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**HAIMN**

Health Advancement in Vietnam

**18 MONTH CLINICAL INTERNSHIP**

**FINAL REPORT**

**SITUATIONAL ANALYSIS &  
RECOMMENDATIONS**

**JUNE 2015**

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## List of Abbreviations and Acronyms

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ACGME	Accreditation Council for Graduate Medical Education
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ASTT	Administration of Science, Technology and Training
BIDMC	Beth Israel Deaconess Medical Center
BWH	Brigham & Women's Hospital
CK I/II	Specialty Training I/II
GME	Graduate Medical Education
HAIVN	The Partnership for Health Advancement in Vietnam
HMS	Harvard Medical School
JICA	Japan International Cooperation Agency
LCS	Law of Civil Servants
LET	Law of Examination and Treatment
MeSH	Medical Search Terms
MOET	Ministry of Education & Training
MOH	Ministry of Health
OB/GYN	Obstetrics/Gynecology
OSCE	Objective, structured clinical examination
WHO	World Health Organization

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## Executive Summary

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Graduate Medical Education is a key stepping stone in transforming graduates from medical universities into independently practicing physicians. Recently, Vietnam initiated efforts to strengthen the clinical training of physicians through the requirement of a mandatory 18-month internship for all medical graduates. This report summarizes the findings of a landscape analysis of graduate medical education at 10 hospitals nationwide (3 central level, 7 provincial level) and provides recommendations for the development and implementation of a formal and standardized 18-month clinical internship program for Vietnam.

The report is divided into six main sections. The first provides an overview of the current regulatory framework for graduate medical education in Vietnam, which at the present time is guided by two laws: Law of Examination and Treatment (LET), and Law of Civil Servants (LCS). The second part outlines the methodology of the landscape analysis. The third section includes the results of the analysis detailing the current situation of graduate medical education in Vietnam. *One important finding was that none of the hospitals surveyed is currently implementing the 18-month clinical internship program as mandated in the LET*, but rather most have non-standardized, 9-12 month probationary periods, aligned with the LCS. Therefore, this report surveyed the implementation of the probationary period mandated by the LCS. Although LET was passed by the National Assembly in 2009 and came into effect in 2011, the 18-month clinical training (internship) has not yet been implemented. The primary reasons cited include the following: (1) hospitals are still waiting for guidance from the central level, (2) hospitals have questions on the financing of the 18-month clinical internship, and (3) confusion exists on the application of the Law on Civil Service (LCS) and the LET. However, we did discover and highlight several best practices and models that could be utilized for a new standardized 18-month internship program.

The fourth part of the report discusses challenges to the current system of graduate medical education and the fifth outlines international and regional models of graduate medical education, including best practices. Finally, the sixth section details both long term and short-term recommendations for the Government of Vietnam and the Ministry of Health in designing and implementing a national, standardized 18-month clinical internship program.

In terms of long term recommendations, within 10-15 years, Vietnam should have a mandatory, national, objective-based, standardized clinical internship program (12 months) that will serve as a pre-licensing/pre-registration clinical training. Interns should be matched to training hospitals based on objective criteria to equitably allocate and match the number of interns, vis-à-vis the capacity of hospitals to provide training. Finally, interns should be evaluated by a series of standardized exams, and eventually a national licensure examination to ensure that every

practicing physician meets a minimum set of standards to deliver high quality care to the population.

In order to reach the 10-15 year vision, the following recommendations (Table 1) are proposed for the next 1-2 year period.

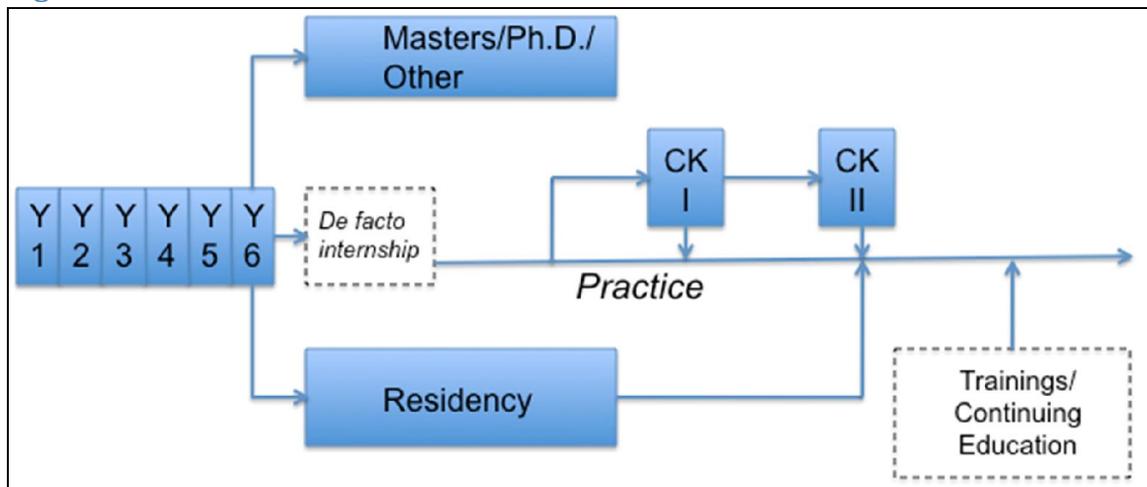
**Table 1: Key Intermediate Term (1-2 years) Recommendations**

1. Introduce a national database system to show all open hospital positions for intern application. The database should be managed by ASTT with inputs from the various departments of health (DOH). This database would be the first step towards a standard computerized matching system to match health system needs with internship applicants.
2. Establish the structural and regulatory systems for internship training, such as development of an accreditation system for training hospitals; development and capacity building of clinical preceptorship in the accredited hospitals.
2. Introduce a standardized clinical training program that encompasses 12 months of rotations through internal medicine, obstetrics/gynecology, pediatrics, and surgery, with integrated experiences in each rotation for emergency medicine and outpatient care. The remaining six months should include rotation through district hospital and commune health centers.
3. Introduce standardized, competency-based objectives, evaluation & assessment to promote the quality of interns, faculty and internship programs, in order to work towards a national licensing examination.
4. Explore different financing mechanisms for internship training through government financing, loans to trainees, hospital cost-share, or a combination of mechanisms.
5. Pilot a rotating internship at selected training hospitals, to include an increased intern scope of practice, with supervised prescribing and ordering, as a step towards a national internship with progressive intern responsibility.
6. Create a series of short courses in clinical teaching and mentoring for hospital staff, adapting and extending the existing clinical mentoring and clinical instruction curriculum in-country (e.g. as developed by JICA).

## Background

There are currently 12 medical universities in Vietnam, which when combined, produce anywhere from 2,500-3,700 graduates each year.<sup>1</sup> The duration of the medical degree ('medical doctor diploma'<sup>2</sup>) is six years, following completion of secondary education.<sup>3</sup> Figure 1 below outlines the current system of medical education in Vietnam, including the different tracks available after graduation from medical university.

**Figure 1: Current Tracks of Graduate Medical Education**



There is no standardized medical curriculum or national examination after six years of undergraduate medical education, therefore, a substantial amount of variability in terms of knowledge and skill exists among graduates. As shown in the figure above, there are three major pathways for graduates of medical universities. The first is the research track (non-clinical) into a masters or Ph.D. program. The second is the residency track, modeled after the old French competitive *interne des hôpitaux* (highly selective modern day residency) system. Currently less than 10% of graduates enter the residency track, which is highly competitive. The remaining graduates find their own placement at various hospitals and enter into a *probationary period* ranging from nine to twelve months, after which they receive a medical license. These probationary periods are not standardized and there is no national licensure exam upon completing the *probationary period*.

In light of the limitations of the current graduate medical education system, considering the complex set of challenges facing Vietnam's health system, and recognizing the quality and distribution of medical doctors as an important human resources issue, in 2009 the Vietnam National Assembly passed the Law on Examination and Treatment (LET), which mandates

<sup>1</sup> Fan AP et al, Medical Education in Vietnam. Medical Teacher. 2012. 32:2

<sup>2</sup> As defined by the Law on Education.

<sup>3</sup> Some universities also offer a four year program for assistant physicians, with the aim of addressing the shortage of community physicians. Reform of medical education may over time eliminate the need for this program.

standardized 18-month internships, nationalized licensing, and continuing medical education.

The purpose of the landscape analysis presented here is to inform the development of a formal and standardized 18-month internship. The landscape analysis surveyed the existing de facto practices during the probationary period, since none of the hospitals were found to be implementing the 18-month clinical internship as mandated by LET. Our aim is to understand the current system of graduate medical education available to graduates immediately after graduation from medical school, and the mechanisms, processes and procedures in place through which medical university graduates are recruited, taught, supported and assessed.

### *Regulatory Framework*

#### The Law of Civil Servants (LCS)

The LCS requires a 3-12 month probationary period for all new Civil Servants following recruitment into a public post. This law is applicable to all government civil servants, including those in the medical profession. Since many physicians in Vietnam work in the public sector (at public hospitals), the LCS is of relevance.

To help implement the LCS, Decrees 95 and 29 were issued as guidance. In terms of duration of the probationary period, Article 3 of Decree 95/1998/NĐ-CP<sup>4</sup> stipulates that those entering a civil servant position with a university degree or higher are categorized as Class A. Article 16 of this decree requires the class A servants should have 12 months of probation, with the exception of medical doctors, who only require 9 months.. Article 18 of this decree states that during the probationary period, a civil servant will receive 85% of the base salary from the Central government. Article 21 of Decree 29/2012/ND-CP<sup>5</sup> requires that mentors be at an equal or higher level than the new employee.

#### The Law on Examination and Treatment (LET)

In 2009, recognizing the important issue of quality in medical training, the Vietnam National Assembly passed the LET<sup>6</sup>, which mandates nationalized licensing, compulsory 18-month hospital based clinical internships for all graduates of the 6-year medical programs with the intention of practicing clinically, and continuing medical education. Article 24 of the LET, which came into force in 2011, mandates the 18-month internship.

The LET stipulates that physicians cannot get a license to practice without undergoing 18-months of clinical experience (internship). Article 25 of the LET stipulates that by January 01, 2016, all physicians will need to have a license (practicing certificate) in order to practice. According to Article 18 and 19, they will have to maintain the license through continuing medical education activities, maintaining a minimum number of clinical hours, and maintaining professional conduct. Failure to do so will result in revoking of the license, as stated in Articles 26 and 29. Given the clear instructions in the LET, the development of the 18-month clinical internship is not only urgently needed, but mandated by law in Vietnam and will provide a clear path towards medical licensure.

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<sup>4</sup> Decree 95/1998/NĐ-CP, 1998.

<sup>5</sup> Decree 29/2012/ND-CP, 2012.

<sup>6</sup> Law on Examination and Treatment, 2009.

To guide implementation of LET, the MOH issued Circular 41/2011/TT-BYT. Article 15 and 16 of circular 41 states that in order for medical university graduates to obtain a medical license, they need to register for an 18-month internship in one of four specialties (internal medicine, surgery, obstetrics or pediatrics) or in dual specialties of either internal medicine - pediatrics or surgery - obstetrics.

Hospitals are not yet implementing Article 24 of the LET, and are instead hiring interns as 'civil servants' (meaning therefore, that they are subject to the LCS). Given that hospitals have interpreted Article 16 of Decree 95/1998/NĐ-CP<sup>7</sup> differently, there is variation between hospitals for the duration of probationary period, ranging between 9-12 months.

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<sup>7</sup> Decree 95/1998/NĐ-CP, 1998.

## Methodology

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The landscape analysis of the current graduate medical education situation in Vietnam was carried out by three methods:

- (1) A desk review of current laws, decrees, decisions and circulars put out by the Government of Vietnam and the Ministry of Health, as well as official documents produced by each medical university or hospital;
- (2) In-Depth interviews with a vice-director of the hospital in charge of training at ten hospitals;
- (3) Focus groups with heads of human resources, training and general planning departments (3-5 people per site), and current trainees (6-8 people per site).

It is important to note again that since none of the hospitals are currently implementing an 18-month clinical internship program, as mandated by LET, this landscape analysis focused on the *de facto* non-standardized, 9-12 month apprenticeships, otherwise known as the probationary period, aligned with the LCS.

### *Desk Review*

A desk review of the existing literature and current laws, decrees, decisions and circulars, along with official documents produced by each medical university or hospital, was conducted by internet searches of both Vietnamese and English sites using Google and Pubmed. An online search strategy of the existing health literature on databases including Pubmed and Embase was developed. Please see Annex 1 for a detailed search strategy with MeSH terms. In total, 44 articles were found, six were duplicates, 27 did not meet the inclusion criteria after review of the title, leaving 11 remaining for abstract review. After abstract review, only 2 articles were found to be relevant. The remaining articles were on continuing medical education activities, short courses for already established physicians, and undergraduate medical education.

In addition, two laws (LET and LCS), and their associated circulars and decrees were identified and analyzed.

Official documentation regarding medical training, obtained directly from hospitals visited during the landscape analysis, was examined and reviewed.

### *Research Tool Development*

Research tools were developed through the adaptation of a graduate medical education survey created by Partners in Health (international NGO), and also utilized graduate medical education criteria set by the American-based Accreditation Council for Graduate Medical Education (ACGME). Initial tool development was in English, translated into Vietnamese, and then back translated into English to ensure accuracy. The tools were then piloted at Thanh Nhan hospital in Hanoi, and revised to reflect changes deemed necessary. All members of the data collection team were a part of the tool development team, and thus were familiar on how to use the tool.

### *Quantitative Data*

Hospitals were requested to complete a quantitative survey on general statistics including number of beds, staffing, and patients seen. These surveys were completed and emailed back to a member of the research team.

### *Qualitative Data*

Hospital vice-directors in charge of training (N=10) were selected for individual 45-minute to 1-hour in-depth open-ended interviews on the general situation of physician training in the hospital, and their thoughts for future directions for the program. They were interviewed on the following domains: hospital affiliation, training curriculum/program, evaluation and assessment, management, financing, and directions/future strategy to implement the required 18-month clinical internship according to the LET. Please see Annex 2 for the in-depth interview tool.

Focus group discussions (FGDs) (N = 10) were conducted with heads of hospital departments of human resources, general planning and training. On average, we had 4-5 department heads in the focus groups. During the FGD, we focused on the following domains: institutional affiliations, human resources, salaries and awards, financing, clinical experience for the trainees, medical training curriculum, evaluation and assessment, and future needs of the program.

Focus groups were held with current trainees, including 6-8 trainees per site, from five selected sites. During the focus group, we utilized open-ended questions that included the following areas of interest: the application process to get into training program, the current curriculum, their assessment, evaluation and opportunities for feedback, financing, and future career goals. Please see Annex 2 for the complete set of interview tools.

### *Sampling Strategy*

Vietnam is divided into 8 geographic regions: Red River Delta, Northeast, Northwest, North Central Coast, South Central Coast, Central Highlands, Southeast, Mekong River Delta. We attempted to sample at least one provincial hospital from each of these regions for our report to have equal representation. However, we also limited our sampling to provincial hospitals affiliated with a medical university or a department of medicine within a larger university that grants medical doctorate degrees in a 6-year training program, and for convenience of travel, an airport within 100km. Based on these criteria, we were able to sample five of the eight regions: Northwest, Red River Delta, North Central Coast, Central Highlands, and Mekong River Delta. Additionally, we sampled a provincial level hospital in each of the two largest urban centers in Vietnam—Ho Chi Minh City and Hanoi. We also sampled three central level hospitals in Hanoi (North), Hue (Central) and Ho Chi Minh City (South). Please see Table 2 for a list of the hospitals included in this survey.

**Table 2: Sampled Sites**

<b>Province/City</b>	<b>Region</b>	<b>Hospital</b>
Thai Binh	Red River Delta	Thai Binh Provincial Hospital
Dien Bien	Northwest	Dien Bien Provincial Hospital
Thua-Thien Hue	North Central Coast	Hue Provincial Hospital
Dak Lak	Central Highlands	Dak Lak Provincial Hospital
Ho Chi Minh City	Urban—South	Nhan Dan Gia Dinh City Hospital
Hanoi	Urban—North	Saint Paul City Hospital
Can Tho	Mekong Delta	Can Tho Provincial Hospital
Hanoi	Urban—North	Bach Mai National Hospital
Ho Chi Minh City	Urban—South	Cho Ray National Hospital
Thua-Thien Hue	North Central Coast	Hue National Hospital

### *Landscape Analysis Team*

The research team consisted of one staff member from MOH/ASTT, four HAIVN staff, and two consultants from Harvard Medical School. Site visits for data collection were conducted by the MOH/ASTT staff and two HAIVN staff members, all of whom were involved in the creation of the interview tool.

HAIVN staff and the landscape analysis consultant did data coding and analysis. HAIVN staff and the senior graduate medical education consultant, in consultation with the MOH staff, wrote the final report and recommendations.

### *Data Management*

Both quantitative and qualitative methods were utilized in data analysis. For the qualitative analysis, interviews were recorded, transcribed and translated. English versions of transcriptions were coded and analyzed by thematic coding.

### *Data Analysis*

Data analysis was separated into two components, quantitative and qualitative. Quantitative data analysis included mostly simple descriptive statistics; therefore, Microsoft Excel was utilized. Qualitative data was coded using NVivo (QSR International, NVivo 10) software and analyzed using thematic analysis.

## Results

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### Descriptive Hospital Data

The ten chosen hospitals submitted answers to a hospital operations questionnaire in order to better understand how medical education is integrated into the hospitals' clinical operations and to ascertain whether hospitals have a sufficient clinical platform upon which to build high quality training programs. The data described here summarize key hospital statistics relevant to graduate medical education reform.

In general, there was a significant difference between the official number of beds and the actual number of beds at the ten hospitals sampled, suggesting an overwhelming volume of patients compared to the national and provincial level hospital capacity. The average number of beds and other key operational and training data are described in Table 3 below.

**Table 3: Summary of Statistics Describing Teaching Hospitals**

	National Hospitals (N=3)	Provincial Hospitals (N=7)
Official Number of Beds	1950 (range 450-2000)	708 (range 200-1500)
Actual Number of Beds	2432 (range 482-2729)	841 (range 200-1717)
Total Number of Employees	2884	779
Total Number of Doctor	562	170
Ratio of Doctors to Actual Number of Beds	1:4.3*	1:4.9*
Total Number of Specialists (including CK I, CK II, PhD, Masters)	391	97
Number of Clinical Departments	31	21
Number of Non-Civil Servant Trainees (2013)	20	10
Number of Civil Servant Trainees (2013)	26	19
Number of Clinical Exams (2013)	987,115	394,890
Number of Inpatients (2013)	111,715	45,728
Number of Surgical Procedures (2013)	61,933	45,030

All numbers above are means, except those marked with \* which are ratios.

The large volume of clinical and surgical services being provided at these central and provincial hospitals creates an opportunity for training and education best practices. Based on the mean total volume of clinical exams and mean total number of doctors, each physician on average is responsible for approximately 2051 clinical exams per year, a volume of clinical service ripe for trainees to integrate, learn, and provide additional staff support.

There is a wide range of values for the number of beds and volume of clinical services offered at provincial and national hospitals, as well as significant variation within the group of seven provincial hospitals. On average, national hospitals tended to have more staff, more specialists, more beds, more clinical departments, as well as more civil servant and non-civil servant trainees than provincial hospitals. Physician to bed ratios were better at national hospitals. Provincial hospitals had fewer total doctors and fewer doctors with advanced training degrees. A two-sample t-test was done ( $p > .05$ ), therefore this difference not significant, most likely due to the small sample size of the study.

On average, more than 50% of physicians had CK I or II, Masters or PhD training, with a higher concentration of physicians with advanced training based at the national hospitals. The number of trainees (civil servant and non-civil servant) was low in comparison to the total number of physicians with advanced training degrees at the national and provincial hospitals. As the physicians with advanced training would likely serve as the mentors and supervisors to the interns, this means that there is considerable capacity for mentored internship training at both provincial and national hospitals.

### **Analysis of Hospital-Based In-depth Interviews: Quantitative Results**

*None of the hospitals sampled currently has an established 18-month clinical internship program in accordance with the LET.* Nine of the ten hospitals interviewed report having a de facto internship program, or probationary period, in accordance with the LCS and 50% of the hospitals report having a formal affiliation with universities. Application and selection processes vary widely, and 50% of programs report that their de facto interns apply as individuals to the hospital, while other hospitals report that interns apply through civil servant entrance exams, personal introductions, or other methods. Seventy-eight percent of hospitals report signing a contract with the interns when they begin the training program. Five of the nine hospitals (56%) with de facto internships, or probationary period, report that the length of their program is six to twelve months and the remaining four hospitals report that their internship programs (probationary period) are greater than 12 months.

Of the eight hospitals that responded, all eight (100%) report having a clear leader who is responsible for the probationary period, but none of the nine hospitals (0%) have a curriculum for the probationary period. Only three of seven responding hospitals require their interns do rotations on different clinical services during the probationary period

Though there were no formal supervision standards or guidelines available for review, 100% of hospitals report that interns are required to evaluate and treat patients under the supervision of other doctors in the hospital.

Despite the lack of formal curricula, 89% of hospitals report having practice standards for clinicians. Eight out of eight hospitals (100%) also report having conferences that interns attend, and the majority report having internet access, though not all interns have access to the internet.

Evaluation of the interns is one of the weakest components of the current probationary period, and the majority of hospitals have no formal process for evaluation of interns. Two out of seven respondents (29%) report using formal exams to assess interns, but seven out of seven respondents (100%) report awarding all interns a certificate at the end of the probationary period.

None of the hospitals surveyed are currently charging fees for interns for the 9-12 month probationary clinical experience. However, the hospitals state that if a formal 18-month clinical internship program is conducted, they will need to seriously consider a training fee to pay for the program. Suggestions range from waiting for national guidelines from the MOH, to charging 500,000VND/month, to charging interns the same amount as CKI training.

### **Analysis of Hospital-Based In-depth Interviews: Qualitative Results**

The qualitative data below describe major themes from in depth interviews on the clinical probationary periods for new graduates across the country.

#### *Human Resources*

Overall, hospitals share similar challenges around human resources. Most feel that the DOH should take the lead on the management and implementation of the intern application and selection process. Some hospitals had clear requirements for the application process and relationships with the DOH, who facilitates the applicant assignment process. Other hospitals rely on announcements by the DOH to launch the application and selection process each year.

The number of interns requested by the hospitals to the DOH is typically determined by which specialties were short staffed in the hospitals. Hospitals are required to have a certain number of doctors per bed in each clinical department, and factor in retiring physicians, patient volume and mentors when requesting interns.

There is ambivalence from interviewees about how much interns add versus detract from the overall hospital operations. One hospital states, “The trainees cannot help the hospital a lot, and mentors have to supervise them. The time spent for them may be used in other work and other development plans for the hospital.”

Newspapers are used commonly to advertise for internship positions, with a few exceptions such as television ads and paper advertisements within hospitals and training institutions.

Tuition fees pose a barrier to training opportunities for interns. Some interviewees think it is unjust to require interns to pay while others feel that the interns are a burden on the hospital and therefore should be required to pay to support their mentors’ time. Reflections on this practice are described further in Table 4, below.

Intern applications are sometimes structured and include submission of key documents and in-person interviews, while other hospitals have more informal practices or rely on the DOH to simply assign them interns without being involved in the application process.

Practices around contracts are variable. Some hospitals provide contracts after a period of unpaid probation, while others feel that contracts are unnecessary. One hospital provides twelve-month contracts to interns until they become approved as civil servants, at which time they start the formal de facto internship. One hospital notes, “In my opinion, we should sign a contract with all trainees. Especially, we should have a close monitoring to self-register. Because for student, if he/she causes any trouble, his/ her university will be responsible for his/her fault. Similar to doctors from lower-level hospitals, we have his/her organization. But with the self-register, there is no organization that will be responsible for them.”

Mentors are typically assigned to interns by department chairs based on the mentor's experience and possession of a graduate degree. There is concern that less experienced mentors would not be respected by the interns. There are no standard criteria outlining minimum qualifications for mentors, but in general, national hospitals have higher expectations for the number of years of experience and graduate degrees for mentors than do provincial hospitals. Laws state that each mentor can only have one intern, but hospitals think that mentors can safely supervise two to three interns. One interviewee notes internal brain drain as a barrier to mentorship: "The fact is that experienced doctors either quit for a job in Hanoi, or are promoted to management positions, and newly recruited interns face a lack of experienced mentors. We used to have a specialist in diagnostic radiology (CKII doctor), a specialist in emergency medicine (CKI doctor) and another specialist (CKI doctor). They are all gone now."

Demand for interns is greater than supply in rural areas, and the most experienced doctors often leave rural posts to move to larger cities or away from district hospitals. This shift leaves rural hospitals struggling to staff clinical departments and to supervise interns. Some national hospitals have the opposite problem: "The problem here is which health facilities are eligible to receive interns for practice. If [X] Hospital has many health clinics, it's fine to allocate interns to those different places. Otherwise, given a limited number of clinics, it could be an accumulating burden to receive too many interns from year to year. When I experienced the first year as a mentor, I pictured things so simple but I was then alerted by what happened in the second year. The number of new interns keeps increasing while current interns have not finished their internship yet."

Most hospitals do not have access to faculty development opportunities, such as training on how to supervise and teach interns, for their staff. Provincial hospitals are forced to send their faculty to national hospitals for faculty development, such as to the JICA training program, or to invite trainers to come to their hospitals, both of which are costly. Criteria for the amount of faculty development training necessary to become teaching faculty or a mentor are not standardized. Human resources are limited, so sending faculty away for trainings or even ensuring coverage for sick leave is noted to be a strain on the system. One interviewee notes, "I think it's essential to think about the quality of mentors, too. People often assume that if someone has experience in making a pillow, he or she can instruct others to do it as well."

National hospitals provide mentorship, staff, and training to provincial hospitals and their clinicians, which is also a strain on human resources for the national hospitals. Universities have minimal engagement towards support for the provincial teaching hospitals and do not routinely provide faculty to teach.

The leadership team that is responsible for ensuring high quality training and administrative support for the programs is diffuse and not clearly organized. The Department of General Planning is most consistently named as the hospital department leading oversight of the internship programs.

#### *Benefits, Salary and Compensation*

Faculty compensation is regulated by law, which ensures payment for doctors who mentor interns and trainees. The LCS states that those who mentor new interns should receive an additional 30% of their government base-salary as a monthly allowance for the service they

provide as mentors. However, implementation of this law is variable across hospitals. One hospital was unaware of the law and is therefore not applying it, and other hospitals are unable to provide the salary increase due to lack of funds. The additional compensation is not linked to performance reviews, and there is no document that clearly describes mentor responsibilities.

According to the LCS, new employees should receive 85% of a basic civil servant salary. Rarely, new employees may receive bonuses or payment for being on call. This law also has variable levels of implementation due to lack of funds from the DOH and low availability of hospital revenue.

The only current sources of funding for the salary increase for faculty and for intern salaries are hospital revenue and government level support. Considering the restricted funds available to finance the internship program, some hospitals have instituted fees for interns. Sample reflections on this practice are described in Table 4, below.

**Table 4: Reflections on Interns Paying Fees**

<p>“If the trainees get no salary and have to pay fee to the hospital for 18 months despite of their helpfulness to the hospital, it will be very hard for them.”</p>
<p>“A part of the amount paid by trainees to the hospital shall be paid to the mentors, just similar to the university professors in Western countries, who are entitled to 2 types of salary at the same time, the doctor and practice mentor in Vietnam is also entitled to 2 types of salary, one of which is from the training center. Indeed, the training center can play a more important role by that way.”</p>
<p>“At present, I know that our hospital as well as other hospitals is making an agreement on supporting VND500,000 per month for the internship doctors. Our hospital meets with difficulty in finance.”</p>
<p>“The social factor is very important. The 6 years' study in university is rather long and hard for disadvantaged students. The thing will be more difficult if they continue to study one year and a half.”</p>

*Institutional Affiliation*

Most national hospitals and hospitals in Hanoi and Ho Chi Minh city have training agreements with medical schools or secondary schools, while provincial hospitals do not have these affiliations in general. The agreements are described in written contracts outlining responsibilities for the partners involved, except for one hospital, which has a longstanding informal relationship with a teaching hospital and an unwritten agreement.

Agreements with universities typically involve teaching faculty who teach both at the university and at the hospital. The hospital is responsible for mentors, teaching space, and hospital clinical operations while universities typically offer financial support, organization of the university trainees who rotate at the hospital, and faculty responsible for the trainees.

*Clinical Experience*

When on call with mentors, trainees are not permitted to work in the emergency room or prescribe independently. One interviewee notes, “As interns, they do not have the right to sign on patients’ medical record. If they do, the Health Insurance agency will deny and send all papers with their signatures back to our hospital. Therefore, it’s a big concern for us since we still have pay them salary while there are not many things that interns are entitled to do.”

Hospitals do not have regulations defining the clinical scope of practice of interns, nor are there set criteria on the number of patients seen daily, the number of call nights, or the

types of procedures that interns can perform. Interns are not required to teach or mentor less experienced interns, but this does seem to occur naturally at some hospitals. Interviewees were nervous about relying on the interns for teaching and supervision of more junior interns because of fear that they may teach non-standard practices.

### *Curriculum*

No written curriculum exists to guide training of the interns. A few hospitals offer short one- to two-week courses on ethics, medical law, hospital regulations, infection control, communication, and other orientation topics, which could serve as a best practice model to be adopted by other hospitals. Despite the lack of a formal curriculum, trainees do attend regular department conferences and meetings. One hospital has an “Education and Training Council” to appraise training documents and materials, but this is unfortunately not yet a widely adopted practice.

No hospitals offer a separate conference series for interns, or orient conferences towards the level of interns. However, all hospitals have morning rounding and morning report for interns with attending physicians. One interviewee states, “The Department of Education must be in charge of setting criteria for practicing doctors. It’s a ‘must’ to do so. Otherwise, interns just come for training and spend the rest of time hanging around until they receive practicing licenses. This could make us become irresponsible persons.”

On average, the hospitals lack basic medical education infrastructure such as functional medical libraries or access to journals and other clinical references, though the internet was generally available. Telemedicine capacity is variable, and the hospitals that do have this capacity are just beginning to use it.

Interns sometimes rotate through other clinical departments within their hospital, but in general they do not rotate at affiliated hospitals or in the community or district hospitals. Three hospitals offer structured rotations, which include various core specialties such as pediatrics, internal medicine, general surgery, and OB/GYN, with emergency medicine integrated into the rotations throughout the length of the training. Hospitals want to follow standard criteria with clear competencies established for each of the rotations and for the overall 18-month internship program, and want guidance from ASTT on how to do this.

### *Evaluation*

Hospitals note that evaluation is a consistent weakness across programs. At the program evaluation level, all hospitals except one lack a formal method to evaluate their internship curriculum. One interviewee notes, “I am worried about quality of the 18-month training program. Whether it meets our expected requirements or the Hospital admits the trainees for cursory practice. The program has to be set up and evaluated carefully.” Despite a lack of current evaluation methods, all hospitals feel that curriculum and program evaluation are important practices to institute.

Trainee evaluation is not standardized or widely implemented across hospitals. None of the hospitals sampled require regular written exams for interns, though one hospital uses a single written exam to evaluate interns at the end of their initial probation period. Exams are generally seen as a helpful tool for evaluation, and one interviewee notes, “If the national exam is held annually, it will be excellent.” Another mentions, “For the purpose of quality, there must be an examination in the following way: Ministry of Health along with universities and hospitals compile a series of examination questions for each subject, what

is required to pass for the trainees after 18 months training and open questions on practice and theory.”

There are no specific criteria or scales that hospitals use to evaluate interns, but informal assessments of clinical performance, ethics, communication, etc. are commonly implemented. Another example of best practices is a hospital which uses formal log books and requires mentors to sign off on various procedures and clinical services provided by trainees. One faculty member notes, “There should be criteria on the code of ethics, code of conducts and professional qualification. If interns violate some criterion, they will be immediately expelled.”

Interns are generally evaluated at the end of the internship program. Department Chairs and mentors are assigned to assess the performance of interns, through either meetings or performance reports, and then submit a recommendation about graduation to the hospital board of directors or department of planning. Other notable best practices include one hospital that uses intern self-assessments as the basis for the evaluation with supplemental comments from mentors, while another hospital uses an exit exam.

None of the hospitals sampled evaluate the mentors. Feedback about mentors from trainees is sometimes discussed during staff meetings. There is no standard written evaluation of mentors by trainees, except at one hospital, which asks the interns for feedback on mentors at the end of their internship program and which should also be proposed as a model adopted across hospitals with trainees.

#### *Future Considerations and Hospital Feedback*

Interviewees have thoughts and suggestions about current program strengths and needs for the future. Most believe that interns should have more autonomy, such as prescribing medications independently. Hospitals want more guidance on practicing criteria, intern responsibilities and limits, licensing, and compensation. Licensing reform will allow hospitals to give interns more responsibility, and hospitals would like to see interns graduate from the internship competent enough to practice independently at the district level.

Funding to support training programs is a commonly mentioned concern for the hospitals. Specifically, further clarity on mechanisms for faculty compensation would be helpful, as most faculty are not currently receiving the 30% additional basic salary compensation to which they are entitled by current laws. Hospitals also suggest that the pay grade for new graduating physicians be the same as for all new staff, particularly considering the longer period of training in medical school. One hospital notes, “Hospitals are always in need of funding sources. It’d be so good if some social organization can offer us financial supports. Two years ago, we were funded about 1.9 million VND by the Lottery Company. It was used to purchase an endoscopy machine and contribute to the charity kitchen for patients. If there is such a funding, we will, for sure, support our interns. It’d be such a blessing to have support from social organizations. We are just afraid that it’s not of their interest.”

As noted previously, opinions about interns paying fees are variable across hospitals, but hospitals feel that for the reform of the 18-month internship to be complete, there must be standardization about intern salaries and paying fees. Currently, some hospitals charge fees while others don’t, and the variation in practice has caused conflict for the hospitals.

Legal conflict between the LET and the LCS is confusing for hospitals and poses a barrier to the 18-month curriculum implementation. In particular, how this affects self-register candidates is unclear.

### **Qualitative Focus Group Analysis**

The qualitative results and analysis below describe major themes from confidential focus groups interviews with the trainees on the de facto internship programs across the country. In general, responses from trainees during the focus groups confirm and are consistent with the responses of hospital administrators.

#### *Application Process*

From the perspective of trainees, the current application process is confusing and inconsistent. Advertisement online on hospital websites, word of mouth, and advertisement in newspapers are the most common ways that trainees learn about opportunities. Private hospitals advertise through university bulletin boards. One trainee notes, "I think the Hospital should send a notice of recruitment to the University so that students can know the information when they graduate." Another states, "I think that each Hospital should have a separate website to notify trainees of recruitment of personnel. I find that some hospitals also have their separate website but the information is not updated. At present, access to the Internet is very easy. We can search hospitals to submit our documents and to be interviewed." Less commonly mentioned advertisement options include using intermediary companies, hospital bulletin boards, and existing Facebook groups as a forum for trainee discussion and questions about recruitment.

Trainees state that finding training positions is challenging, especially for trainees that graduated several years ago. Trainees who graduated in 2011 and 2012, have difficulty finding training spots and often worked at various hospitals, hoping to attain basic training. One trainee notes, "As new doctors often focus on a specific specialty orientation, they do not pay attention to applying for the hospitals who are recruiting for staff positions. I think we'd better organize a forum for sharing information." Trainees report paying fees to attend a specialty orientation course because they think this will increase their chances of being hired by a hospital.

Trainees apply to hospitals with good reputations, good infrastructure, and hospitals that seem to offer a good environment. Trainees often chose hospitals close to their home, but district and provincial hospitals do not have as much prestige. Being chosen for a position seems to be mostly based on the chance of hearing about a position and a hospital having openings rather than a transparent recruitment process and merit.

Comments from trainees confirm that practices around contracts are variable, but there were clear best practices that emerged. One trainee notes, "The contract is made into two copies, one copy is kept by me and one copy is kept by the hospital, it specifies Party A and Party B, i.e. I and the hospital. I have thoroughly read the information for me, i.e. tasks and responsibility assigned by the Department to me, information about my salary scale, and regimes [rules/contractual obligations] for employee."

Interns are typically paid 85% of a full civil servant salary, but specialty orientation courses require interns to pay fees. Interns are not paid extra for taking call, and typically take call

every 4-6 nights. One hospital pays 100% salary after an initial one-month probation period.

#### *Curriculum and Program*

Daily routines for interns typically include morning report, bedside rounds, and consulting with new patients, while the afternoons are generally dedicated to paperwork. Most interns participate in scientific conferences, though certain conferences are restricted to staff physicians. One trainee notes, "My head of department encourages me to work as a government official, to do scientific research and to participate in specialty activities held by the Hospital and department."

Hospitals do not have graduation criteria or a standard length of training required for graduation and receiving a license, which is confusing to trainees. One trainee notes, "Actually, I don't know whether you have the criteria scale before attending. I do not have it. I have asked for the criteria scale to know the criteria for the practicing license. However, the senior doctors said that there was not a list of criteria."

When asked about their willingness to complete rotations at district hospitals, trainees were open to the idea, but only for a limited period of time. One trainee states, "I think if the period of the assignment is clarified, we would be pleased to obey. In fact, it is good for us and lower level hospitals." Another notes, "Well, if the period lasted for one or two years, we would be pleased. We do not want to develop our career in the remote region." Another states, "Although I have a child and I graduated from university, I have found that it is necessary to encourage new doctors to work in difficult regions in particular and in many other regions in general. Since they are young, they do not pay attention to difficulties but the justice and appropriateness of the policy by policy makers. I am quite sure that the next trainees will be willing to work in difficult regions if we provide justice and appropriateness."

Hospitals and department chairs do suggest specialty books and online references for trainees to use and learn from. They also suggest articles and journals to review.

Trainees rely heavily on their mentors, who are often busy department chairs, to review and co-sign their work and discuss challenging patients, but they have more responsibility than they did as medical students. Insurance companies accept signatures of interns for billing once the department chair has evaluated the intern and agreed that the intern's signature can be registered. One intern notes, "I write on the medical record. Then, the senior doctors will check and correct if there is any mistake." Another states, "The doctors in the department said on the routine morning report that I have worked for 2-3 months, therefore I am allowed to register my signature with the insurance companies." Another intern states, "When I studied the residency, our signature in many medical documents was not recognized by the insurance division, therefore we only signed our name to order tests, e.g. I have registered my signature in Cho Ray hospital for tests or small diseases, but more complex disease shall be reviewed and signed by the mentor."

Evaluation occurs through daily observation of trainees during their clinical work without formal exams or evaluation forms, except trainees at one hospital, which requires a patient logbook to be reviewed and signed by mentors.

Intern supervision of more junior trainees and medical students occurs in an ad hoc fashion without clear guidelines, formal responsibilities, or expectations for supervision.

Universally, trainees state that they do not routinely evaluate their mentors during internship, but that faculty evaluation was a part of medical school.

Trainees note several needs and gaps that should be improved for interns and training programs, including the need for better mentoring, guidance as to their duties, and a clear curriculum which are summarized below in Table 5.

**Table 5: Trainee Reflections on Current Gaps in Training Programs**

“We recognize when we practice, we did not read early laws on examination and treatment, and did not understand thoroughly the labor laws. We make mistakes when we do not thoroughly grasp something which we have to do.”
“Our scientific activities should be organized more frequently. In general, paying more attention to us would be a good thing.”
“It would be better for us if the hospital provides closer management. As a result, we can work more professionally.”
“In my opinion, the current internship program is good at clinical training, but it depends much on personal motivation, not supervision. I think there should be more supervision to make it better.”
“In my opinion, there is a gap between the professional training at medical school and actual practice. It is required to have a buffer period for the new graduates to participate in and learn from, particularly those in the medical sector.”
“Most of us have faced burnout. In fact, we have no time for other activities. The mentors have also created favorable conditions for us to study and practice clinical skills as well as to attend other training courses. However, as our time is short, we have attended a few courses only.”
“In spite of close coordination and wholehearted instruction from the mentors at the departments, mentors often face pressure from obligations of providing instruction to trainees. Therefore, the trainees have to make much effort and take advantage of their chances to work with the mentors. Since the number of patients is overwhelming, the hospital should invest more in its facilities.”

Trainees also note several strengths of the current programs, which are summarized below in Table 6.

**Table 6: Trainee Reflections on Strengths of Programs**

“According to me, the internship management is good. An experienced doctor, normally it is the head of department, is assigned to monitor me. I can meet the head of the department in the morning and the afternoon, therefore the problems which I meet shall be settled immediately.”
“We are facilitated and supported by the mentors. The specific characteristics in our department are that we practice a large volume of operations.”
“We feel more confident under the instruction of the mentors.”

*The Future*

In general, trainees seem concerned about the future of their careers and ongoing opportunities for training and practice in compliance with Vietnamese law. These reflections are summarized in Table 7 below.

**Table 7: Trainee reflections on the new 18-month curriculum and Licensing**

“If I have to wait for 18 months to obtain the practicing license to work independently, it would be a waste of effort. I mean I make much contribution to the department during such 18 month clinical internship.”
“After spending 18 months working at an establishment and being confirmed by the head of the establishment, I will meet the requirements for the practicing license. It is obvious that new doctors

are not issued the practicing license. Medical establishments often require the practicing license from the new doctors. I think the regulations are confusing. As a result, new doctors face a number of difficulties.”

“In general, the application for a practicing license is very complicated. To obtain the practicing license, the internship doctors must apply for certification from the people’s committee, then the department of health. In summary, the procedure is very complicated.”

“With a general practicing license, for example, in the department of surgery, the doctors can work at private clinics. Thus with the general practicing license, the doctors can work in all departments. If this is the case, the specialized practicing license is not required anymore.”

Some trainees feel that part of the solution is a greater role for trainees themselves in their own training and in curriculum reform: “I think the effectiveness depends on both sides, the trainees and the training institutions. If the trainees do not study hard, they cannot become qualified doctors. Besides, as different hospitals have different department models, the training institutions find it difficult to apply or optimize their models. Therefore, we should learn to adapt ourselves to the situation.”

## Challenges

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### *The Health System*

The data collected from this landscape analysis provide evidence that the national and provincial hospitals are functioning beyond their reported capacity, partially due to overuse of larger hospitals by patients. Though there may be other key reasons to decentralize care and encourage more use of district level hospitals, it is clear that national and provincial hospitals would benefit from more staff, as this was a common theme in the in-depth interviews. There is a high volume of clinical services provided at national and provincial hospitals, which represents a great opportunity for training young clinicians, as long there is structured supervision and evaluation. The 18-month internship program can be leveraged towards improving both staffing and quality of care at these hospitals if implemented well. The ultimate goal should be a seamless integration and harmonization of the 18-month internship program with overall hospital operations, and the program should further and enhance the clinical quality and standardization of care in the hospital.

There are a significant number of medical school graduates who have not had internship opportunities since the LET went into effect in 2011. The future of these interns in medicine is critical, as there continues to be a significant shortage of physicians in Vietnam. The data suggest that the capacity to train them may be present: The descriptive hospital data show that there are more specialists than there are interns, which suggests that there is untapped teaching and mentorship capacity at these hospitals. Establishing the goal ratio of patients to trainees and specialists to trainees would help to quantify training capacity, which will help significantly with the backlog of trainees from 2011, as well as with distributing interns in the future.

The described inequities in staffing, beds and trainees at the national versus provincial hospitals are a result of the prestige associated with national hospitals, as well as the fact that these hospitals are often located in major cities. To encourage redistribution of human resources and improved staffing at provincial hospitals, strong incentives for faculty mentors and interns to work at provincial hospitals should be considered. The 18-month curriculum cannot succeed if it reinforces the existing bias towards national hospitals.

Although not a focus of this report, the role of the district hospital in the 18-month internship reform is unclear. District hospitals are underutilized, and less clinical volume means fewer learning opportunities. District hospital staff has limited continuing education opportunities, which means that faculty development for supervision of the interns will be a challenge. To include district hospital rotations in the 18-month internship reform would require significant investments towards faculty development, decentralization of patients, education infrastructure, and logistics such as housing, transportation and food for interns doing rotations.

### *The Teaching Hospital*

The vision for the teaching hospital in Vietnam warrants further clarification. The role of universities in teaching hospitals and the requirements that must be fulfilled for a hospital to become a teaching hospital are opaque. The transformation of the US health system over the past 100 years was largely due to the rethinking and reorganization of medical education and the teaching hospital, and the opportunity for the same transformation exists

in current day Vietnam.

Many of the gaps noted during the in-depth interviews highlight the lack of a structured process requiring minimum standards for teaching hospitals. A basic system to describe expectations and accredit teaching hospitals would greatly help standardization of graduate medical education. To be successful, it would need to be paired with additional investments into teaching hospitals to ensure adequate faculty development, mentorship, internship, and administrative support.

The role of universities in graduate medical education continues to be unclear. Some hospitals benefit from longstanding relationships and faculty exchanges with universities, but others have no access to the resources of universities. The ongoing separation of universities and teaching hospitals results in a flawed continuum of education, and in inefficiency. A willingness on the part of universities to work with a larger group of teaching hospitals would be transformative, particularly because doing faculty development on site at the teaching hospitals would be ideal considering limited staffing and clinical demands. Universities could be a great partner in reform of graduate medical education and in the restructuring of the teaching hospital, but governance at the universities and ASTT's vision for the role of universities should be clarified to move forward with GME reform.

#### *The 18-month Internship Program*

The widely stated goals of the new 18-month internship program are to ensure standardization of training, improve the clinical skills of interns, and allow for independent practice of program graduates at the district level. To arrive at this goal, several key issues highlighted in the results of the landscape analysis should be addressed.

- 1) The apprenticeship model of training, which is the current model in the Vietnamese health system, rewards hospitals for thinking about training at the hospital level rather than the country-wide level. Hospitals frequently shared that they request interns based on planned retirements and on their busiest clinical services, so staffing is very short sighted and focused on the individual hospital. While this may serve the individual hospital well, it does not serve the needs for the health system, and will result in lost training opportunities. Though hospitals currently see their mandate as preparing young physicians to work at their hospital rather than to train and prepare young physicians for clinical medicine across the country, it is possible to change this perception, which would increase the success of this reform.
- 2) Interns are viewed as an orientation and supervision challenge, and the commonly held perception that interns are more work for the hospital rather than additional resources for the hospital is impeding reform and preventing hospitals from seizing the opportunity that interns offer. A standardized program that trains interns well, increases their scope of practice so that they are delivering supervised patient care, and uses their expertise to orient and supervise the next class of interns, will transform an unskilled group of students into a valuable staff in a short time period. With graded levels of responsibility and ongoing structured supervision, this program will make interns an asset, rather than a liability.

- 3) Until undergraduate medical school education is reformed and standardized, interns will enter the 18-month internship program at different levels with significant variation in skills. Standardization of the 18-month internship is possible despite that challenge, through strong evaluation throughout the internship program to identify and address key gaps and evaluate for basic key competencies. There are already existing best practices described above that should be shared and implemented across hospitals to ensure standardization and strong evaluation components.
- 4) Funding for faculty, interns, and overall program management and implementation was a significant source of stress and uncertainty for all hospitals sampled. There are few evident sources of financing for GME reform that protect both hospitals and trainees from incurring additional costs. Reviewing GME financing options in the region and looking for financing partners interested in GME reform will be fundamental to program success, and will significantly impact the entire health system.

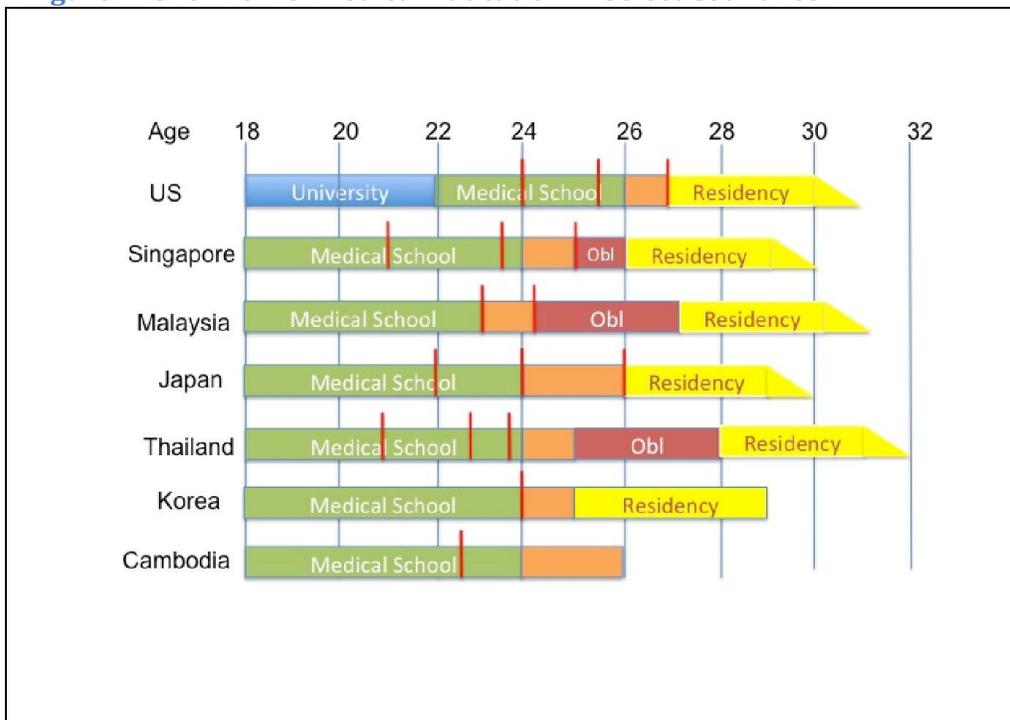
## Regional Examples & Best Practices

### Regional Examples

The approach to internship training differs sharply among countries in the Association of Southeast Asian Nations (ASEAN) and East Asia in general. On one extreme is Singapore, which has adopted the American model of internship and residency and became the first international program to be certified by the international arm of the American residency accrediting body, the Accrediting Council of Graduate Medical Education International (ACGME). On the other, China has not evolved any substantive national program for internship and what little graduate medical education is offered is nonstandard and fragmentary.

Most ASEAN countries have moved towards regular, standard graduate medical education (Figure 2). In nearly all cases, the current model of medical education has evolved through the enactment of major changes in graduate medical education and licensing over the past 10 to 20 years. Shared characteristics of these education systems include examinations at the end of medical school, a rotating internship experience, a licensure examination, and regulated residency training.

**Figure 2: Overview of Medical Education in Select Countries.**<sup>8</sup>



Typical ages of students (black), duration of non-medical university (blue), medical university (green), internship (orange), obligatory service (red) and residency (yellow). Note that the duration of residency is variable. Graduation and licensure examination dates are shown as red bars.

<sup>8</sup> Adapted from Nara N, Suzuki T, Tohda S. The current medical education system in the world. J Med Dent Sci. 2011 Jul 4;58(2):79-83.

### *Medical School Education*

Most Asian countries require six years of medical education. Korea and Japan are experimenting with the American alternative, four years of general education in university followed by four years of dedicated medical school education.

### *Licensure Examination*

Nearly all the ASEAN and other Asian countries require passage of a nationalized examination to practice medicine. Singapore, Malaysia<sup>9</sup>, Japan, Korea, Taiwan<sup>10</sup> and the Philippines, as well as the US, all have an examination at the end of medical school as a requirement to enter residency and to acquire a limited medical license for internship and residency training, and a second licensing examination at the end of internship.

Two important features of licensing examinations deserve notice. First, in six of the ten ASEAN countries, at least part of the licensing examination is conducted in English. This practice recognizes that English is the international language of medicine; the ability to read English readily is the pre-requisite to understanding the most up to date medical literature and can be viewed as an essential component of medical literacy. Second, many countries have included, in addition to a multiple-choice examination to test medical knowledge, a clinical component of the examination that tests clinical reasoning, communication skills and professionalism. In most cases the clinical examination is an Objective, Structured Clinical Examination (OSCE). In an OSCE, all examinees see the same set of patients, who may be real patients or actors, and are required to take a brief history, examine the patient, sometimes evaluate laboratory data, and create a differential diagnosis. The patient as well as the examiner rates examinees on history and exam skills, clinical reasoning and communication.

### *Structure of the Internship*

The internship experience in ASEAN and other Asian countries is one to two years in duration. It is structured with rotations through the fields that are essential for a general practice: internal medicine, surgery, obstetrics-gynecology and pediatrics. In most instances the main training sites are national or provincial hospitals. Thailand mandated three years of compulsory national service for physicians, who are mostly sent to rural areas in an effort to cope with physician maldistribution<sup>11</sup>. The internship is the first year of this national service and therefore takes place at rural sites, where interns feel that their precepting is often inadequate.

### *Residency Training*

In Singapore, Taiwan, Korea and Japan, most physicians seek residency training, usually immediately after internship. In other countries, such as Thailand and Malaysia, many primary care physicians enter clinical practice after the internship.

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<sup>9</sup> Malaysian Medical Council. A guidebook for House Officers, 2008.

<sup>10</sup> Chou JY, Chiu CH, Lai E, Tsai D, Tzeng CR. Medical education in Taiwan. *Med Teach*. 2012;34(3):187-91.

<sup>11</sup> Wibulpolprasert S, Pengpaibon P. Integrated strategies to tackle the inequitable distribution of doctors in Thailand: four decades of experience. *Hum Resour Health*. 2003 Nov 25;1(1):12.

### Financing of the Internship

Financing models are variable. In Singapore, Malaysia, Taiwan and Thailand, intern salaries are federally financed. Japan is an interesting case in point<sup>12</sup>. A one-year internship was introduced in 1948 but disbanded in 1968 because of intern dissatisfaction. There was no funding mechanism and interns worked a second job to support themselves in addition to long work hours in the internship, and became exhausted. There was informal clinical training only in Japan from 1968 – 2004, when a mandatory two-year internship with regulated work hours and salaries (mandatory but paid by hospitals<sup>13</sup>) was introduced, along with a national internship matching program. This illustrates the point that provision of a standard salary that represents a living wage and regulation of work hours are essential components of a well-organized internship program, regardless of the salary source.

**Figure 3: Graduate Medical Education in Select Asian Countries<sup>14</sup>**

	Thailand	Philippines	Singapore	Indonesia	Malaysia	Taiwan	Japan
National authority	Center for Medical Competency Assessment and Accreditation	Philippines Board of Medicine	Singapore Medical Council	Indonesia Medical Council	Malaysia Medical Council	Ministry of Examination	Ministry of Health, Welfare and Labor
Language in examination	English 50% Thai 50%	English	English	Bahasa Indonesia	English	Chinese	Japanese
Steps	3	1	N/A	1	1	2	3
Method of exam							
MCQ	Yes			Yes	Yes	Yes	Yes
MEQ	Yes	Yes					
OSCE	Yes			Yes	Yes	Yes	Yes
Duration of courses (years)							
Preclinical*							
Clinical	3	1	3	3	3	3	
Total	6	5	5	6	5		
Duration of internship (yrs)	1	1	1	1	1	2	2
Funding of internship	National	Tuition	National	?	National	National	Hospital
Compulsory Service	3 Years		2 Years		3 Years		

<sup>12</sup> Kozu T. Medical education in Japan. Acad Med. 2006 Dec;81(12):1069-75.

<sup>13</sup> Nomura K, Yano E, Mizushima S, et al. The shift of residents from university to non-university hospitals in Japan: a survey study. J Gen Intern Med. 2008 Jul;23(7):1105-9.

<sup>14</sup> Modified from Kittrakulrat J, Jongjatuporn W, Jurjai R, Jarupanich N, Pongpirul K. The ASEAN economic community and medical qualification. Glob Health Action. 2014 Sep 10;7:24535.

### *The Singapore Example*

Singapore, a former British colony with a sophisticated healthcare system, operated historically on the British registrar system of graduate medical education, with certification of competency at the conclusion of training provided by examiners from the Royal Colleges in Britain. In approximately 2007, the Singapore government concluded that the loosely structured registrar system was not adequate to train high quality physicians and opted for the American residency system<sup>15</sup>. In 2010, following numerous changes, a number of Singapore residencies, mainly affiliated with two university hospitals, were accredited by ACGME International.

The changeover to the American residency was a considerable cultural change, requiring the appointment and faculty development of residency program directors and core faculty, the creation of competency-based evaluation and feedback systems, and creation of a new hierarchy of resident supervision and graded responsibility – overall, it required the creation of an entirely different culture of medical education. Once begun in Singapore, the changeover was completed in less than five years, however, demonstrating that when there is a will, substantial change in graduate medical education can be negotiated swiftly.

### *ACGME*

There is an international consensus that the American residency system is the best organized of any in the world and does the best job at evaluation of resident competency and feedback to learners. ACGME regulates the system by accreditation and periodic re-accreditation of teaching hospitals and residency training programs. It may be instructive to detail some of the criteria it uses to maintain high-quality residency education. The Accreditation involves 6 key areas: the institution, program personnel, resident appointment, the educational program, evaluation of residents and the program, and the working environment.

### *The Institution<sup>16</sup>*

The hospital must be accredited for delivery of high-quality care (e.g. by the Joint Commission for Accreditation of Healthcare Organizations), must pledge to support residency training, must appoint a hospital official and a Graduate Medical Education Committee, must provide appropriate salary and benefits, must regulate resident work hours and provide a safe working environment for residents, and must have enough clinical volume and facilities to support resident education.

### *Program Personnel and Resources<sup>17</sup>*

Each Residency Program Director must give 50% effort, must oversee educational quality, is responsible for accreditation, must approve local directors at all training sites, must evaluate program faculty, and must provide feedback to residents. There should be one core

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<sup>15</sup> Huggan PJ, Samarasekara DD, Archuleta S, Khoo SM, Sim JH, Sin CS, Ooi SB. The successful, rapid transition to a new model of graduate medical education in Singapore. *Acad Med.* 2012 Sep;87(9):1268-73.

<sup>16</sup>[http://www.acgme.org/acgmeweb/Portals/0/2014\\_Institutional\\_Requirement\\_Checklist\\_with\\_2007\\_References.pdf](http://www.acgme.org/acgmeweb/Portals/0/2014_Institutional_Requirement_Checklist_with_2007_References.pdf)

<sup>17</sup><http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/CPRs2013.pdf>

faculty member for each six residents. The facility must have adequate numbers of patients for training and must make information resources available to residents.

#### *Educational Program*

The education program should include competency-based goals and objectives, a core curriculum based on these goals, a range of educational didactics (including Grand Rounds, journal club, and case-based conferences), a didactic program for residents that is based on core knowledge, and available scholarly activities, such as research opportunities for residents.

#### *Evaluation*

Evaluation should be based on six core competencies: patient care, medical knowledge, practice-based learning, systems-based practice, professionalism, and interpersonal and communication skills. A number of different modalities should be used in evaluation of interns, including: end-of-rotation evaluations, peer evaluations, nursing and ancillary personnel evaluations, patient and family evaluations, and self evaluations. The evaluations should be approved by a clinical competency committee which assimilates the evaluations to create a comprehensive assessment of intern performance and reports to the program director.

#### **Best Practices in Vietnam and the Region**

- National graduation examination (Partly in English, the universal language of academic medicine) - Singapore, Malaysia, Japan, Korea and Taiwan
- Limited licensure of interns (i.e. to practice in a particular facility under supervision), based on national graduation examination – Thailand, Philippines, Malaysia, Japan, Korea and Taiwan
- Intern recruitment via a national internship matching program – Singapore, Japan, Philippines
- Rotating internship encompassing key areas of primary care (internal medicine, surgery, pediatrics, obstetrics-gynecology) – all countries in region. In Vietnam, two hospitals also have rotations
- Interns trained in outpatient and emergency care as well as inpatient care. In Vietnam, one hospital has integrated emergency medicine training
- Scope of practice for interns to include prescribing under supervision – all countries in region
- Internship program director and core faculty who have undergone faculty development for development of curriculum, evaluation and feedback - Singapore
- Competency-based curriculum for interns, including intern orientation – Taiwan, Japan, Malaysia, Singapore. In Vietnam, three hospitals conduct orientation courses.

- Competency-based evaluation of intern performance, preceptor performance and program performance with timely feedback of results – Japan, Thailand, Taiwan, Singapore, Malaysia and the Philippines. In Vietnam, one hospital has a procedure log book and exit examinations from rotations, and one hospital uses a self-assessment.
- Accreditation of teaching hospitals, to include patient volume, quality of care, and learning resources such as library – Singapore, Philippines (also requires that every accredited and affiliated hospital has a training officer/training committee)
- Standard governance structure for graduate medical education in hospitals – Singapore, Philippines. In Vietnam, one hospital has an Education Training Council.
- National licensure examination at the end of internship – Thailand, Philippines, Malaysia, Indonesia, Japan, Taiwan
- Internship financed wholly or in large part from the national budget – Malaysia, Singapore, Thailand, Taiwan.

## Recommendations

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As already recognized by the Ministry of Health, the graduate training of physicians in Vietnam is inconsistent and incomplete. The Law on Examination and Treatment includes a charge to introduce a standard 18-month internship, which would address many of the current deficiencies, but at the same time is in conflict with the Law of Civil Servants. In this section are presented a set of concrete recommendations to create a standardized, national internship in accordance with the Law on Examination and Treatment, to assess the outcomes, and to reconcile the legal basis for internship training.

This section begins with a set of overall guiding principles and concludes with recommendations. Recognizing that full compliance with the international standard will require considerable modifications of the present state, some of which will inevitably take years to accomplish, we have divided the recommendations in this section into those that we think can be accomplished by the fall of 2015, thus being in place for the next class of medical school graduates, and longer term recommendations to achieve the final state.

### Guiding Principles

A set of principles for internship training have been articulated by international consensus. One can think of them as measures intended to foster the sort of training that will produce the kind of physician one would choose to care for one's own family (Table 8).

**Table 8: Principles on Internship Training**

• Every medical university graduate should have an equal opportunity for internship
• Every medical university graduate who wants an internship position should have a position
• Interns learn best by doing and by taking responsibility
• Human resource training should address the health needs for the country; the populace deserves a high standard of physician care at all levels
• Training physicians for high quality care is a public good and deserves public investment

Every medical school graduate should have an equal opportunity for internship. The principle of equity requires that every medical school graduate have the opportunity to compete for all the positions that are available. Optimally, internship positions would be distributed among candidates based on their merit: the most sought-after positions would always go to the most outstanding candidate, based on accomplishment in medical school.

Every medical school graduate who wants an internship position should have one. It is an imperative that Vietnam offers every qualified graduate of medical school an internship. The physician supply must increase substantially to meet projected healthcare needs: estimates of the number of additional physicians needed by 2020 range from 74,000 to

98,000.<sup>18,19</sup> To meet this goal, every medical school graduate should practice medicine. Moreover, Vietnam invests in the education of physicians by supporting their medical school education; that investment is lost when graduates of medical school do not enter clinical practice.

Interns learn best by doing and by taking responsibility. Sir William Osler, a great physician and one of the founders of modern medical education, observed, “To learn medicine without books is to sail an uncharted sea, but he who learns medicine without patients does not go to sea at all.” To learn the care of patients, one must care for patients. For this reason, internships worldwide provide interns with the opportunity to manage the care of their patients, albeit with close supervision. Interns earn increased responsibility with time and with successful completion of their learning objectives; for example, supervision may be loosened, and they themselves may supervise medical students and more junior interns. In this fashion, interns progressively learn the practice of medicine.

Human resource training should address the health needs for the country. Decisions about medical school and graduate training should be based on the present and projected numbers of physicians who will be required to meet the health needs of the populace (as determined by epidemiologic projections). Good projections of physician needs in Vietnam are available<sup>17,18</sup>. Physicians’ training should focus on the most relevant illnesses, and physicians should be trained to a uniform high standard to assure that they can provide uniformly high standards of health care.

Training physicians for high quality care is a public good and deserves public investment. Internationally, funding models for graduate medical education are variable, but most countries make a substantial investment, most commonly by the national government.<sup>20</sup> The investment encompasses faculty and facilities as well as trainee salaries. Even though the international investment in health profession education is “pitifully modest”<sup>21</sup> averaging less than 2% of healthcare expenditures, it nonetheless includes an international average of more than \$113,000 per physician. There is no inexpensive shortcut to training good physicians: the facility, faculty and trainee costs of graduate medical education must be viewed nationally as an investment in physician quality that is made alongside the investment in medical school education.

### Long-term Recommendations

We begin with what we envision as the final or ideal state of internship training in Vietnam. Recognizing that to accomplish all of these goals will necessitate a multi-year process, we will, in the next section (Immediate Next Steps, page 43), lay out recommendations for 2015

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<sup>18</sup> Study on status of human resources development in medical services system in Vietnam. JICA Project for improvement of human resources in medical services system, 2012

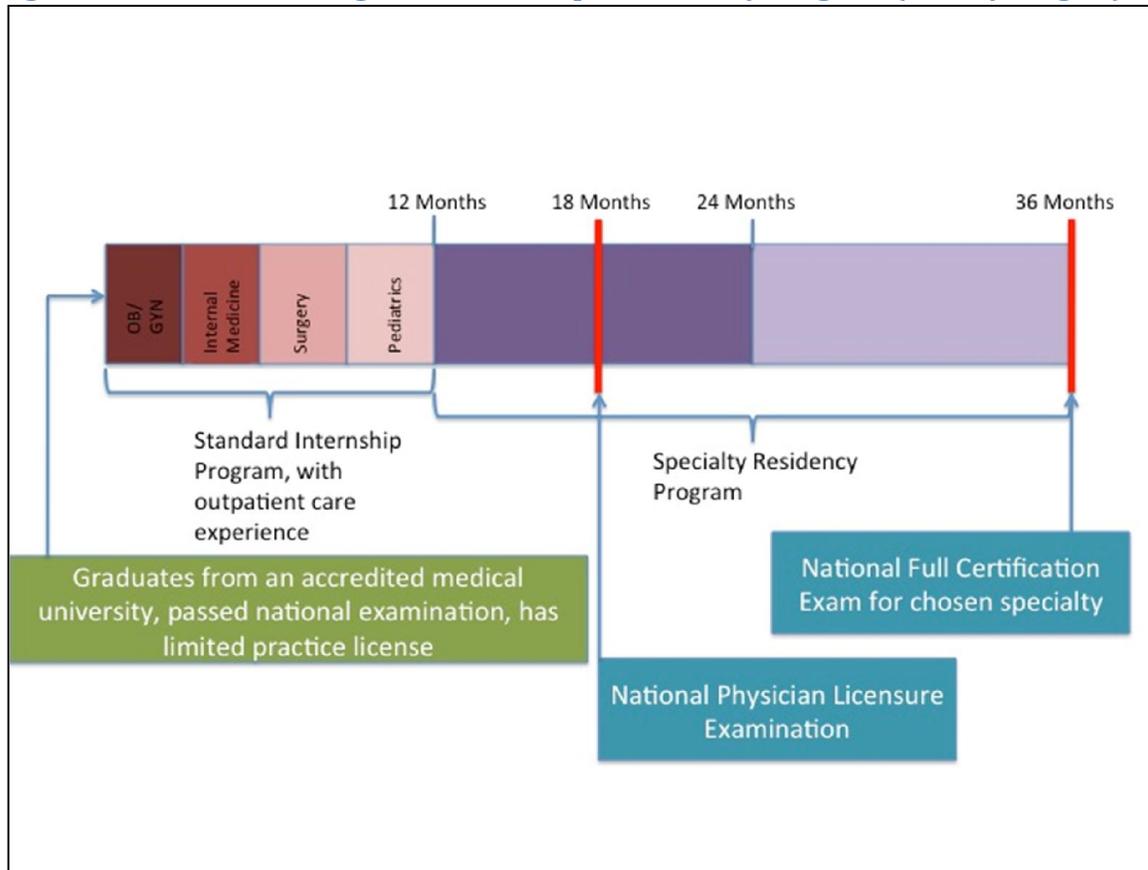
<sup>19</sup> Development of human resources in the Medical Service sector (Draft). Ministry of Health, Administration for Medical Services, Hanoi, 2013

<sup>20</sup> Transforming and Scaling Up Health Profession Education and Training: Policy brief on financing education of health professionals. World Health Organization, 2013

<sup>21</sup> Frenk J et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* 2010; 376: 1923–58

– a set of goals that can be achieved in the near future, launching the process and achieving some early successes.

**Figure 4: Schematic of Integrated Internship & Residency Program (10-15 year goal)**



Qualified medical school graduates would enter an 18-month internship with 12 months of rotations, followed by six months in their specialty area or at the primary care level. A national licensing exam would take place at eighteen months and a certification exam administered in the specialty would occur at the end of residency **(three to five years)**.

The long-term recommendations are organized in three categories, pertaining to the intern, the internship program and the hospital.

## The Intern

**Table 9: Future Characteristics of the Intern (10-15 year goal)**

Has graduated from an accredited medical school with a standard curriculum
<ul style="list-style-type: none"><li>• Has passed a national, standardized exam for a limited license to practice in a specified facility under supervision.</li></ul>
<ul style="list-style-type: none"><li>• With the limited medical license, can prescribe independently, but only within the designated training facility.</li></ul>
<ul style="list-style-type: none"><li>• Has been chosen by Hospitals through a National Matching System</li></ul>
<ul style="list-style-type: none"><li>○ Total number of slots is matched to number of graduating students</li></ul>
<ul style="list-style-type: none"><li>○ Programs and applicants each submit a list of choices; the national internship body gives each their best choice</li></ul>

### *Accredited Medical School Education*

To achieve a uniform high standard of internship training, training must begin with competent medical school graduates. This requires that all Vietnamese medical schools teach to the same high standard, but it is recognized that the quality of education in the medical schools of Vietnam is variable at present. Understanding this, MOH has endorsed the accreditation of medical schools to create a single high standard for medical school education. We also endorse this recommendation.

### *Limited License to Practice*

The scope of practice of interns should expand to include independent prescribing within the training facility. (This limited license to practice would be issued by the licensure body in collaboration with the training institution). This “learning by doing” under supervision is the best way for interns to acquire the skills they will need to practice. To regulate this practice and ensure the public welfare, interns should be required to hold a limited medical license, which would be granted at the end of medical school to successful graduates who pass a national graduation examination. The limited license would permit prescribing only under supervision and only in an accredited training facility.

### *Standardized Examination for a Limited License*

Medical students should sit for a graduation examination in the final year of medical school (developed and approved by a higher body, but administered by each medical school), with the requirement that they pass the examination in order to graduate from medical school, move on to internship and therewith get a limited license. Students who fail the examination would repeat the last year of medical school. The examination would test medical knowledge (e.g. multiple choice questions) and clinical skill (e.g. an OSCE).

### *National Internship Matching Program*

Working with other ministries as necessary, the Ministry of Health should create internship program to accommodate every medical school graduate, and make the positions within the program freely available to qualified applicants. The principle of equity argues that all applicants should have an equal chance at internship positions. It is also in the national interest that the most outstanding applicants for internship are matched with the most

outstanding training programs. The most efficient way to accomplish this is with a computerized national matching system. Another goal of a national internship matching program will be to ensure integration and training of the thousands of medical school graduates who have not completed the 18-month internship since the implementation of the LET in 2011.

In a computerized national matching system, each applicant would rank available internships in order of preference. Based on review of an application that included the applicant’s medical school accomplishments, examination scores, recommendations from faculty, and an optional interview, internship programs would rank applicants in their order of preference. A computer algorithm would then match applicants to positions, such that each program got its best available choices and each applicant also got the best available internship position from the ranked list of his/her own choices.

**The Internship Program**

**Table 10: Future Characteristics of the Internship Program (10-15 year goal)**

12 month internship, with standardized rotations: Medicine, surgery, pediatrics, obstetrics-gynecology, integrated into a residency program, whose length would depend upon the residency. (Note: In the shorter-term, 12 months at central or provincial hospitals followed by 6 months at the primary care level. Upon the completion of the 18-month internship, students will be eligible to take the national licensure examination).
Government-financed or supported internship program (stipend/allowance for interns). There are several models around the region. Some countries provide incentives/allowances for interns such as meals (during tour of duty) and/or housing.
Mandatory out-patient care and emergency care component
Competency-based learning objectives for clinical practice
National competency-based licensing exam for full practice license at the end of internship

*12-month Internship, with Standardized Rotations*

The standard internship would include 12 months of hospital-based training, equally divided between rotations in medicine, surgery, pediatrics and obstetrics-gynecology. The internship year would be the first phase of residency training, and interns would ordinarily move straight on into residency at the conclusion of the internship year. To provide for primary care, the majority of physicians would be trained in family practice. Other physicians would enter specialty residencies (internal medicine, general surgery, pediatrics, neurology, psychiatry etc.), in numbers that would be regulated to meet national resource needs, as defined by ongoing analyses of human resources for health (HRH).

*Government-Financed Internship Program*

Intern salaries are presently funded through public hospital budgets since the 18-month internship mandated by the LET is not yet being implemented. Given that all medical school graduates are required to complete the 18-month internship prior to licensure, they could not join the civil service until after completion of their internship. Internships are temporary training positions by definition, but the civil service is designed for permanent

employment. As mentioned above, the intern should receive a stipend/allowance or another form of incentive. This takes into account the contribution that interns will make, and also recognizes that as trainees, they will be less efficient than practitioners; additionally, clinical education is part of their mission and that will take time away from clinical care.

It should be emphasized here as well that the training cost for interns includes not only their stipends/allowances but also program costs for faculty and facilities. It is therefore likely that some combination of national, provincial and hospital-level funding will be required to cover both the direct cost of intern allowances and training costs, including faculty time for supervision and facility improvements. Examples of sources of revenue to cover such a stipend/allowance include clinical income from hospitals, provincial budgets, and the national budget.

It is strongly recommended that tuition not be charged to interns, for several reasons. Paying tuition is a financial hardship for trainees, particularly those who are most vulnerable financially, e.g. interns from rural or disadvantaged regions who are best suited to subsequent careers in those regions. The training costs for interns include faculty salaries for supervision and facility costs as well as intern allowances/salaries; a standard financing solution that includes all training costs should be the best way to ensure a uniform high standard of internship training. Relying solely on intern allowances/salaries from local sources or from interns themselves runs the risk of underfunding the other training costs. Allowing hospitals to set intern allowances/salaries would encourage hospitals to compete for interns on a salary basis, which is undesirable, as has been found in Japan. Other countries in the region with the strongest graduate medical education have generally chosen a national funding system (e.g. Thailand, Singapore, Malaysia and Taiwan). Japan ran into severe difficulties and had to abandon its internship system because of intern abuses when tuition was charged (see Regional examples).

Another possibility would be to give interns a loan to undertake their internship, which would be repaid 'in kind' by the trainee after internship by giving national service. Such a system would also provide a mechanism to deal with physician maldistribution.

#### *Mandatory Out-Patient Care Component*

Each intern rotation would include out-patient and emergency care as well as inpatient care. HRH considerations mandate that the majority of physicians in Vietnam be trained in primary care, and out-patient practice is at the heart not only of primary care but also of many specialties (pediatrics, obstetrics, gynecology, etc.). The out-patient care component of a rotation could be integrated with inpatient training in two ways: as a block of time, e.g. one month of a three-month rotation; or as a longitudinal experience (e.g. two afternoons per week for three months). This could be discretionary at the internship program level, so long as some agreed portion of training is out-patient. During the out-patient component, the intern would care for patients under direct supervision by a preceptor.

### *Competency-Based Learning Objectives for Clinical Practice*

Competencies are now being developed. Clinical training should be oriented towards achieving these competencies. Each competency should generate a set of learning objectives, and these learning objectives, in turn, should drive the creation of an organized, systematic, and thorough array of clinical teaching modules. It is to be emphasized that classroom teaching would not be the focus of these clinical teaching modules. All would entail interactive, problem-based learning, some of it in conferences, some at the bedside, and some based in on-line curriculum. The sharing of online curriculum between internship sites would vastly reduce the net effort necessary and at the same time provide for uniformity of teaching to the competencies.

#### **Best Practice Example**

Thoracentesis is a procedural competency that would be expected of all physicians. To achieve competency, the learner might be required first to watch a video teaching module on thoracentesis that would review indications, methods and potential complications<sup>1</sup>, then to review the equipment and supplies that are used in the hospital then to observe a thoracentesis by a faculty mentor, and finally to perform a set number of thoracenteses under observation by a preceptor. The preceptor would use a checklist to evaluate the intern's performance, record it, and to give feedback. At the conclusion of the program the preceptor would certify competency in thoracentesis.

It is evident that a considerable cultural change from the present apprenticeship model will be necessary to create competency-based curriculum. Interns must be defined as learners, a curriculum must be developed to teach them, faculty members must develop their teaching and evaluation skills and learn how to give feedback constructively, and funding must be found for the portion of intern salaries and faculty salaries that are devoted to clinical teaching of interns.

### *National Competency-Based Licensing Exam for Full Practice License*

The Law on Examination and Treatment mandates a national licensing examination at the end of the internship. We recommend that like the examination at the end of medical school, the final licensing examination test both clinical knowledge (case-based multiple choice examination) and clinical skills (OSCE).

## **The Training Hospital**

**Table 11: Future Characteristics of the Training Hospital (10-15 year goal)**

Hospital is an accredited training site that possesses:
• Dedicated program director
• Core faculty
• Adequate facilities
• Faculty development program
• Access to medical information

The training hospital could be a provincial or national hospital, but district hospitals will generally not have sufficient training faculty to justify inclusion as internship sites. A national accreditation process for training hospitals should be developed. To be accredited, a hospital must meet a number of minimum standards, including a training program director, core faculty and facility requirements.

### *Training Program Director*

A dedicated training program director should have, at minimum, CK1 qualifications and at least five years of experience. At least 50% of the director's time should be funded for management of the training program.

### *Core Faculty*

A core faculty group should similarly be chosen from staff physicians with at least CK1 qualifications, demonstrated core competencies, and a demonstrated interest and skill in education. They must have protected time for their teaching and supervisory responsibilities to the training program. MOH should designate a standard number of core faculty members per trainee (e.g. one core faculty member per six interns).

### *Adequate Facilities*

A national definition of facility adequacy and a process for accreditation should be developed, to assure that the clinical facilities at the hospital are sufficient for training purposes, including laboratory, imaging, pathology, emergency services, and a hospital-based quality improvement program with regular review and root cause analyses of adverse events. Consideration should be given to mandating a university relationship for training hospitals.

### *Faculty Development Program*

The director should participate in a national faculty development program to learn the skills required to manage the program, including curriculum development, faculty development, supervision, assessment of trainees, feedback, program evaluation, and management skills. The core faculty should also participate in faculty development. There should be a national CME program for core faculty development as well as local sessions at the training hospital, led by the training program director. Universities are strong potential partners to lead these faculty development and continuing education initiatives.

### *Access to Information*

All teaching hospitals should migrate to an electronic medical record for inpatient and outpatient care. All teaching hospitals should have a library with core textbooks (physical or electronic copies). Electronic subscriptions to core clinical journals, databases, and subscription-based online resources (e.g. UpToDate) should be a required facility feature of all training hospitals.

## **Immediate Next Steps**

Recognizing that it will take a journey to arrive at the final state of the internship, this section proposes a set of first steps that can be undertaken immediately, some of them nationwide and others as part of a pilot program at selected training hospitals. The recommendations are summarized in Table 12 and laid out below.

**Table 12: Proposed Immediate (1-2 years) Next Steps**

Introduce a uniform method of intern recruitment to match health system needs.
Introduce a standardized clinical training program at selected training sites.
Use standardized, competency-based objectives, evaluation & assessment to promote quality of interns, faculty and program.
Explore different financing mechanisms to support training sites and intern allowances.

Establish uniform method of intern recruitment. The current practice of intern recruitment can be replaced with a new national system that is fair, efficient, and establishes a national standard. The essence of the proposal is that ASTT release guidance that requires provincial hospitals to create positions for interns based on the number of qualified core faculty (CK-1 trained physicians with greater than five years of experience). The number would be funneled from hospitals to the Department of Health, and then into a national database that would be used by applicants to identify open positions to which they could apply with one application to DOH, ranking their choices. Hospitals would choose interns from these applications, ranking their choices, and a matching system would give each hospital and each intern their best choice, using a computerized algorithm. Because the national system will require time to build, it is recommended that it be implemented in a pilot fashion in 2015 at a number of pilot internship sites (see (2) below), so that intern candidates in the pilot program would be chosen in a pilot matching program.

Pilot program for standardized, competency-based clinical training. It is recommended that MOH select a small number of provincial hospital sites, chosen for regional diversity, for a pilot program to introduce a standardized rotating internship (Figure 5). The goal of the pilot program would be test and standardize matching process, curriculum, evaluations, assessments and SOPs that would then be implemented nationally. At these sites, training faculty would be identified, trained, and charged with implementing a rotating internship program, with three-month rotations in medicine, surgery pediatrics and obstetrics-gynecology, and a competency-based curriculum for interns.

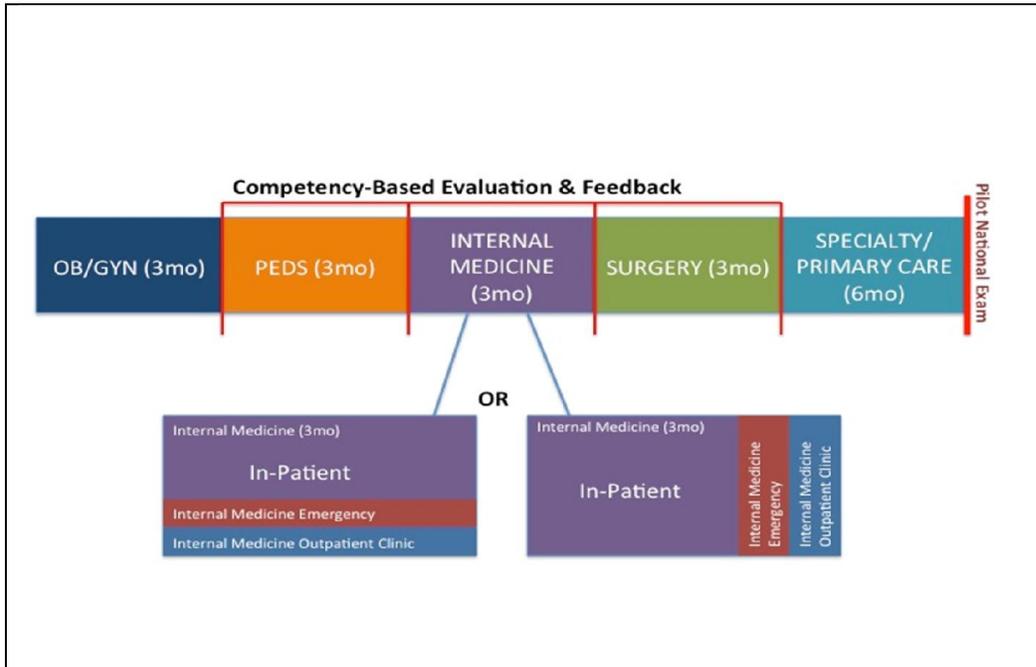
Features of the pilots: Training program directors would be identified and devote a considerable part of their total effort to the program (e.g. 50%). Core faculty (one faculty member per 10 trainees) would also devote a substantial part of their time to teaching and program administration (10% - 25%). The core faculty group would be trained in mentorship, curriculum development, assessment and feedback. This initial training would serve as the basis for the development of a National faculty development program.

All clinical rotations in the pilot, would encompass an experience in out-patient care and an experience in emergency care. These out-patient experiences could be either block rotations or longitudinal experiences, as shown in Figure 5. If block rotations are chosen, a reasonable duration would be two weeks of out-patient and two weeks of emergency training per block, for a total of two months out-patient plus two months emergency training in the 12-month internship. The intern scope of practice would be defined for each rotation, including inpatient and out-patient care, such that interns assumed progressive responsibility throughout the program.

It is recommended that in the pilot internship program the overall intern scope of practice be changed to include prescribing under supervision in the training facility only, in accordance with the principle that there is no substitute for learning by doing. This important change would give interns the ability to apply clinical reasoning, make therapeutic decisions and implement them -- thus having, under supervision, the full scope of physician practice. Their preceptors would take responsibility for overall supervision but would not be required to countersign individual orders for medications or other treatments. Interns would have progressive responsibility during the internship, with close review of all decisions early in the internship but less intense supervision as the year progressed, if all regular evaluations of their performance were positive. There appears to be no legal barrier to this change, but it would be premature to implement this scope of practice nationally before a national medical school graduation examination to verify the competence of interns and limited licensure of interns are in place. In the pilot program, however, there is the opportunity to choose top graduates, with confidence in their ability to function. Enlarging the scope of practice in the pilot programs would be an extremely valuable preliminary step to changing the intern scope of practice nationally.

The recommended length of the four core rotations is twelve months (three months each). Otherwise, in an 18-month internship, the number of interns would be doubled for six months of each intern year. What was proposed above for the final state of the 18-month internship was a transition from twelve months of rotating internship directly into six months of preliminary residency training. This final model is consistent with the long-term goal of ultimately making internship plus residency training the national standard for Vietnam. A different model is needed for the pilot program, however, since a national residency program will take more development. MOH can choose between several different options for intern training during the last six months of the 18-month internship, based on its weighing of its many goals and objectives and its deep knowledge of the healthcare system.

**Figure 5: Overview of Proposed 18-month Internship Program**



Rotations of 3 months, for a total of 12 months, would be followed by an additional six months at the primary care level (district hospitals and commune health stations). Outpatient training within rotations could be done in blocks or continuously.

One alternative would be to train interns for primary care in the last six months with a set of rotating subspecialty experiences in primary care: for example, primary care dermatology, primary care neurology, primary care psychiatry, primary care ophthalmology, primary care otolaryngology, etc., including an extended rotation at district hospitals and/or commune health stations (Some would also favor including intensive care medicine as a choice.) Another alternative would be to give interns six months of training in their choice of one of the four core specialties, e.g. medicine, surgery, pediatrics, or obstetrics-gynecology, as preparation for subsequent residency or specialist training. A third option would be to send interns for training in primary care at the district hospital or commune level. This option currently appears to be the most appropriate option in Viet Nam since it will help to address the shortage of well-trained doctors at the primary care level particularly as the country moves towards an integrated preventive and curative system and aims to strengthen its grassroots health network. It would be important that this primary care experience take place after successful completion of 12 months at a provincial hospital to ensure a solid clinical foundation given the limited preceptorship capacity in district hospitals and commune health stations. Some training for physician preceptors at the primary care level will also be needed. The Thai and Malaysian experience suggests that the precepting issue is quite significant, with interns feeling their training in community centers is inadequate).

In any case it is recommended that interns in their final six months have progressive responsibility, with an increase in their scope of practice over that of the first twelve months. One useful element of the new scope of practice will be the additional

responsibility of teaching and supervision of new interns from the class behind them, which would be of tremendous benefit to the hospitals who rely on interns for staffing. Mentoring by seasoned interns in the final six months of their training would be useful to orient new interns, be a help to the faculty, and would give the older interns an experience in teaching and supervision.

Develop core competencies and learning objectives. Based on the clinical competencies now being developed, a working group chartered by the MOH, to include training faculty at the selected pilot internship sites, should develop a set of core competencies and specific learning objectives for each of the core rotations. Included should be the professional competencies of ethical behavior, cultural competency, communication skills and professionalism. These detailed, competency-based learning objectives, in turn, should be used to develop a set of tools for competency-based evaluation of learners, faculty members and training programs.

Develop standardized, competency-based evaluation & assessment. A working group chartered by the MOH, to include the training faculty at the selected pilot internship sites, should be charged with developing and implementing tools for competency-based evaluation of intern performance in medicine, surgery, pediatrics and obstetrics-gynecology. The tools would be checklists to evaluate knowledge, skills and attitudes on a Likert scale (e.g. scale of 1 to 5 with “anchors” defining the meaning of each numeral) and would be based upon the clinical competencies now being developed. (Figure 6).

**Figure 6: Sample Likert Scale for Intern Evaluation in Surgery**

<b>Treatment of tissues</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Frequently used unnecessary force or caused Damage from instruments		Careful handling of tissues But occasionally caused Inadvertent damage		Appropriate handling of Tissues with no damage to structures
<b>Flow of operation</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Frequently seemed unsure Of surgical plan		Demonstrated some Forward planning.		Planned course of Operation effortlessly From one move to the next
<b>Overall performance</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Unable to perform Operation independently		Competant; could perform Operation with minimal assistance		Superior; could perform Operation independently With confidence

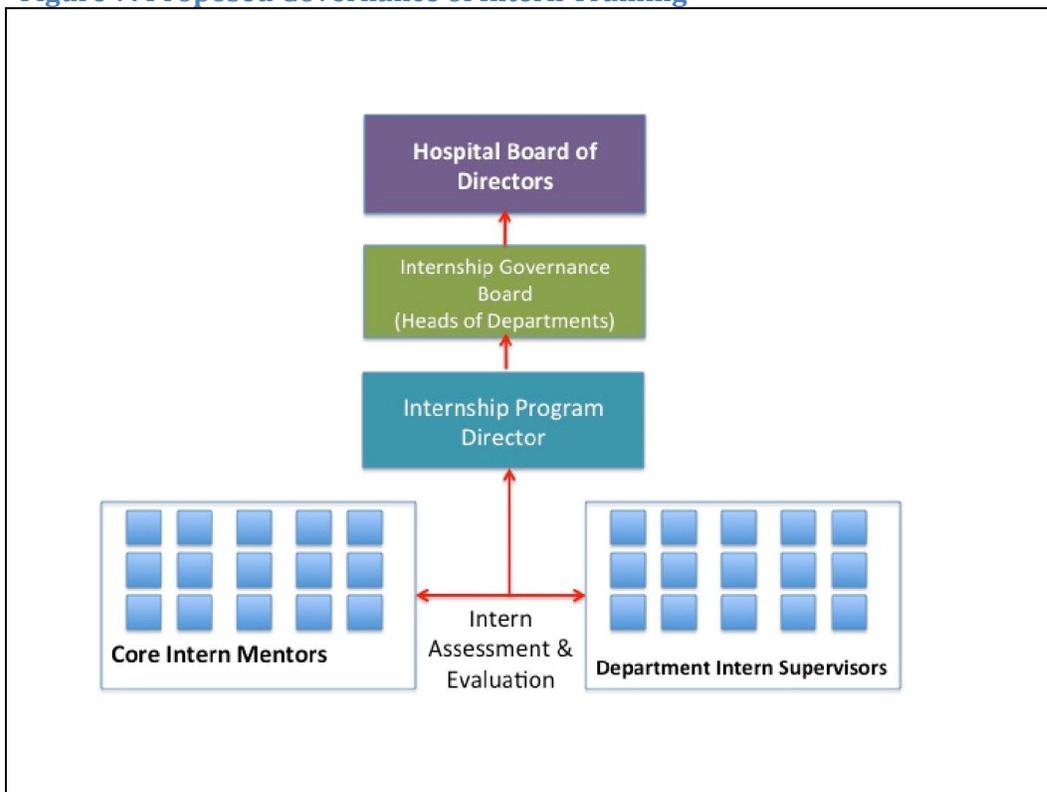
The evaluator would rate the intern from observation during operations from 1 to 5 on a series of criteria (after Fisher JB et al. Development and Face and Content Validity of an Eye Surgical Skills Assessment Test for Ophthalmology Residents. Ophthalmology 2006; 113(12):2364–2370

At the same time, similar tools would be developed for use by the interns to evaluate their mentors and for use by interns and faculty for program evaluation. The assessment tools would first be introduced at the selected pilot training sites, at the beginning of the pilot project, and ultimately implemented nationwide. Their use would foster continuous

evaluation and feedback for interns, faculty, and the internship program. Eventually, the tools could be placed online so that all intern evaluations would flow directly into a national database that would be used by MOH to for continuous monitoring of the progress of intern and residency training.

At the pilot internship sites, a governance structure should be developed for the oversight of trainees as they rotate through the hospital and for oversight of the training program. Training program core faculty and intern supervisors in the departments should report through the training program director to department heads, who should constitute an intern governance board to review the progress of interns and also oversee the training program. They should report to the hospital Board of Directors (Figure 7).

**Figure 7: Proposed Governance of Intern Training**



Evaluators report their evaluations of interns to the training program director, who is responsible to an internship governance board that reports to the hospital director and board.

Explore different financing mechanisms. The costs of the pilot program should include intern allowances/salaries, faculty compensation, and facility improvements. Creating a new way to finance intern allowances/salaries should be a crucial part of resolving the conflict between the LCS and the LET, as described in the previous section.

Potential allowance/salary sources include clinical income, provincial resources, national resources, and international partners. Interns should eventually generate clinical income, but this awaits changes in the law to permit them to prescribe for patients. It is assumed that at the outset of the pilot such changes will not have occurred, hence that excess clinical income contributed by interns will not be an initial source for their salaries.

It is to be emphasized that the cost of training in the pilot program must also include an investment in faculty time and facility improvements as necessary to create an optimal learning environment. The international experience suggests that the “overhead” costs of paying faculty may well exceed the direct cost of paying the interns themselves.

It is hoped that a substantial portion of the pilot costs can be borne by an agreement with international partners. Recognizing that developing new funding mechanisms for the internship program is a political issue, full resolution of which is outside the purview of MOH, international partnership may well be the best way to institute the program as early as 2015.

## **Annex I: Peer-Review Search Strategy**

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The search strategy below was developed by Ms. Julia Whelan, Harvard Medical School Reference Librarian.

Date of Search: November 10, 2014

### **PubMed Search**

("Education, Medical, Continuing"[Mesh] OR "post graduate medical education" OR "continuing medical education") AND ("Vietnam"[Mesh] OR vietnam OR vietnamese)

### **EMBASE searches**

- |   |                |
|---|----------------|
| #2. 'postgraduate education'/exp OR 'postgraduate education' OR 'continuing medical education' AND ('vietnam'/exp OR 'vietnam') | 15 10 Nov 2014 |
| #1. 'postgraduate education'/exp AND 'viet nam'/exp   | 6 10 Nov 2014  |

In total after accounting for duplications, 10 results were found. After abstract screening, 3 results were deemed relevant for the purposes of this review.

## Annex II: Research Tools

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### QUESTIONNAIRE 1 (for Administrators)

#### Objectives:

- Discuss the activity on organizing the guidelines for practicing MD (herein after referred to as practice) before issuing a practicing silence under the Law of medical treatment at a hospital.
- Discussion on these activities at the hospital in future

#### A. General information

Hospital Name                      Province/city  
Date of Survey  
Interviewer Name  
Interviewee Name: leaders of dept. of HR, Planning and training

#	Name	Dept.	Role
1.			
2.			
3.			
4.			
5.			

#### Information about the hospital

How many beds in the hospital?

How many dept. in the hospital?  
 How many staff in the hospital? Details.

**B. Institutional Affiliations**

How many care delivery facility(s) is your institution affiliated with that accept trainees from your training programs?  
 Do you have a map of these institutional affiliations?  
 Please describe the agreement for institutional affiliation in detail.  
 Is there financial agreement between the institutions for accepting medical trainees? If so, please describe  
 How are teaching faculty shared and/or appointed between the two institutions?

	Residency	18 month practice for License	Specialty Orientation	“De Facto” Internship
<b>C. Human Resource</b>				
Does hospital plan to do this program?				
- No, because:				
- Yes, because:				
Does your institution have the following training programs? (please mark all appropriate columns)				
Describe specific forms has been carried out, why that form of program.				
Procedures?				
Any contract between the hospital and doctor?				

- No, because:				
- Yes, because:				
Is there any decision for the mentor for each trainee?				
Describe specific Instructor responsibilities, obligations, rights and rewards when assigned as a mentor?				
Description the specific performance requirements, ethics etc...?				
The mentor can be either faculty of medical university or colleagues regularly working at the hospital? Why?				
How many departments in the hospital. How many trainees can each department receive maximum at one time?				
The hospital has carried out or planned to improve the training capacity for mentors to meet the job requirements? Details and specific requirements?				
Are there a leader and specific dept. to be responsible for this activity? Details.				
Who does the training director report to?				
Mentor capacity(graduate/Master, CK1/CK2 Ph.D.)?				
To whom the mentor has to report to?				
Total FULL-time teaching faculty in the hospital for				

this training program?				
Total PART-time teaching faculty in the hospital for this training program?				
Is there a minimum number of years of clinical experience for these faculty as a requirement before hiring?				
Are teaching faculty required to have research experience before they are hired?				
How many % of time do the teaching faculty spend teaching the trainees, on average?				
Is there an administrator (s) who organizes the training program?				
Do you think you need to hire more teaching faculty for your training program? If yes, why and budget?				
Are there any faculty development programs for your faculty? If yes, please explain.				
<b>D. Salary and awards</b>				
Is there monthly salary for your trainees? (VND). If trainees receive a salary, who pays the salary for the trainees?				
Does the salary increase for trainees during practicing?				
Is there a stipend for food and/or transportation, in addition to the salary?				
How much is mentor's stipend?				
Do trainees moonlight outside of their training program?				
Is there a formal mechanism to facilitate moonlighting?				

<b>E. Financing Sources</b>				
Do you have any grants to support your training program? Choose YES or NO for each of the possible sources noted below:				
- MOH				
- MOET				
- Grants				
- NGO				
- Funds from hospital				
- Other				
Where do you find funding to pay the teaching faculty? Choose YES or NO for each of the possible sources noted below:				
- MOH				
- MOET				
- Grants				
- NGO				
- Funds from hospital				
- Other				
If you use funding from a grant or NGO, please list the sources for these.				
Do the trainee have to pay training fee?				

If yes, who pay this fee?				
If yes, how much is the fee?				
Have the hospital financial support to trainees? Why and details.				
<b>F. Clinical Experience</b>				
How many patients does each trainee round on for the inpatient ward per day?				
How many night duty has each trainee per week?				
Do you monitor the number of patients examined by each trainee per month? If not, why.				
Is there a goal number of procedures performed by each trainee before graduation? If yes, please explain.				
How do more experienced trainees supervise more junior trainees in other settings such as rounds and on call?				
Are trainees given teaching responsibilities?				
- Junior Trainees				
- Medical Students				
- Other				
If yes, describe advantage and difficulty?				
<b>G. Curriculum</b>				
For how many years has this training program been in existence?				

What is the mission of your training program?				
Do the trainees take exams throughout the course? If not, why not?				
Is there an exit exam for the trainees? If not, why not?				
Are there other exit criteria (ethic, communication, law, etc.) for the trainees? If yes, please list.				
Is there a curriculum?				
If yes, was this curriculum certified or approved by the Ministry of Health?				
Who created the curriculum?				
Could we have a copy of the curriculum?				
Does the curriculum include any training on quality improvement? If not, why not?				
Does the curriculum include any training on research methods? If not, why not?				
Does the curriculum include procedure training? If not, why not?				
Does the curriculum include any training at community sites and/or outpatient clinics?				
What % of the curriculum is devoted to community sites/out-patient clinics?				
Does the curriculum include any components on team work?				
Does team-work include intra-health professional training (nurses, physician assistants, pharmacists)?				
What are the core competencies for this curriculum?				
Special consideration for trainees from ethnic minorities/disadvantaged areas?				
How many of your trainees are ethnic				

minorities/from disadvantaged areas?				
Is there a routine morning report for the trainees?				
Is there a routine teaching conference for the trainees? If so, how many per week? Please give details.				
Is there internet access at the institution for your trainees?				
Is there a medical library at your institution?				
Is there a large room available for teaching conferences?				
Is there video conferencing capability at the institution?				
Do you encourage trainees to participate in other activities such as team work, health care principles, ethic, etc.? Details.				
There are opportunities for out of the hospital rotations organized by the program?				
Do you have any partnerships with foreign hospitals?				
<b>H. Monitoring and Evaluation</b>				
Is there any evaluation performed on the training curriculum? If not, please explain why not.				
If yes: who is responsible for conducting or coordinating the evaluation work?				
Please explain how the evaluation is done (Pls. clarify if one-way or two-way evaluation, regular or irregular evaluation, in comparison with your task in JD, etc.).				
Is there formal testing of performance of trainees on their competency in performing procedures? If yes				

please explain how, and if not, why not.				
Is there testing to assess trainees performance of core competencies? If yes please explain how, and if not, why not.				
Have you criteria of practice for trainees? Why? Are they realistic?				
Is there a pre-test and post-test administered after lectures and/or conferences?				
Do trainees evaluate the teaching faculty? If not, why not?				
Do the teaching faculty evaluate clinical skills of trainees? If yes, how?				
Do trainees take night duty with experienced doctors?				
What is limit of trainees on patients? Do mentors regularly supervise their trainees?				
Do trainees receive timely support from mentors or colleagues?				
Do trainees take an exit exam by the end of program? If not, how to evaluate? What is effectiveness?				
Do mentors evaluate other clinical performance of the trainees? Which are measured and how?				
How many female trainees are there total in your program?				
How many years are required to complete this training program?				
How do you advertise for your training program? Choose YES or NO for each of the possible options				

noted below:				
- Ministry				
- Newspaper				
- Posters				
- Other				
Do you conduct interviews of applicants to your program?				
Do you have minimum entrance requirements? If yes, please describe.				
How are trainees chosen for matriculation after completing the application process as outlined above?				
<b>After Training Program</b>				
- Do you track graduates after graduation?				
- Do you know % of graduates who go into community practice in rural areas?				
Do you know % of graduates who go into practice in disadvantaged areas/ethnic minority areas?				
- Do you know % of graduates who stay on at your institution and become apart of the teaching faculty				
<b>I. Future Needs of Program</b>				
Does hospital have new direction of this activity?				

Do you enhance to receive more MD for 18months practice according to Law of health care? Why?				
Please indicate the necessary reforms for training programs?				
Does Human resource for this activity need to change/improve? The organization: large information, management closely follows the output criteria?				
To arrange rotation(4 major specialties) before practicing in 1 specialty accordance with the requirements of the hospital?				
Regular budget for this activity?				
No input criteria is required but Common practice Output criteria of the Ministry of Health is required.				
Do you need the support from other units or the Ministry of Health/international organizations to maintain and improve the quality of this activity.				
The most important roles of international partners in this program.				
There are the other necessities for programs that have not been mentioned?				
Are you interested in participating in the medical education reform working group in Vietnam?				
Any question to us?				

## Questionnaire 2

### (Deputy in charge of training)

**Objectives:**

- How to manage training of Residency, Specialty orientation, “De Facto” Internship *as probation or practice* at the hospital.
- Capacity, readiness and organization of mentoring for new doctors during 18 months at the hospital (according to circular 41/2011 issued by MoH).
- Orientation of this activity in future.

**General information**

Hospital Name Province/city  
 Date of Survey  
 Interviewer Name

Interviewee:

- Name: ..... Age: .....
- Role: ..... Duration in this role:.....

**1. Specialty orientation**

1.1. Do you have specialty orientation?

+ No  *move to part 2.* Yes

- Trainee comes from:

Central hospital <input type="checkbox"/>	District hospital <input type="checkbox"/>	No job <input type="checkbox"/>
Provincial hospital <input type="checkbox"/>	Private hospital <input type="checkbox"/>	Other <input type="checkbox"/>

- How to enter the program:

Exam <input type="checkbox"/>	Registration only <input type="checkbox"/>	Other:..... <input type="checkbox"/>
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- Duration

less than 6 months <input type="checkbox"/>	6-12 months <input type="checkbox"/>	More than 12 m <input type="checkbox"/>
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1.2. Program is developed by whom? Who approve?

1.3. Which curriculum is used?

1.4. Do trainees have rotation? How to arrange this? Do you think that is necessary?

1.5. Do trainees examine and treat patients with other doctors in the hospital?

1.6. Do trainees have night duty/morning meeting/ scientific workshop/guiding students?

1.7. Are there practicing criteria? How the mentors monitor these?

1.8. Are there regular exam? How to do this?

1.9. Do trainees receive certificate at the end of practice? Value of this certificate?

1.10. Which department is responsible for management of training?

1.11. Do trainees pay fee? Who support the trainees to pay fee?

1.12. Which benefits do trainees receive during practicing? Details?

1.13. Other issues:

## 2. Residency

0.1. Do you receive residency?

+ No  *Move to 3.* Yes

- 0.2. Does hospital affiliate with other hospitals? If yes, list names. Detailed relation (responsibilities, obligations and benefit of each side).
- 0.3. The program is developed by whom? Who approve?
- 0.4. Which curriculum is used?
- 0.5. Do trainees have rotation? How to arrange this? Do you think that is necessary?
- 0.6. Do trainees examine and treat patients with other doctors in the hospital?
- 0.7. Do trainees have night duty/morning meeting/ scientific workshop/guiding students?
- 0.8. Does hospital provide additional materials/internet. Details.
- 0.9. Are there practicing criteria? How the mentors monitor these?
- 0.10. Are there regular exam? How to do this?
- 0.11. Do trainees receive certificate at the end of practice? Who sign the certificate?  
Value of this certificate?
- 0.12. Which department is responsible for management of training?
- 0.13. Do trainees pay fee? Who support the trainees to pay fee?
- 0.14. Which benefits do trainees receive during practicing? Details?

0.15. How do you assess this program in the hospital?

- Do you think this is necessary? Why?
  
- Duration for the program? Different or the same for different specialty?
  
- Is the current program suitable? If not, how to improve this?
  
- How is quality/effectiveness of this program?

0.16. Other issues:

### 3. "De Facto" Internship

3.1. Do your hospital receive "De Facto" Internship according to the Law of officials?

+ No  *Move to 4.* Yes

3.2. Procedure for "De Facto" Internship? Who develop this procedure?

3.3. Trainees self-register/ are introduced/ take exam/are designed?

3.4. Does hospital largely informs the number of trainee/ criteria/ specialties for new doctors to register?

3.5. By which means? How often?

- 3.6. Is there contract between the new doctor and hospital? Detailed articles?
- 3.7. Are there a leader and specific dept. to be responsible for this activity? Is there written decision? Details.
- 3.8. Do trainees pay fee? Based on which basis?
- 3.9. Who support fee for trainees?
- 3.10. How the hospital arranges mentoring for the trainees? Details.
- 3.11. What are the responsibilities, obligations and benefit of the mentors? Details.
- 3.12. What are criteria of ethic, experience, performance... of the mentors?
- 3.13. Can trainees examine the patients? Do mentor regularly monitor the trainees?
- 3.14. Do trainees have night duty with their mentors?
- 3.15. Are there practicing criteria for trainees? How to monitor, supervise and evaluate?
- 3.16. Who assess/ comment? How? Details.
- 3.17. Does hospital pay trainees during practicing period? Details.
- 3.18. Does hospital provide additional materials, internet? Details.

3.19. Other issues.

**4. Practicing doctor for 18 months (according to Circular 41/TT/2011-BYT)**

4.1. Does hospital receive practicing doctors for 18 months according to circular TT41/TT/2011-BYT?

Yes

No

*If yes, describe details; if not, please tell us your plan and orientation as below*

4.2. Procedure for practicing doctors? Who decides?

4.3. Does hospital have affiliate with other institutions to do this program? List names. Details of this relation (responsibilities, obligations and benefit of each side).

4.4. Describe sharing the task between the affiliated institutions?

4.5. What are the responsibilities, obligations and benefit of the mentors? Details.

4.6. What are requirements on capacity, ethic... of the mentors? Details.

4.7. How many trainees can the hospital maximally receive at one time? Why?

4.8. Do trainees pay fee? Based on which basis?

- 4.9. Does hospital provide financial support to trainees? Why, details.
- 4.10. Do trainees have night duty with the hospital doctors?
- 4.11. Do trainees receive timely support from mentors or other doctors when needed?
- 4.12. Are there practicing criteria for practicing doctors? Why? Are these feasible?
- 4.13. Do trainees have final exam? If not, how to assess? How is effectiveness?
- 4.14. Do you encourage trainees to participate in other activities such as teamwork, health care principles, ethic, etc.? Details.
- 4.15. Does hospital have any budget to support this program? If yes, from which source?
- 4.16. If not, how to get budget for the mentor benefit?
- 4.17. Other issues.

## Questionnaire 3 (Trainees)

**Objectives:**

- Discuss on trainees activities during practicing period before licensed according to the law of examination and treatment
- Discuss on practicing organization of the hospital.

**A. General information**

Name of the hospital:

Date:...../10/2014

Interviewer:

Interviewees: graduated doctors practicing at the hospital, 6-8 doctors.

#	Name	Graduate year	Probation or practicing?	Department	Time practicing at the hospital
1.					
2.					
3.					
4.					
5.					

6.					
7.					
8.					

**B. For trainees:**

B1. Why do you choose this hospital? Where and how did you hear about it?

B2. What steps did you have to take?

B3. Do you have contract with the hospital? If yes, what are responsibilities of each side?

B4. Do you pay fee and how much did it cost? What are the basis for this fee?

*Curriculum:*

Please describe your training curriculum and its organization at your institution.

B5. Do you receive support from your mentor when needed?

B6. Do you have night duty with your mentor? With other doctors?

Please describe the system for supervision of first year trainees by senior residents

B7. Do you practice in 1 dept. or different depts? If in different depts, list the depts, time and mentors. If only 1 dept., who decides that you practice in this dept?

B8. Describe 1 working day? Any regulation in time and specific activities?

B9. Do you participate in community work? If yes, details?

B10. Do you receive any support: material, library, internet, faculty?

B11. Do you know target to achieve during your practice? If yes, how many % do you think you can achieve at the end?

B12. Who assess your practice? How?

B13. Do you think this practice is necessary? Why?

B14. How do you evaluate the organization and management of the hospital for the trainees?

B15. Does hospital offer stipend for your practice?

Do you work at other hospitals or clinics for extra money? If so, how often?

Do you have mandatory off-duty hours? How often?

B16. Do you participate in professional activities of the hospital? Other activities?

B17. After your practice in the hospital, where do you plan to work?

How do you feel about going to a rural/disadvantaged area.

B17. Do you have any recommendation for more effective practice

B18. Please describe any support you receive in finding jobs/clinical placements after your training program?

### **C. For the hospital**

C1. Does the hospital clearly announce recruitment (number, eligible persons, time...) for this program? If yes, how do you know?

C2. Does hospital assign mentors for each trainee? If yes, how many mentor per trainee? Is there written decision or only verbal decision?

C3. Do mentors regularly monitor trainees? If yes, describe how your mentor assesses you?  
Please describe the system for how you evaluate the faculty and give them feedback.

Please describe the key overall strengths and weaknesses of your training program.

C4. Do mentors receive stipend? If yes, how much and based on which basis? Budget?

C5. The mentors are satisfied with that stipend? If not, why?

C6. Do mentors receive feedback from trainees? How?

## Quantitative Questionnaire

Please answer the following general questions about your hospital:

Question	Answer
1. How many beds does your hospital have?	
<i>Official</i>	
<i>Unofficial</i>	
2. How many hospital staff do you have?	
<i>Doctors (TOTAL)</i>	
<i>Doctors DaKhoa (generalist)</i>	
<i>Doctors CKI</i>	
<i>Doctors CKII</i>	
<i>Doctors (PhD)</i>	
<i>Doctors (Masters)</i>	
<i>Nurses (University—4 years)</i>	
<i>Nurses (Technical School—2years)</i>	
<i>Pharmacist</i>	
<i>Medical Technicians</i>	
<i>Administrative Staff</i>	
<i>Other</i>	
3. How many <b>clinical</b> departments do you have?	
<i>Please list</i>	
4. How many trainees did your hospital take in <b>2014</b> ?	
<i>De Facto (BS Tap Su)</i>	
<i>Residents (BS NoiTru)</i>	
<i>Orientation to Specialty (BS DinhHuongChuyenKhoa)</i>	
5. How many trainees did your hospital take in <b>2013</b> ?	
<i>De Facto (BS Tap Su)</i>	
<i>Residents (BS NoiTru)</i>	
<i>Orientation to Specialty (BS DinhHuongChuyenKhoa)</i>	
6. How many trainees did your hospital take in <b>2012</b> ?	
<i>De Facto (BS Tap Su)</i>	
<i>Residents (BS NoiTru)</i>	
<i>Orientation to Specialty (BS DinhHuongChuyenKhoa)</i>	
7. Over the past 6 months (January-June 2014), how many patients does your hospital have?	
<i>In-Patient?</i>	

<i>Out-Patient Clinics?</i>	
9. What is the total catchment population of your hospital?	