

Time Management And Organizational Skills For Medical Secretaries In A Fast-Paced Healthcare Environment: Review

Roa'a Adnan Babegi¹, Amani Ebrahim Mohamed Sultan², Dr. Emad Hussain Mohammad Alagsam³, Zohour Hussain Mobarki⁴, Safa Mohammed Khard⁵, Fadi Mousa Ibrahim Jabril⁶, Gasem Jaber Mohammed Alhamzi⁷, Soaad Abdullah A Alhmoode⁸, Saher Abdu Mohammed Alshafie⁹, Mohammed Abdu M Alshafyie¹⁰, Nujud Zain Al Hadi¹¹, Marwah Hamad Sulaiman Bajafar¹², Alaa Eisi S Alaaullah¹³, Qamar Yahya Issa Shagery¹⁴, Awatef Omar Ali Ayidh¹⁵, Bdor Awad Rashidiya¹⁶, Asma Bhays Hussain Jarab¹⁷, Khulud Mohammed Ali Sughayyir¹⁸

Abstract

Diagnostic work is often attributed to the expertise of physicians, but the contributions of non-clinicians, such as secretaries, are generally overlooked. The secretaries play a significant role in diagnosing patients by efficiently managing their information in the collaborative computer systems. This research investigates the function of secretaries in the process of detecting cancer, with a special emphasis on their involvement in diagnostic tasks. The text outlines four crucial tasks performed by secretaries in order to diagnose patients: conducting examinations to assess the patient's condition, evaluating clinical information, monitoring the patient's progress, and providing further information on the patient's treatment plan. We contend that the function of secretaries is situated at the convergence of clinical and administrative practices, extending beyond just assisting physicians and administrators with their tasks. Secretaries also perform tasks that are included under the fundamental notion of clinical job. We contend that the clinical aspect of the secretaries' job should be included into the design of collaborative technologies that aid in the diagnostic process.

¹Health Informatics

²Medical Secretary

³Resident- Medicine

⁴Health Informatics

⁵Medical Secretary

⁶Medical Secretary

⁷Health Informatics

⁸Medical Secretary

⁹Health Informatics

¹⁰Consultant-Pediatric Emergency

¹¹Medical Secretary

¹²Medical Secretary

¹³Medical Secretary

¹⁴Technician- Medical Secretary

¹⁵Medical Secretary

¹⁶Medical Secretary

¹⁷Medical Secretary

¹⁸Medical Secretary Technician

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1. Introduction

Diagnostic work is often defined as a specific kind of collaborative work that is fundamentally centered on clinical or medical practices [1, 2, 6, 7]. The task involves a variety of healthcare professionals, including doctors who evaluate patients, technicians who conduct tests, and nurses who care for patients while monitoring their status. Secretaries play a crucial role in supporting doctors by coordinating the schedules of physicians, test results, and patients to ensure they are all brought together at the appropriate time and location [3-5, 8, 9]. Although secretaries play a crucial role in the fundamental aspects of clinical work, such as examining patients, interpreting clinical information, making decisions about their condition, providing medical treatment, and monitoring its effects, surprisingly little focus has been given to their involvement in the diagnostic process. This research conducts an empirical examination of the function of secretaries in both a radiology department and a medical department. Secretaries have a crucial role in diagnostic work, particularly in four activities: a) assessing the patient's condition, b) interpreting clinical information, c) monitoring follow-up, and d) providing further information on the patient's progress. These activities entail the merging of clinical and administrative tasks, where secretaries participate in managing patients via shared electronic information systems. The primary objective of the study is to better describe the function of secretaries, rather than the formal allocation of authority when they get engaged in diagnosis.

In this research, we will first introduce two collaborative electronic information systems, which were the focus of the secretaries' work. Next, we examine four distinct instances in which secretaries play a role in the diagnosis of patients inside a radiology department and a medical department. Next, we analyze the integrated clinical and administrative content of these samples and highlight how it delineates the tasks of the secretaries. In conclusion, it is important to have a comprehensive understanding of the interconnected nature of secretaries' tasks in order to effectively support collaborative systems.

2. Collaborative electronic information systems

In recent years, collaborative electronic information systems like RIS-PACS (Radiological Information System - Picture Archiving and Communication System) and OPUS-OCW (Open Clinical Workspace) have been adopted as part of a national initiative to digitize the health service. The national policy prioritizes the support of radiology in order to enhance diagnostic work, aiming for improved efficiency and speed in the diagnosis process. The job of secretaries is an inherent component of the national plan, which aims to unite the whole health care. RIS-PACS and OPUS-OCW are two types of multi-module access portals. The main focus of RIS-PACS is focused on radiology, namely in the areas of administration and image archiving. The medical department utilizes OPUS-OCW, a platform that encompasses a wider range of clinical procedures such as administration, medication, and monitoring.

These technologies are designed to facilitate ongoing and seamless coordination of clinical and administrative tasks. Although methods like RIS-PACS and OPUS-OCW are becoming more common in diagnostic work, there are several reasons why it is essential to prioritize secretaries in the analytic process. The emergence and testing of collaborative electronic information systems has prompted a reassessment of the function secretaries fulfill, rather than leading to their elimination. Furthermore, the introduction of these systems has not only facilitated existing practices, but instead necessitated the restructuring of activities and responsibilities [9, 11]. This rearrangement validates the traditional contention put out by Hughes and other scholars, which suggests that the introduction of

new technologies might disrupt established job positions and work structures [1, 12]. Considering the dynamic nature of roles, it is necessary to reassess the definition of diagnostic work and the specific work practices that it entails.

3. Theoretical framework

To comprehend the organizational placement of the secretary, we contend that this job cannot be comprehended just within administrative or "supportive" terms, nor by the notion of "articulation work." The secretary plays a significant role in the fundamental "clinical work," although this feature has not been well analyzed. In the following discussion, we will provide a concise overview of how the role of secretaries has been understood in the existing body of literature.

4. Administrative tasks

Secretarial work is not a recent topic. Research conducted in the subject of Computer-Supported Cooperative Work (CSCW) and related disciplines has broadened our understanding of the responsibilities and functions of secretaries in different collaborative settings. The topic of secretarial labor has been extensively discussed in regard to various roles such as directing assistants, secretaries, medical secretaries, clerical workers, office workers, and coders. An underlying premise of this study is the assertion that secretarial work is not a task that can be carried out by just anybody. Research in the field of Computer-Supported Cooperative Work (CSCW) has shown that it is crucial to consider the function of secretaries while designing collaborative electronic information systems for different areas of cooperation.

Secretarial labor, as seen in CSCW, is hardly acknowledged as a kind of knowledge work. However, a secretary is often seen as a someone who primarily facilitates customer interactions with software, as well as handles phone calls and typing tasks. However, it has been shown that the program depends on the activity of secretaries in several ways [14, 25], which contradicts this simplistic depiction. Müller illustrated the process by which a certain group of secretaries, namely telephone operators, engage in collaborative refinement of customers' demands rather than just connecting the program (which has a database of telephone numbers) to the clients. Therefore, knowledge labor is characterized by the use of domain-specific memory and the application of domain-specific patterns of meaning. Müller's research further illustrates that telephone operators also exhibit this feature [14]. The main tasks of the medical secretary may be described as follows: printing clinical information [20], transcribing and organizing doctors' dictations [31], retrieving files [19], and performing receptionist duties [5]. Frequently, the secretary's function is characterized as "collaborating" with nurses and doctors or "providing clerical support" [3, 5, 19, 20, 31]. The relationship between the job of a medical secretary and the core clinical activity, which includes diagnosis, is not fully understood in terms of its classification as "knowledge work."

5. Clinical practice

The word "clinician" encompasses a wide range of vocations that include working in a clinic or doing tasks connected to the observation and diagnosis of patients [27]. Clinical practice is generally dependent on many disciplines and hence requires collaboration. This statement is especially true when it comes to intricate illnesses, such as cancer [5]. Bardram defines the performance of clinical work as a cyclical process comprising of approximately five activities [3]: a) assessing the patient's illness and condition, b) soliciting and interpreting clinical information, c) making decisions regarding the patient's illness and condition, d) administering additional medical treatment for the patient's illness and condition, and e) monitoring the impact of the treatment. According to Bardram, these

actions are what constitute therapeutic activity, and their execution is influenced by the specific situation of the patient [3]. The clinical work conducted on patients might differ in several aspects, such as the rate at which symptoms manifest and hence allow for a diagnosis. This particular kind has a significant impact on the work environment of clinicians. Clinical environments are known for their intricate level of detail, as described by Strauss et al. They include many resources such as space, skills, labor force ratios, equipment, medications, supplies, and more, all of which are essential for carrying out the task [27 p. 6]. Simultaneously, therapeutic work is distributed across different periods and locations, and the coordination or integration of this work is crucial.

6. The clinical duties of secretaries

Secretaries have a crucial role in the hospital since they are often the first to address requests for diagnostic exams and incoming referrals. This places secretaries at the center of diagnostic activity. In this investigation, we examine the function of secretaries in four distinct instances of activities related to diagnostic work. Initially, we examine the extent of secretaries' involvement in the assessment of a patient's health to guarantee that urgent situations are prioritized. Furthermore, the clinical judgments made by secretaries are examined. Furthermore, we examine the process by which secretaries assess patients in order to ensure that they have gotten the necessary and suitable follow-up. Ultimately, we examine how secretaries contribute to the patient's path of progress. Figure 1 depicts the correlation between the radiology and medical departments and the allocation of responsibilities in the early diagnostic procedure.

7. Analyzing clinical data on the patient's condition

The radiology department is another crucial area for diagnostic work. Radiology often directs the subsequent diagnostic action as doctors endeavor to comprehend the essence of patients' complaints. The secretary is the first recipient of radiology referrals. According to the secretary at the radiology department, the rule states that all referrals must be booked on the same day they are received. This is done to prevent patients from waiting due to administrative delays in processing the referrals. The radiology department aims to minimize patient waiting times that are not related to clinical reasons. The incoming referrals are organized in a sequential arrangement inside the radiological information system, RIS-PACS.

The radiologist on call, situated in the secure area of the CT-scanner and MR-scanner below, monitors the incoming referrals as they populate the computerized list. The radiologists are situated in close proximity to the CT-scanner and the MR-scanner, enabling them to closely monitor the scanners while simultaneously accessing the collaborative electronic information system. The radiologist utilizes RIS-PACS to document the scans and, while doing so, evaluates the information provided in the referrals to facilitate scheduling by the secretary.

Within the secretaries' office, there is now an electronic referral for a CT-scan that is awaiting scheduling. The referral is received in the same manner as any other electronic referral, with each referral being automatically listed consecutively in the RIS-PACS system. The radiologist has assigned a priority and determined the program and sequence for the specific scan. The secretary adds that when reading the electronic referral form, she analyzes the instructions provided by both the referring physician and the radiologist on the specific method to be used for the scan. The process of arranging a CT-scan differs from scheduling an MR-scan or any other kind of scan, as shown by the secretary's observation of a protocol named "CT - The short version" displayed above their desk.

The protocol's existence in the secretaries' office is first startling, given its clinical character. An identical A3-sized (11.7 x 16.5 inches) procedure is displayed downstairs

next to the radiographers and in the radiologists' workspace. The CT-protocol is a clinical tool used by radiologists to guide the performance of CT-scans. Each CT-scan necessitates the selection of the right sequence and program before the radiographer may proceed with the scan. The CT-protocol designates "tumour detection" as sub-protocol number 6A in RIS-PACS and outlines the specific scenarios in which contrast is required. The secretary verifies that the different clinical information matches.

8. Conclusion

The job of secretaries is a focal point in the field of Computer-Supported Cooperative job (CSCW). Despite the existing interest, the function of the secretary in diagnostic work has received surprisingly little study. We have stressed the need of investigating the secretary's involvement in diagnostic work, similar to how it is done in other collaborative disciplines. The talents of physicians often characterize diagnostic work, whereas the labor of secretaries generally goes unnoticed. Some of the most notable studies in the field of Computer-Supported Cooperative Work (CSCW) focuses on the process of articulation work performed by doctors. However, it is worth noting that secretaries also have a role in carrying out clinical work, which is a fact that is frequently overlooked.

Secretaries manage patient interactions using integrated electronic information systems. Given the rising prevalence of collaborative electronic information systems that combine administrative and clinical activities in diagnostic work, it is justified to prioritize secretaries. Our objective is to provide more specific details on the "intersection" between clinical activity and administrative labor in the context of patient diagnosis.

References

1. Aydin, C.E., and Rice, R.E. Bringing social worlds together: Computers as catalysts for new interactions in health care organizations. *Journal of Health and Social Behavior* 33 (2), pp. 168-185 (1992)
2. Büscher, M., O'Neil, J., and Rooksby, J. Designing for diagnosing: Introduction to the special issue on diagnostic work. *Computer Supported Cooperative Work* 18, pp. 109-128 (2009)
3. Bardram, J.E. "I love the system - I just don't use it!". In proceedings of The 1997 International ACM Conference on Supporting Group Work, pp. 251-260 (1997)
4. Paul, S.A., and Reddy, M.C. Understanding together: Sensemaking in collaborative information seeking. In Proceedings of The 2010 ACM Conference on Computer Supported Cooperative Work, pp. 321-330 (2010)
5. Schmidt, K., Wagner, I., and Tolar, M. Permutations of cooperative work practices: A study of two oncology clinics. In Proceedings of The 2007 International ACM Conference on Supporting Group Work, pp. 1-10 (2007)
6. Berg, M. Accumulating and coordinating: Occasions for information technologies in medical work. *Computer Supported Cooperative Work*, 8 (4), pp. 373-401 (1999)
7. Saunders, B.F. *CT Suite. The Work of Diagnosis in the Age of Noninvasive Cutting*. Duke University Press (2008)
8. Bardram, J.E., and Bossen, C. Mobility work: The spatial dimension of collaboration at a hospital. *Computer Supported Cooperative Work* 14, pp. 131-160 (2005)
9. Vikkelsø, S. Subtle reorganization of work, attention and risks: electronic patient records and organizational consequences. *Scandinavian Journal of Information Systems* 17 (1), pp. 3-30 (2005)
10. Digital Sundhed. National strategi for digitalisering af sundhedsvæsenet 2008-2012 - til fremme af befolkningens sundhed samt forebyggelse og behandling. *Digital Sundhed*, pp. 1-53 (2008)
11. Berg, M. Practices of reading and writing: The constitutive role of the patient record in medical work. *Sociology of Health & Illness* 18, (4), pp. 499-524 (1996)
12. Hughes, E.C. *The Sociological Eye. Selected papers*. Transaction (1984)

13. Lawrence, D.E., Atwood, M.E., and Dews, S. Surrogate Users: Mediating between social and technical interaction. *Proceedings of The 1994 SIGCHI Conference on Human Factors in Computing Systems*, pp. 399-404 (1994)
14. Müller, M.J. Invisible work of telephone operators: An ethnocritical analysis. *Computer Supported Cooperative Work* 8, pp. 31-61 (1999)
15. Ehrlich, S.F. Social and psychological factors influencing the design of office communications systems. *ACM SIGCHI Bulletin* 18 (4), pp. 323-329 (1987)
16. Grudin, J. Why CSCW applications fail: problems in the design and evaluation of organizational interfaces. In *Proceedings of The 1988 ACM Conference on Computer Supported Cooperative Work*, pp. 85-93 (1988)
17. Pipek, V., and Wulf, V. A groupware's life. In *Proceedings of The Sixth European Conference on Computer Supported Cooperative Work*, pp. 199-218 (1999)
18. Møller, N.H., and Bjørn, P. Layers in sorting practices: Sorting out patients with potential cancer. *Computer Supported Cooperative Work* 20, pp. 123-153 (2011)
19. Reddy, M.C., and Jansen, B.J. A model for understanding collaborative information behavior in context: A study of two healthcare teams. *Information Processing and Management* 44, pp. 256-273 (2008)
20. Reddy, M.C., and Spence, P.R. Collaborative information seeking: A field study of a multidisciplinary patient care team. *Information Processing & Management* 44 (1), pp. 242-255 (2008)
21. Svenningsen, S. *Den Elektroniske Patientjournal og Medicinsk Arbejde - Reorganisering af Roller, Ansvar og Risici på Sygehus*. Handelshøjskolens Forlag (2004)
22. Glenn, E.N., and Feldberg, R.L. Degraded and deskilled: The proletarianization of clerical work. *Society for the Study of Social Problems* 25 (1), pp. 52-64 (1977)
23. Markussen, R. Politics of intervention in design: Feminist reflections on the Scandinavian tradition. *AI & Soc* 10, pp. 127-141 (1996)
24. Rouncefield, M., Viller, S., Hughes, J.A., and Rodden, T. Working with "constant interruption": CSCW and the small office. *The Information Society* 11, (3), pp. 173-188 (1995)
25. Blomberg, J., Suchman, L., and Trigg, R.H. Reflections on a work-oriented design project. *Human-Computer Interaction* 11, pp. 237-265 (1996)
26. Tellioglu, H., and Wagner, I. Work practices surrounding PACS: The politics of space in hospitals. *Computer Supported Cooperative Work* 10, pp. 163-188 (2001)
27. Strauss, A.L., Fagerhaugh, S., Suczek, B., and Wiener, C. *Social Organization of Medical Work*. The University of Chicago Press (1985)
28. Clement, A., and Wagner, I. Fragmented exchange: Disarticulation and the need for regionalized communication spaces. *Proceedings of The Fourth European Conference on Computer Supported Cooperative Work*, pp. 33-49 (1995)
29. Star, S.L., and Griesemer, J.R. Institutional ecology. 'translations' and boundary objects: amateurs and professionals in Berkeley's Museum of Vertebrate Zoology'. *Social Studies of Science*, 19 (3), pp. 387-420 (1989)
30. Lee, C.P. Boundary negotiating artifacts: Unbinding the routine of boundary objects and embracing chaos in collaborative work. *Computer Supported Cooperative Work* 16, pp. 307-339 (2007)
31. Bossen, C., and Markussen, R. Infrastructuring and ordering devices in health care: Medication plans and practices on a hospital ward. *Computer Supported Cooperative Work* 19, pp. 615-637 (2010)
32. Bossen, C. The parameters of common information spaces: the heterogeneity of cooperative work at a hospital ward. In *Proceedings of The 2002 ACM Conference on Computer Supported Cooperative Work*, pp. 176-185 (2002)
33. Schmidt, K., and Simone, C. Coordination mechanisms: Towards a conceptual foundation of CSCW system design. *Computer Supported Cooperative Work* 5, pp. 155-200 (1996)
34. Forsythe, D. "It's just a matter of common sense": Ethnography as invisible work. *Computer Supported Cooperative Work* 8, pp. 127-145 (1999)
35. Luff, P., Jon, H., and Heath, C. *Workplace Studies: Recovering Work Practice and Informing System Design*. Cambridge University Press (2000)
36. Klein, H., and Myers, M.A. A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly* 23 (1), pp. 67-93 (1999)
37. Bannon, L. and Bødker, S. Constructing common information spaces. In *Proceedings of The Fifth European Conference on Computer Supported Cooperative Work*, pp. 81-96 (1997)