

# The role of medical secretaries in data work in healthcare Facilities

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**Abstract.** This paper investigates the often neglected area of data work by medical secretaries, specifically in the context of hospitals in Saudi Arabia. Since the 1930s medical secretaries have played a steadily more central role in meeting the growing need for health data. With health records (HIS) and promises of data automation, the profession has been put at risk of redundancy. While there is a considerable base of research on the datafication of health care, the data work emerging from datafication remains undescribed. Hence, we are conducting a socio-technical study of clinical-administrative data work in Makkah Governmental hospitals. In this paper we present early insights of this research, indicating the vital role of medical secretaries' data work in securing clinical information at the point of care.

## 1. Introduction

Since the 1800s the interconnected trends of standardization and scientific medicine have increased the need for non-medical administrative skills of and the personnel concepts in of hospitals. standardized Concurrently health with record, the new emergence occupations and have the appeared rapid on growth the market to provide more and better data in the field of health care. With the increase of data as the new oil of the information market together with the increasing use of digital technology, is evident in health care and other sectors of the society including the strategies of the Makkah city. Data especially the health data is not easily extracted the from emerging the field ground of and critical allowed data to studies, move data freely is within shown an to organization be as contextual contextual the and and oil requires discursive; analogy contextual it would analysis. is suggest. Thus, As the idea of 'raw data' is a contradiction in terms. Big data is a result of the efforts of many people and professions which in turn create new professions and

make existing professions to change their scope of work. In this study we apply a broad definition of data work, which we refer to as “any activity related to the generation, capture, organization, maintenance, analysis, synthesis and presentation of data which are defined as facts, numbers, letters or symbols that represent an object, an idea, a condition, a situation or any other factor” [3].

Especially since the 1950s, with the increasing rate of progress in scientific medicine, medical secretaries have been doing data work at Makkah hospitals and have been crucial in fulfilling the increasing need for contextual data, data quality and data management at the ward level.

There has however been nurses a could for relatively also instance. low This emphasis be could on because be the research because medical of few secretaries medical of and secretaries the other as medical administrative compared secretaries personnel to are are physicians in hidden or practice by or the it managers and researchers. The titles used for the clerical and administrative workers in hospitals vary with different countries making it difficult to conduct research in this area.

A review of medical secretaries in Makkah public hospitals has highlighted that the profession contributes to a number of patient related and health care management activities and greatly helps the clinicians in their work and does not end at being a physicians’ secretary and taking medical records. Some of the researches have pointed out that the medical secretaries are vital to the work in and around the patient records. The analyses present medical secretaries as the ‘organisational glue’ or the ‘linking pin’ between other professionals at the hospital, for instance, a characteristic that can be partially attributed to the physical location of medical secretaries at the ward level in Makkah hospitals. Some of the findings indicate that medical secretaries are not only limited to the administrative roles; they are at the interface of what can be described as two major professions, the administrative and the clinical., the authors argue that they are an inherent part of the clinical process and their work is based on the professional judgement which is informed by medical, management and pathophysiological knowledge. However, the work of medical secretaries is similar to the work of other clerical employees in that it is often deemed as low skilled, routine, and back office function that can be performed by a machine,

As as result of the implementation of new HIS systems, medical secretaries were laid off in Saudi Arabia. This paper presents early findings of a study of medical secretaries’ data work in Makkah hospitals conducted in 2024. The data work that they do shows how data work in digital healthcare is changing and therefore this paper provides a useful case study. The study forms part of a larger research project 1 that seeks to establish new skills that are required in the workplace when it comes to data processing in the future health care sector and how such type of work redefines professions.

## 2. Methods

The data collected in this study are primary and consist of participant observations that were conducted *situ* for interviews eight in days four hospital departments at in- and outpatient clinics (two in cardiology, one in neurosurgery and one in diagnostic imaging) that use two HIS systems in three different hospitals located in two regions of Saudi Arabia. Also, two interviews were conducted with representatives of HK-DL, the union of medical secretaries, at the national ( $n = 1$ ) and regional level ( $n = 4$ ).

The participant observations were done by following the medical secretaries in their working environment and performing the job shadowing technique where the researchers were with the medical secretaries for two days at each of the departments. The reason for using multisite observation was to observe their data work in various contexts with regards to technology and organisation to build an understanding of the work of the medical secretaries and to come up with emerging categories that would be useful in the early stages of a sociotechnical study.

During observation, extensive handwritten notes were ‘jotted down’ and subsequently typed. Collected data also comprises a range of relevant documents identified during observation. Field notes and documents have been coded and categorized. While the process of analysis will continue as the fieldwork and research continues, the following example represents one emerging category present in the data.

## 3. Results and analysis

Most of the data work of medical secretaries is carried out within and in relation to the HIS to ensure that the data in the HIS is accurate and up to date as well as correctly coded. Such data is important in relation to the clinical practice, patient safety and the financial control of the department, thus underlining the importance of the data work done by the medical secretaries to ensure that the HIS data is “trimmed” However, what we can see from our research is that medical secretaries are also performing a less obvious set of tasks that comprise situations when the technical infrastructure does not allow the data to ‘flow’ and thus have to be input manually to access the required data at the point of care. These cases are the focus of this article.

Limited integration between the hospitals’ electronic health systems, municipalities and GP pose a challenge whereby the processes in question have to be supported by medical secretaries. For instance, in a cardiology department, to initiate the clinical decision-making process, a referral from the GP has to be accompanied by an ECG of the patient. But one of the medical secretaries in this study explained how this is not always the case. The seemingly simple problem of getting an already existing ECG from the GP involves a long list of tasks: writing a correspondence note, following up, calling the GP, getting the fax of the ECG which is not easily moved around between the GP and the hospital, scanning the document

and then attaching it to the patient's record which then enables the processing of the referral to continue. The same kinds of tasks are needed when, due to the inappropriateness of the connections between health care institutions and the IT systems, the image data from the radiology department has to be burned on DVDs and sent to the specialty clinics or the DVDs contain the image data received from the hospital. Both are examples of how the data work of medical secretaries supports clinical care by offering information that is relevant to clinical practice and would not be available in the practice of clinical medicine because of the lack of interoperability.

Our study indicates that, in addition to connecting the links in data chains, medical secretaries may contribute to optimization enhancing of the the ongoing department workflows to ensure data arrival at the required destination. In one department, a medical secretary had started the process of digitizing the patient-surgeon discussion that he or she had prior to the surgery thus making the whole process easier for the both the clinical as well as the administrative aspects. In another department the head medical secretary convinced the clinic management to take advantage of an enhanced EHR to fully transition to paperless system. There was another department that still had most of its workings on paper (e. g., with regard to that the the visitors' data register), was while entered the both medical into secretaries the ensured computer system and on the traditional sheets. The medical secretaries in the department presented as a form of collegial care—a way to help the clinical staff “to keep everything working properly,” although it caused a lot of work (e. g., the task of printing referral data, preparing for the clinical personnel, and entering the visitation data into the HIS).. One of the medical secretaries stated that the clinical personnel “could probably learn how to do it [the digital workflow], but we have prioritized speed,” adding that “maybe we are wrapping them in cotton wool.”, suggesting that medical secretaries play a significant role in the digitalization process at the departmental level.

#### **4. Discussion and Conclusion**

In the beginning of this article, easily we around indicated organizations that is the misleading. view Using of the data findings as from something our that study, simply we moves demonstrate how the data work of medical secretaries is crucial in supporting and facilitating the movement of data as well as the evolution of data work processes and routines.

While the threat of being 'automated' has never left, the medical secretaries in Makkah public hospitals have been able to adapt and even become more important as a result of technological and organisational changes. They have transformed from the physician's secretary to health administrative coordinators in a health system that is gradually becoming

data driven.

As has been illustrated in numerous works, both and technical workflows, others. and which We sociotechnical socio-technical leads thus problems. in problems to posit

the secretaries in can adverse that A development nature in follow-ups occur events; medical number of the Norway and secretaries' when the secretaries of cooperation administrative [14] telephone data technologies there new in studies in tasks and queuing work and is system Makkah highlight hospitals, that to in can changes. with a solves hospitals the for are collect Saudi be This regards convergence one help fact carried instance any Arabia. at suggests to between set reduce that out missing health Although risk that data. the of both health-care to data information the of the problems HIS technical administrative ensure are managers work being role but systems and personnel that not in that overlooked of creates have data codified. Australia is when medical an gaps This [1] done designing secretaries essential are means and is and needs role filled, that largely implementing to for medical clinical EHRs be example and explored other and understood further

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