**Chapter 2**

**Review Related Literature**

This study aims to develop a Health information management system for Eulogio "Amang" Rodriguez Institute of Science and Technology at Nagtahan St. Sampaloc Manila. This will help the Institution to produce a medical record system of school clinic that contains student’s personal information, medical history, medicine log and daily transaction that will help the clinic personnel to provide a real-time data access and monitors the status of every student’s health in the school. The purpose of this study is to help the school clinic personnel to have a record system which holds student’s medical history. It makes the transaction faster, easier and comprehensive.

This chapter strengthen the credibility of our study by presenting various related kinds of literature and related study from the year 2015-2020. This is to make the study more reliable and propose current evidence, this also serve as guidepost not only concerning the quantum of the work done in the field but also enables us to perceive the gaps in the concerned field of research and as the structure of reference to the researchers for further understanding for the development of the study. On the other hand, the related literature and related studies were collected from various source like articles and journals that collected from different websites such as commons.edu, innetutor, ada.org, google scholar, the igc.org and other scholarly website.

**Related Study**

In this review according to Carlson, L. A., & Kees, N. L. (2013), demonstrated certainty in regards to advising abilities and solace with average understudy issues, yet communicated a specific level of uneasiness in working widely with understudies living with a psychological wellness analysis. Review results further show that modifications in schooling and preparing may add to a lessening in this uneasiness, however would almost certainly do close to nothing to address difficulties in regards to arrangement of psychological wellness benefits inside the current idea of occupation assumptions. Inventive preparing and an extended understanding by directors concerning basic job that school guides play in giving mental wellbeing administrations to understudies appear to be expected to impact positive change. Smart and strong school advocate preparing, proficient advancement openings and assets such as this extraordinary issue committed to the psychological wellness part of school advisors, proficient promotion driven by school instructors in the field, and commendable cross-disciplinary organizations will improve the chance of more noteworthy psychological wellness results for the youth in our schools.

According to Arnaout, S., Jeanty, N., Keane, H., & Mkemwa, G. (2014). In 2009, WAH (Wireless Access for Health) has made great strides within the use of EHR system within the Philippines. it's extended the usage of its EHR (Electronic Health Record) system from 4 pilot clinics in four municipalities in 2010 to over 56 clinics in 2014. As a result of the extended reach, the WAH EHR system has brought some remarkable changes to RHU operations. The system generally has proven to be relatively easy for health providers with little or no computer skills to find out and use. RHUs reported that WAH EHR system has helped them to be better organized in their daily activities starting with admission and accessing patient records, and consultation, including the easier creation of the patient treatment plans. The EHR system has also helped improve patient follow-up appointment turnout, enhanced RHU reporting systems and led to an overall improvement of RHU operations.

Lieberthal (2016) says that Electronic Medical Record Information System (EMRIS) is an integral part of the medical standard of care—today and in the future. EMRIS is sometimes referred to as Electronic Dental Record (EDR) or Electronic Health Record (EHR). This key feature guides you through clinical record-keeping in a standard SOAP format (subjective, objective, assessment, plan). It allows key patient information to be centralized— demographic, medical/dental, social and financial— all within your practice management software. EMRIS eliminates multiple paper charts and provides controlled, secure and instant digital access to comprehensive information. Some EMRIS incorporate a range of supporting technologies to become a fully integrated component of the practice management software, thereby allowing even more access to vital information at the point of care. This information is accessible from any secure workstation, so there are no interruptions during the patient visit to retrieve information. Everything is at your fingertips.

According to Ahmed (2018), Automated Clinic Record Management System. The Automated Clinic Record Management System has been developed to design a clinic management system in order to achieve efficient record keeping in the clinic. The system is a web base program that enable quick access to patients’ record globally in case of emergency. And will also provide adequate security to patients records in which only authorize users can have access to the system with username and password. The program will also provide an adequate scheduling for both the doctors and the patients, in which appointment has to be made by the patient before visiting the doctor. Basically, to achieve more accurate record management, time saving, and easy retrieval of patients’ information.

Alexander Fertig, Julia Park, and Russell Toth (January 29th, 2019) Clinic Management Information System (CMIS). As a replacement to the outdated paper-based records system currently in place throughout the country of Myanmar, CMIS is meant to increase the efficiency and accuracy of recording patient medical information, leading to faster consultations, more effective treatment, and ultimately improved health outcomes for patients. The Clinic Management Information System (CMIS) was being used by doctors and health care staff in Myanmar’s public and private hospitals and clinic with high review ratings, it is because the software is optimized for low-resource settings, intended to run on relatively inexpensive tablets, and built around a simple interface.

According to S. Premji, A. Casebeer and R. Scott (2012) By carrying out an electronic HIS (Health Information Systems) like CHITS (Community Health Information Tracking System), which upholds the conventional information assortment climate while meeting current data needs of nearby leaders, these nations can accommodate past contrasts in information assortment techniques and start pushing ahead utilizing creative innovations and arrangements. Notwithstanding, while an electronic HIS is an energizing possibility as a result of the potential it holds, implementers can gain from past research encounters and all the more expressly perceive and consider the benefit of taking care of foundational change the board measures when executing and assessing their own applications.

In the study of Antonio (2012)” Health Information Privacy in the Philippines” taking into account the utilized of wellbeing data innovation, electronic clinical records or electronic frameworks for putting away quiet data, the obligation of emergency clinics or some other wellbeing supplier establishments to keep up and keep clinical records classified involves more prominent duty. There was no enactment explicit to information insurance corresponding to clinical security.

According to Ongkeko Jr, A. M., Fernandez, R. G., Sylim, P. G., Amoranto, A. J. P., Ronquillo-Sy, M. I., Santos, A. D. F., ... & Fernandez-Marcelo, P. H. (2016). Powerful change the executives is vital in the achievement of progress from paper-based framework to an electronic HIS. While computerization has been adjusted by an expanding number of neighborhood governments, necessities of end-clients, program supervisors and strategy producers keep on advancing. Absence of principles hampers significant information trade and use across various data frameworks. Since wellbeing administration conveyance is declined, RHUs (generally with the help of advancement accomplices) have stepped up to the plate and search out CHITS, or other EMRs. The variety is acceptable – to winnow remarkable exercises and characterize what works – at the beginning phases of advancement.

According to Gabor, Gamata, Lapitan, Manzano, Novida, Pawilen, and Zafe (2017) in research entitled “School Clinic Services in Candon National High School” the level of availability and satisfaction of clinic services is moderate and significant.

According to A. Estinar, L. Grefiel, L. Libre, L.Lu, and M. Tangkeko in (2018), the framework made the cycles of the RHU quicker, create exact reports, and give applicable and significant data. PBHIS expected to assist the RHU with breaking down the information taken from its patients, recognize key spaces of concern, and improve and all around educated choices. By giving the RHU the data it required, it will actually want to convey applicable projects and administrations to the Fernandinos. On the dynamic level in the RHU, data shown as pictured information, alongside endorsed examination, the projects made will be proof based also, explicitly custom fitted as indicated by the requirements of the Fernandinos.

**Related Literature**

According to an article published by American Dental Association, EHR systems offers the potential to improve care quality and quantity of medical information in a way that it is highly structured that lead to analysis for quality assessment, identification of areas for information and to support tools like allergy alerts and medication alerts.

According to Schleyer, D.M.D., Ph.D.; Thyvalikakath, D.M.D., M.D.S., M.S.; Spallek, D.M.D., Ph.D., M.S.B.A.; Dziabiak, B.A.; Johnson, Ph.D., published by an article from Journal of Dental Education entitled Electronic Patient Records for Dental School Clinics: More than Paperless Systems, the advancement of technology has created a new demand for electronic paper records. It should help improve health care quality. It suggests that the dental profession should develop a more common record with standard diagnostic codes and clinical outcome measures.

According to Akarslan, Z.Z., Erten, H., Uzun, O., Iseri, E. & Topuz, O. (‎2011)‎ in Relationship between trait anxiety, dental anxiety and DMFT indexes of Turkish patients attending a dental school clinic by World Health Organization. The points of this examination were to assess potential connections between attribute nervousness, dental uneasiness and the all-out number of rotted, absent and filled teeth [‎DMFT]‎ file of patients going to a dental school center. An example of 558 patients was overviewed with the Turkish adaptation of the Spielberger Trait Anxiety Inventory and Dental Anxiety Scale. DMFT list was determined by clinical and radiographic assessment. A critical direct connection was seen among quality and dental uneasiness, however there was no relationship between's DMFT file, characteristic tension and dental nervousness. Quality nervousness affects dental uneasiness, yet doesn't influence the DMFT file.

According to Atkinson, Zeller, Shah (2015), Electronic Patient Records for Dental School Clinic System and the Electronic Patient Record (EPR) or “computer-based medical record” is defined by the Patient Record Institute as “a repository for patient information with one health-care enterprise that is supported by digital computer input and integrated with other information sources.” The information technology revolution coupled with everyday use of computers in clinical dentistry has created new demand for electronic patient records. The benefits, particularly for large clinical institutions, are obvious: improved record control, easier document storage and access, better information for clinic management, and excellent data for evaluation of overall patient care. Ultimately, the EPR should improve health care quality.

According to School Nurse Net by Edward Dominguez (2019), giving wellbeing data to individual and gatherings of understudies, the medical caretaker advances wellbeing. She can do as such by taking part in wellbeing training classes and somewhere else where well-qualified assessment is required. The medical attendant can likewise be especially useful while making wellbeing training educational plan programs for staff, families and the local area on the loose. Wellbeing instruction points included incorporate and are not restricted to; actual exercise, nourishment, oral wellbeing and anticipation of physically sent disease and smoking end, diminishing substance misuse, vaccination, juvenile pregnancy avoidance.

Zabat, G. M., Caoili, J. C., Anduyon, A., Ramos, G. J., Morin, M. J., Ditangco, R. A., ... & Tupasi, T. E. (2011, October). The HIV/AIDS EMR gives a practical option to manual report age at treatment offices in the Philippines This empowers quick and exact information transmission for patient checking and medication gauging purposes. This framework could possibly be stretched out further to build up an online interface connected with drug store information bases to work with continuous observing of in general activities.

According to Marte and Schwefel (2015), four information baskets are strengthened specifically to address the needs public health information system, hospital information system on economics and financing, information systems on good health care management. It handles and retrieves all data that is being collected by public health workers routinely all over the Philippines. The cost-effectiveness of HAMIS was ensured through a survey that identified the prioritization of indicators

According to Inettutor.com (2017), in the Philippines, most of the Barangay Health Centers are still using the manual system in terms of implementing medical services, health programs, health monitoring and profiling. These transactions as implemented by midwife in – charge in a barangay health station is done manually. In relation to the researchers proposed system which is the Clinic Information System, it will provide a quicker and more systematic way to record the medical information of the patients. It also provides reliable and secured personal medical records and simply improves the consistency of the consultation process; it will increase performance of medical personnel through its system generating consultation.

Buenas and Caringal (2016) the Hospital Information System (HIS) is vital to decision making and plays a crucial role in the success of the institution. Computerization of the medical records and documentation has resulted in efficient data management and information dissemination for the users (Gomes, n.d.). In Tuy Municipal Health Center (formerly Tuy Rural Health Center), Cebu City is a government hospital that is still suffering from the difficulties of manual system, with the help of modern technology, advanced or what we called “Tablet” that helped the health care practitioners to have more efficient and faster working system. The system is considered to help evolve traditional transaction procedures of the health center into automated information system. The researchers used Microsoft Visual Studio 2008 (VB.NET) as the programming language, Microsoft SQL Server Management Studio Express 2005 (MS SQL) for the databases.

Estuar M.R.J.E., Espina K.E., Pulmano C.E., Ventura C., Romarate R.M.G. (2020). The Philippine government will select and use an electronic health record (EMR) system to digitize health records in all sectors of rural health through the Department of Health (DOH) and the Philippine Insurance Company (PHIC). Digitization of medical records in the medical field is the first step in achieving the goals of universal medical services while providing access to medical records in an emergency and providing a more efficient method.

**Synthesis**

The reviewed articles and materials for the development of proposed software can be related to the present study in terms of the following:

Both the reviewed materials and the present study agree that the implementation of web-based will help school clinic personnel to have a record system that can perform tasks easier and more accurate than the present excel based record.

The EARIST Clinic Students’ Information Management Monitoring System shall address all the problems of EARIST Clinic related with the manual record keeping of the patients and its related tasks.

The researchers have interviewed doctors and staffs to conceptualize the design using various system models, design the interfaces, and develop system. The system can store patient records for fast retrieval of data, it also has medicine inventory to track stocks and transaction that can be printed for reporting purposes.

**Conceptual Framework of the Study**

Conceptual framework used by the proponent as a visualization of how the existing and the proposed system works. In order to provide readers a visual understanding of the existing and the proposed system, the proponent provided a diagram to illustrate the existing and proposed system used in this project.

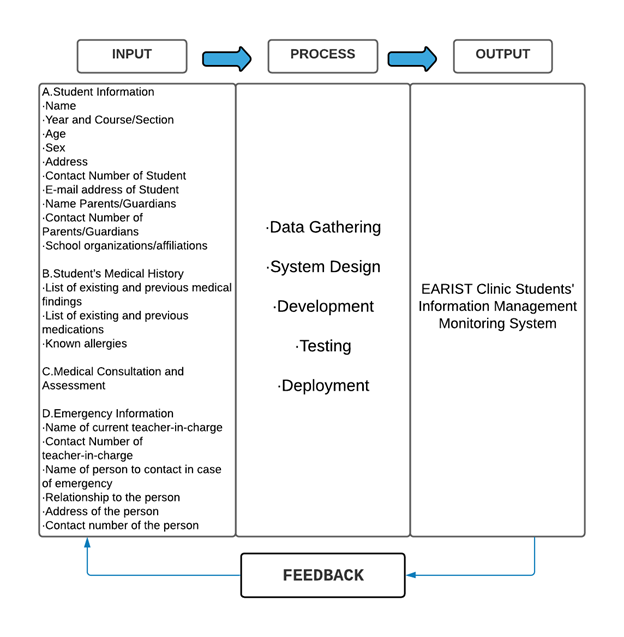


Figure 1: Conceptual Framework

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