr Neelam Adhikary, Chief  
Dr Imran Ansari  
Dr Srijana Shrestha

##### **- Department of Radiology**

Dr Binod Parmer  
Dr Sudha Suwal, Chief

##### **- Department of Surgery**

Dr Rajesh Gongal  
Dr VK Jaisawal, Chief  
Dr CP Maskey  
Dr Jay Shah  
Dr Sam Yang  
and House Staff

#### **Patan Hospital – Governance**

Dr Hikmat Bista, Chairman, Patan Hospital Governing Board

#### **Patan Hospital Nursing**

Ms Ganaga Karranjit, Deputy Nursing Director  
Ms Ramshova Risal, Nursing Director  
Ms Indra Shrestha, Deputy Nursing Director

#### **Potential Professional and Institutional Collaborators**

Dr Bharat Pradhan, former Health Minister and Director, Public Health Concern Trust (PHECT)  
Dr Sanduk Ruit, Medical Director, Tilganga Eye Center  
Dr Tirtha Thapa, Executive Director, Human Development and Community Services

#### **Ex-KUMS Leadership Group**

Dr Sarol Dhital, General Surgeon  
Dr Ganesh Dangal, Obstetrician/Gynecologist  
Dr Arjun Karki  
Dr Shankar Rai, Plastic Surgeon  
Dr Shambhu Upadhyaya, Public Health/Medical Education

**APPENDIX D**  
**Interviewees by Affiliation**