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Title Of Research

**Technology And Communications Systems That are used
Within Hospitals and GP Surgery**

Abstract

This research is aimed at exploring the technologies and communication systems that are used within the hospitals and GP Surgery to make working easily and efficiently.

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Introduction

Now, patient care inevitably involves many different people, all of whom need to share patient information and discuss their management. As a result, there is an increasing focus on and use of information and communication technologies to support health services. In fact, if information is the lifeblood of healthcare, then communication systems are the heart

that delivers it. However, despite much discussion and investment in information technology, communication systems have received far less attention, while there is some significant advanced research in highly specific areas such as telemedicine, clinical adoption of simpler services such as voicemail or email remain uncommon in many healthcare services. Much of that would change if it were more widely recognised that the largest repository of information in healthcare resides in the minds of the people working in it, and that the largest web of information is the complex web of conversation that connects the actions of those people. There are huge gaps in our broad understanding of the role of communication services in healthcare delivery.

Rationale

Is to explore the technologies and communication systems that are used in hospitals and GP surgeries to make life easy and efficient.

Research Objectives

My research is secondary data, and it is based on my analysis from literature, articles, government statistics, online resource, and journals. This is the outcome of my research.

Research Methodology

There are three methods used in research and they are qualitative, quantitative, and mixed method. Qualitative research involves collecting and analysing non-numerical data (such as text, video, or audio) to understand concepts, opinions, or experiences. It can be used to gather insights

into a problem or generate new research ideas. Qualitative research is the opposite of quantitative research, which involves collecting and analysing numerical data for statistical analysis. Mixed method research requires a purposeful mix of approaches to data collection, data analysis, and evidence interpretation. The key word is 'hybrid,' as a major step in a mixed methods approach is data linking, or integration at the appropriate stage of the research process. Purposeful data integration enables researchers to gain a more complete picture of their field of study, viewing phenomena from different perspectives and through different research lenses. The outcome of my research is based on quantitative research.

Literature Review

The introduction of this secondary care coincides with the formation of the integrated care system (ICS), which is due to become statutory later this year, marking a change in the way healthcare is delivered across the NHS. Ellender

hopes the introduction of ICS will help break down digital silos.

I think the integrated care system is a good opportunity because now, if you think about how NHS is buying digital solutions, it is buying them in siloes, it is buying digital assortments in primary care, and it is starting to think about numbers, he said., triage of emergency and outpatient patients.

Now, if you think about these silos, the risk is that you end up with a slew of digital solutions that do slightly different things in one area.

That is why I think ICS is a good opportunity because as a field they can start thinking about digital solutions that can span primary and secondary because it is more cost effective, and it provides more of a start around the system opportunities for mobile digital journey that are better for patients care and potentially more effective for clinicians.

Ellender added that ICS' focus on technology is a positive step forward. 'The integrated Care System has technology as one of its enablers of allied care, which is good because it absolutely is, and that is why we think beyond the walls of general practice,' he said.

We have now developed solutions for A&Es and outpatients who do not just want to buy something that works across the health sector given the fact that ICS is coming.

Going forward, Ellender said the focus of eConsult would remain on the NHS, with the company looking into the capabilities of artificial intelligence (AI).

'Historically, we always leave decision-making to humans, so we gather information from patients, we say to him, it decides in front of a human (doctor, nurse, or pharmacist), and they still decide.'

'In the next year or two, though, there is a real opportunity to leverage some intelligence because we are gathering a lot of information – we can start making recommendations to

clinicians to help, and then over time, that allows us to become able to assign patients to the correct clinician.'

Ellender believes this more cautious approach may be needed when deploying artificial intelligence and should be done in stages.

'It is a layering in artificial intelligence, but in a step-by-step way rather than just using artificial intelligence is the answer, we he said, let us take our patients and clinicians on a journey and add artificial intelligence, but in a smart way to proceed.'

'I do say it is like a driverless cars, you do not jump right into driverless cars, but the way the technology is evolving is slowly adding things to support the driver over time.'

'I think artificial intelligence is similar, but it is more backwards-let us start using intelligence to support clinicians and decision making and as trust grows, we will let computers do more but this it takes some years.'

Crouch, H. (2022)

Analysis And Discussion

Collaboration among healthcare actors requires a large number of distinct types of information. Within the set of potential candidates for contextual features, there is room for more complete exploration (e.g., element from patient records, global activity, etc.) The authors agree that the 'rhythm' of healthcare work (especially in hospitals) has some unique characteristics, although some authors argue that this sufficient level of granularity has not been explored. Many

researchers have discussed the importance of location as an important attribute in context-aware systems, but the author argues that this may have the same priority as the requirement of such systems in healthcare settings. In contrast, the authors consider activity to be key component of communication, but even when cited, it is rarely assigned positional importance. The review illustrates the reality that there are still many questions in the field of context awareness in healthcare, and there are no answers to the questions or problems described in the study by Satyanarayanan. It is clear to the authors that developing context-aware applications is not a matter of acquiring existing technologies (sensors, networks, etc.) One difficulty is that, to date, the research community has not reached a consensus on the following issues: the best way to model the context and schema to support its use. Furthermore, no preferred direction for using context awareness has emerged, and there are currently a range of potential uses in the literature (instant messaging, videoconferencing, etc.) It is likely that the evaluation of such systems in a healthcare setting will guide the focus of future research, as some candidate applications were found to have negative effects, such as increasing the communication burden on healthcare workers or an increase in error. Although healthcare is often mentioned as an ideal candidate for context-aware application, there appears to be a lack of actual system development and implementation in this area. Even considering prototypes, there is a large gap between the requirements expressed in the literature we reviewed, and

the prototypes developed so far. However, this is not surprising as this is a new field of research in an early stage of development.

Conclusion and Recommendations

This article discusses some fundamental questions and future and future scenarios regarding next-generation mobile telemedicine systems. It can be concluded that some of the currently successful telemedicine systems will be better suited to emerging wireless solutions in healthcare scenarios that are not feasible with the current generation of cellular telephony and internet services. The upcoming next generation wireless and internet technologies will fundamentally change the current structure of telemedicine and healthcare delivery systems.

Explore The Technology And Communication Systems That Are Used In Hospitals

Based On Device and Clients

In this category, there are desktop wallets, online wallets, mobile wallets, and physical wallets. In addition to being used in cryptocurrency, Blockchain technology is also applicable in other fields such as banking, payments, money transfer, healthcare, law enforcement, voting, IoT, online music, real estate, and more. (Journal of food quality, 2021)

IoT Applications In Patients

Patient can use wearable device such as fitness and other wirelessly connected devices such as blood pressure and heart control, blood glucose meters, and more. These devices can be used to remember calorie counts, activity limits, blood pressure changes for appointments, and more. Through continues health monitoring, IoT has transformed the lives of people and families. If the person daily activities are interrupted, the alert system signals family members and healthcare providers in times of crisis for immediate attention. (ScienceDirect, 2021)

IoT Application Of Physician

By adopting wearables and other home monitoring technologies in the internet of things, doctors can more effectively track the health of their patients. Anyone can monitor a patient's adherence to any treatment regimen requiring urgent medical care. IoT helps healthcare workers to be more focused and proactive in interacting with patients. Data collected form IoT device can help physicians determine the best treatment for patients and achieve desired outcomes. (ScienceDirect, 2021)

Digital Diagnostics

To monitor health data after digital diagnosis, a variety of IoT devices can be used. Compared to traditional thermometers, the Kinsa Smart Thermometer is available to gather vital information, communicate with health experts, and track

trends to improve community protection. (ScienceDirect, 2021)

Robot Assistance

IoT robots are becoming more commonplace. It is used to disinfect equipment, clean hospitals, and deliver medicines, giving health professionals more time to treat patients. For example, China was the first country to deploy the Danish company's UVD robots to clean its medical facilities during the crisis. These robots use IoT technology to help disinfect treatment areas in nursing homes and clean rooms.

(ScienceDirect, 2021)

Healthcare Delivery Drones

IoT-enabled drones have proven to be a lifeline for developing country populations for testing, EPIs, medicines, and other essential hygiene products. Since May 2020, Zipline has allowed drones to deliver vital medical supplies to rural health facilities in Rwanda and Ghana. Offering more than 160 therapeutic products, the drone company has served more than 2,500 hospitals and health centres in Rwanda and Ghana throughout the pandemic.

(ScienceDirect, 2021)

Telehealth Consultations

The infectious nature of the virus has prompted doctors to use video chat to determine if patients have been exposed to the virus without ever seeing them in person. Leveraging technology and indoor restrictions to communicate is an excellent alternative to the plethora of acute versions of the

virus witnessed in hospitals and nursing homes.
(ScienceDirect, 2021)

Exploring the technology and communication systems that are used within GP Surgery

Staff Can Work From Home

Doctors and receptionists can work from home as if they were performing surgery, and the app can turn their cell phone or laptop into their office phone. Can use their office extension number to receive, make and transfer calls without using mobile plan minutes. (Vtsl Ltd, 2021)

Designed For GPs

GP cloud voice is designed to provide precise functionality for surgery to serve patients in a modern way. From unlimited cloud queuing to call recording too easy to change auto attendant and music on hold, VTSL provides a simple yet powerful systems. (Vtsl Ltd, 2021)

Staff Training and 24*7 Support

A phone system is only as good as your employees' ability to use it. GP cloud voices is very intuitive to use. VTSL also offers free on-site training as well as videos and user guides. (Vtsl Ltd, 2021)

Clinical System Integration

GP cloud voices integrates with EMIS and other clinical systems, reducing administrative time spent by staff finding

and updating patient records. GPs loves the click-to-call feature and is able to spend more time talking to patients.

Perfect For Federations and PCNs

Future proof your practice with the ability to work at scale when needed. Whether you are a practice group, Federation or PCN, you can share resources and call other practices as if they were in the same building. (Vtsl Ltd, 2021)

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