

Medical Secretaries' Registration Work in the Data-Driven Healthcare Era

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Abstract. Through a qualitative study in six hospital departments in the Northern Region of Denmark, this article aims to shed light on how a non-clinical group, medical secretaries, supports clinical-administrative documentation as they translate between the clinical and administrative domains. This article shows how this demands context-sensitive knowledge and skills acquired through deep engagement with the full scope of clinical-administrative work at the department level. We argue that, given the increasing ambitions for secondary uses of healthcare data, specific clinical-administrative competencies beyond those of clinicians are increasingly necessary in the skillmix in hospitals.

Keywords. registration practices, medical secretaries, EHR, electronic health record, clinical-administrative documentation, data work, data quality

1. Introduction

Healthcare in Scandinavia and elsewhere is becoming increasingly data-driven, and governments and healthcare organizations are investing heavily in health information technology, aiming to harvest the fruits of secondary data use [1]. As the ambitions and prospects for data use increase, so does the demand for more and increasingly accurate and complete clinical-administrative datasets. This development persistently puts healthcare professionals under pressure to deliver quality documentation [2,3] and challenges the organization of those tasks.

This is manifestly emphasized by the issue of clinician burnout, which has been extensively reported for the past decade. Burnout in healthcare is now being linked to digitalization and, in particular, electronic health record (EHR) use, as time spent by clinicians on documentation is rising [4] but also leading to the emergence of new occupations such as medical scribes [3]. While the “EHR burnout” debate is still less apparent in the Danish research context, where the study behind this article took place, discussion continues among practitioners [5] and in the public political debate. Here, the issue of resource allocation and the burden of physician documentation has led to discussions about enlisting the help of non-clinical professionals, such as medical secretaries, in managing the documentation and registration workload.

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This paper follows a recent stream of socio-technical research investigating on-the-ground data work in healthcare [6], as new ambitions for becoming data-driven lead to new professions [3,7] and encourage existing professions to take on new tasks [8–11]. The ambition is to illuminate the work tasks involved, as “data do not sit in ready repositories, fully formed, and easily harvestable. Data must be created through various forms of situated work” [6].

While large-scale data involves the work of many people and professions [12], less prominent professions in health care remain under-researched. This paper positions itself in the body of literature aiming to understand and highlight the – often invisible [13] – work of health administrative personnel in hospitals, such as secretaries, in Norway [14] and Denmark [8,10,15–17]. These studies emphasize the significance of health administrative personnel in creating and sustaining cohesion in hospitals. In Danish public hospitals, medical secretaries work in decentralized units at department and ward levels, close to clinical practice and within a specific clinical specialty in which they build up their situated skills and knowledge [16]. Here, medical secretaries perform a wide variety of clinical-administrative work tasks, ranging from specialized data registration and coding to reception work, staff plans, department finance, management support, etc.[17]. Studies emphasize their decentralized location /distribution as a key factor that enables them to “often act as the organizational ‘glue’ or connecting thread between health care professionals at the hospital” [17] and be positioned at the intersection of clinical and administrative work [15].

Empirically, we investigated the data work of medical secretaries in hospital departments to understand how and why their data work contributes to keeping data complete and accurate. We thereby aimed to understand the skills involved in their registration practices and how administrative work is interwoven into the local medical context.

2. Methods

This article reports on an empirical, qualitative multi-site study of the data work of medical secretaries in the Northern Region of Denmark. Interviews ($n = 9$, 1–1.5 hours each) and observations ($n = 9$, total 27 hours) of medical secretaries responsible for registration across 6 somatic departments in 3 hospitals were conducted. Additionally, interviews ($n = 2$) with staff from the central finance department and the heads of medical secretaries ($n = 3$) were included in the analysis. The observation and the interviews were carried out in January–April 2022 and November–December 2022 in the same departments, with one department unable to participate in the last round of interviews. All the participants received and signed an informed consent form.

To understand the data work of medical secretaries, the interviews and observations focused on the content, knowledge and competencies, organization and collaboration, and systems and tools related to their work. All interviews were fully transcribed. The transcripts and field notes from the observations were coded and categorized. The findings reported in this paper represent emerging themes in the dataset, as the analysis is continuing.

3. Results

The results of our study demonstrate the crucial role played by medical secretaries in ensuring the accuracy and completeness of clinical documentation in EHRs and other information systems.

While physicians have the formal responsibility for meaningful and adequate clinical documentation, the practical work of registration and data quality management at department level is mainly delegated to medical secretaries[16]. The registration of patient trajectory data in the EHR and other information systems is a key task in the work portfolio of medical secretaries, usually undertaken as an integrated part of the workflow from patient referral to diagnosis, treatment, discharge, and follow-up. Medical secretaries transcribe notes from physicians, assign correct labels and markers to the patient trajectory, ensure that timestamps are correct, and conduct ongoing monitoring, ensuring that the department's body of registration data is as complete, correct, and aligned with the requirements of the registration logic as possible.

In the departments' division of work, the role of the medical secretaries is to translate between the clinical and administrative domains, which is done through registration of the data based on the physicians' clinical notes, extending the clinical documentation with administrative codes specifying the type of intervention, the reasons for waiting time, etc. Across all the departments interviewed, the medical secretaries explain how, based on their experience of working in that department's medical field, they "fill in the blanks" when information is missing in the documentation from the physician, e.g., when a diagnosis has not been recorded at the first consultation, as required by the registration guidelines. When describing their repair work in relation to patient data, our informants often refer to it in terms of "tidying up" or even requiring "a registration brain" (Medical secretary 2) or "a healthy bit of OCD" (Medical secretary 3), highlighting the professional virtue of attention to detail in the administrative work as essential for applying and managing correct decentralized registration, as requirements for registration increase in volume and complexity.

Beyond the technical skill of applying a trajectory-oriented registration regime, substantial knowledge of the intricacies of registration within the EHR and other information systems and their – often not seamless – interplay in the department's concrete organizational and clinical setting is essential for the secretaries to achieve accurate data by ensuring that interventions set up in the EHR by physicians are linked to the correct trajectory, correctly classified to count against department activity, and correctly time stamped. For example, the latter often results in teleconsultations being erroneously registered as taking hours or even days, when automatic timestamping of events collides with work practices of coding after the fact rather than in real time. A key aspect in the role is translating between the administrative and clinical aspects of documentation: *"Basically, they [clinicians] don't understand this kind of system at all. This whole thing about it mattering whether you make **this** registration at **this** specific time – that it needs to be within this contact – well, it's like a foreign language to them, totally incomprehensible"* (Medical Secretary 1). Our informants clearly state that their perception is that documentation requirements exceed physicians' interest and skills, as demands for registration are often linked to secondary uses of data rather than immediate clinical use. As another informant frames it: *"They [the physicians] do not at all have that basic knowledge, which secretaries are brought up with, in terms of how important data is [...] They just want to be able to click something to make the system accept [it], so they can move on. Therefore, they will not have the same level of attention to detail*

as the secretaries. Instead, the secretaries will be spending much more time on quality assurance – and hence the data you get at first will not be valid” (Head of Medical Secretaries 1).

While registration work in the regular workflow of the department relies on context sensitivity obtained through practical, daily experience, error correction is done by medical secretaries through automated lists of logical errors [16], our study finds, requiring a significantly higher level of expertise: *“A prerequisite for that is also being able to understand the system, knowing the connections in the entire department as well. It’s difficult just to come from the outside – you have to be familiar with the department’s flow of different things”* (Secretary in Cardiology).

From our data, it is clear that the task of correcting errors is more complex and in the sites involved undertaken by medical secretaries with considerable (often 10+ years) experience.

4. Discussion and Conclusion

Hogle [1] asserts that “big data and the infrastructures instilled to support it are creating new forms of value and reordering relationships as distinctions between medical and non-medical data and research and care are blurred.” Organization of the work presented in this paper can be seen as a consequence of the blurring line between medical and non-medical data. While clinical documentation is clearly the physician’s responsibility, the administrative requirements of clinical documentation go beyond the clinical domain to the extent that some researchers question whether requirements for secondary data purposes take precedence over the primary clinical purposes in the design of EHRs [2]. In the example of our case, a trajectory-oriented registration regime in which all activities are registered according to their relation to a specific illness trajectory increases the socio-technical complexity in the documentation workflow, as this logic often does not match the clinical intervention as perceived by the clinician. A distinct clinical-administrative perspective is required.

The increasing complexity of documentation creates a need for translation between the clinical and administrative domain [7], which in the case presented here is undertaken by medical secretaries. The work to commit registration to the clinical documentation and ensure alignment with the registration regime at hand is essential for harvesting the potential of initiatives toward data-intensive resourcing for management, political oversight, and research.

Physician burnout and the strain of an increasing documentation burden on clinicians are indeed serious issues; however, we argue that the discourse of simply relieving physicians of documentation tasks risks underestimating the knowledge and competencies necessary to secure valid data in the clinical-administrative domain. Our research indicates that effective planning for the healthcare skill mix must consider the complexities of on-the-ground data work following from ambitious secondary data initiatives. Additionally, our research suggests a need for looking beyond the major, most influential professions in discussing the design of systems, practice, and organization for secondary data use, acknowledging and actively engaging the distinct skills and virtues required in complex clinical-administrative work in the context of data-intensive resourcing.

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