Health Data Privacy in the COVID-19 Pandemic Context: Discourses on HIPAA

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Abstract. Background: Considering the impacts of the COVID-19 pandemic on health service delivery, the US Office for Civil Rights (OCR) updated the policies on health data processing, and Health Insurance Portability and Accountability Act (HIPAA). Objectives: In this study, we investigated discourses on HIPAA in relation to COVID-19. Methods: Through a search of media sources in the Factiva database, relevant texts were identified. We applied a text mining approach to identify concepts and themes in these texts. Results: Our analysis revealed six central themes, namely, Health, HIPAA, Privacy, Security, Patients, and Need, as well as their associated concepts. Among these, Health was the most frequently discussed theme. It comprised concepts such as public, care, emergency, providers, telehealth, entity, use, discretion, OCR, Health and Human Services (HHS), enforcement, business, and services. Conclusion: Our discourse analysis of media outlets highlights the role of health data privacy law in the response to global public health emergencies and demonstrates how discourse analysis and computational methods can inform health data protection policymaking in the digital health era.

Keywords. Health Information Systems, Digital Technology, Privacy, Telemedicine, Health Insurance Portability and Accountability Act, Public Health Informatics

1. Introduction

The COVID-19 pandemic, as a "Public Health Emergency of International Concern (PHEIC)" [1], demonstrated the limitations of the current business models for effective service delivery in the time of crisis [2]. As a rapid response to the pandemic, healthcare entities and business associates are seeking to transform their business models by using digital health solutions such as telehealth [3]. However, throughout the process of digital health transformation, healthcare providers and third parties still must be mindful to comply with the data protection laws and regulations during the pandemic. Given the impacts of this ongoing and evolving phenomenon, current laws and regulations on data privacy require adaptation to this public health context. In response to the COVID-19 crisis, the US Office for Civil Rights (OCR) has issued notifications of enforcement discretion, announcements, guidance, and resources for several concerns related to Health Insurance Portability and Accountability Act (HIPAA) compliance. These announcements include the use of telehealth, web-based

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scheduling, Health Information Exchanges (HIE), and contact to COVID-19 patients for public health purposes [4]. Telehealth was among the first and key digital health areas, for which the OCR issued notifications regarding amended policies for data processing, privacy, and security under HIPAA. These notifications, in turn, triggered discourses on health information system use and compliance in the academic and media outlets [e.g., 5, 6].

This research is a response to the World Health Organization (WHO) calls for studies in the pandemic context and seeks to identify the central HIPAA-related topics in the news media discourse. Following the PHEIC, WHO has proposed a roadmap for "powering research to control the epidemic" [1]. This research, as a path towards contribution to the management of 'pandemic information systems', is aligned with the WHO roadmap and the calls for research. Existing research has explored the legal implications of HIPAA privacy for public health [7, 8]. However, in the context of pandemics, discourses of privacy regulations (e.g. HIPAA) have not been explicitly investigated. Despite the arguably critical impacts of COVID-19 as a public health emergency on health regulation compliance and privacy practices, research in this field is scant. The purpose of the present research is to identify the discourses on HIPAA in the time of a pandemic, and to contribute an understanding of relevant privacy issues and health data protection practices.

In this study, we analyzed news media discourses about HIPAA and the COVID-19 public health crisis. More specifically, through a discourse analysis empowered by a text analytics approach, we attempted to represent concepts and themes related to the privacy laws, users, health data, and health IT artifacts as indicated in the media. Given the identified concept and themes, this research informs future investigations and policies to better understand the complexity of data protection in digital health implementation, use, and transformation.

2. Methods

To discover discourses on HIPAA and COVID-19, we used the Factiva database. As the database covering region-specific and international news, Factiva has been used for discourse analysis in different disciplines from information systems to public health policy [9, 10]. Given the context and aim of our research, a discursive approach to news media offers valuable insights into the academic literature [11]. Media discourses are driven by timeliness (e.g., capturing the latest practices in privacy management in the time of COVID-19) and practicality (e.g., descriptions of the significant consequences of the pandemic and HIPAA). The search was conducted on 17 January 2021, using this search string: ((HIPAA OR "Health Insurance Portability and Accountability Act" OR "Office for Civil Rights")) AND (COVID or Coronavirus or SARS-CoV-2)). The search was limited to 'news headline' and the English language. This search strategy has resulted in the identification of 55 records. After removing duplicates and screening the news in terms of relevancy to the research aim, 42 news articles were included for text analytics and discourse analysis. We used Leximancer (www.leximancer.com) for identifying discourse concepts and themes. Leximancer is text mining software for analyzing and visually representing the concepts in collections of textual documents. It extracts concepts from words which have similar meanings and/or appear together, even when the documents use different styles and formats [12]. Before analyzing news texts by Leximancer, we applied a data cleaning step to achieve

a faithful concept map. This step involved removing irrelevant texts such as authors, and publishers' names, URLs, and advertisements about service providers. Finally, a document contains 23,507 words arranged in 42 articles was imported to Leximancer for the analysis. Our interpretations of discourses on HIPAA and COVID-19 are based on the identified concepts and themes from text analysis and reflection of illustrative quotes in the news articles. Our text analysis process is illustrated in Figure 1.
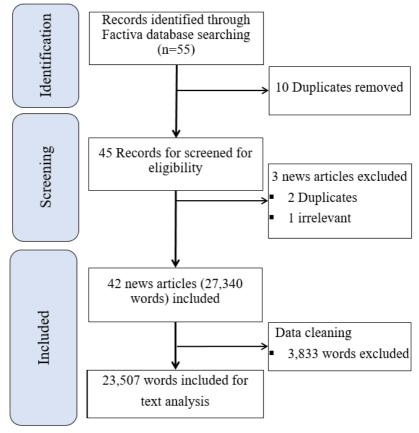

Figure 1. Text analysis process.

3. Results

3.1. Descriptive analysis

Through the descriptive analysis, we provided an overview of the findings. Textual analysis on HIPAA discourses in the context of COVID-19 shows a concept map with six clusters (themes) as shown in Figure 2. The six themes, labeled by Leximancer based on the most prominent concept in the cluster of words, are Health, HIPAA, Privacy, Patients, Security, and Need. These themes and their hits with relevant concepts are also represented in Table 1.
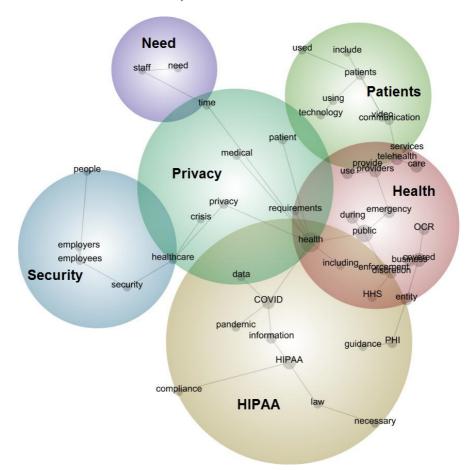
Figure 2. Concept map and network of HIPAA and COVID-19 discourses.

Table 1. Dominant themes, hits, and concepts

Themes	Hits*	Concepts (number of concepts in the cluster)
Health	441	Health, public, covered, care, emergency, during, providers, telehealth, entity, use, discretion, enforcement, OCR, services, including, business, HHS, provide (n=18)
HIPAA	398	HIPAA, COVID, pandemic, information, PHI, data, compliance, guidance, law, necessary (n=10)
Privacy	214	Privacy, patient, requirements, healthcare, medical, time, crisis (n=7)
Patients	163	Patients, video, communication, technology, include, used, using (n=7)
Security	101	Security, employees, employers, people (n=4)
Need	44	Need, staff (n=2)
Note: * number of hits for dominant concepts in the map.		

3.2. Thematical explanations

In this subsection, we briefly explain discourses around the main six themes and related concepts.

3.2.1. Health

Health as the main theme among six is consists of 18 concepts. The discourses around this theme are related to the department of Health and Human Services (HHS), Office for Civil Rights (OCR), and notification of enforcement discretion for using telehealth by healthcare providers during public health emergencies. The OCR is responsible for enforcing certain privacy regulations [13]. During the COVID-19 public health emergency, the notices for using telehealth platforms (e.g., Skype, Zoom, GoToMeeting) align with the good faith provision provoke discussions which represent in news. While before the pandemic, there were data protection concerns about the telehealth platforms, healthcare providers see this notification as an opportunity to improve public access to health services. These are reflecting both concerns, e.g., "*Before, it* [using Skype] *may not have been technically compliant from a security perspective …*" [14], and opportunities, e.g., "*The department now allows doctors to provide health services through audio or video on sites like Skype and FaceTime so they can see a greater number of patients and reach out to those sheltering in their homes*" [15].

3.2.2. HIPAA

The second theme that emerged in our analysis is HIPAA. Conversations around this theme are surrounded by concepts related to Protected Health Information (PHI), law, compliance, guidance, and necessary in the COVID-19 pandemic context. For instance, one discourse is upon how healthcare providers may disclose PHI about a COVID-19 patient to first responders (e.g., paramedics, medical transport personnel) and public health authorities in compliance with the HIPAA [16]. In line with this HIPAA law and PHI discourses, another data protection related concept that emerged from the text is 'minimum necessary'. This means healthcare providers "must make a reasonable effort to disclose only the 'minimum necessary' PHI to accomplish the purpose" in the context of COVID-19 [17]. Contributing to this discourse, a healthcare attorney has emphasized practicing minimum necessary in all states of the US: "*Hospitals, regardless of what state they're based in, should only share the minimum necessary information with coroners and medical examiners to ensure compliance with HIPAA*"[18].

3.2.3. Privacy

At the center of the concept map (see Figure 2), Privacy, as the third theme, shapes discourse on requirements, healthcare, patient, medical concepts in the time of crisis. While the OCR temporarily easing some regulatory requirements during the public health emergency, the discourse analysis shows perspectives on protecting health data privacy. The followings are examples from two attorneys' viewpoints concerning protecting data privacy during the pandemic: a) "*Although OCR is easing requirements during this public health emergency, healthcare providers must nevertheless take steps to ensure the privacy of their patients' medical information*" [19] and b) "Remember

that even with waivers and relaxed *requirements*, OCR still expects HIPAA compliance" [14].

3.2.4. Patients

The fourth theme (Patients) includes concepts regarding the use of new models of service delivery to patients such as remote communication technologies and platforms, especially those that have an affordance for video consultation. As in pandemic context under HIPAA, providers have more opportunities to change their business model, understanding how effectively to use digital technology in a compliant manner is critical. Regarding this discourse, a health information specialist said:

In cases in which the provider uses an allowed video messaging application like Facebook Messenger, it is best for staff to use a company account rather a personal account in order to prevent sharing a provider's personal information. [...] all virtual care provided should be documented like any other clinical visit" [15].

Also, in using such third-party platforms, informed consent should be considered. For instance, one report states: "*It is important that healthcare providers notify patients that the third-party communication platforms that they are using to communicate may introduce privacy risks*" [19].

Other concerns are rising from the use of certain public video call platforms which are not authorized by the OCR for telehealth service delivery such as TikTok and Facebook live [20].

3.2.5. Security

The security theme in the analysis is people-oriented concepts in an organizational setting such as employees, employers. Like the previous theme (Patient), in this theme, we see discourses related to the use of technology. However, the main concern, here, is on the security aspects and human errors in an organizational context such as the use of telehealth and remote working. For example, experts have expressed concerns about cyber awareness and error in using technology by healthcare employees during the pandemic and potential data breaches:

"*Healthcare administrative staff working remotely sharing a picture of their new home office set-up on social media with protected information visible on their computer monitor or within paperwork on their desk*", said a director of healthcare consulting as an example of human error threatening to privacy and security [14]. On the discussions about remote working and cyber awareness, an expert recommended, "*not opening any emails with COVID-19 in the title unless a user knows exactly who sent the message*" [15].

Another security discourse elaborated in this theme is related to preparations for the post-pandemic. For example, a regulatory compliance expert suggests "*Covered entities should think about the transition back to meeting all HIPAA requirements when the public emergency is removed, particularly with respect to telehealth security requirements*" [14].

3.2.6. Need

The final theme in our analysis comprises two connected concepts of need and staff in which need is the dominant concept. As evident in Figure 2 and Table 1, a few discourses are related to this theme. From our analysis, we identified two types of

needs discussed concerning the staff: understanding the need for informed use of technology, and HIPAA compliance mobile apps which are minimizing the risk of COVID-19 exposure for staff. The followings are illustrative examples of the concepts of informed use, e.g., "*People may be surfing the web for any information about pandemic, so staff members need to be quite vigilant about inadvertently clicking on phishing-related links*" [15], and HIPAA-compliant mobile apps, e.g., "*We realized that customers where putting their staff at risk by using iPads and tablets in COVID-19 patient rooms with standard, unsecure video solutions*". "*The new features enable secure remote calling into the room without the need for a staff member to enter the room to answer or launch the call*" [21].

4. Discussion

Our research is inspired by two calls for research. The WHO calls for "*powering research to control the epidemic*". Likewise, the Information Systems discipline scholars call for studying epidemics "*based on the position on the social-technical continuum*" [22].

Drawing on discourses on HIPAA and Covid-19 pandemic, we discussed six themes and important concepts such as telehealth, minimum necessary PHI, and compliance issues in the public health emergency context. Our study extends and contributes to the existing discourse on data privacy [23]. We also offer fresh insights regarding the regulations of IT artifact and data processing in the pandemic context [24] As evident in our analysis of texts in media, an important practical implication is the centrality of the notion of privacy in the pandemic context. We highlighted the importance of including concepts such as 'public health' and 'telehealth' in policymaking and regulating data processing in the digital health era.

The global Covid-19 pandemic has accelerated the widespread adoption and use of health technologies such as telehealth [2, 25]. Inevitably, technology and data privacy regulations such as HIPAA have to adapt and adjust. Our study demonstrates that discourse analysis and computational methods such as concept mapping with Leximancer can be practical tools in identifying and analyzing important issues as reflected in public media. This approach can potentially be used by regulators for sensing and responding to public demands in an efficient and effective manner.

Gaining insights from the lens of media discourses, this research further sheds light on the complexity of data protection in the public health context. We also expect our results inform the significance of health data privacy protection, regulations, and policy-making. Finally, the concept mapping revealed in the discourses provides an indication and road map of future opportunities in data privacy research in the current pandemics and beyond.

Inherently, our research has limitations. Our identification of the HIPAA related themes is dependent on the sample data from an international news database. Understanding news media discourse is insightful for both academics and policy makers. Nevertheless, our findings are inherently biased toward journalistic perspectives and genres of text. To provide complementary perspectives, future research may analyze other sources such as peer-reviewed journals in *IEEE Xplore* and *PubMed* databases that cater to academic and specialist audiences. Future research can also employ other methods of text analysis, such as sentiment analysis, to enrich our collective understanding of the discourse formed around HIPAA and Covid-19.

References

[1] World Health Organization (WHO). COVID-19 Public Health Emergency of International Concern (PHEIC) Global research and innovation forum: Towards a research roadmap 2020 [27/01/2021]. Available from: https://www.who.int/publications/m/item/covid-19-public-health-emergency-of-international-concern-(pheic)-global-research-and-innovation-forum.

[2] Keesara S, Jonas A, Schulman K. Covid-19 and health care's digital revolution. New England Journal of Medicine. 2020;382(23):1-3.

[3] Wosik J, Fudim M, Cameron B, Gellad ZF, Cho A, Phinney D, et al. Telehealth transformation: COVID-19 and the rise of virtual care. Journal of the American Medical Informatics Association. 2020;27(6):957-62.

[4] The HHS Office for Civil Rights (OCR). HIPAA and COVID-19 2021 [27/01/2021]. Available from: https://www.hhs.gov/hipaa/for-professionals/special-topics/hipaa-covid19/index.html.

[5] Shachar C, Engel J, Elwyn G. Implications for Telehealth in a Postpandemic Future: Regulatory and Privacy Issues. JAMA. 2020;323(23):2375-6.

[6] Tucciarello C. OCR's Relaxed Enforcement of HIPAA During COVID-19 Paves The Way For Increase in Telehealth Services: National Law Review; 2020 [27/01/2021]. Available from: https://www.natlawreview.com/article/ocr-s-relaxed-enforcement-hipaa-during-covid-19-paves-way-increase-telehealth.

[7] Barraza L, Collmer V, Meza N, Penunuri K. The legal implications of HIPAA privacy and public health reporting for correctional facilities. Journal of Correctional Health Care. 2015;21(3):213-21.

[8] Goldstein MM, Pewen WF. The HIPAA Omnibus Rule: implications for public health policy and practice. Public Health Reports. 2013;128(6):554-8.

[9] Herzhoff J, editor Convergence and mobility–Just another fad or fashion? A systems-theoretical analysis. European Conference on Information Systems (ECIS); 2010; Pretoria, South Africa: AIS Electronic Library.

[10] Foley K, McNaughton D, Ward P. Monitoring the 'diabetes epidemic': A framing analysis of United Kingdom print news 1993-2013. PloS one. 2020;15(1):e0225794.

[11] Bednarek M, Caple H. Why do news values matter? Towards a new methodological framework for analysing news discourse in Critical Discourse Analysis and beyond. Discourse & Society. 2014;25(2):135-58.

[12] Leximancer. We aim for rapid reproducible analysis of complex text data, neither reductionist nor biased 2021 [cited 29/01/2021]. Available from: https://info.leximancer.com/science.

[13] Department of Health and Human Services (HHS). Notification of Enforcement Discretion for Telehealth Remote Communications During the COVID-19 Nationwide Public Health Emergency 2020 [cited 28/01/2021]. Available from: https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html.

[14] Schreiber SW. COVID-19 Changes HIPAA Compliance, But Caution Necessary- Healthcare Risk Management. Mondaq Business Briefing. 2020.

[15] Worth T. Working Remotely During the COVID -19 Pandemic. Renal & Urology News. 2020.

[16] Smith GRL. HHS Office For Civil Rights Issues Guidance To Help Ensure First Responders And Others Receive Protected Health Information About Individuals Exposed To COVID -19. Mondaq Business Briefing. 2020.

[17] Marotta KA. Friendly Reminder: HIPAA Still Applies During The Coronavirus Outbreak. Mondaq Business Briefing. 2020.

[18] Cohen JK. Complex web of HIPAA, state rules may impede data gathering on COVID-19 deaths. Modern Healthcare. 2020.

[19] Hoar S. OCR Announces HIPAA Telehealth Security Waiver In Response To COVID -19 Pandemic. Mondaq Business Briefing. 2020.

[20] Feldman JW. COVID-19: OCR HIPAA Enforcement Discretion For Telehealth. Mondaq Business Briefing. 2020.

[21] Harman K. Caregility Announces New Features in HIPAA Compliant iConsult Mobile App to help in fight against COVID-19. PR Newswire. 2020.

[22] Sarker S, Chatterjee S, Xiao X, Elbanna A. The sociotechnical axis of cohesion for the IS discipline: Its historical legacy and its continued relevance. Mis Quarterly. 2019;43(3):695-720.

[23] Dulipovici A, Baskerville R. Conflicts between privacy and property: The discourse in personal and organizational knowledge. The Journal of Strategic Information Systems. 2007;16(2):187-213.

[24] Hassandoust F, Akhlaghpour S, Johnston AC. Individuals' privacy concerns and adoption of contact tracing mobile applications in a pandemic: A situational privacy calculus perspective. Journal of the American Medical Informatics Association. 2020:1-9.

[25] Thomas EE, Haydon HM, Mehrotra A, Caffery LJ, Snoswell CL, Banbury A, et al. Building on the momentum: Sustaining telehealth beyond COVID-19. Journal of telemedicine and telecare. 2020:1-18.