

Comparative study of electronic health records of Iraq and developed countries

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ABSTRACT

Electronic health records have led to a major transformation in the health care sector. Electronic health records have progressed the person of supply within the varied health care groups. While recognizing the modifications in health care zone, this research studied the implementation and additionally using electronic health records in three advanced countries, the United States, United Kingdom and Australia and one growing country Iraq. The comparison amongst these international locations serves as a lesson for growing international locations and has been duly acknowledged.

Keywords: HER; e-health; NCVHS; NHS; Npfit; NSFS;

1. INTRODUCTION

Records unit of measurement unbroken to behave type of indicates that of communication, offer of reference or perhaps for the intention of untrustworthiness. This takes place in all sectors of life. In care, information is used for same features. Previously, there wasn't abounding passion for definition of health data aside from as notes on history, illnesses, lawsuits and hypersensitive reactions that to deal with any health hassle [1]. However, because of the rising role of individuals assortment and assembling facts referring to their health, and moreover the emergence of recent technology similar to the internet, totally distinctive definitions are advanced, despite the fact that, the core which suggests stays equal.

Electronic Health Records (EHRs) are managed via health information systems that present the technological technique normally this can be often used internally within health report management structures. The adoption and implementation of generation within the type of health facts systems is inspired through method of the performance and effectiveness at some stage and that health information is controlled through this method [2]. The major role of document management in the course of care clusters beside a health facility is to facilitate assortment, storage, retrieval and use of the health information. Health information embodies data and information at the care cluster of employees and sufferers [3]. Health statistics are no doubt sensitive and therefore the protection of the health report management appliance is one of the crucial problems through health report managers and directors [4].

EHRs include demographics of recent and past patients. The virtual data in this tool includes the approaches in which sufferers need to undergo or have already suffered throughout the techniques of treatment. The EHR jointly consists of electronic discharge outline (EDS). The EDS is used for the motive of shifting patient medical information between the primary care medical health practitioner and hospitalist [5]. The extremely good of the EDS content is taken into thought to be absolutely immoderately visible that it is short.

The care employee facts on the side of non-public details and art work statistics also are a place of the EHR of a health institution. The people included are physicians, doctors, nurses, emergency crew of employees, social people, interns and help crew of employees. Similarly, great is that the statistics on sufferers this is extraordinary until the affected man or woman offers consent or authority for it to be surpassed to extraordinary events [6]. The equipment used in the management of electronic records consists of the hardware, software program, policies and methods for the control of virtual data. The virtual facts and information themselves incorporate the additives of the care gadget. The information system inside a care group that defines the management gadget of health expertise and knowledge consists of information. The information is that the storage, for a specific duration, of the facts on personnel and sufferers is correctly maintained for retrieval and use. A health route tool is extraordinarily necessary for the care center in order to control the information inside the facts in the essential handy and green method. The hardware of EHRs incorporates of pc computer terminals, effective discs and outside storage home equipment. These gadgets

provide help to fully use them in the management of EHRs. The code software embrace the server operative systems, computer laptop operation systems or device code similarly to code through which users are capable to get proper entry to make use of the digital information inside the electronic data of the health organization [7].

The topology of the information device in the session room defines the arrangement of the digital report records. Throughout this experience the virtual report records may well be centralized or localized. In spite of this, maximum care facts are electronically managed through a hybrid topology at some point of that the information is every centralized and localized. In a centralized topology approach the facts of the digital information are controlled from a specific location. A localized topology is generally advised for care facilities in the management of digital records. The justification for a localized topology in virtual record control is due to its simpler nature and coffee-cost inside the control of such data. Normally, it is an outcome of a localized system that makes every department of the hospital to manage its facts whereas the equal statistics may be accessed via a primary statistic [8].

The association of the network topology for the EHRs should design a method that a major server is utilized to manage the glide of understanding among departments. This indicates that if the pharmacy branch has got to affirm the drugs of the affected individual, it is probably able to contact patient statistics from the caregiver through the facts gadget. Furthermore, the patient departments, emergency department, medicine, surgical treatment and clinical technology departments may also be able to share affected man or woman statistics through EHRs system. However, in the decentralization of the records the consultation room will play a primary position in facilitating the data sharing in which several departments control the objects of the patient information [9].

The standardization of ICTs in the control of health statistics can be an important issue to manage such sensitive information or data. The standardization includes the look, adoption, implementation suggestions and methods in order to cope with the electronic facts. Consequently, the principles prepared through care facilitators must look at the jail framework for the privateers and confidentiality of person data. The requirement is to accommodate the approaches in retrieval and use of personal statistics so as that the difficulty of the protection of the facts must be given precedence. As an instance, rules for virtual information embrace victimization science methods in which passwords must be used in securing affected person and worker information from unauthorized entry to use the data via malicious network attackers [9].

2. THE IMPLEMENTATION OF EHRs IN THE USA

The United States (US) care comfort is that the most dearly-gained health machines operate at durations in a global fashion; but, relative to all absolutely different global locations, and continuously achieve most of the elements of overall performance. The most evolved worldwide locations have different national medical insurance program that are operated through the government and supported via preferred taxes. Maximum citizens in such worldwide places are entitled to urge care offerings. The USA is absolutely one-of-a-kind worldwide locations due to the real truth now not all individuals are covered via medical insurance. The following provides a comprehensive overview of the US care system i.e. comprehensive in the shape, improvement, EHR implementation and form of the problems faced in its development [10].

2.1 The healthcare system in the USA

Much like unique countries, the units of every private and public insurers operate at durations of America aid machine, the US resource facilities unit is loosely owned and operated with the aid of the private sector. The general public health tool covers the aged and occasional-profits households while all absolutely exclusive folks especially line of coverage through organization-backed private insurance [11].

The healthcare application covers families and moreover the disabled. States unit is responsible to cover low-earnings pregnant girls, kids, the elderly and additionally the disabled. Similarly, US also can increase their coverage. People over age of sixty-five are included through the healthcare program. Youngsters whose families do not appear to be eligible for the healthcare program but who cannot afford the money for the personal coverage served at a decreased place of the children's health insurance program [12].

2.2 Implementing EHRs

The implementation of EHR is additionally categorized through durations. The duration before 2004 represents the first length of implementation, marked by using pattern of very low degree of presidency pursuit to assist EHR diffusion. In 2004, president Bush required a "well-known EHR adoption" most of the following 10 years, making

the number one wave of pursuit and swollen popularity of the capability benefits that EHR has in enhancing the care in an exceptional way. Hence, the countries may aim to assess the EHR adoption some of the USA. Before and as soon as 2004 (2001-2004 and 2001-2007 correspondingly) determined that the physicians' disposition to undertake EHR of their exercise has swollen at some stage in the second one period. In addition, it anticipated that with the aid of technique of 2014 (47.3%) of physicians could have applied the EHR [10].

2.3 US EHR model

The EHR model of the USA is evolving at the national level. In the implementation of EHR in USA the technical elements are given essential priority with the aid of indicates that of the IOM and the country wide committee on necessary and health facts (NCVHS). Two center components show that few of the duties have been identified with the aid of the IOM and NCVHS, primarily in constructing an infrastructure for health knowledge, and secondly, fixing region data ability and examine for the protection of patient statistics. As a consequence, a recommendation for the adoption of central standardized EHR terminologies has been given with the aid of the IOM and NCVHS. The modern stage, architects of HER developed the country wide model in USA. Moreover, for specializing in statistics capacity and assessment for the protection of clinical data, developing a complete "pull" structural fashion. This indicates centralized and community data can introduce semantically comparable statistics [13].

2.4 EHRs in hospitals

In recent times, the huge selection of aid corporations of HER in the USA grows however, the share of aid firm's victimization EHR is low. It became expected that during 2008 handiest one the 5% of the hospitals in the USA. Have a complete EHR (i.e., administered in all medical departments), and similarly, 7.6% have a number one tool (i.e., administered, at the tiniest amount, in one clinical department). Further, only revolutionary organization of hospitals in the US have administered and cope for remedy. However, a study carried out in 2010 that aimed to appear at EHR adoption in USA. Hospitals in 2008 and 2009 observed that the percentage of hospitals enforcing a whole EHR is almost doubled, from 1.5% in 2008 to 2.7% in 2009. At the same time, they got a look that there is a mild increase in the hospitals that followed a primary EHR, from 7.6% in 2008 to 9.2% in 2009. In total, 11.9% hospitals had a simple or complete EHR tool in 2009. It is stated that huge hospitals, those placed in cities, and coaching hospitals had the additional ability to possess EHR systems. Respondents from hospitals which have no longer implemented EHR noted that the capital is required and the immoderate prices of keeping such systems. Hence, as a consequence there are maximum barriers to their adoption in the hospitals. However, the hospitals which administered EHR systems had less capability to counsel those boundaries [14]. But, charges of EHR grow continuously. In 2011, a survey was performed by using approach that of Fleming and anticipated the same old fee of enforcing partner in nursing the EHR fee has become \$162,000, with present day fee averaging \$85,500 at some motive of the number one quantity. It is calculated that, a mean of 611 hours were utilized for the network and exercise groups to put in force the EHR machine. Moreover, 134 hours in step with healthcare company character, on the commonplace square degree required via method that of the "end clients"- physicians and totally exceptional scientific and nonclinical staff - that is in a position to be equipped to use EHR machine. It was predicted that the standard followed got its EHR costs in 25 years and profited drastically afterwards; still, a few practices couldn't pay expenses immediately; the last public health companies consumed longer at work on the start, and a couple of practices faced comprehensive monetary threats. In recent times, the prices of EHR have extended appreciably. At the same time, as 28 of health centers use this device, beneficent facilitate (\$66,000 for doctors and larger hospitals) rectangular degree predicted to increase utilization of the EHR machine among useful resource centers. It is necessary to focus on the challenges that pressurize the aid companies to overcome to introduce EHR. The following component can supply a pinnacle stage view of the major ICTs demanding situations that face useful resource vendors [15].

3. THE IMPLEMENTATION OF EHRs IN UK

The country wide health carrier (NHS) end up based in the main United Kingdom in 1948. It's a complete and green health service on the globe. The NHS is affordable (other than prices for dental and optical offerings and a few prescriptions) to any or all residents and long-term residents, currently larger than sixty million human beings. This system includes a significantly strong focus on the gatekeeper role of beloved physicians [16].

3.1 The healthcare system in UK

The health device is prepared a few of the next approaches. The primary part of the benefit vicinity unit is the physician's international agency. This set of physicians come across occasionally with the primary trouble of the

patients. They need to skip through their palms earlier than they gather secondary care services. Most GPs vicinity unit reimbursed directly by using way of darling care trusts through a gathering of systems: remuneration, capitation, and charge-for-service. Instead, private vendors of large person services lay down their own charge-to-carrier price lists. The second detail of the machine is goals. Those had been set down through suggestions that of British government to associate in nursing enlargement that replicate the standard of care [17]. Most of these goals region unit scrutinized with the assistance of the restrictive our bodies. The 1/3 element of the ease is carrier frameworks (NSFS). British department of health frequently guarantees that it develops a set of NSFS projected at improving positive quarters of care, for example, most cancers, genetic ailment and coronary health. This lays down the national values and categorizes leader interventions for specific offerings. The remaining element of the gadget is also a terrific and very last consequences framework. That is devoted hobby the worth of care bestowed through the general practitioners. As soon as practitioners provide great services to their consumers, these may include furnished factors or bonuses [18].

3.2 Implementing EHRs

The implementation of EHR in a country tends reforms desired at durations especially in the United Kingdom. The EHR program was initiated by Ministry of Health in land with the goal of high interest. The plan, imaginative and perceptive for Npfit, is to possess mate less principal digitally affected individual statistics through 2010, and to connect 30,000 GPs, 300 hospitals and concerned organizations in tending. In 2007, a survey report confirmed that 80th of this organize location unit finished [19].

3.3 UK EHR Model

The EHR style in UK primarily is based at the separation of EHR systems into native EHR device (utilized by one useful resource placing) and shared structures. In England, the EHR systems turn out to be mounted at a pair of tiers: an outline care report is present everywhere in England; and a detailed care file present at intervals a regionally well-known useful resource community which may also embody perfect and secondary care givers at intervals a particular community in London. To get right of access to every EHRs may also even be managed with the help of strict secure and confidential roles. The ambitions to aid a twist of fate and emergency care, even as decry goals to offer exclusive health data for every day to continue scientific practices [19].

3.4 EHRs in hospitals

The adoption of EHR in UK hospitals is not common, no matter the actual reality that there isn't always spare information relating to this material. No matter the almost customary use of EHR amongst GPs, in most of the United Kingdom, exploiting the type of machine in UK hospitals has been a concern for future efforts. In 2004, it is visualized that 7% of superb Britain hospitals have fully digital medical outcomes, while pleasant 2.6% of hospitals use a virtual prescribing system. In distinction to the case in cell care, hospital leaders have a common concept about such systems as an additional cost with very little benefits [20].

Npfit ensures sort of benefits for every affected character and a focus organization, as soon as the assignment is finished. In 2002, national audit price tutored that "NHS spends £3.6 billion in clinical negligence claims a year." In the same document, it is predicted that "1,000 deaths yearly unit of size as an effect of scientific errors - maximum extensively with the assistance of clinicians no longer having the proper affected person expertise on the purpose of care". The identical file stated that 75 of these deaths may area unit hold on via way of the Usage of diploma EHR tool. The unit is addressing the different forms of difficulties and companies and sufferers are paying attention to resolve these difficulties [21].

4. THE IMPLEMENTATION OF EHRs IN AUSTRALIA

The branch of health in Australia identifies national health regulations, whilst Kingdom and Territory governments give economic facilitation for health offerings. The complete expenditure on health payments for about 98 consistent with cent of Australian's gross domestic products furnished through victimization government and consequently the personal space.

4.1 The healthcare system in Australia

The health offerings in Australia unit of measurement prepared via every private and non-private residence.

Publicly, the offerings unit of measurement delivered attention by means of methodology of a comprehensive program. Medicare, introduced in 1984. Medicare affords free or low-rate for entitled Australian residents to scientific, optometric and public hospice care, at the same time they got the choice of personal medical health insurance. Individuals create a contribution in investment, the public interest tool, via ‘a taxation levy’ primarily based on their earnings. The governments in Australia unit of measurement charge for investment the public health facility contrivance. Patients admitted to public hospitals as public (Medicare) sufferers unit of dimension prohibited through scientific medical doctors and experts pick by methodology of the hospitals. Those offerings unit of size freed from charges [22].

Non-public interest offerings account for 1-0.33 of all hospitals bed in Australia. Most scientific offerings unit of size supplied in those personal hospitals. Private physicians as nicely presents a large portion of dental and related health offerings. It became unreal that regarding all Australians have signed for private medical health insurance. Nine million folks unit of dimension covered through hospice insurance for health services as private sufferers in each public and private attention organizations. To boot, 43 proportion of the populace is protected for non-scientific services outfitted out of the health center, like, dental services, clinical aid and additionally the acquisition of eyeglasses.

4.2 Implementing EHRs

There was extensive improvement at periods during the implementation of the national EHR in Australia. The paintings, in the direction of this implementation, have become initiated once the House of Representatives presented ‘health on-line’ document. In 1999, the national EHR taskforce turned to establish a commission of the nationwide health records management consultative committee. The taskforce established ‘a health data network for Australia’, and as an advice a country-wide approach to the adoption of EHR is given. In 2001, the ‘health join’ program was introduced, and a central nationwide EHR initiative plan was introduced in Australia. The health connect program is probably an internet-based community that interests to aid the collection, storage and percentage of outline patient records [23].

In 2009, the creation of a non-public health image for Australians was declared through the Commonwealth, kingdom and territory health ministers. Further, \$446.7 million were allocated and in 2010 Federal permits a 12 months' amount to implement this task, due to this change the Australians need to set up their health information online to managed EHRs.

4.3 Australian’s EHR model

The health be part of version aimed in the direction of extracting précis record from locally amassed affected character facts that then were collected to make a centralized health join document that will be shared among collaborating and certified organizations. Health be a part of ‘occasion précis’ consists of the “vital facts taken into notion to be beneficial to one of a kind useful resource providers troubled at periods the lengthy-term care of the consumer”. Hence, health join does not generate an entire longitudinal file. As a substitute, it’s the obligation of sufferers with their health suppliers to select that elements may even be extracted from their domestically generated health records and transmitted to the health connect facts. In addition, health providers with their patients might else continually add new records to the health connect information [13]. Consequently, the health connect could also be a “push” device, attempt elite facts to a centralized record.

4.4 EHRs in Hospitals

Using EHR among Australian hospitals is uncommon, notwithstanding the actual reality that there is not enough data for the duration of this regard. Several researchers mentioned that quite huge amount of hospitals in Australia have digital administration device likewise as digital insurance for the laboratory consequences. In addition, evaluation show that affected person clinical summaries have been dispatched electronically from hospitals to GPs [24].

5. THE IMPLEMENTATION OF EHRs IN IRAQ

The Iraqi authorities has given healthcare offerings a priority. The past few decades have witnessed an extremely good development in health and clinical offerings however after war and the destruction of the USA, the health area fell critically and reached its lowest stages, there at the moment are severe attempts to develop the health region in Iraq no matter the many obstacles and demanding situations surrounding the development of the health sector.

5.1 The healthcare system in Iraq

Iraq's healthcare gadget is classified as primary by means of the arena health corporation, which shows it is primarily based upon practical, scientifically sound and socially appropriate techniques and technology made universally handy to individuals and households inside the community through their complete participation in the spirit of self-reliance and self-willpower. The Iraqi healthcare machine is in tremendous need of rebuilding since the invasion of 2003 and fall of the Saddam regime. Numbers from the numerous surveys reflect this: in keeping with mics, the multiple indicator cluster surveys administered with the aid of UNICEF and the Iraqi authorities, the quantity of immunized kids dropped from 60.7% in 2000 to 38.5% in 2006. It bounced back to 46.5% in 2011, however this range is still extensively decreased than pre-invasion rates. Consistent with the sector health enterprise, in 2011 Iraq's physician to patient ratio was 7.8 to 10,000. This turned into exponentially lower than surrounding international locations—Syria, Lebanon, Jordan and Palestine [25].

The Iraqi healthcare gadget is frequently imperative, with sure allocation of government investment going towards the world in line with year. In step with the arena health organization, there are 1,146 number one health facilities headed with the aid of mid-level employees; and 1,185 health facilities, headed with the aid of clinical doctors. There are 229 hospitals, such as 61 coaching hospitals. Authorities spending on healthcare has elevated in the final ten years, consistent with the World Bank: in 2003 spending become at 2.7% of GDP, and in 2010 it had jumped to 8.4%. But, the disbursement of those finances stays in question, as there's nonetheless a loss of centers, remedy and staff to show for it [25].

5.2 The adoption of e-health in Iraq

Health improvement has become a pre-considered necessary with respect to the Iraqi sustainable improvement and a crucial element of the procedure of reconstruction. This take a look at decline in the healthcare of the populace alongside the values of health services in the last decades this explains the troubles now faces the country in improving health and rebuilding it has the health offerings as well as, it determines priorities for improvement and investment over the subsequent few years. The Iraq populace has extra than bending inside the today's 25 years. It reached to 27.1 million and it is growing about 3% each 12 months. The health regarding the populace became constantly growing between the 12 months' 1960 & 1990. At some stage in this time, infant mortality fell (from 117 to be 40 deaths for every one thousand births) similarly to child mortality dropped by 70 percent (from 171 to be 50 deaths for each one thousand births).

However, since 1990, it is no doubt a disastrous decrease in peoples' health. For the duration of a period whilst kid's health was enhancing in the most of nations, maternal mortality, infant, and infant charges in Iraq greater than doubled. Grownup demise fee progressed and lifestyles expectancy dropped - to under age 60 for ladies and men with the aid of 2000. Currently, consistent with who the charge in Iraq as a rustic with higher baby and adult mortality along drastically poorer international locations inclusive of Djibouti, Afghanistan, Yemen and Sudan. Earlier than 2003, Iraq regarded to be completely remote out of the world. All private and public sectors were struggling because of deficiency in the development and verbal exchange programs and systems. The facts systems of health had been totally paper-based alongside manually processed due to the shortage of personnel capability, computer systems, and network structures. Considering that 2004, ministry of health in Iraq (MOH) identified the cost of statistics era in processing and amassing health statistics. For that reason, the MOH started the employ of present day generation inside its health offerings at the provincial and significant ranges.

In the first section of strengthening essential health care undertaking, numerous statistical and data generation personnel acting in MOH has prepared on how to practice design with computers together with unique packages which could result in strengthening the information gadget of health. Additionally, several servers and computer systems had been provided to health directorate in governorates in the capital metropolis Baghdad and a few different governorates. The middle of facts era designed loads of PC applications for stepping into records from specific health packages (own family medicine, health vacationer), connecting electronically major health centers with health directorate in governorates. This application is currently applied in around 300 electronically major health centers in Iraq in addition to notably back in maysan health directorate in governorates.

Some of public hospitals created affected person control programs which follows sufferers via their access to the hospitals document device till acquiring medication right from the pharmacy. The intellectual hospital of Ibn al-Rushed in Baghdad, and Al-Rusafa health directorate in governorates, are obtaining the machine of health centers.

There are fragmented application programs that manage some health applicable records along with upkeep and management of medical gadgets interior 3 hospitals within special governorates. However, those applications want to be advanced as part of the ministry of health.

The MOH intended to carry out assessment of the present situation of health records systems in Iraq, determine precedence areas regarding intervention in the six health information structures additives further to fill the gaps. The technique is also anticipated to cause improvement of health information systems strategic plan meant for Iraq to bolster health information systems that will in the long run end result into proof and progressed based choice making approach. One of the pursuits of this strategic plan is to connect the general public to health centers in the USA by using a network to capture time and correct health facts.

6. EHR IMPLEMENTATION COMPARISON

This study investigated the state of EHR implementation in three developed countries, the US, UK, Australia, and one developing country, Iraq. Both similarities and remarkable differences were found among the four developed countries in implementing EHRs. Although, the adoption and use of a national EHR system are in the early stages in these four countries, the UK, Australia were far ahead of the US in implementing EHRs in the primary care settings. While only 26% of ambulatory care physicians in the US use a comprehensive EHR, almost all GPs in the UK, Australia use a highly computerized health record system. Table 1 illustrates different levels of EHR adoption among GPs in these four developed countries.

Table. 1 Different levels of EHR adoption among GPs across the US, UK, Australia

Countries	EHR functions (0-14) in practices		
	Low (0-3)	Middle (4-8)	High (9-14)
US	51%	23%	26%
UK	0	11%	89%
Australia	3%	6%	91%

Table 1 illustrates that the large percentage of GPs in US use companion EHR device categorized as low, while 3% of GPs in Australia use this kind of overall performance machine categorized as low. In evaluation, Australia comes as a number one (91%), and, with solely possibilities however Australia, the United Kingdom comes as 2nd. America lagged far wherein among the rear of these global locations in enforcing a high normal performance EHR system in which simplest twenty sixth of GPs use of such machine. It's far noteworthy that these chances don't replicate the perfect utilization of those 14 medical features, while they represents the extremely good of the EHR systems applied among GPs in those countries [18].

The deviation in EHR adoption amongst GPs a few of the 3 advanced countries is additionally attributed to distinctive reasons. For example, excessive costs of EHR usage among GPs in UK seem as an outcome of a complicated set of things which includes associate prolonged records of mechanization, partially supported by using shows that of free or low-price hardware and code. Furthermore, the climate that contributes to the present excessive fee of adoption is that the NHS 2003 settlement with GPs, that allocated tidy economic incentives for conducting quality standards [26].

The truth stays that there was gradual EHR implementation among hospitals in the course of those three advanced international places. In brand new, hospitals have larger property than character practitioners and plenty of the facts around scientific edges of EHR are confirmed most of the hospice putt. Factors are indicated for this slow adoption of EHR among hospitals. First, little interest has been given by policy makers in those international locations to EHR implementation in hospitals. Second, is that the immoderate expenses of medical institution EHR systems which can be commonly required to include with an existing system. As an effect of doubtful incentives, hospitals have seen little reason to position into end result EHRs.

This gradual adoption of EHR in Iraq is moreover attributed to many factors as finance and expenditure, accessibility to interest services, physicians, and improvement of e-health techniques, battle, and terrorist and

nationwide health statistics system. The three developed worldwide places at some point of this study are most of the system of growing a country EHR equipment. However, these countries are following one-of-a-kind approaches into this improvement to provide larger incorporated interest placing.

7. LESSONS FOR DEVELOPING COUNTRIES, IRAQ

International places all over the world have meted out the EHR however with varied rate of successes. This shows that evolved countries which incorporates the United Kingdom, Australia have recorded outstanding fulfillment in implementation of EHRs, in comparison to growing countries. This state of affairs has been attributed to a number of factors furthermore as notably assets assigned to EHR systems in evolved international locations and so the technique utilized in implementation. Due to the real fact that powerful implementation of EHR is crucial in making sure that the objectives of EHRs, similarly to the ones of the care change, area unit completed, developing countries got to observe the advanced practices from the advanced nations.

Advanced worldwide places have devoted to dynamic strategies to be in line with the EHR structures; they have got insisted that all applicable stakeholders and, notably physicians, use the computers; they have got covered the physicians the least bit ranges of implementation; they've got designed EHR device in the sort of approach that everybody, alongside conventional guys, is aware of the gizmo works; that they have got without end added further functionality to the gizmo wherein they study crucial aspects. Inadequate cognizance on those factors by way of growing nations is what has hampered effective implementation of EHRs. The advanced international places have attained their gift call of care bailiwick with the assistance of focusing in massive 0.5 on these components, further to totally different elements that location unit instrumental in EHR implementation [27].

Australia has recorded stunning success in operative units assuring that all of its citizens vicinity there is a unit of EHR. One of the most important gainsays that has been discovered impede implementation of EHR in developing international locations is limited coverage of voters within the EHR system. Therefore, critical directions could also be learnt from Australia at the thanks to advantage widened or whole coverage of residents in the ones global places. Australia has attained partner accelerated uptake of residents into EHR gizmo through numerous projects: growing the participation of far off autochthonous communities; growing accessibility to PC systems; training of further clinicians on the operation of EHR structures; providing education intervals for sufferers; and development of privateers and safety regulation and this is usually wide-spread. Growing international locations were given to include those tasks within the implementation of EHR programmers [28].

8. CONCLUSIONS

The resource zone all over the world has witnessed excellent transformation and improvement in the direction of advanced shipping of fine carrier. These ample upgrades are attributed to the speedy advancement and some of the expertise era, that has made visible the seams of virtual EHRs in document management, record retaining and analysis of diseases. Four nations were studied in this analysis regarding EHR implementation and operation. Three of them are immoderate-profits superior nations, the United States, United Kingdom and Australia, whereas one was a growing international location Iraq. Via sample developing an evaluation at some point of the ones 3 evolved international locations, EHR's use, advantages, demanding situations, and accomplishment elements are recognized. In addition, the evaluation illustrated lessons that growing worldwide places like Iraq have to detain thoughts whereas in adoption of EHRs. During the three advanced countries. The shortage of encouragement or needs enforcing the use of transportable computer structures in medical practices turn out to be amongst identified elements as slowing down the EHR implementation in most of the States of America. Although, there is no precise facts at durations the implementation of EHRs in hospitals, its use among hospitals remains uncommon. This emerge as attributed to the too little attention that has been given by using sample coverage makers in its adoption in hospitals.

EHRs constitute promising instrumentation in giving various advantages to clinicians, useful resource managers, and patients. Kind of those identified benefits are up contact among physicians, decreasing scientific errors, reducing fee errors, enhancing the exquisite of care and enhancing affected person protection. But, its implementation has remained to be the hardest drawback. Confidentiality, privateers, security, lack of standards, begin-up well worth and content material of discharge define a sort of the constraints and gainsays preventive implementation of EHRs. To ensure booming implementation of EHRs a number of the help sectors are: leadership, chief shape, goals, visions, verbal exchange, enterprise manner, advancement remodel, stage of education and education, amongst others, necessitate notion. This loss of utilization of EHR structures amongst aid sectors in Iraq is said to elements like finance and expenditure, accessibility to help offerings, health cluster of people, and improvement of e-health strategies and

countrywide health data machine. In Iraq, the transferring from paper based totally record to EHR didn't exist till currently as an outcome of many obstacles and gainsays that effect on adoption of EHR in Iraq. The sort of this barrier associated with the finance hassle, funding, corruption, payoff and specific barrier related to the struggle, terrorist, secure surroundings to undertake EHR and maximum vital barrier associated with the humans in operation in health region (health professional, IT technical, healthcare enterprise) they've resistance to adopt new generation and ideal barrier is social manner to undertake EHR system. The sort of the teachings that needs to be finished are because of the growth in statistics of machine standards, the costs of EHRs, the way to enhance the participation of remote groups, and therefore thanks to defend patient privacy and confidentiality. This research has a few obstacles. The scope of this reflect on consideration of change in one of the developing country among the three advanced international locations. It would be greatly charming to test the gaps among growing countries in implementing EHRs and the fashion of gainsays they proportion in this regard.

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