

Short Paper

An Exploration Study of Quality Assurance Practices of the Radiology Department of a Private Hospital in Quezon City

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Abstract

Quality assurance in radiology includes a set of procedures that verifies the x-ray equipment is working to provide accurate diagnostic information to patients in a timely manner while exposing them to least amount of radiation. This exploratory qualitative



research depicts viewpoints of radiology professionals involved with quality assurance in the radiology department. The researchers interviewed seven participants from a private hospital in Quezon City, who were involved in the provision of quality assurance program in diagnostic imaging. To guide the conversation, the researchers utilized a structured interview questionnaire to outline essential aspects and practices in quality assurance, and highlight challenges encountered by radiologist which can affect implementation and application of quality assurance in the department. According to the findings, Quality Assurance Team is composed of radiologist, chief radiologic technologists, and radiologic technologist. The personnel's responsibility during quality assurance program necessitates concerted efforts of the entire radiology department to ensure that consistency of production is maintained. The study revealed that guaranteeing consistent quality outcomes involves cooperation not just within the members of radiology quality assurance team but also with another relevant department such as the biomedical engineering. These engineers are involved in sharing responsibilities in maintaining imaging devices, as well as reducing potential risk caused by image errors that can affect the patients. The researchers, recommends the following: Hospital Management should ensure sufficient budget to sustain effectiveness of quality assurance program in the department; Radiology department should provide necessary materials to be used by the radiologic technologists such as manuals regarding quality assurance; Radiologic Technologists must commit to sustain quality assurance program to obtain patient's satisfaction by taking innovative approaches to improve the overall image acquired; and Future Researchers may improve the limitations encountered in this study such as the exclusion of radiology professionals working in other hospital in Quezon City.

Keywords -- Quality assurance, x-ray, radiology department, radiation, challenges

INTRODUCTION

New medical technologies and devices using ionizing radiation have resulted in significant advancements in the diagnosis and treatment of human diseases (Waite et al., 2017). Hence, the diagnostic imaging department is a pioneer in ensuring better patient care (Bushong, 2008). In addition, Irving (2014) stated that all fields of medicine and hospital departments must establish and implement policies to provide quality patient care and management. Therefore, assessing the findings of quality control testing and taking remedial actions should be observed since it is one of the important aspects of quality assurance, and many of these initiatives are mandated by regulatory authorities.

Quality Assurance as applied to medical radiography is the organized effort of the staff to ensure that the diagnostic image produce are of high quality. Its purpose is to provide adequate diagnostic information with the least possible cost and the least possible radiation exposure. While, Quality control refers to the sets of controls on the

physical aspects of providing radiology services. A quality control program monitors the factors that control the production of a radiograph to detect any changes that may adversely affect radiographic quality.

Every radiology department in a hospital has a quality assurance program that includes all radiology staff on how they will carry out their duties, as well as the equipment's functionality and safety (Callaway & Gurley, 2013). In addition, Rodziewicz et al. (2021) stated that, patient's safety can be affected by equipment malfunctions, process failures, and human errors during a diagnostic examination. Through quality assurance, it improves the quality of radiographic images, protects the patients and staff from unnecessary exposure to radiation, and it can minimize the risk of misdiagnosis due to failures in all phases of imaging operations (Ugwu, 2019). Nevertheless, problems and challenges in conducting a quality assurance are unavoidable, without proper planning and effective strategies, it may lead to undesirable outcome. Failure to accomplish desired goals and objectives within a defined time frame is an indication of poor quality assurance (Balabanau, 2021).

According to the International Society of Radiographers and Radiological Technologists (2018), the quality assurance encompasses all aspects of the diagnostic imaging process, along with a visual inspection of the equipment, radiographs, and confirmation of thorough preparation prior to each patient procedure, and maintaining a routine quality control testing program of equipment (daily, weekly, monthly, quarterly, or annually). When procedures don't comply in a regular manner, poor quality radiographs can occur. In addition, Sargar and Tompe (2020) stated that the quality of radiograph influences the radiologist's ability to visually distinguish the accurate diagnostic information from the radiograph. Therefore, to attain this objective, all members of the radiology department must be aware of the basic yet important techniques of quality improvement and be directly involved in obtaining them (Boiselle et al., 2011). However, despite the guidelines provided, cases of radiation safety's non-compliance still exist, and it is attributed to the hospital personnel's lack of awareness regarding appropriate preventive maintenance, as well as the management's negligence to provide their staff with proper training (Carpio & Yap, 2014). Elshami et al. (2019) added that in most regions throughout the world, performance evaluations are often inaccurate. Hence, it must be controlled and assessed to guarantee that advances in imaging technology are linked with safe practices. Furthermore, assessing imaging personnel's compliance to these safety standards is regarded as a necessary factor in the establishment of future policy objectives for addressing these issues and ensuring a safe working environment. In addition, Abdulkadir (2020) stated that, there are concerns that the growing use of radiation for medical imaging is not being appropriately controlled due to a recognized lack of quality assurance application in the majority of diagnostic imaging departments.

To assure excellence in healthcare, quality assurance must apply successfully since it relies on the systematic collection and assessment of data. It focuses on certain factors

that are thought to influence service quality. The structures, process, or outcome are generally the focus of these indicators. It might include issues including issues including repetition rate, pathological correlation, appropriateness of usage, radiographic film availability, and scheduling timeliness (Parra, 2008). Furthermore, quality assurance in the diagnostic imaging facility has been recognized as important for promoting the provision of quality services that can lead to improved diagnostic information (Usha et al., 2013). The central question of this study is all about the quality assurance practices of a radiology department in terms of responsibilities, purchase specifications, standards for image quality, monitoring and maintenance program, installation/ operational/ performance qualifications of equipment, records, quality assurance manual and training.

LITERATURE REVIEW

The quality assurance program in diagnostic imaging is regarded as a systematic collection of information that includes responsibilities, product specifications, standards of image quality, monitoring and maintenance program, installation/operational/performance qualifications of the equipment, records, quality assurance manual and training. Quality assurance is done by imaging personnel to ensure that patients are consistently receiving an accurate and timely diagnosis. Quality assurance ensures that diagnostic imaging is of high quality while also reducing radiation exposure to patients and personnel as well as lowering operation costs. Specific tests from the program may execute on a daily, weekly, monthly, quarterly, or on annual basis because the precise time between these tests is determined by the department's regulations, equipment set-up and operation, manufacturer recommendations, and when resources are available.

The optimization of patient dosage and image quality is a primary concern in the radiology department. Therefore, conducting a quality assurance serves as a constant effort designed to prevent errors or deficiencies that could affect the operation of x-ray machines and diagnostic equipment. Its primary purpose is to provide assurance that the service will maintain to achieve the quality standards that have been established and it implements corrective measures to improve such outcomes to an acceptable standard to avoid reject radiograph that leads to the patient's repeat exposure to the radiation since the effectiveness of x-ray machine is an essential component of the image quality. The application of machines that releases ionizing radiation can have biological consequences to the human body, that's why it is important to monitor and assess imaging-related materials to avoid repetition of exposure.

According to the study of Korir et al. (2011) even with an insufficient number of radiology professionals, quality assurance can be maintained in developing countries by coordinating between regional hospitals and the national referral hospital where the radiology experts are based. However, according to Ofori et al. (2013), the lack of quality assurance activities and functional supervision structures for diagnostic imaging services

has an adverse impact on the delivery of service quality. The study also stated that insufficient funding is implicated in equipment maintenance difficulties, and one of the reasons for poor radiation dose control is the lack of machine and equipment maintenance. Meanwhile, Jabonete and Concepcion (2016), suggested that a regular and multi-professional assessment of safety culture must be implemented to evaluate the status of the hospital in terms of prioritizing patient satisfaction. Thus, the result of study of Zewdu et al. (2017) indicated that the reject analysis is a useful tool for monitoring and improving diagnostic imaging services, and it could be used to evaluate and monitor the quality assurance of the services provided in the long term.

METHODOLOGY

Research Design

The study employs an exploratory case study, which is a type qualitative research design to gather information regarding quality assurance in radiology. The following conditions justify the use of this method: Qualitative research entails gathering and evaluating non-numerical data to comprehend thoughts, views, or situations. It can be utilized to get in-depth knowledge of a problem (Bhandari, 2020). Similarly, Merriam (2009) stated that a qualitative method is applied for an exploratory case study. It is used to acquire a better understanding of people's perspectives regarding a certain phenomenon. In addition, an exploratory case study investigates a problem that doesn't have many previous in-depth studies (George, 2021). This study allows the readers to understand the quality assurance, the challenges, and its management in the radiology department. In addition, an exploratory case study is suitable for this research method because it describes and discusses the perception or insights of a particular study. The results of this study are analyzed to gain a deeper understanding of one's perceptions.

Participants of the Study

The population of the study is primarily the radiology department at a private hospital in Quezon City. The researchers interviewed a total of seven participants. The population comprises the participation of Chief radiologic technologist and other radiologic technologists that are involved in the application of quality assurance program in diagnostic imaging. Purposive sampling is applied in this process to identify the target respondents for the interview method in the private hospital in Quezon City. The purposive sampling relies on the researcher's own discretion in selecting a participant of a specific population to participate in the study. The researchers select the participant that could respond to the objectiveness of the study.

Research Locale

This study is conducted at a private hospital in Metro Manila specifically in Quezon City. This hospital is still non-accredited by the International Organization for Standardization (ISO). This medical institution's locality was chosen because of the adequate population in the radiology department. The results of this study are obtained from the opinion of the participants who gave insight regarding the practice of quality assurance program and management of the challenges in the radiology department.

Research Instrument

The researchers utilized the participant's transcription which contains structured interview questions as a tool for gathering the necessary data from the participants. An interview is a conversation between the researchers and participant wherein the researchers asked a series of open-ended questions to the participant for them to freely express their thoughts, for that reason, the researchers had acquired more meaningful information that is related to the study being conducted. In addition, the researchers prepared a question before hand to help guide the conversation between the participant and the researchers. In conducting the interviews, the researchers used online platforms that are convenient for the participant and personal interviews.

Data Collection Procedures

The researchers used structured interview questions that were validated by the three professionals in Radiology using of trustworthiness form such as chief radiologic technologist, radiologic technologist and radiologist. The use of the interview method was considered because the researchers find it reliable to gather data and the participants have answered them based on their own insights or knowledge. After validating the interview questions, researchers distributed a letter of request addressed to the private hospital in Quezon City requesting approval that was signed and approved by the research adviser and Dean of College of Allied Health Sciences to conduct research on their institution and allow their radiology professionals to participate in the study.

Data Analysis

Researchers use thematic analysis to analyze the data gathered based on participants' transcripts from the conducted interviews. According to Kiger and Varpio (2020), thematic analysis is a suitable method of analysis for pursuing the recognize experiences, views, or behavior across a data set. It's commonly used to describe a set of texts, such as interview transcripts. The researcher examines the data properly to identify recurring themes-topics, ideas, and patterns of meaning (Braun & Clarke, 2006). Thematic analysis can be done in a variety of ways, but the most common method follows a six-step process developed by Braun and Clarke (2006); (1) Familiarization. Researchers will

familiarize the gathered data. It involves transcribing interviews from the participants and each item will be analyzed thoroughly, (2) Creating initial codes. Researchers will go through the transcript of every interview and highlight the relevant or interesting words that are provided in the text, it may be phrases or sentences to generate shorthand labels or codes to describe the content, (3) Generating themes. Researchers will analyze the codes that have been generated, seek patterns and will continue several codes into a single theme, (4) Reviewing themes. Researchers ensure that the generated themes are useful and accurate representation of data, (5) Defining and naming themes. It contains determining precisely what the researchers mean by each theme and figuring out how it helps to understand the data, and (6) Writing up. It is the final phase of the thematic procedure. After establishing the themes, researchers will begin to analyze the data for the report.

RESULTS

The results of the study showed the following response from the participants.

What are the quality assurance practices in terms of:

Responsibilities. Cooperation promotes showed responsibility to everyone.

The radiology personnel responsibility during the quality assurance program necessitates the concerted efforts of the entire radiology department. This study also revealed that guaranteeing consistent quality outcomes involve cooperation not just within the members of quality assurance team in the radiology department such as the biomedical engineering. According to one respondent:

“Lahat ng mga personnel dito sa radiology ay kasama sa quality assurance team, kasama dito yung radiologist, chief radiologic technologist at mga technologist. Ang goal naming kasi dito ay para ma-maintain yung high standard level ng mga image quality” (All radiology personnel are included in the quality assurance team, it consists of the radiologist, chief radiologic technologist and the radiologic technologist, with the goal to maintain a high standard level of image quality).

Respondents shared their roles and other department in ensuring quality:

“Sa part ng engineer, sa totoo lang, wala talaga kaming engineer dito mismo sa loob ng Radiology, pero kung sa buong hospital meron kaming biomed, which is the engineer also ng hospital na ito. Sila yung responsible sa pag-install, sapag-test, pag-calibrate at pag-repair ng mga machine or yung mga equipment, trini- train din nila yung mga end-users at mini-maintain din na safe yung operation” (In part of the engineer we don't have an engineer here in our radiology, but if in the whole hospital, we have a biomed, which is the

engineer also of the hospital. They are responsible for installing, testing, calibrating, and repairing machine or equipment, trains the end-users and maintaining safe operation.

“Isa sa mga responsibilities ko dito yung pag double-check nung takbo ng machine at yung mga image na nag-produced ng machine nayun, yung mga materials na Kailangan para sa procedure, at saka sa part ng radiologist, kailangan din naming I check yung quality ng image na ginawa para tama yung makuhang diagnosis” (One of my duties in applying quality assurance is to always check and monitor the machine and x-ray facilities in order to avoid any malfunction and technical problems, since that’s the main purpose of quality assurance, to ensure that the x-ray machine are in good operation in order to produce a good quality image for the patient, and to avoid glitch and delays).

Purchase Specification. The biomedical engineer are given responsibility to assess the technical specifications of new equipment based on his expertise.

“Sa purchase specification, ang ginagawa naming dito is chini-check ng maigi yung mga equipment at description ng machine bago bilhin yun” (In purchase specification, what we do here is clicking the equipment and machines description carefully before purchasing it).

“Bago mag-purchase ng ibang machine, ina-analyze muna ng Biomed yung current equipment nayun, tapos yung mga lumang machines kino-consider din palitan ng bago na mas nag oo-offer ng mas magandang clinical outcome.” (Before purchasing another machine, the Biomed first analyzes the current equipment and considers replacing and machines with a new one that offers a better clinical outcome.)

Standards for Image Quality. Based on their expertise radiologic technologist promote showed responsibility to produce good quality image on the radiograph.

“Malalaman mo yung image kung nasusunod yung standard kung clearly visible yung anatomical interest at nababasa din ng maayos ng reader or nung radiologist, kasi yung image dapat hindi masyadon dark or yung over-exposed image at yung masyado ding light or under-exposed image, hindi din dapat blurred at walang mga signs ng artifacts”. (You can determine if the image complies to the standard if the anatomical interest is clearly visible and can read accurately by the reader which is the radiologist, since a good quality image should not be too dark or the over expose image and too light or the under expose image, not blurred and no signs of artifacts.).

Monitoring and Maintenance Program. The Biomed an expertise are responsible for monitoring the x-ray machines with the support of chief radiologic technologist and radiologic technologist.

“Kahit kaming mga radtechs, mino-monitor at mini-maintain din naming yung x-ray machines naming, yung sa chief tech naman, siya yung nangunguna dito sa radiology department, then yung biomed naman is yung lahat ng machine sa hospital”. (Even

though we are radtechs, we also monitor and maintain our x-ray machine, the chief tech are the one who leads inside the radiology department and the biomed is for the whole machine in the hospital).

Installation/Operational/Performance

Qualification of Equipment. The Biomedical Engineer expertise are responsible for the installation of x-ray equipment with the support of radiologic technologist staff for the operational of x-ray machine.

“So, yung sa part ng biomed, ini-ensure nila na makakapag-produce ng magandang quality yung machine para hindi kami maka-encounter ng mga problema during operation.” (So, to the part of the biomed, they must ensure that machines still produce good quality so we cannot encounter problems during operation.)

Records. The Biomed expertise responsible to hold the record.

“Sa ngayon, more on computerized machine na kami eh, so yung records nalang na meron kami is for patient records nalang, dahil sa advancement ng machine.” (As of now, we are more on computerized machine, so our records are only for patient records, because of the advancement of the machine, the utilization of films are reduced.)

“Biomed lang yung may hawak ng mga records, sila lang yung nakakaalam kung anu-ano ang mga ire-record. Kami dito sa radiology department, bawas nayung gawain namin”. (The records are only kept by the biomed, they are the only department who knows the record. Us, in the radiology department our duties have been reduced.)

Quality Assurance Manual. The Radiation Safety Officer expertise responsible to make manual for quality assurance with the support of radiology professional staff.

“Radiation Safety Officer yung obligadong gumawa ng manual para sa quality assurance, at saka kapag may mga bagong nabiling machine, naa-update din yung manual.” (It’s the Radiation Safety Officer who are obligated to make manuals for quality assurance, once there is a new machine acquired, the manual will be get updated.)

Training. TUV Rheinland is the organization expertise in the field of radiology that support training for the management of ionizing radiation related equipment.

“TUV Rheinland yung nagco-conduct nun eh, may mga experts at consultants din doon na nag ti-train ng mga employees”. (It is conducted by the TUV Rheinland, there are experts and consultants who trained the employees there).

DISCUSSION

The existence of Quality Assurance (QA) Team establishes a sense of accountability and classifies the roles and responsibilities, this includes radiologist, chief radiologic technologist, radiologic technologist, and staffs in the radiology department on ensuring that Quality Assurance was supported by the department heads and hospital administration. For the infrastructure of the highest level of standards in quality assurance.

On existing internal Quality Assurance, the hospitals have an Quality Assurance mechanisms they follow even though the hospital is not yet accredited in any accreditation, especially for the delivery of procedures and guidelines just like ISO (International Organization from Standardization), hospital adhere to QA protocols which covers the following: 1.1. Responsibilities, 1.2. Purchase Specification, 1.3. Standards for Image Quality, 1.4., Monitoring and Maintenance Programs, 1.5. Installation/Operational/Performance Qualifications of Equipment, 1.6., Record, 1.7., Quality Assurance Manual and 1.8. Training.

When it comes to responsibilities the Quality Assurance Team within the radiology department. That involves all the radiology personnel in performing their task individually most especially the biomedical engineering these engineers were involved in sharing responsibilities in maintaining imaging equipment and devices, as well as reducing potential risk caused by image errors that can affect the patients. Moreover, cooperation with other professionals can increase clinical performance and reduce machine and image failures.

Before they purchase the x-ray equipment in the radiology department the hospital administration, chairman or head of radiology department, biomedical engineer including the chief radiologic of technologist will conduct a meeting to discuss about what type of x-ray machine and specification to be purchase and that is applicable needs of the radiology department. Especially for the radiological procedures examinations. On purchase specification the study revealed that the biomedical engineers and chief radiologic technologist determined and specification of an equipment before they purchase. The purpose of purchase specifications is to evaluate and review the equipment how important this equipment can perform to any radiological procedures examinations that can help to radiology department in performing daily radiologic examinations to patients. Equipment improvements were clearly at the top of the priority list due to outdated equipment and the purchase of x-ray equipment relied on the hospital's budget state and efficacy of the machine's brand.

Standards needed to achieve a quality standard radiograph necessitates the use of radiographic technique chart of the radiologic technologist it is a reference using for their technical exposure factors to prevent underexposed and overexposed radiographic film images, as well as ensuring accurate patient time exposure to avoid repeated x-ray to

patient and least possible exposure of the patient to ionizing radiation. Furthermore, the study found that imaging criteria should be established by which a radiologist can evaluate and categorize the outcomes of a radiological examination image as good, poor, or reject film. The findings identified multiple reasons for rejected films, including equipment issues, operator error, poor technical judgment, and patient-related issues. Failure to achieve standard image quality can lead to delayed diagnosis and inefficient treatment.

On monitoring and maintenance program of the x-ray equipment in the radiology department. The chief radiologic technologic technologist is responsible to report any malfunction x-ray equipment inside the radiology department and the radiologic technologist assigned on their respective x-ray room unit is responsible to report to their superior if there is a malfunction unit. The Chief Radiologic technologist recorded the malfunction unit and write the problem of the malfunction unit in the equipment record book. The Chief Radiologic technologist immediate to call the biomedical engineer (service engineer) for the repair of the equipment. According to the study's, the hospital's biomedical engineer oversaw the monitoring and maintenance program. However, although is the general duty of the hospital's biomed, in order to prevent complications, the radiologic technologist must be skilled about the x-ray machines and guarantee that the machine continues to operate as intended on a regular basis by performing basic monitoring and maintenance on the x-ray machines. The findings also how that, when it pertains to x-ray machine problems or malfunctions, the manufacturer, biomedical engineer, and chief technologist should all engage together to determine the cause of errors and to make a resolution.

When it comes to installation/operational/performance qualifications of equipment the responsible person is the biomedical engineer who have a knowledge for the installation, operational and performance qualifications of equipment. That is applicable to use in the radiology department for radiologic imaging procedures. Based on the study the most radiology professionals are unfamiliar with installation /operational /performance qualification of equipment because when it comes to qualifications of equipment, the data from manufacturer is being analyzed by the hospital's designated biomedical engineer, and after determining that the equipment operates as its intended purpose, the engineer will approve the use of machine for operation and will just notify the chief technologist of the radiology personnel. The engineer is entirely responsible for the calibration, testing, and monitoring of the equipment in accordance with manufacturer's specifications.

CONCLUSIONS AND RECOMMENDATIONS

The obtained findings determined the different practices in the Radiology department for quality assurance. It shows that, the focus of applying quality assurance in the radiology department is to ensure the optimal diagnostic image quality with the least amount of risk and inconvenience to the patients. It indicates that radiology professionals

and technical specialists, such as the biomedical engineer, must support and cooperate in the execution of quality assurance to attain maximum outcome. It also shows that the challenges encountered by the Radiology personnel can affect the implementation of quality assurance in the Radiology department. The challenges experienced became a source of concern for radiology professionals including handling of machinery, sustaining good quality radiograph, work mismanagement and lack of financial backing. However, there are methods on how to manage those challenges in the department including relying on the specialist and team engagement. This management to overcome the challenges empowers the radiology professionals to acquire their purpose of maximizing improved outcomes and production efficiency while decreasing errors that can affect the quality of the output.

Thus the researchers, based on the findings and conclusion of the study, recommend the following; The hospital management should ensure sufficient budget to sustain the effectiveness of quality assurance program in the department. Also, to conduct continuous training and education to develop the capabilities of the Radiology professionals, keep them updated and better understand the procedures aligned in quality assurance. The radiology department should provide necessary materials to be used by the radiologic technologist such as the manuals regarding quality assurance. Furthermore, personnel who are also members of the quality assurance team within the Radiology department must be involved in all activities implemented, it is for them to become more aware of quality assurance procedures. Radiologic technologists must ensure their commitment to sustain the quality assurance program to obtain patient's satisfaction by taking innovative approaches to improve the overall product, which is the image acquired. For future researchers may improve the limitations encountered in the study such as the exclusion of radiology professionals working in other hospital in Quezon City. Future researchers can widen the area of the study or conduct a similar study with a larger sample size.

IMPLICATIONS

Quality assurance in Radiology Department it can help to organized effort of the staff to ensure that the diagnostic images produced are of high quality. Its purpose is to provide adequate diagnostic information and least possible radiation exposure to the patient and staff. Quality assurance conduct preventive maintenance of the equipment and x-ray facility, established standards protocols in performing different radiographic examinations to standardize radiographic techniques and establish a radiation safety program for personnel and patients. While on Quality assurance in Hospital Management the managerial functions initiated to ensure quality control measures are performed according to the policy, procedures and guidelines on quality assurance. Such procedures should be critically reviewed, and corrective action implemented when appropriate. Quality control refers the sets of controls on the physical aspects of providing radiology service most especially the priority needs of the patients. A quality control program monitors the factors that control the production of a radiograph to detect any changes

that may adversely affect radiographic quality of the radiograph and also the radiologic results findings and to conduct of continuous education and training to radiologic technologists and radiology staffs.

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DECLARATIONS

Conflict of Interest

All authors declared that they have no conflict of interest.

Informed Consent

The researchers provided the participants with an informed consent prior to the conduct of the study (Appendix A).

Ethics Approval

The paper was cleared and approved by Trinity University of Asia- Institutional Ethics Review Committee with clearance No. 015-RO2.

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Author's Biography

Ms. Rosebelle Diane R. Consejo is a Bachelor of Science in Radiologic Technology student from the College of Allied Health Sciences - Trinity University of Asia. She is currently awaiting the completion of her degree this year.

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Dr. Renato M. Soriao is a full-time professor in the College of Allied Health Sciences in the Trinity University of Asia. He is a licensed Radiologic Technologist and a member of different local and international radiology associations. In addition to this publication, Dr. Soriao has published books on digital angiography, and registry review for radiologic technologists.

Appendix A

Informed Consent Form

We, the researchers from Trinity University of Asia respectfully invite you to participate in this study entitled “**An Exploratory Case Study of Quality Assurance Program and the Radiology Department’s Management to its Challenges at Private Hospital in Metro Manila**”. **The purpose of this study is to** determine and attain depth understanding of the insights of quality assurance in the radiology department, as well as the challenges and its management in the application of quality assurance.

The respondents of this research study will be consisting of radiology professionals such as medical physicist, radiologist, service engineer, chief radiologic technologist and radiologic technologist that are involved in the application of quality assurance in diagnostic imaging. If you are qualified in the above-mentioned, we would like to arrange a schedule for a 1 (one) day-interview that will be conducted through digital or any online platform that is convenient to you. The outcome of the study will provide information that would be beneficial to the radiology professionals and students to gain information of the importance of quality assurance inside the radiology facilities and to attain advance knowledge on how to manage those challenges.

Your participation is completely voluntary. If you decide not to participate in this study, you have the rights to withdraw at any time during the data collection process without any penalty or consequences. Rest assured that the data recorded will be protected and kept confidential in accordance with the Data Privacy Act of 2012 (RA 10173), any data given will not be disclosed without your consent approval. We will also be delighted to share with you the results of this study if you desire.

Should you have any questions and clarifications, kindly contact: Rosebelle Diane Consejo
09452901104 | rosebelledianerconsejo@tua.edu.ph

By granting the informed consent, you are approving to be part of this research and you already read and understood the information provided.

Name: _____

Contact number: _____

I have read and understood the content written in the informed consent form

Yes

No

I agree that the data gathered in this study may be stored anonymously and securely

Yes

No

I voluntarily agree to participate in the study, and I grant permission for the data generated from the interview to be used in the study

Yes

No

Research Instrument

The researchers will utilize the participant's transcription from interview which will be conducted through any digital and online platform that is convenient to the participants.

INTERVIEW SCHEDULE

Part 1: Obtaining participant's consent Name: _____

Contact number: _____

Please mark the box corresponding to your answer 1. I have read and understood the content written in the informed consent form

Yes

No

2. I agree that data gathered in this study may be stored anonymously and securely

Yes

No

3. I voluntarily agree to participate in the study, and I grant permission for the data generated from the interview to be used in the study

Yes

No

Part 2: Schedule of participant's interview

1st - 2nd week

3rd week

● Chief Radiologic Technologists

● Radiologic Technologists

● Radiologists

● Medical Physicists

● Service Engineer