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Electronic Health Record (EHR) Management Skills for Medical Records Staff

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Abstract

Objective: This study aimed to reveal which electronic health record management skills are required by medical records staff. The purpose of this research was to identify what kind of EHR management skills are required of medical records staff and to provide basic data for educating students. Methods: A survey was conducted targeting medical records staff working at general hospitals in metropolitan areas. The results of the analysis showed that the subjects identified 23 items as required electronic health record management skills. Results: From a thematic approach to the collected answers, we classified the required skills as patient registration for electronic charts, consent and knowledge of patient identification, data collection, data recording, data transmission methods, medication, viewing information from electronic charts, understanding of electronic chart systems, knowledge of privacy protection and flow, understanding the use of authentication methods, and the use of EHR for clinical work. A descriptive analysis of the number of major responses regarding required EHR management skills of medical records staff showed the largest average in medication-related data recording. Conclusions: In conclusion, as most electronic chart education focuses on medical personnel, there are very few opportunities to educate medical records staff working in general hospitals. Therefore, medical records staff in general hospitals are not confident in their jobs. According to this study, the education system and curriculum development for medical records management professionals to cultivate the required electronic health record management skills are necessary for effective hospital management. (Mollart et al.2020)

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1. Introduction to Electronic Health Records (EHRs)

Electronic Health Records (EHRs) bring with them a great opportunity to remove undue paperwork and processes that waste staff time and provide inefficient care. Reducing duplication of tests, better communication and coordination of care, including improved accuracy and reduced response time, have the potential to make substantial changes in the health care industry. This leaves the healthcare provider with a great challenge to answer the call for medical records staff who are effectively trained to manage the EHR. A first step in this training is to have medical records staff learn about EHR systems, databases, and the technology principles that are associated with them. Medical records professionals in non-EHR, as well as EHR, organizations should be career-ladder trained and educated to assume EHR-related responsibilities. The education of medical records professionals in EHR environment functions should commence when basic health information technology skills are being taught at the associate degree level. Additional upgrading and updating topics and technology education include generating, retrieving, and updating health data, abstracting records, coding, electronic data exchange, billing on EHRs, managing outsourcing for patient health information functions, managing EHR quality control, EHR practice management, medical terminology and EHR medicine, problem-oriented patient records, case management, EHR and managed care, health care organization security, decision support and knowledge management, healthcare systems trends and legislation different from those in the areas served by non-EHR organizations, and assessing customer service needs that are met in EHR and EHR systems management training. (Samadbeik et al.2020)

2. Importance of EHR Management in Healthcare

Electronic Health Records (EHR) is a system that enables healthcare providers to capture, store, access, and share patient information in an electronic format. EHR has transformed the way healthcare is delivered; it has helped improve the confidence and trust of patients, thus impacting decision-making. It is important for health information management staff to understand and grasp the concept of using EHR systems in order to utilize them for managing healthcare data more efficiently. There is a need to implement the skills related to EHR, information organization, retrieval, evaluation and analysis, use of software, and data management into the curriculum for them to integrate with the technological changes in the healthcare industry. In this paper, the importance of EHR in healthcare and the skills required have been reviewed, and a framework for the implementation of EHR is presented. The increased need to access comprehensive, real-time patient data for their health has driven the potential of health information technology. Physicians, in specifying conditions, expand a chart and will also see coding to guide treatment patterns. Thus, this engagement, not reactive, must occur continually to give and track the data within it and through the lifecycle

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of the health problem. Successful results are linked to effective physician-patient collaboration, and EHRs may empower the patient with information that was formerly the domain of the provider. Productivity sometimes suffers as they acclimate to the technological changes, although both benefits and challenges are experienced by caregivers. Modern health information systems use advanced data mining technology to gather and present data for reference, include several data sources, enable links to external expertise, supply decision support applications, and develop high-quality, evidence-based practices. The EHR conveys support and forums that allow caregivers to share experiences, document activities, and supply references. (Wager et al., 2021)

3. Key EHR Management Skills for Medical Records Staff

Setting the stage for the implementation of EHRs will require immediate efforts to ensure that all stakeholders—developers, policymakers, institutions, and individual professionals—learn and demonstrate the necessary skills. Furthermore, the idea of defining a standard of care for EHRs points to the need for establishing guidelines for both the goals and the process of learning from the implementers of EHRs. Clearly, attempting to train professionals without providing venues within which to apply this new knowledge on a regular basis will be an exercise in frustration for all involved. This recognizes that the cost of EHR implementation provides the single most persuasive rationale for the development of the Open Medical Record program. However, the focus is on organizational change, not financial considerations. (Wark et al.2021)

Therefore, we will limit ourselves here to recognizing that certain skills are required by all staff, while others are more specific to particular professions. Medical record staff will be instrumental in many aspects of the system’s implementation and maintenance. This is so not only because they act as the system’s custodians but also because they have a long-standing role as a communication resource. Their very profession suggests a number of skills—for example, a high level of comfort with the classification of clinical diagnoses, knowledge of hospital structures and procedures, experience in computerizing information about patients, and so on. However, EHRs require staff to exchange many other more traditional skills, in the same way that they impinge on staff roles beyond the provision of data. This new scope will make new positions necessary while changing the focus of other functions. (Enaizan et al.2020)

3.1. Data Entry and Retrieval

In order to successfully manage the daily influx of patient electronic medical records, a high degree of data entry speed and accuracy is critical. As the primary workforce responsible for the input and capture of the patients' clinical data, MR staff must be proficient in managing the computer keys. This skill includes the ability to both type efficiently with the use of all

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fingers on the keyboard, as well as basic data entry skills. The efficient retrieval of electronically stored data is an essential tool for clinical staff to locate the right information on the patient at the right time. This ability to locate data is often referred to as the navigational use of the system, or the process of conducting searches to quickly and easily locate needed information or data. As gatekeepers and administrators of access to the EHR, MR personnel assist or guide clinical staff in the location and retrieval of EHR data. The efficient acquisition of needed information on a regular basis helped to enhance clinical productivity, as frequent interruptions may impede this process. (Alzu'bi et al.2021)

3.2. Privacy and Security Compliance

On completion of this unit, the trainee will be able to demonstrate knowledge of EHR confidentiality protection systems, security measures compliance in relation to EHR privacy or access requirements, and the technological aspects of electronic data security. The technological aspects of electronic data security are the means by which electronic health information is stored, transferred, and/or accessed, and the precautions taken to ensure the data is protected from alteration, destruction, or inappropriate access. They include technical abilities needed by the medical record staff to work within a current or future electronic health record system and to guarantee the resolution of security breaches. Staff as individuals must always be aware of potential threats from different sources. Such threats include: (Keshta & Odeh, 2021)

Use of security walls and logging on workstations. Policies and procedures are in place regarding acknowledging the patient and their records when working in the EHR. User/Record menu, which is relatively easy to understand and yet provides or restricts access in accordance with privacy legislation so that information is protected. Privacy, security, and climbing posters readily visible to personnel and visitors. Life and fire safety measures are observed. (Keshta & Odeh, 2021)

3.3. Interoperability and Integration

Interoperability means the ability of health data to be shared under differing circumstances and conditions. Data can easily be exchanged and understood among hospitals. For example, vital patient care treatment data is shared between a cardiology specialist and a surgeon. Treatment information and reports could be shared with an EHR. This allows the systems and many instances in healthcare to work together. Integration refers to the ability of software applications to communicate with each other in a way that data can be exchanged within an organization or between two or more hospital networks for data exchange or electronic data interface. Ensuring that any system can work together can help partners unobtrusively integrate health data. (Jaleel et al.2020)

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Health Level Seven provides a framework and associated standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery, and evaluation of health services. HL7 standards are best known for their role in creating interfaces between systems and are at the heart of interoperability within the healthcare sector. Imagination and determination can enhance the hospital systems' integrating capabilities to create the data and services needed to meet the demands of today and the future of the healthcare environment. (Sheikh et al.2021)

3.4. EHR Troubleshooting and Support

After successful implementation, the use of the systems relies solely on support and monitoring. Due to the long working hours and perceived complexity of the systems, many users experience various job-related problems, which in many cases lead to abuse or misuse of the systems, resulting in data entry inaccuracies and failure to retrieve recorded information. Job-related and user data entry challenges include both relatively simpler issues like user idle time and not effectively using keyboard shortcuts, as well as more complex personalizing configurations. The volume of error increases as the volume of usage of the EHRs increases, despite the fact that the complexity decreases. This implies that the systems are not being utilized efficiently after implementation, leading to reduced effectiveness. This may be due to the fact that no matter how easy a system is to use, the more users interact with and use it, the more prone it becomes to regular misuse and a high frequency of errors. (Nijor et al., 2022)

Different health care service providers face various issues, considering they are all at different levels of implementation, familiarization, and usability. Policies and protocols ensure the effective running of information systems, but they also seem to be reasons for users feeling overloaded. When the data about the number of times unsuccessful log-on attempts recur, the time a user stays idle or locked compared to the total working time, to mention a few, are to be reviewed, it is a clear indicator that more staff familiarize themselves with all functions that may be used during the period of their job-related roles. Monotony can also lead to working issues, especially in health care scenarios; a high turnover of staff members in such environments is common. Mentoring and debriefing are vital to ensure the elimination or to make necessary input into identified errors to curb repeated occurrences. The systems are user role dependent, and the higher the volume of data across the whole system, the heavier it gets and starts becoming difficult to maneuver. In support scenarios like this, user technicians must be well aware that idle and locked screens are the portal's window; hence, they must be familiar with different aspects of occurrence, interpretation, and subsequent troubleshooting. User role mentorship, training, and refresher courses become imperative within high-stress environments to deal with such settings. (Vickery, 2022)

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4. Training and Development Opportunities for EHR Management Skills

Ongoing nurturing of the medical record staff skills and organizational strategies to ensure their skills are considered in hiring practices will be necessary. Employee performance evaluations that incentivize the use of skill- and knowledge-based measures will be necessary to support continued EHR use and foster the shift to knowledge-based EHR management. The advent of EHR systems and the need to adhere to standards mean that Med Rec staff must understand more than just the content of medical records. Med Rec professionals and departments, therefore, need to increase the visibility and emphasis placed on their roles in EHR management. (Frament et al., 2020)

Recognizing and providing opportunities for training in EHR management within the workflow, or separating medical records professionals into specialized groups within the department that can track, interpret, consult on, and handle questions and problems with EHR components, can add consistency and depth to the assistant roles with EHR in your organization. Other organizations have found value in subdividing their Med Rec departments by record type and/or service area to provide specialized support. This can help promote standardization and best practices to ensure critical workflows for handling paper records are addressed efficiently. (Humphrey-Murto et al.2023) (Humphrey-Murto et al.2023)

5. Best Practices in EHR Management

Early best practices show that organizations with effective training and strong leadership were happy with their EHR systems. Work processes should be as standardized as possible and well established. Good examples ensure that as many forms or templates are in place prior to launching the EHR and that mechanisms are in place to avoid inadvertent duplication of records. Best practices are provided. (Attafuah et al.2022)

While the best practices generally apply to organizations in the early stages of EHR adoption or upgrading their systems, some of these concepts can also apply to more mature users. The organizations' strategies can be used to stage in EHR enhancements that support the movement of an organization into a completely paperless environment. Organizations with years of experience using EHR rosters had a wealth of experience to draw upon. In reading the best practices inventory, it appears there are many organizations that have very well thought out practices in place and that they work on a daily basis. (Huang et al.2020)

6. Discussion

It was important to clarify the skills that are required to work with EHRs, as there is a rapid and increasing use of these systems in APC. Up to 68% of the existing employees still need training in consulting the database and encoding the documents. It is important to know how to manipulate the software for download and filing. Classifications, completion, and

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improvement of EHR, coding, and registry systems require several changes in medical records, the main result being the transformation in the practice of the chart staff. Incorrect manipulation generates poor data quality reflected in underfunding, misguided preventive campaigns, loss of epidemiological data, incorrect diagnosis, and billing, causing a loss of money for the provider. The phenomena identified in working with EHR management can be the focus of enabling training at APC, but also nationally, as many clinics present similar situations. It is also important to develop Skills and Competencies Frameworks in order to create standards for these occupations. Being a small-sized institution without a chart department, the work of the nursing coordinator is often complicated and jeopardized by everyone's inability to handle EHR. Manager training will influence the provision of services, the completion of registrations, data integrity, billing, and patient and administrative care. Information support is a task directly related to the scope of performance of health informatics professionals. With guided and configured information in clinics, hospitals, and the National Health System, the focus will be on EHR and Digital Competences for Health Professionals. (Dolata et al.2020)

7. Conclusion

Today's medical professionals will spend most of their time simply trying to keep up with the massive amount of information thrown at them on a daily basis: facts, figures, dates, times, names, and addresses, not to mention the notes in a medical record that are the reason for the profession. Even without the technological explosion, it was not easy to harness the vast, far-flung, and extremely busy environment as it raced through the patient care process. Instead of racing to manage and distribute paper-based files, tomorrow's professionals will have more time with the patient, less stress, and more freedom to succeed in their duties. This is the future goal, and the future starts now. It has been my goal in preparing this book to help physicians prepare for what I see as a very promising and exciting future. (Hummel et al.2021)

In using Electronic Health Records to help the patient, to provide the best set of tools available to that physician, and while the physician's EHR arsenal will be constantly changing, those who understand the tools available to them and the art of implementing and using them will always be a cut above the rest. It is my hope that every EHR user continues to upgrade and sharpen their skills for the ultimate benefit of the patient and the pride that comes with doing the job well. Keep the EHR fires and those brain cells burning. In conclusion, Electronic Health Records are the tools that will shape the future of medicine by providing fast and accurate access not only to data but to the knowledge that will help the physician, allied health professionals, and administrative staff perform at a continuously higher level of excellence. (Rodriguez et al., 2020)

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References:

1. Mollart, L., Newell, R., Geale, S. K., Noble, D., Norton, C., & O'Brien, A. P. (2020). Introduction of patient electronic medical records (EMR) into undergraduate nursing education: an integrated literature review. Nurse Education Today, 94, 104517. [HTML]
2. Samadbeik, M., Fatehi, F., Braunstein, M., Barry, B., Saremian, M., Kalhor, F., & Edirippulige, S. (2020). Education and Training on Electronic Medical Records (EMRs) for health care professionals and students: A Scoping Review. International Journal of Medical Informatics, 142, 104238. academia.edu
3. Wager, K. A., Lee, F. W., & Glaser, J. P. (2021). Health care information systems: a practical approach for health care management. [HTML]
4. Wark, K., Cheung, K., Wolter, E., & Avey, J. P. (2021). Engaging stakeholders in integrating social determinants of health into electronic health records: a scoping review. International journal of circumpolar health, 80(1), 1943983. tandfonline.com
5. Enaizan, O., Zaidan, A. A., Alwi, N. H. M., Zaidan, B. B., Alsalem, M. A., Albahri, O. S., & Albahri, A. S. (2020). Electronic medical record systems: Decision support examination framework for individual, security and privacy concerns using multi-perspective analysis. Health and Technology, 10, 795-822. [HTML]
6. Alzu'bi, A. A., Watzlaf, V. J., & Sheridan, P. (2021). Electronic health record (EHR) abstraction. Perspectives in health information management, 18(Spring). nih.gov
7. Keshta, I. & Odeh, A. (2021). Security and privacy of electronic health records: Concerns and challenges. Egyptian Informatics Journal. sciencedirect.com
8. Jaleel, A., Mahmood, T., Hassan, M. A., Bano, G., & Khurshid, S. K. (2020). Towards medical data interoperability through collaboration of healthcare devices. IEEE Access, 8, 132302-132319. ieee.org
9. Sheikh, A., Anderson, M., Albala, S., Casadei, B., Franklin, B. D., Richards, M., ... & Mossialos, E. (2021). Health information technology and digital innovation for national learning health and care systems. The Lancet Digital Health, 3(6), e383-e396. thelancet.com
10. Nijor, S., Rallis, G., Lad, N., & Gokcen, E. (2022). Patient safety issues from information overload in electronic medical records. Journal of Patient Safety. lww.com
11. Vickery, R. B. (2022). Staff Education on Reducing Burnout in Mental Health Professionals Through Restorative Yoga Practice. proquest.com
12. Frament, J., Hall, R. K., & Manley, H. J. (2020). Medication reconciliation: the foundation of medication safety for patients requiring dialysis. American Journal of Kidney Diseases. nih.gov
13. Humphrey-Murto, S., Makus, D., Moore, S., Watanabe Duffy, K., Maniate, J., Scowcroft, K., ... & Rangel, J. C. (2023). Training physicians and residents for the use

Power System Technology
ISSN:1000-3673
Received: 16-08-2024 Revised: 05-09-2024 Accepted: 22-09-2024

of electronic health records—a comparative case study between two hospitals. Medical Education, 57(4), 337-348. [HTML]

14. Attafuah, P. Y., Abor, P. A., Abuosi, A. A., Nketiah-Amponsah, E., & Tenza, I. S. (2022). Satisfied or not satisfied? Electronic health records system implementation in Ghana: Health leaders' perspective. BMC Medical Informatics and Decision Making, 22(1), 249. springer.com
15. Huang, C., Koppel, R., McGreevey III, J. D., Craven, C. K., & Schreiber, R. (2020). Transitions from one electronic health record to another: challenges, pitfalls, and recommendations. Applied clinical informatics, 11(05), 742-754. thieme-connect.com
16. Dolata, M., Schenk, B., Fuhrer, J., Marti, A., & Schwabe, G. (2020). When the system does not fit: Coping strategies of employment consultants. Computer Supported Cooperative Work (CSCW), 29(6), 657-696. uzh.ch
17. Hummel, S., Oetjen, N., Du, J., Posenato, E., Resende de Almeida, R. M., Losada, R., ... & Schultz, J. H. (2021). Mental health among medical professionals during the COVID-19 pandemic in eight European countries: cross-sectional survey study. Journal of medical Internet research, 23(1), e24983. jmir.org
18. Rodriguez, J. A., Clark, C. R., & Bates, D. W. (2020). Digital health equity as a necessity in the 21st century cures act era. Jama. researchgate.net