An Evaluation of the Structural Components of the Residency Training Program of the Department of Anesthesiology, UP-PGH

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ABSTRACT

Background. The residency training program in Anesthesiology of UP-PGH is the pioneer and biggest training program in the country. However, since its inception, the training program has not undergone any form of comprehensive evaluation.

Objective. The main objective of the study is to assess the different structural components of the training program and come up with recommendations on how to further improve it.

Methods. This is a descriptive study, utilizing both qualitative and quantitative research methods. Several validated survey instruments were used.

Results. The academic and neuro-psychiatric profiles of the residents were within the purview of mediocrity, while their socio-demographic profile was basically unremarkable. Their overall Quality of Life and Working Condition were both satisfactory. Although their Work Load was heavy and stressful, their Motivational Level was above par. Their performance from their trainers' perspective was generally satisfactory but needs improvement in the basic and theoretical knowledge. On the other hand, the trainees rated their trainers' performance from Good to Outstanding. The trainers' academic profile was excellent. Problems, weaknesses and strengths inherent to the program were also identified.

Conclusion. To improve the training program, the quality of the residents must also necessarily be improved. A reduction in work load by increasing the number of residents as well as providing a more conducive learning environment are both recommended. The trainers'/mentors' teaching performance have been exemplary and needs to be maintained.

Key Words: residency program, evaluation, structure, Anesthesiology

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Introduction

Program evaluation has always been a crucial and integral part of a complex process of strategic management within a structured operating organization. Being a significant step in strategic control, it monitors, evaluates and provides basis for necessary and rational modification or adjustments in program implementation strategies.[1] It involves scanning of the context of both the internal and external environment and an analysis of the situation as it validates certain strategic assumptions.[2] Thus, program evaluation serves to provide information from which to develop program improvement.[3]

Evaluation of a residency training program is essential in maintaining and improving the degree to which its educational goals are achieved.[4] The residency training program of the Department of Anesthesiology of UP-PGH, which has existed for almost 60 years of its implementation, has never undergone a comprehensive evaluation. Neither was there any initiative undertaken to determine whether the said program has met its basic goal of training and producing competent practitioners. The department's evaluations have been limited to monitoring the performance of the residents for purposes of rank promotion and not for the assessment of the training program per se.

At no particular time did the department attempt to evaluate the curricular modalities of the program or the performance of the trainers/mentors (consultant-physicians) themselves. Although the program has undergone some minor modifications and revisions spearheaded by different administrations, there has been no previous attempt to make a comprehensive and formative evaluation of the program. While these changes had been initiated during those leadership shifts from one chairman to another, there has been no essential assessment of improvements in program implementation to determine if the goals that had been set have actually been achieved.

Though accreditation is regularly conducted by the Philippine Board of Anesthesiology to determine compliance with the minimum requirements for training centers, this does not evaluate the effectiveness of the program, and neither does it determine if the training program has met its goal and objectives.

There have been discussions on the prevailing impression that the residency training program of the Department of Anesthesiology of UP-PGH has been steadily deteriorating. For the past several years, the residents' performance in the specialty board as well as in the In-Service Examinations have been observed to be below the targeted standards that the esteemed institution hopes to maintain. It has not attained a perfect specialty board passing rate for the last 5 years and barely half of its graduates pass the specialty board. This is a far cry from the time the department had consistently maintained an almost perfect passing rate in the Anesthesia specialty board examinations and with its graduates successfully garnering the top places. Similarly, its resident trainees used to perform very well in the In-Service Examinations.

In recent years, there has been a drastic fall in the number of applicants interested to join the program. Salaried items allotted for anesthesiology residents remain unoccupied. Recruitment to the program is now a major concern. As a direct consequence, for several years now, the department has fallen short of the prescribed and appropriate number of residents in the program.

Given this scenario, it becomes quite relevant to ask what really happened to the residency program of the department of anesthesiology and why the program no longer appears as an attractive career choice among would-be specialists.

This then brings us to the need for a thorough evaluation and comprehensive assessment that will determine if it is still fulfilling its goals and objectives of producing highly skilled and competent anesthesiologists. In the process of doing so, a well-designed and well-conducted program evaluation could give an accurate picture of the program and identify inherent problems thereby beginning the process of proposing and formulating solutions to these problems that will eventually lead to significant improvements in the training program.

Objectives

General Objective

To evaluate the different structural components of Residency Training Program of the Department of Anesthesiology UP-PGH.

Specific Objectives

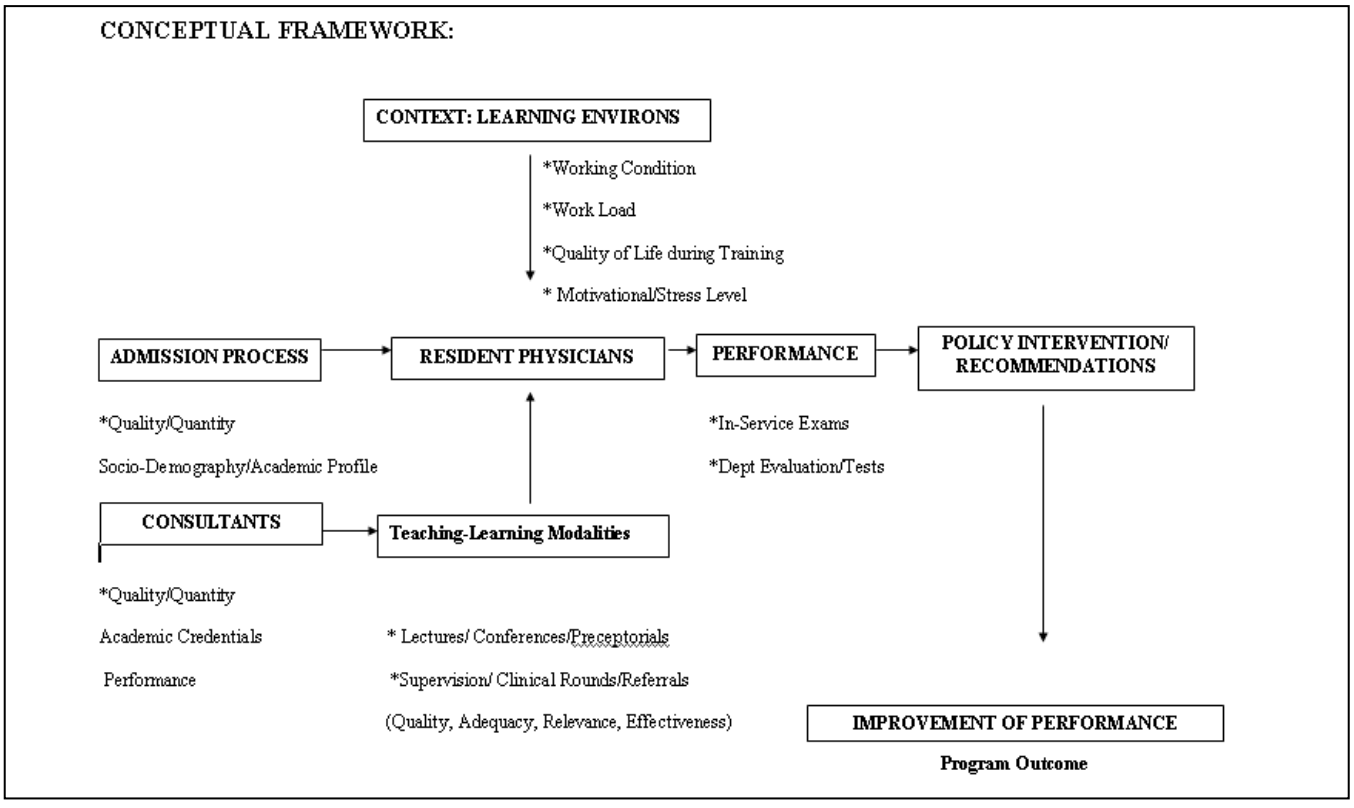
1. To describe and analyze the academic, socio-demographic and the neuro-psychiatric profile of resident physician trainees accepted to the program in the past 3 years.

2. To describe the Quality of Life of the resident physician trainees, their workload, working conditions, motivational and stress levels.

3. To describe and assess the academic profile and perceived performance of the consultant-physicians as trainers/mentors of the program.

Conceptual Framework

This study has adopted the Donabedian model[5] in evaluating the residency training program of the Department of Anesthesiology, UP-PGH. This model is a



sequence of components that provide an operational description of a given program. These components include the **structure**, the **process** and the **outcome**, which can be assessed individually or as a whole.

This paper shall focus on the program structural component of the model. The program **structure** pertains to the components that are relatively stable.[6] These include the following: **the resident staff** (trainees), the **consultant-staff** (trainers), the **admission criteria** and the **learning setting/environment and context.**

The model involves the contextual interplay of the different actors/players/stakeholders/factors within the program structure. As conceptualized and as illustrated below, this represents the author's framework of the entire complex dynamics of the training program. The different components of the program are compartmentalized to simplify and systematize their interrelationship and interaction.

The framework illustrates that the performance of the resident physicians, as the program **outcome** is determined and affected by the following components:

1. The **Context or the Learning Environment (Structure)** in which the training is conducted. This includes the residents' working conditions, work load, and their Quality of Life as trainees. Motivational and stress levels of the residents while within this environment shall also be taken into account because these have a significant bearing on their performance.

2. The **Consultant Physicians (Structure)** - the trainers, who do the teaching, supervision and training. The quality (Academic Credentials), quantity (Number and Consultant to Resident Ratio) and their performance have a significant bearing on the residents' learning capacity and performance.

3. The **Teaching-Learning Modalities (Process)**-the methods being utilized to impart knowledge and learning. This component pertains to the interaction between the trainees and trainers. The adequacy, overall quality, relevance and effectiveness of these modalities shall have tremendous impact on the learning of the residents as well as their performance.

4. The **Admission Criteria (Structure)** - this determines the baseline and inherent competency and quality of the resident physicians as trainees admitted to the program. Their academic and socio-demographic profile as well as their neuro-psychiatric assessment may have significant contributions to their learning capacity and performance during the training.

This study shall focus on the structure as well as on the identification of problems encountered in this component. The study shall also determine and identify weaknesses and strengths inherent to the program structure.

The results and conclusions derived from this evaluation shall form the basis of its recommendations. These recommendations shall serve as impetus for the formulation, promulgation and implementation of policy instruments. These policy instruments aim to rectify the flaws inherent to the program, provide solutions for the identified problems and maximize its strengths in order to further improve the residency training program.

Methods

The study methodology is descriptive and non-experimental in design. It utilized a combination of quantitative and qualitative research methods. The different components of the program structure, namely the Context or The Learning Environment, the Consultant-Physicians, and the Admission Criteria, were descriptively analyzed. These were done by utilizing the following variables:

A. Baseline Profile of the Residents accepted in the program as determined by the Admission Criteria:
1. Number of Residents per Year
2. Socio-Demographic Profile: Age, Sex, Civil Status, Number of Children
3. Academic Profile of the Residents: Medical School and Medical Licensure Examination Board Ratings
4. Neuro-Psychiatric Profile and Mental Functioning

B. The Context: The Learning Environment
1. Work Load
2. Working Conditions
3. Quality of Life
4. Motivational/Stress Level

C. The Consultant-Physicians
1. Quantity: Total Number and Consultant to Resident Ratio
2. Quality: Academic Profile / Credentials
   a. Academic Rank
   b. Years of Teaching Experience and Tenure Status
   c. Post-Graduate Education and Special Training
   d. Performance

A. Residents' Profile: The Trainees

The residents accepted to the training program stood as the main structural input in the Donabedian Model. They were the primary focus of the evaluation as they were the most significant component of the program structure and the main participants in the program. Data pertaining to the variables in the Resident Baseline Profile were obtained through a survey. These included the number of residents per year level, their socio-demographic profile, the medical school they graduated from and their medical licensure board ratings. Data pertaining to their neuro-psychiatric evaluations were obtained from the Department through the Admission Committee. Anonymity of identity and confidentiality of the data obtained were strictly observed.

B. The Context: Learning Environment

Data related to the variables of this component were collected through a cross sectional survey using structured questionnaires. These data were descriptive attributes and qualitative in nature. These data were quantified using the 5-point continuous psychometric Likert Scale. The data for this component were provided by the residents.

The Quality of Life (QOL) was measured using the instrument developed and pre-tested by the author. This is a 33-question QOL measure and is divided into four domains, namely, Physical and Material Well-Being, Mental and Emotional Well-Being, Social Role and Function, and Personal Development and Fulfillment. This instrument has been pre-tested with an overall Cronbach's Alpha of 0.90.

The Working Condition and Work Load Domain were measured using the 13-question instrument with a 5-point Likert Scale for the response. This instrument was also formulated and developed by the author. As this was the first time the said instrument was administered, this was not previously pre-tested.

The motivational level of the residents was measured using the Herzberg's Motivational Dimensional Instrument. This instrument is a 5-question pre-tested and validated instrument with a 10-point response scale.[7]

C. The Consultant-Physicians: The Trainers

Data pertinent to the variables of this component were obtained from the personnel file of the Department of Anesthesiology. These data were mainly qualitative and has provided a descriptive profile of the Department's Faculty staff. The performance of the Consultant-Physician was gauged and measured through a psychometric instrument containing 20 questions with 5-point Likert Scale as response. This instrument is divided into three domains, namely, Teacher's Quality, Clinical Supervision and Professional Traits. Data were provided by the residents in a survey. This instrument was adopted from the Attending Physician Performance Evaluation Form of the Department of Medicine, Cook County Hospital, Chicago, Illinois[8] and modified by the author for local application. The instrument has an overall Cronbach's Alpha of 0.95.

Data Analysis

Data from all variables were encoded, processed and analyzed using the SPSS version 15 program. Descriptive statistics of the different variables in terms of central tendencies (Mean, Median and Mode) were computed and analyzed. Secondary data obtained from documents and official records were reviewed, processed and analyzed to establish trends and general profiles.

Results and Discussion

I. The Socio-Demographic, Academic and Neuro-Psychiatric Profiles of the Residents

Admission to the program is mainly grounded on the compliance with two basic requisites, namely, being a graduate of a medical school and must have passed the medical licensure examination. A rated interview is conducted thereafter to assess the applicant's determination and preparedness to undergo the training. In addition, the applicant must take the neuro-psychiatric evaluation to prove emotional and mental fitness to go through the rigor and stress of the training program.

Although the aforementioned requisites and assessment instruments are easily quantifiable, there is no standardized set of selection and screening criteria with which to rank the applicants for admission. No amplitude or qualifying examinations are conducted for the purpose of screening or selecting the applicants to the program.

When the survey was conducted (September 12, 2007), there were 46 resident physician trainees in the Department of Anesthesiology, UP-PGH. Out of these 46 trainees, 42 had consented to participate in the study. There was an almost equal distribution of gender, 23 were male (54.76%) and 19 were female (45.24%), indicating no gender preference in the admission policy (Table 1). The average age of the trainees was around 29 years old, the youngest was 23 and the oldest was 48, indicating the absence of age limit in the said policy.

Table 1. Socio-Demographic Profile of the Resident-Trainees (N=42)

PROFILE	Frequency	Percentage
Sex		
Male	23	54.76
Female	19	45.24
Year Level		
First Yr	12	28.6
Second Yr	20	47.6
Third Yr	10	23.8
Civil Status		
Single	37	83.3
Married	6	11.9
Separated	2	4.8
Medical School		
UP	18	42.86
non-UP	24	57.14
Neuro-Psychiatric Evaluation		
Recommended	16	38.1
With Reservation	24	57.14
With Strong Reservation	2	4.76
Mental Functioning		
Low	8	19
Below Average	10	23.8
Average	12	28.6
Above Average	9	21.4
High	3	7.1

Almost half (20) of the study population were second year residents, one third (12) were first year and the graduating batch constituted only one fourth (10) of the study population. Most were single (83.3%) in civil status. Although the training program is UP-based and UP-administered, majority of its trainees were non-UP graduates (57.14%).

While medical licensure is an absolute requirement of the program, however, the medical board ratings did not appear to be a screening factor for the selection of the residents. Most of the residents accepted in the program had barely passed the medical board. Their mean rating in the medical board was approximately 77 % with a mode of 75%. The highest rating among this study group was 83%.

The neuro-psychiatric evaluation is a battery of tests conducted on the trainees upon their application to the program. An external practicing clinical psychologist is regularly commissioned to undertake this assessment. This evaluation consists of several validated instruments that measure the applicant's Mental Functioning, Initiative, Perseverance/Industry, Work Standard, Written Communication Skill, Independence/Self-Reliance, Emotional Stability, Self Confidence, Stress Tolerance, Energy, Sociability, Sensitivity and Ability to Work Cooperatively in a Group. The examinees in this evaluation are rated in terms of being recommended to the program. Thus, they are rated as recommended, recommended with reservation, and recommended with strong reservation.

The neuro-psychiatric evaluation of the residents revealed that majority of them, although were recommended for the program, had reservation (57.14%) in their recommendations. Almost five percent were recommended but with strong reservation. Only 16 out of 42 (38.1%) were recommended without any reservation.

Part of this neuro-psychiatric evaluation was the Thurstone's Mental Alertness Inventory, an instrument that measures how person react, adapt and function on a given situation. It measures the soundness of one's judgment, and situational thinking and functioning. This test measures the person's Mental Functioning.

This instrument showed that one fifth of the residents accepted to the training program (19.0%) had low Mental Functioning, almost one fourth (23.8%) had below average and another one fifth either had an above average Mental Functioning (21.4%) or high Mental Functioning (7.1%). The rest received an average rating for this parameter (28.6%). The Mental Functioning profile of the entire residency staff has shown that there were more residents who had below average mental functioning than those who had above average. Again, it can be said that the neuro-psychiatric evaluation and the mental functioning did not serve as screening factors for the admission of the trainees in the program.

II. The Trainees' Perception of Their Quality of Life, Working Condition, Stress and Motivational Level

1. Quality of Life

Quality of Life, QOL has been defined as the individual's satisfaction or happiness with life in the domains, which he or she considers important. It is a perception-based assessment of his/her level of satisfaction or happiness thus, it is sometimes called as "life satisfaction" or "subjective well-being".

The assessment of the quality of life is based on the quantified summation of the different domains, which in turn is further ramified into different dimensions. The quality of life is commonly assessed based on the following domains, namely, Physical and Material Well-Being, Mental and Emotional Well-Being, Social Well-Being, and Personal Development and Fulfillment.

The aforementioned domains were utilized to gauge the quality of life of the residents as trainees in the context of UP- PGH as the setting. The response to these domains are scaled and quantified into points. The total points per domain quantify the resident's level of satisfaction with regard to the domain. The grand total of points from all domains sums up the overall Quality of Life of a particular resident.

In terms of Quality of Life, the great majority (80.95%) of participating residents perceived their life as trainees as satisfactory, while the rest (19.05%) felt their life as a resident was very satisfactory (Table 2). Nobody from the respondents had perceived life as a resident to be unsatisfactory or poor.

The first and the second year residents had a more favorable perception of their QOL than the third year residents. The better QOLs among the junior residents may be attributed to the lesser burden of responsibilities that they carry compared to the senior residents during training. The assumption of graver and more responsibilities among the seniors could have lessened their perception of satisfaction in various domains of the QOL. On the other hand, female residents had better perceptions of QOL than male residents, which may indicate that the females were more satisfied with their tasks as trainees than their male counterparts.

Being separated registered a lower but nonetheless satisfactory QOL compared to single and married residents. This could be attributed to the fact that any form of social

Table 2. Quality of Life

QUALITY OF LIFE	Material WB (%)	Social WB (%)	Mental WB (%)	Personal Development (%)	Overall (%)
Poor	0	0	0	0	0
Unsatisfactory	0	7.1	14.3	47.6	0
Satisfactory	66.7	50.0	61.9	47.6	81
Very Satisfactory	33.3	38.1	21.4	2.4	19.0
Excellent	0	4.8	2.4	0	0

support and healthy relationships during residency training may be helpful in providing some emotional and psychological crutch for the trainees. Thus, failing or failed relationships would likely give the opposite effect.

Assuming added responsibilities like parenting apparently placed additional burdens on the trainees, in terms of having to allocate more time for family and social obligations. This possibly explains why childless residents had better perceptions of QOL in this study.

Non-UP graduates were found to have slightly better perceptions of QOL than that of UP graduates. UP graduates were presumably brought up in an environment where there is so much expectation and academic pressure to succeed. Perhaps this raised their satisfaction threshold levels which are therefore much higher than that of non-UP graduates. As former state scholars, residents from UP are expected to be highly competitive and to perform better than others. Whether they fulfilled these expectations or not, the additional pressure has taken a toll on their perception of satisfaction.

Using this QOL instrument allows the study to gauge the residents' degree of satisfaction on different domains. In the domain of Physical and Material Well-Being, two-thirds of the residents were satisfied and the rest were very satisfied. This domain measures the residents' personal perception of his/her physical condition, health, safety and financial security while on the training program.[9] This indicates that notwithstanding their heavy work load, the residents felt that they still remained healthy and physically fit. They also felt that they were safe and financially secure.

The residents' perception on the domain of Social Well-being and Role Function had succinctly shown that most of them were satisfied (50%) and some were even very satisfied (38.8%). Few residents (7.1%) said that it was Unsatisfactory while 4.8% said Excellent. This would suggest that generally the residents' interpersonal relationships as well as their social functioning were not all affected by the rigorous demands of the training program. Likewise, this result would suggest that, despite the demands of the training, residents felt that they could still satisfactorily to very satisfactorily develop, maintain and nurture mature social relationship and fulfill their social role in their community.

The domain, Mental and Emotional Well-Being measures the residents' perception of his/her psychological well-being. This includes his/her perception of how he/she feels reacts and behaves during the training. Majority of the residents (61.9%) felt their psychological well-being as Satisfactory, 21.4% said theirs were Very Satisfactory, and 2.4% perceived it as Excellent, while only 14.3% said it was Unsatisfactory.

The residents' perception of their prospects and their opportunities to pursue intellectual and career growth as well as their sense of self fulfillment is measured by the domain Personal Development Well-Being. In this domain, the result was a split, with half saying they were satisfied while the other half felt they were not. The relatively low overall score on this domain could be attributed to the poor ratings on three dimensions, namely, the opportunity to study, engage in academic/learning activities and pursue graduate course. This was expected as the training was expected to consume a substantial amount of their time. This particular domain has consequently provided a negative effect on their overall Quality of Life.

2. The Working Conditions and Environment

In terms of their working condition, most of the residents gave satisfactory rating (78.6%) and very satisfactory rating (4%) (Table 3). However two-thirds (66.7%) of them felt that their workload is heavy, almost one-fourth (23.8%) said it's very heavy and only a tenth (9.5%) believed it's just enough. Most of them (86.1%) believed that residency training made them work more than 80 hours per week (Table 4). Furthermore, almost two-thirds of the residents (64.2%) disagreed with the statement that their working environment is conducive to learning (Table 5).

In terms of the infrastructural aspect under working condition domain, almost all responses by the residents were negative in nature. They complained of not having clean and comfortable areas for resting, studying, eating and for personal hygiene (Table 5). The Operating Rooms, were likewise perceived to be not comfortable enough. Supplies and logistics in the Operating Room were also giving them additional problems (Table 6).

Despite the negative feedback, what brought up the overall score of the working condition component being evaluated were the high scores in the dimension of working relationships (Table 7). These figures have shown that residents had established and maintained very harmonious working relationships with their peers, and the surgeons, nurses and other institutional workers that they work with.

The data above spoke well of the trainees' capacity for adjusting, coping and adapting to less than ideal working conditions. Despite the heavy workload, infrastructural insufficiencies and logistical deficiencies, the trainees have learned to adapt and adjust with it, by making do with whatever is available.

3. Motivational Level

Utilizing the Herzberg's Instrument, the motivational level of residents was generally above par. With the perfect score being 50, the average motivational level was 32.4 with a median of 34.0 (Table 8). This suggests that the great majority of the residents were motivated to highly motivated (92.9%) and only a minority had low motivation (7.1%). More specifically, these findings indicate that the majority of residents felt that their job as trainees allows them to achieve what they want, to decide independently and provides them with appreciation, acknowledgement or recognition. The high motivational level among the residents affirms that the

Table 3. Working Condition and Work Load

WORKING CONDITION	(%)	WORK LOAD	(%)
Poor	0	Very Heavy	23.8
Unsatisfactory	11.9	Heavy	66.7
Satisfactory	78.6	Just enough	9.5
Very Satisfactory	9.5	Light	0
Excellent	0	Very Light	0

Table 4. Week-Hour Work and Time for Study

WEEK-HOUR	(%)	STUDY TIME	(%)
More than 80 hrs	90.0	Never	9.5
Around 60-80 hrs	7.0	Seldom	50.0
Around 40-60 hrs	3.0	Sometimes	33.3
Around 20-40 hrs	0	Often	7.1
Less than 20 hrs	0	Always	0

Table 5. Working Area Attributes and Provisions

	Conduciveness to Learning	**Clean Lounge**	**Clean Comfort Room**	**Clean Dining Area**	**Comfortable Operating Rooms**
Strongly Disagree	19.0	28.6	31.0	11.9	35.7
Disagree	45.2	38.1	54.8	69.0	50.0
Undecided	19.0	16.7	2.4	9.5	14.3
Agree	14.3	16.7	11.9	9.5	0
Strongly Agree	2.4	0	0	0	0

Table 6. Operating Room Logistics

LOGISTICS	%
Poorly Equipped	28.5
Inadequately Equipped	66.7
Adequately Equipped	4.8
Well Equipped	0
State of the Art	0

Table 7. Working Relationships

Relationship	Peer (%)	OR Personnel (%)	Surgeons (%)
Hostile	0	0	0
Confrontational	2.4	0	2.4
Indifferent	14.3	2.4	4.8
Harmonious	52.4	81.0	33.3
Very Friendly	31.0	16.7	59.5

Table 8. Residents' Motivational and Stress Level

MOTIVATIONAL LEVEL	%	STRESS LEVEL	%
Unmotivated	0	Always	28.6
Low Motivation	7.1	Often	42.9
Motivated	42.9	Sometimes	26.2
Highly Motivated	50.0	Seldom	2.4
Extremely Motivated	0	Never	0

works that the residents do were satisfying and provide them with opportunity for advancement.

The profile of the Stress Level of the residents is also shown in Table 8 and illustrates how stressful anesthesiology is as a specialty. The demands and the nature of the work are the main stressors in this specialty. Stress may be attributed to the fact that the craft involves not only anesthetizing and putting operative patients to sleep, but also maintaining life and sustaining vital organs' functions during the critical periods of a surgical operation. It is not surprising that the majority (42.9%) of the trainees had expressed that often times they experience stress. The 28.6% claimed that they are under stress always and only 2.4% said seldom.

III. The Trainees' Perception of their Trainers' Performance

The evaluation of the trainers by the trainees was conducted in a survey using an instrument adopted from the faculty evaluation instrument of the Department of Internal Medicine of Cook County Hospital, USA. With this instrument, the faculty or consultants were evaluated in three domains or aspects, namely, Teaching Quality, Clinical Supervision and Professional Traits.

The domain, Teaching Quality contains items that pertain to the trainers' basic and clinical knowledge on the subject matter, teaching effectiveness and the mentors' level of being up to date with the current trends and advances in the field. The Clinical Supervision as a domain measures the frequency of clinical rounds with and supervision of the consultants over the residents, promptness in answering referrals, soundness and vividness of mentors' advice as well as his/her participation in the department's academic activities. The last domain pertains to the professional values and personal traits of the consultants.

Using this instrument, the residents gave a Good rating to the overall faculty performance with a mean score of 64.02 (Table 9).

Table 9 shows that majority of the trainees gave a Good rating (54.8%) to their trainers. Thirty eight percent gave an Average rating while the rest gave an Outstanding rating (7.1%). This is similar to the residents' general assessment of their consultants on a validation question. This general assessment of the consultants was based on the single question embedded in survey set of questions which asked the trainees of their general perception of their trainers. This general assessment which was not part of the adopted instrument, gave a Good rating to the trainers as well. The latter assessment provides validity to the adopted instrument.

Lastly, compared to the seniors' evaluation, the junior residents gave the consultants a better rating. This may indicate that juniors, being newcomers in the program, had

more favorable initial impressions about their trainers than that of the seniors.

IV. The Socio-Demographic and Academic Profiles of the Trainers

The trainers are an essential component in the structure of the training program. They design and implement the written curricula of the program. As mentors, they initiate and put in to motion the dynamic process of teaching and learning. Their contributions to the ultimate outcome of the program are crucial and critical.

Because they are the implementers of the program, they are also the most significant stakeholders in this arena of education provision. Like their trainees, they are also the direct witnesses to entire teaching-learning process. They possess the first hand account of this process as it unfolds. Their insights and perspectives are invaluable parts of the training program evaluation.

The main trainers of the program are the faculty or consultant staff of the Department of Anesthesiology. During the study, there were 37 members of the faculty staff, 34 were active while 3 were retired consultants who still participate in teaching the residents. There were 16 males and 21 females in the faculty. The age ranged from 33 to 70 years old, with an average age of 45 years old. Most were married (30 out of 37).

Only one third of the entire consultant staff was salaried (13 out of 37), with plantilla items as faculty of the UPCM, 4 had untenured appointments with the hospital as medical specialists, while the rest (20) or two thirds were working without compensation. Out of the 37, there were only 11 faculty members who had tenure or permanent appointments while the rest (26) were working on temporary basis and their appointments were renewable on a yearly basis. Out of 37 consultants in the department, only 2 were fulltime, the incumbent and the former Chair, the rest (35) were serving on a part-time basis. The length of service ranged from 2 to 40 years, with an average of 13 years.

There were only three mentors with an academic rank of professor, 10 were associate professors and the rest (24) were clinical associate professors. Most of those who were without compensation have been with the department for more than 10 years.

Most of the consultants had subspecialty trainings in anesthesiology. Majority of them were UP graduates (27 out of 37). Most (24) had post-graduate training abroad. Eight were holder of master's degrees. Not a few, had gained recognitions both locally and internationally for their contributions to the field. All faculty members were board certified and were diplomates of the Philippine Board of Anesthesiology. Thus, the academic profile of the trainers was excellent.

V. The Trainers' Perception of their Trainees

Based on the survey conducted among the consultants, most of them (56.2%) believed that applicants accepted to the residency program were qualified enough. Roughly twelve percent disagreed and almost an equal percentage strongly agreed (Table 10). However, a great majority (81.2%) of the consultants felt that there were not enough residents in the program.

With regard to the overall performance of the residents in the program, majority of the consultant-participants (66.8%) responded favorably by giving a satisfactory rating. On the other hand, roughly a third of the consultants (31.2%) felt that the residents were performing unsatisfactorily (Table 11). Despite this, majority of the consultants (56.2%) believed that compared to other training institutions, their residents were superior (50.0%) or even outstanding (6.2%).

In terms of the basic or the theoretical knowledge of the trainees, half of the respondent mentors felt that the residents were either adequately or more than adequately equipped with the necessary theoretical knowledge while the other half felt otherwise (Table 12). These conflicting views of the trainers recognize the need to improve the theoretical or the basic knowledge of the trainees. Likewise, this has validated the earlier findings on the concern raised by the residents regarding the lack of time to study.

The assessment of the consultants with regard to the practical and clinical as well as the motor skill proficiency of the residents were noted to be competent (50%) or highly competent (50%) (Table 12).This suggests that the exposure of the trainees to a huge amount and wide range of clinical material and cases could have honed their motor skill and sufficiently improved their clinical acumen. Furthermore, majority of the consultants as trainers believed that after 3 years of training, the graduates were either competent enough (56.2%) or even highly competent (37.5%).

Most of the consultant respondents, however, believed that the performance of the residents in the annual In-Service Examinations needs improvement (37.5%). Thirty one percent felt that the performance was at par with other institutions; one fourth said it was above average and only a minority (6.2%) believed it was outstanding. This is consistent with earlier findings that the trainees need improvement in the theoretical and basic knowledge domain. It also shows awareness on the part of the trainers of the poor performance of the residents in the In-Service Examination.

Almost the same pattern can be observed with the consultants' perception of the performance of the graduates in the specialty board written examinations. Thirty one percent said it needed improvement, thirty seven percent felt it is at par with other institutions; one fourth perceived that it is above average and a minority (6.2%) said it is outstanding. Awareness among the faculty of the residents'

Table 9. Consultants' Performance

PERFORMANCE	Instrument-Derived (%)	Validation Question (%)
Poor	0	2.4
Unsatisfactory	0	0
Average	38.1	23.8
Very good	54.8	64.3
Outstanding	7.1	9.5

Table 10. Qualification and Adequacy of Residents Accepted

RESPONSE	QUALIFIED (%)	ADEQUACY (%)
Strongly Disagree	6.2	6.2
Disagree	6.2	81.2
Undecided	18.8	12.5
Agree	56.2	0
Strongly Agree	12.5	0

Table 11. Consultants' Perception on Residents' Performance and Vis-à-vis Other Hospital

PERFORMANCE	%	Vis-à-vis Other Hospital	%
Poor	0	Inferior	6.2
Unsatisfactory	31.2	Comparable	37.5
Satisfactory	68.8	Superior	50.0
Very Satisfactory	0	Outstanding	6.2
Excellent	0		

Table 12. Consultants' Perception on Residents' Basic Knowledge and Motor Skill

BASIC KNOWLEDGE	%	MOTOR SKILL	%
Very Limited	6.2	Very Incompetent	0
Inadequate	43.8	Incompetent	0
Adequate	43.8	Competent	50.0
Very Adequate	6.2	Highly Competent	50.0
		Extremely Competent	0

poor performance in the specialty board examination was also evident.

Summary and Conclusion

In light of the above findings and discussion which sought to evaluate the anesthesia residency training program based on the categories of the conceptual framework, the following conclusions have been reached:

I. Residents

The residents, the principal input to the Donabedian program structure were described to be within the purview of mediocrity. This was already apparent upon their acceptance to the program and was vividly reflected in their academic and neuro-psychiatric profiles. Although residents who were UP graduates had higher medical board ratings and performed better in the Department Tests, most of the applicants accepted as residents were not UP graduates. They had medical board ratings that were barely passing and a great majority of them were recommended for the program with reservations. Two out of five residents had low to below average mental functioning.

Although based on the perception of their trainers, the residents were competent and had a satisfactory performance in the program, with better practical knowledge and motor skills, they still needed improvement in terms of basic and theoretical knowledge. The good practical knowledge and motor skills of the residents could be attributed to their wide exposure to abundant clinical materials that their heavy work load had provided. However, this heavy clinical work load had deprived them of time to study the theoretical aspects.

Quantitatively speaking, all year levels experienced shortages in manpower. Service has been prioritized over training. In this light, the residents' requests for more time to rest and study were proven to be logical and valid. Thus, in order to improve the residency training program, it is imperative that this particular problem be addressed. The quality as well as the quantity of residents admitted to the program has proven to be less than ideal. The program must therefore strike a delicate balance between the service and educational aspects of residency training.

II. Consultant Staff

The consultant staff of the department had an impressive academic profile. Most of them had post-graduate training in subspecialties abroad and they were diligently selected by the stringent appointment process of UPCM. The good quality of consultant staff has been in fact considered one of the major strengths of the program. Currently made up of 37 board certified specialists, the number of consultants has given rise to an ideal trainer to trainee ratio of almost one is to one. However, most of them are unsalaried (24 out of 37) and untenured (26 out of 37), and almost all have part-time appointments (35 out of 37). This could possibly dampen their dedication, motivation and commitment to the training program. The residents still gave a good rating on the overall performance of their trainers notwithstanding the residents' desire for more consultants' supervision and participation in their training. This major strength of the program must be maintained and nurtured in tandem with the need to improve the quality of resident trainees.

III. Training/Learning Environment and Context

The residents perceived their quality of life as trainees to be satisfactory or even very satisfactory. This QOL rating was in congruence with their ratings of the different domains, namely, physical/material well being, social well being and emotional/mental well being. These domains were rated satisfactory to very satisfactory. Apparently, the domain most adversely affected by the training program

was their sense of personal development and fulfillment. Unsatisfactory ratings were attributed to lack of time during training to pursue other ventures for personal development and self fulfillment.

Similarly, the residents perceived their working condition to be satisfactory to very satisfactory. They felt their work load was heavy or very heavy as they were required to work more than 80 hours per week and their environment was not conducive to learning due to poor infrastructure and logistics. These were however, offset by the very harmonious and friendly working relationships. This last and non-tangible domain had tremendously improved the overall perception of the residents' working conditions.

On the other hand, the heavy work load was also perceived to be an advantage or strength of the program because it has provided the trainees with good exposure to abundant and diversified clinical material. The heavy work load in the training was a consequence of the service aspect of the program being prioritized. Prioritizing service has however, taken its toll on their time to study and have sufficient rest.

Although the stress level of the trainees was high, their equally high level of motivation made them survive the grueling demands of the program.

A reduction in the work load of the residents would lessen stress and give them the time and opportunity to study and rest, and consequently improve their QOL and performance. Improving the many aspects of the residents' working environment would significantly enhance their learning and consequently leads to improvement in the quality of the residency training program.

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