

Exploring the Integration of Nursing, Radiology, and Medical Secretarial Support: Review and Future Opportunities in Emergency Care within Saudi Arabia

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1. Introduction

Healthcare encompasses a diverse array of processes, systems, and institutional structures that aim at delivering and providing medical services to individuals, families, and communities. It's the integration of these systems that will determine whether the care provided is beneficial or detrimental to its recipients. Oftentimes, interprofessional collaboration is discussed within the context of the medical field, and studies are conducted to determine the levels of success (or failure) healthcare professionals have when attempting to collaborate with one another and provide care (M Al-Wathinani et al., 2024). However, it has been argued that nursing, radiology, and medical secretarial support need to be integrated, tested, and analysed. In this case, such integration will be explored within the context of emergency care in Saudi Arabia. A wealth of knowledge and information could potentially provide new perspectives on collaboration, patient outcomes, and propose avenues for future practice and policy within this emerging field of study.

The effectiveness of care provided in the emergency department is often contingent upon the severity and expediency of patient treatment. Numerous interruptions and changes can afflict clinicians' capacity for effective care delivery, and this can be a significant challenge when patient diagnoses are often dependent on imaging services. Additional challenges come in the form of a lack of formalised patient reports, which are crucial for ongoing patient care and treatment (N AlRashedi et al., 2022). With such a strong dependence between nursing, radiology, and medical secretarial support, it is therefore crucial for a comprehensive examination of the successes and challenges such integration faces in the context of emergency care within Saudi Arabia.

1.1. Background and Rationale

In Saudi Arabia, emergency healthcare settings bear the most patient burden. Within this setting, emergency nurses, radiology staff, and medical secretaries are integral in service provision due to their pivotal roles in patient triaging, management, and continuity of care. Yet, there seems to be a lack of integration amongst these functions as a unit care team. This is despite their intrinsic and steadfast bond, of which each profession faces unique challenges that can either signify or nullify the importance of their interconnectivity. It is the aim of this research to critically delve into this triumvirate of professions and their benefits and challenges to patient care. Furthermore, models of care such as the hub-and-spoke approach, and theorized strategies for synergy will also be reviewed. Introduction of the healthcare reform in the kingdom since 2016 has made it more urgent to ensure seamless coordination of healthcare services. Moreover, with the number of quoted diabetic and cancer patients increasing, and health challenges posed to millions of international Hajj pilgrims, emergency services are poised to become even more crucial.

Saudi Arabian facilities are constantly seeing a growing number of patients, with King Fahad Hospital, as one case study, eminently highlighting this - of 34 emergency visits each hour of the 24-hours day during peak times. In light of this, it is no surprise that a recent debate on a local television show in one country's hospital setting has been to frame nursing as an assembly line. Despite claims that this intensification model of care has been debunked, mentioned health care system has not entrenched its triage department, reinforcing again the notion of the emergency as a pseudo-automated express line. The manpower required to support radiographic and laboratory requirements furthermore do not seem to keep up with this high-paced penetration and rather compete for radiology-only task requests, necessitating further exploration of the interface. At the global scope, the picture is however, bleaker. Gaps in proportionate healthcare growth and the rise of complex and concomitant diseases have only seen more non-communicable diseases rise, with sharp increases in diabetes, COPD, mental health, and associated disorders. Much of this trend is mirrored in medical journalistic pieces and academic analyses. This approach is also relevant to other health care systems, with Canada's planned assimilation of greater regionalization also imperative to consider in its potential promotion of a two-tier health system. Despite initiating some steps towards streamlining care delivery, German and American practices can also be informative case studies (M Al-Wathinani et al., 2024). Between 1997 and 2012, The German Heart Attack Centre Long live the Heart Project was successful in integrating treatment services, reducing transportation times to 86 minutes, and bringing time-to-balloon for angioplasty to 47 minutes (from patient contact). For a more global perspective, Urban Climate Centres have also been suggested, in which non-clinical advice and guidance can add supplemental care, with successful examples in Greece, Ireland and the ongoing rebuilding of New Orleans.

2. Current State of Emergency Care in Saudi Arabia

The Kingdom of Saudi Arabia employs a national healthcare system to ensure equitable health services for the nation's citizens. This consists of a three-tiered system, with primary care provided in healthcare centers as the first contact with health providers. Secondary care is located in regional and general hospitals for two-way referral patients. Tertiary care is provided at complex hospitals located in the main metropolitan areas, treating serious cases referred from the first two sectors. The healthcare system faces many challenges in Saudi Arabia, impacting service delivery and the workforce. The population is growing rapidly, currently over 33 million; therefore, demand for public services is also increasing (Khattab et al., 2019). In the context of emergency care provision, the healthcare system is fragmented and under strain. The challenges that emergency care provision faces are indicative across many other specialty services in Saudi Arabia. A significant gap in the literature regarding rapid response/emergency care settings considering a lack of nursing, radiology, and medical secretarial support services engagement exists.

Nursing, radiology, and medical secretarial support are already established allied health professions with significant potential to impact on the emergency care process. While each has more commonly been examined in isolation across other specialty services, this review explores these professions in combination. Nursing has a pivotal role in establishing trust with individuals using emergency healthcare services. Radiology procedures are extended at the start, need many numbers of recordings to have a perfect and complete image analysis, and can last longer than the time allotment for this study. The readiness of cancellations or no-shows of the patients at the time of the scheduled imaging exam can disturb the whole schedule and prolong the patient's waiting time for the examination. It's a preference from the patients to have individual and appointment scheduling, due to the impact of the increasing the daily number of the emergency cases and the overload of the Radiology Ultrasound Department.

Thus, the intent in this work is to briefly sketch out what is generally known about the unique or additional contribution of each of these discrete allied health professions to the functioning of an emergency medical admission pathway and how these professional practice frameworks may synergically mesh to determine resultant patient pathways, outcomes or processing inefficiencies. The scenarios that play out in the presented case studies are used to provide some insight into these points.

2.1. Overview of Healthcare System

Institutions of healthcare provision, which include hospitals, primary healthcare centers, and emergency departments, are at the center of the healthcare process (Khattab et al., 2019). Their quality and performance have a profound effect on whether the patient gets the right care at the right time, which in turn is heavily determined by the availability and competence of the workforce within these institutions. The quality and performance of healthcare provision in a given region can thus be seen as the product of the collaboration of different workers across different healthcare facilities. In this context, examining the division and organization of work between nursing, radiology, and medical secretarial support, in the context of emergency care is in order. This is especially true in the context of the rapidly developing emergency care services in Saudi Arabia, as the

healthcare system seeks to better understand the dynamics of this critical time-dependent care, in order to make informed policies and interventions that would improve its provision.

Saudi Arabia has a steadily increasing healthcare system consisting of both public and private sectors. There exist more than 460 hospitals with a capacity of over 70,000 beds, and over 2,000 primary healthcare centers. Some of these institutions are highly specialized, serving as centers for the treatment of e.g. diabetes, cancer, and heart problems, either because of their intramural expertise, or because of being part of the Saudi Arabian National Guard, or the Ministry of Defense and Aviation. At the top of the healthcare system are also the highly specialized facilities of the private sector. There are, however, missing health links in the Saudi healthcare system. For example, the distance between hospitals and primary care patient care is extending over a large time. Emergency care is a medical service designed for the treatment of emergencies such as cardiac arrest, traffic accidents, drug poisoning, and partial occlusion of the airway. Broadly speaking, these are acute conditions that can only be treated by emergency care, and are first suspected and found by the patient or a witness. The timely, correct, and safe treatment of these conditions is critical and potentially life-saving. For the healthcare processes to work expansively, there is a regulatory framework, along which coordination, and the exchange of information, medical reports, and referrals can be established. Since public healthcare facilities are the beneficiaries of a set of government initiatives, it is the case that merger, affiliation, separation, and privatization have taken place, altering the landscape of the healthcare institutions in communities. In the past two decades there has been a significant improvement in the availability and quality of healthcare services in Saudi Arabia. The government has made healthcare services entirely free and yet the beneficiaries. In order to improve the same, their family must regularly contribute to social security services, abstain from any criminal activity, and interact positively with medical staff.

2.2. Role of Nursing in Emergency Care

Worldwide, the role of nurses in emergency care has been recognized as multifaceted. Nursing staff are frequently the first point of patient contact in the emergency care setting, and possess a critical role in clinical decision-making, assessment, and management of patients (N AlRashedi et al., 2022). To respond competently, nurses in emergency care are required to display high levels of expertise and advanced skills such as in critical care. Emergency nurses in particular are required to issue care treatment plans, and prescribe medications and laboratory tests to a greater extent compared to their counterparts working in general wards. Recognizing that practice-based competencies are fundamental to achieving positive patient outcomes in the emergency setting, an important research topic is to identify current skill levels among emergency nurses, and to determine potential strategies and avenues for skills development, both across expanses of practice domains and at the individual practitioner level.

The function of nursing in emergency care has been described as a central, dynamic, and crucial role, and extends to competencies needed to manage acutely ill and dying patients. Nursing staff also support the delivery of emergency care through their involvement in patient assessment and triage, patient and family education, and caregiver support. As a result of this large and varied role, the assessment of nursing staff acute care competencies is broad and complex. Nursing staff possess diverse competencies and skills, and self-reported data about their observation of their own performance will differ from formal observer data. Despite the uniqueness of nurse-patient interactions, recent research has demonstrated in other settings that it is possible to adapt and implement expert panel observation measures, which are often used in high-risk clinical settings, such as in the assessment of surgeons and offers details about the function of nursing in emergency care. (González-Gil et al.2021)(Varndell et al., 2021)(Elin et al., 2022)

2.3. Role of Radiology in Emergency Care

The provision of radiologic services, which are critical for providing speedy and accurate diagnosis, form the backbone of healthcare services both in primary healthcare and in hospital emergency departments. Particularly in the emergency care framework, the timely transfer and early radiologic interpretation of images guide physicians and nursing teams throughout the whole patient management process. Radiologic services investigate a variety of acute and chronic physical and physiological conditions, and so have a central role in patient management, regardless of the severity and the acuteness of events. Especially in the emergency departments, where the nature of events, observed symptoms and patient conditions are rapidly changing, the immediate availability of diagnostic services is vital.

There is a growing trend of integrating radiologic services with the capabilities and infrastructure of emergency care departments. Some institutions have introduced rapid imaging practices in their emergency departments. These new imaging

practices are claimed to increase efficiency in decision making within the departments. Indeed, it is crucial to diagnose neural emergencies, such as stroke, in a limited time frame. Nonetheless, the need to expedite the imaging process may lead to communication errors both between the emergency care and radiology departments, and among emergency care personnel. Moreover, in some emergency departments, delays in imaging are commonly observed on account of backlogs in routine procedures or earlier requests. In such cases, patient flow may be disrupted and the effectiveness of emergency services can be significantly diminished. At this point, radiologists working as an integral part of an on-duty team of nurses and physicians may be a solution. Nonetheless, the diverse type of conditions observed limits the different modalities available for real-time imaging practices to a few. Moreover, the cost-effective use of the equipment and diminishing the risk to all patients due to the overuse implies more judicious indication procedures. On the other hand, advances in technology have led to a rapid automation of the process of image acquisition increasing productivity. However, the current practice is based on the assumption that an optimal interpretation and reporting are the follow-up of image acquisition. This model is not adapted to the dynamics of emergency care framework. Any new approach, assuming the radiologists' full participation should be based on the new acquisition/interpretation paradigm. This complex process may be facilitated by continuous education and training and a system should be designed so that the need for continuous training and education is reciprocated. However, further analysis is required to produce a comprehensive exploration of experiences accrued to date and to quantify the associated benefits and shortcomings as compared to the conventional emergency care framework. The main goal is to review the current state of practices and to point to the future directions in integrating the provision of nursing, radiology, and medical secretaries' support in the emergency care settings. (Peng et al.2022)(Baugh et al.2022)(Dosi et al., 2023)

2.4. Role of Medical Secretarial Support

Information clerks can be found in many parts of the hospital including admissions, medical records, finance as well as secretarial support. Secretarial support can be found throughout the hospital with a high concentration in the emergency department. Medical secretarial support positions have been permanently formalized in the emergency department of Saudi hospitals. The areas of the emergency department with these secretaries include triage, registration, as well as nursing. In recent years, these positions have been upgraded to better integrate administrative as well as clerical roles in order to better support the clinical functions of the department. Medical secretaries are given more responsibilities of the nursing clerical functions, which can include the adjustment of the patient's case notes and additional tasks in the nursing area (Lærum et al., 2004). The medical secretarial support secretary in the nursing area is additional in relation to the secretaries who work in the clerical areas. Study Aims: This paper will assess the current integration of nursing, radiology, as well as medical secretarial support within the EDs of Saudi Arabian hospitals, as well as identify future training needs.

Key Points: It could be argued that clerical as well as administrative functions are the backbone of the ED's operation as they are supporting the clinical functions. In the ED, nursing, as well as radiology are a major part of the team beside the medical staff. However, without a skilled nursing, radiology, as well as medical secretarial support who can quickly as well as accurately carry out triage, registration, radiology requisitions, as well as case notes adjustments and medical record tasks (including documenting discharge summaries, letters, and data entry) over-burden, inefficiency as well as mistakes will occur. From the multiple studies, these errors can contribute to the adverse events of patients, and in the case of ED that consequences are the violent incidents.

Dept. Challenges: There are many challenges facing medical secretaries, in particular, and an emergency medical secretary, in particular. The lack of medical knowledge is a large problem for any medical secretary, but in ED increase in significance as there is a need to understand the prioritization, and medical terminology can differ from a clerical area. In a study in Norway, the medical secretaries raised communication issues with not only the clinical staff, but also the various administrative staff they had to communicate with. The medical secretaries in the same study also reported that they were over-worked with not enough secretaries to cover the demand of the departments, and this is a problem in the UK. The medical secretary is an area of high turn-over and the medical secretaries in the study reported that the lack of secretaries, as well as turn-over, increased their workload.

Training: Proper schooling is required for the various secretarial support roles and the responsibility falls on a base special programs. A course providing the subjects/curriculum that can guarantee successful training of the medical secretaries would need to be created as well. This training would include medical terminology techniques for the prioritization, and interdepartmental communications, as well as clerical training aimed at improving the minimum typing speed.

Opportunities: Strategic thinking as well as forward planning is needed by organizations as well as the DoH and wider NHS to ensure that the secretarial staff and the management structure are in place to manage high-quality safe care. Further support as well as recognition of the secretarial staff's significance in the delivery of patient care safety needs to be acknowledged. It is essential for the nursing, radiology, and medical secretarial support to cooperate closely to facilitate their better understanding of the importance of the timely entry, communication as well as management of the information, and data. This cooperation is also rational for purely efficiency-driven purposes. Some tasks can simply be completed more quickly if performed jointly, but more than that, cross-functional cooperation can enhance the particular departmental operation. For example, more accurate entry data may result to earlier generation of a report, empowering a senior clinical staff member with the necessary information before this is routinely received. (Yelne et al., 2023)(Deckro et al.2021)(Newman et al.2021)

3. Integration of Nursing, Radiology, and Medical Secretarial Support in Emergency Care

Improving emergency care is likely to depend on robust links between different parts of the emergency care system, particularly Accident & Emergency (A&E) and primary care. The emergency care network, defined as all the forms of care patients presenting to A&E can access (from self-care through to inpatient treatment), has been characterised as a variable quality, only partly integrated, quasi-market, subject to blocks created by hospitals at times of peak pressure on hospital beds. It has been suggested that when considering specific reforms to emergency care, whether or not they will result in more or less integration of the affected parts of the network should always be a primary consideration, and as a general principle, unification among competing units (say between A&Es in a conurbation, or between primary care organisations) is likely to have positive effects on the average quality, reducing the weakest's harmful influence on the best (Harrop, 2005).

There is opportunity today to enhance emergency care through various forms of service development. One potential project is to develop and evaluate a system of joint outreach by GPs and accident and emergency (A&E) nurses to patients identified in the A&E department as suitable for primary care assessment and treatment. A&E nursing staff undertook initial assessment, treatment where straightforward, referral to an A&E clinician when required, and liaised with the GP assessing the patient in the department. A simple reminder form, initiated new primary care option (PCO) funding, and facilitating factors beyond the control of the project, enabled some processes initiated by it to be incorporated into routine practice. Elsewhere within the A&E department, a two-year development programme has contributed to improved medical nurse staffing ratio, reduced high skill mix gaps, and increased other forms of nursing support for the emergency nurse practitioner service (Dickinson & Joos, 2021). Other strategies are facilitating the reception to primary care of patients presenting in A&E with urgent health problems, contributed to reductions in average waiting times for patients waiting for outpatient follow-up appointments, played a role in reducing the number of patients returning to A&E departments, and been effective in enabling health promotion and self-management advice to be targeted at groups at high risk from repeat A&E attendance.

3.1. Benefits and Challenges

This review explores efforts to integrate nursing with radiology and medical secretarial support, providing a first-time description from a Saudi Arabian perspective. The background and development of such integration are detailed. There will likely be challenges related to the multitude of physicians involved, appropriation of images and priority lists, as well as adapting events to a radiology-led group emergency department in Saudi Arabia. These challenges and their resolution will serve as foresight and guidance should this necessity come to pass in the primary study setting.

Efforts to integrate nursing, with radiology and medical secretarial support are described here. The experience is largely based within the emergency setting, which may colour the view of this integration strategy. The integration strategy was realised through the practical limitations of a mature department, 9 years post integration. It is not known how or if (or to what possible benefit) this sharing would be pursued ex novo. A contingency plan was implemented for a potential helipad introduction that would have necessitated temporary redistricting. The efforts underwent subsequent review, because as would be predicted the post-integration departmental operation had begun to seem routine, and so the background review was feasible. The literature does not appear to give this first-hand account. Raised section headers include: the benefits and how they increased are described, with great focus on the improvement in patient care; and challenges and how they were or are being addressed. (Adler et al., 2022)(Deckro et al.2021)(Hertzum et al.2022)

3.2. Successful Models and Case Studies

There are different successful models of integrated care and integration between nursing physicians and Allied Healthcare Professionals (AHPs) in the context of emergency care. There are successful examples of interaction with dr/nurses, A&E

nurses and geriatricians working as a team with drs piloting outpatient services, as well as with drs cross-trained as radiographers working in primary care. Nurses and AHPs can support early structured assessment to identify the most disadvantaged patients fast tracking them towards an emergency consultation. Plans can also be in place to provide nursing, AHP, secretarial and radiographer support to enable faster delivery of interventions to these patients after A&E review. An example of integrated care comes from Italian SSN. In the SSN, since 2011, patients aged more than 75 years discharged from the Emergency Department. Within the SSN, patients have access to two pathways. The first pathway is the standard one. The A&E physician writes the paper prescription of the medication to be taken by the patient before discharge and gives it to the emergency care unit nurse who should give this prescription to the patient. The second pathway is the one supported by dedicated nurses, who call the patient within 2 days after the discharge to provide information on the medications to be taken home and possibly provide advices or directions on health service continuity. This might help preventing cases of adverse events or enhancing the adherence to the treatment after a visit to the Emergency Department.

There are many other successful models. Another example comes from the German setting. In hospitals without a specialised A&E facility, patients are cared for by ward-based nurses and AHP staff within Internal Medicine units or within dedicated emergency care wards (ECWs). An initiative that has sought to improve cooperation and integration between medical and nursing staff from primary care, pre-hospital settings and hospital-based ECWs/from internal wards. Staff from different settings have been provided with joint workshops on relevant medical topics, covering updates and practical case studies. Additional sessions have been organised to explain internal hospital processes and clinics to primary care and pre-hospital staff. Paper and electronic forms have been developed to facilitate bidirectional flow of clinical and procedural information between staff working in different settings. These forms are required for transportation of patients and allow better documentation of care continuity. Staff involved have reported a greater confidence in coordinated care planning and in the early recognition of critical conditions. Staff have said they feel well supported in their work by skilled colleagues and partners. Preliminary findings support an increase in awareness and a growth of patient case discussions. Adequate emergency care management systems need to balance the safety and effectiveness of the care against the timeliness of provided treatment, as well as improved networks that keep primary care providers informed or directly share the same information system of the A&Es (Dickinson & Joos, 2021).

4. Future Opportunities and Recommendations

Considering technological developments and future opportunities, a digital platform titled 'W3' is presented to overcome the communication barrier. This innovative digital platform provides suggestions and insights on patient referral and radiological examinations in a prompt fashion. The digital interoperability of the platform is of cost efficiency by promoting instantaneous workflow efficiencies, overcoming time-delays in changing over software programs, and ensuring a uniformed collaborative environment among professionals i.e. nurses, radiologists, and medical secretarial support. Moreover, as future agenda, strength-based and innovative emergency care services identified by European Society of Emergency Care is analyzed. Telemedicine is utilized to enhance high-quality patient specialist service for remote and rural areas. Real-time communication between professionals is also provided to ascertain high-quality healthcare through discussing and communicating patient care. Besides, electronic health record is utilized to allow medical histories, laboratory tests, and radiology images to be shared among professionals to improve efficiency and more effective diagnoses (Alsadaan et al., 2021). In particular, use of artificial intelligence to analyze radiological images in a timely manner is also recommended to develop healthcare in a swift pace of auto-interpretation. For training and education recommendation, nursing profession exhibits the most abundant skill gaps. It is recomputed to provide training and educational programs that can help to fill such knowledge gaps and further advance the delivery of care. The need for continuous professional development is suggested to be as important as enhancing the understanding and knowledge of the practicing staff. Furthermore, to share clinical best practices with colleagues, a culture of appreciation and recognition between providers is encouraged. It is further recommended that an advisory, legislative, and financial framework be put in place by policymakers that provides a solid foundation to foster, scale, and sustain the development of an integrated care approach. There is thus a significant opportunity to address the ambitious health care transformation objectives outlined in Vision 2030 by leveraging digital tools in emergency care. (Gómez-Carmona et al.2023)(McArthur et al.2021)

4.1. Technological Advances

Integration between nursing, radiology, and medical secretarial support holds the potential to revolutionize emergency care. Such a collaborative approach in health care has been widely discussed by policy makers and academics over the last three decades, particularly in the context of emergency care. This subsection explores ways in which nursing, radiology, and

secretarial support could be mutually integrated, exploring the substantial gaps that exist in the current literature and investigation of future opportunities.

Over recent years, digital technologies have been developed that could substantially enhance nursing, radiology, and secretarial collaboration in emergency care arrangements. Telehealth allows for consultations to occur between professionals in different locations, which could enable trained healthcare professionals to direct emergency care assistants on how to best care for patients prior to an ambulance arriving (Slađana R., 2018). Electronic patient records contain the medical history of patients, as well as test results and details of prior hospital admissions. These records are increasingly available to all health care professionals, which should reduce the time required to treat patients (Harrop, 2005). Real-time communication platforms potentially allow for instant discussions between professionals, with images and files exchanged as appropriate. The benefits of such tools are likely to be substantial given that nurses and allied health professionals have been identified to not fully utilize the findings of radiologists. Embracing such technology may enable much quicker treatments to be delivered, thus improving outcomes for patients. It follows readily that the timeliness of treatments is of central significance in emergency care settings, thus amplifying the potential benefits should best practice be adhered to.

As the pace of technological change increases, health care systems are encouraged to either embrace new tools or face the possibility of becoming uncompetitive. Amidst the rise of such innovations, this subsection evaluates how well nursing, radiology, and secretarial support have kept pace with this progress and assesses the impact of new technologies on the operational efficiency and the patient-centeredness of care. Major challenges and limitations to implementing new technologies emerge are identified, including the significant training requirements for staff and the limitations on digital infrastructure present in many healthcare contexts. Examples are given of some of the most successful examples of healthcare systems integrating new technologies and it is noted that they all involve ongoing investment in digital resources.

4.2. Training and Education Programs

The development of healthcare services in Saudi Arabia is a key government priority. This includes strengthening current services and developing new services, through innovation and enhanced interdisciplinary working. High-quality emergency care is essential in improving healthcare service delivery. Emergency services that are better integrated and perform well will consistently improve patient experience and patient health outcomes. Multiple professions work together to provide emergency care, including nursing, radiology, and medical secretarial support. Currently, selective disciplines within nursing, radiology, and medical secretarial support are researched. This provides an interdisciplinary review focusing on these select roles, detailing the barriers and current research, in addition to outlining multiple opportunities for interdisciplinary research.

Enhancing interdisciplinary working is an established way to improve healthcare service delivery. A review of the literature is conducted to ascertain the understanding of current interdisciplinary working in the select roles of nursing, radiology, and medical secretarial support. The layout of this review is as follows: job roles are introduced along with a definition of integration; barriers to integration are then detailed along with the current research conducted. Finally, future opportunities for interdisciplinary research are outlined. (Flood et al.2021)(Winters et al.2021)(Fennig & Denov, 2021)

5. Conclusion and Implications for Practice

Emergency care departments often include a wide range of healthcare professionals working together to support optimal patient outcomes and service efficiency. Despite a widespread awareness of this, there is often still a lack of evidence-based literature on how such integration can be best delivered. One study indicates that up to half of frontline staff in an emergency department environment have no understanding of the roles and limitations of some colleagues. Meanwhile, there is evidence that poor communication is a factor in 'too many cases of avoidable harm.' Radiology is a central element of the service, while the role of secretarial support can be overlooked.

This essay foregrounds a review of the above aspects of integrated practice by looking at the working environment of emergency care and reviewing significant publications. New integrations between nursing and radiology and its impact are described with a review of projects aimed at increasing understanding between different departments. Adjusting the review of the focus from a project on nursing, the model is also extended to consider future possible integrated practices. Various barriers to integrated practice are considered and recommendations for improving the environment for integrated work between the typically siloed professions in emergency care are suggested.

The increasing demands on global healthcare services due to both a growing and aging population are well documented. How on-demand services are typically provided by healthcare systems in the western world has come under a particular focus, as rising emergency department attendances indicate the services are increasingly unable to cope. Internationally, models of provision differ considerably. Understanding medication-based deployment and the hospital system now actively encourage non-urgent patients to seek first-line advice before attending, so educating around what is and is not a medical emergency will depend on social rather than intuitive parameters. Regional hospitals follow a '24 speciale-based healthcare structure'. Meanwhile, in cases where a much more siloed care model is typical, recent moves are being made to add general practitioners to the latter's staffing model. A study looks at 'the invisible end of clinical pathways,' finding that the way nurses and doctors discussed patients was valued by all, while the work of the nurse was valuable in reducing the workload of other staff. For the ease of communication that findings indicate is often lacking, it is worth noting that an important collaboration facilitator has been identified.

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