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Research Paper

Biopolitics in The Implementation of AI SatuSehat as a Tool of Health

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Abstract

This study critically examines Indonesia's SatuSehat digital health platform through Michel Foucault's biopower lens, analyzing how Human-Centered AI reshapes relations of power (as state control through digital surveillance and normalization), trust (as public confidence in data security and ethical use), and justice in service distribution (as equitable access requiring inclusive design and infrastructure) in public administration. Using a qualitative case study methodology, it employs Actor-Network Theory and Critical Discourse Analysis to deconstruct official narratives, map stakeholder networks, and analyze application features as techniques of algorithmic biopower. The research reveals a stark contrast between the government's efficiency narrative and on-ground realities of infrastructure gaps, eroded public trust due to data breaches, and risks of digital exclusion. It concludes that SatuSehat functions as a political instrument extending state surveillance and normalization, necessitating robust data protection, transparency, and inclusive governance to prevent deepened social inequalities.

Keywords: Human-centered AI; Public Administration; SatuSehat Mobile; Foucault; Digital Governance.

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1. Introduction

Digital transformation in public administration is now one of the most important issues in the study of social science and public policy. Digital technologies, especially artificial intelligence (AI), are not only seen as technical tools to improve bureaucratic efficiency, but also as instruments that change the power relations between the state, the market, and citizens (Margetts & Dunleavy, 2013; Wirtz et al., 2019). On the one hand, the adoption of AI in the public sector is seen as an opportunity to create more responsive, effective, and data-driven governance. But on the other hand, AI also raises ethical dilemmas related to privacy, fairness, and public trust in the state. This debate is even more relevant in the context of healthcare, where personal data is highly sensitive and concerns the fundamental rights of citizens.

Healthcare is one of the sectors most affected by digital innovation. In the last two decades, the development of big data technology, machine learning, and the Internet of Things (IoT) has revolutionized the way governments and healthcare providers conduct diagnosis, policy planning, and monitoring of public health behavior (Reddy et al., 2019; Topol, 2019). The COVID-19 pandemic has accelerated the use of this technology. Almost all countries developed tracing applications, case reporting systems, and AI-based telemedicine to support crisis response (Whitelaw et al., 2020).

In Indonesia, this momentum gave birth to a major transformation with the presence of the PeduliLindungi application, which later evolved into SatuSehat Mobile in 2022. This application not only serves as a pandemic tracking tool, but is also integrated into a national digital health system that includes electronic medical records, health facility data integration, and access to preventive and promotive services (Ministry of Health, 2023). With more than 100 million downloads, SatuSehat is now the largest public health platform in Indonesia, as well as an important instrument in the digital health transformation agenda.

Despite the great benefits, the digitalization of health through SatuSehat also raises various fundamental questions. First, the issue of power. Citizen health data is now centralized and managed by the state and its technology partners. This condition opens up new opportunities for the state to expand surveillance and control mechanisms over the population, a form of biopolitical governance previously described by Michel Foucault.

Second, the issue of trust. The success of digital transformation relies heavily on the extent to which citizens trust that their data is used ethically and safely (Grimmelikhuijsen & Meijer, 2014). Unfortunately, Indonesia has a poor track record regarding data leaks, including the BPJS Health data leak case involving more than 200 million entries in 2021 (CNN Indonesia, 2021). This situation has the potential to weaken public trust in SatuSehat and exacerbate public resistance to the use of government digital platforms.

Third, the issue of justice. SatuSehat operates under the assumption that all citizens have access to smartphones, the internet, and adequate digital literacy. In fact, the digital divide is still real, especially in the 3T (underdeveloped, frontier, outermost) areas and in vulnerable groups such as the elderly, the poor and people with disabilities. If not anticipated, the digitalization of health risks deepening inequality in access to basic services.

Indonesia presents a complex case study for AI health governance, characterized by an ambitious national AI policy within a decentralized governance structure (Wadipalapa et al., 2024). Research revealed significant tension between the central government's AI vision and local implementation capacity, with power asymmetries limiting local autonomy in the design and management of AI initiatives (Wadipalapa et al., 2024).

Indonesia's health system faces various challenges in digital health implementation, including an inadequate legal framework for AI-specific issues such as algorithm transparency, liability for AI errors, and real-time data handling. Existing regulations, including the Personal Data Protection Law (UU PDP) and Minister of Health regulations, provide a foundation but lack specific provisions for AI complexities (Sebastian, 2024).

The study of digital health implementation in Indonesia during COVID-19 revealed significant opportunities and barriers. Although systems such as Indonesia Health Service (IHS), Citizen Health App, Peduli Lindungi, and Halodoc have been used, challenges faced include manual data entry, uneven

distribution of internet access, and user trust issues affecting equitable access to health facilities (Hidayat et al., 2023). Research on telemedicine apps shows that many platforms in Indonesia have not effectively adopted Personal Data Protection principles in their privacy policies, highlighting governance gaps in AI-powered healthcare (Raihan & Rosadi, 2024). This reflects the broader challenge of ensuring that digital health technologies comply with emerging data protection requirements.

This article aims to provide a critical review of the application of AI in Indonesia's public health services, with a focus on SatuSehat by three themes. The first is power (biopolitics), which means the state's capacity to manage and control the population through digital surveillance and behavioral normalization. Second is trust which means the public's belief in the government's ability and intention to protect and use health data responsibly. Third is justice in service distribution which means fairness in access to digital health services, requiring equitable infrastructure and design to prevent exclusion. The contributions of this article include, among others, the first theoretical contribution, which is to expand the literature on digital governmentality by using Michel Foucault's biopolitical perspective to analyze AI governance. The second is a practical contribution that aims to provide policy recommendations for the Indonesian Ministry of Health in building SatuSehat based on Human-Centered AI, in order to strengthen public trust and access justice.

This article starts from the main question: How does Human-Centered AI (HCAI), particularly through digital health platforms such as SatuSehat in Indonesia, reshape relations of power, trust, and justice in public administration based on Foucault's theoretical framework of biopolitics?

2. Methods

A qualitative method with a case study approach was chosen as it provides a broader space for conceptual reflection. The research question that departs from Foucault's theory not only demands empirical study mapping, but also critical analysis of the ethical, political, and social implications of the application of AI in public administration. Thus, a case study is an appropriate method to produce new contributions: not just summarizing previous studies, but also offering theoretical interpretations that can enrich academic discourse and public policy practice.

The theoretical framework of this research is built on the foundation of Michel Foucault's thought, specifically the concepts of biopolitics and governmentality. The concept of biopolitics refers to a form of power that focuses on managing the life (bios) of the population through various interventions and policies, including in the field of health. A basic understanding of biopolitics centers on how governments manage populations through biological interventions and health policies (Greenhough, 2014; Lemke, 2024). Foucault's concept includes disciplinary control over individual bodies and biopolitical surveillance over populations (Foucault, 2008; Hardiyanta, 1997). In the context of contemporary digital health, this framework is extended to examine how AI technologies enable new forms of population management and biological citizenship (Greenhough, 2014). In the contemporary context, this framework is extended to analyze how AI technologies enable new forms of population management and "biological citizenship".

This research design is a qualitative case study with a multi-method approach to data collection. Case studies enable in-depth exploration of phenomena in specific and complex real- world contexts, presenting a conceptual and analytical perspective on the relationship between Human-Centered AI (HCAI), in this case the SatuSehat app, to be studied in relation to the transformation of public administration and the implications of power, trust, and justice in digital healthcare governance (Yin, 2018). Focusing on a single case (SatuSehat app) allows researchers to dig into the details while providing a holistic understanding of how biopolitical practices operate at the AI technology level. In this context, SatuSehat is not only understood as a digital application, but also as a locus of power relations between the state, technology, and society that can be explained through Michel Foucault's biopolitical framework (Foucault, 1978/2008).

The research question presented above is theoretically relevant because it relates the development of digital health technology, especially AI, to Foucault's theory of power, which has been more applied in non-digital contexts. Practically, this question is important to criticize the implementation of digital health

policies in Indonesia, particularly SatuSehat, which has a direct impact on civil rights, privacy, and social justice. This question goes beyond technical descriptions of the app's functionality and seeks to uncover the layers of power hidden behind the official Human Centered AI narrative promoted by the government.

The research framework is based on Michel Foucault's theories of biopolitics and governmentality, which emphasize how the state manages populations through mechanisms of surveillance, normalization, and regulation of life. In the digital context, this framework is extended to analyze how AI technology as implemented in SatuSehat becomes a new instrument in biopolitical practices. This research uses an intrinsic case study approach, where SatuSehat is chosen as a specific case to understand the broader phenomenon of digital transformation in Indonesia's health governance. Power relations, in this case, are seen as internalized through application features that direct individual behavior in a subtle and normalizing manner, such as the medication reminder and medication search features.

2.1. Data Collection Method

This stage is crucial because grey literature such as official Ministry of Health reports, reports from non-governmental organizations and media reports are used to confront the official government narrative. These sources provide an alternative view and often reveal challenges and realities on the ground that are not covered in formal academic publications. Analysis of these documents allowed to deconstruct the dominant narrative and reveal the tension between the idealized vision of digital health governance and the reality of implementation. Below is the table to explain data collection techniques based on the three main variables that will be examined in this study. We select the prioritize documents that contain substantive information related to at least one of the three themes.

Table 1. Data Collection Methods with Biopolitics Theme

Analysis Aspects	Guiding Questions	Example Data Sources	Thematic Code
Biopolitical Rationality	How does the official narrative frame SatuSehat as a tool for "population management"?	• Ministry of Health Report: "Digital Health Transformation 2021-2024"; • Director General of Disease Control and Prevention presentation on "Digital Surveillance"; • Ministry of Health White Paper on SatuSehat 2023.	N-01: Population Optimization Narrative
Biopower Techniques	What technical features demonstrate the logic of surveillance and normalization?	• SatuSehat technical manual for health facilities; • API specifications and data integration; • Implementation reports in pilot areas.	T-01: Algorithmic Surveillance Mechanism
Actors and Power Networks	Who controls the data and algorithms?	• Cooperation agreement with technology vendors; • SatuSehat governance structure; • Data security audit report (if available).	A-01: Technocratic Power Architecture
Resistance and Contestation	Is there any rejection or criticism of the system?	• Report by the Alliance of Independent Journalists (AJI) on digital surveillance; • Tempo investigative article on the mandatory use of SatuSehat; • Ikatan Dokter Indonesia/Indonesian Doctor Associations (IDI) statement on administrative burden.	R-01: Resistance to Biopower

Source: Author, 2025

Table 2. Data Collection Methods with Trust Theme

Analysis Aspect	Guiding Questions	Example Data Sources	Thematic Code
Construction of Official Trust	How does the government build legitimacy and trust?	• "SatuSehat Aman" awareness campaign; • Certification and claimed standards; • Testimonials from officials and doctors	TR-01: Technical Legitimacy Strategy
Crisis and Vulnerability of Trust	What issues are eroding public trust?	• Reports of patient data leaks in the media; • Public complaints on complaint platforms; • Indonesian survey institute (Lembaga Survey Indonesia/LSI) survey results on trust in health data.	TR-02: Systemic Trust Crisis
Information Asymmetry	How does knowledge imbalance affect trust?	• Complexity of EULA (End User License Agreement); • Uncertainty regarding data ownership; • Lack of informed consent mechanisms.	TR-03: Technocratic Authority vs. Public Authority
Accountability Mechanisms	Is there a complaint and redress system?	• SOP for handling SatuSehat complaints; • Ombudsman report on digital health services; • Class action lawsuit mechanism (if any).	TR-04: Accountability Deficit

Source: Author, 2025

Table 3. Data Collection Methods with Justice Theme

Analysis Aspect	Guiding Questions	Example Data Sources	Thematic Code
Digital Inclusion/Exclusion	Which groups are affected by the digital divide?	• Ministry of Health report on coverage in 3T areas; • PATTIRO study on digital health access in rural areas; • Article on the elderly and people with disabilities;	J-01: Algorithmic Exclusion
Resource Distribution	How are infrastructure and resources allocated?	• Budget report for health digitization; • Investigation of server and bandwidth distribution; • Comparison of implementation in Java vs. outside Java.	J-02: Geographical Disparities
Bias in System Design	Does the system accommodate diversity?	• Interface analysis for low literacy; • Availability of local languages; • Accommodation of specific local conditions.	J-03: Technocratic Design Bias
Impact on Vulnerable Groups	How does this affect marginalized communities?	• National Human Rights Commission report on digital health rights; • Study on migrant workers and data access; • Cases of indigenous peoples and local knowledge systems.	J-04: Layered Marginalization

Source: Author, 2025

2.2. Analysis

The collected literature was synthesized thematically to find patterns of arguments, contradictions, and research gaps. The analysis was directed at three main themes: (a) Biopolitics, (b) public trust, (c) justice in service distribution. Based on the literature findings and Foucault's theoretical framework, the author presents a critical analysis and academic opinion on how HCAI in the digital health sector can act as a double-edged sword: on the one hand strengthening public services and transparency, but on the other hand potentially expanding practices of control, surveillance, and social exclusion.

This study uses Critical Discourse Analysis, first is by comparing the official narrative (Ministry of Health) with the counter narrative (NGOs/media) and second is by identifying the diction, metaphors, and framing used, for example the use of the words "efficiency" vs "supervision", "integration" vs "data monopoly". The next analysis is analyzing the main features of the SatuSehat application. This analysis is not only descriptive, but seeks to identify how each feature functions as a mechanism of power and control. The features that are the focus of the analysis include electronic medical records, vaccination status, preventive services, health scores, BPJS integration, AI drug recommendations, and big data data analysis.

Governmentality provides a broader analytical framework for understanding how AI governance operates through various mechanisms beyond direct state control (Munro, 2012). This includes examining how AI systems create new forms of "security apparatuses" that manage populations through predictive and preventive interventions (Munro, 2012). This framework is particularly useful for analyzing how AI governance operates at multiple scales and through various institutional arrangements.

3. Results and Discussion

The results section explains the findings from the data collection, focusing on three main themes in line with the research questions. The implementation of SatuSehat presents three critical challenges: first, the issue of power or Biopolitics, where the centralization of citizens' health data by the state and its technology partners opens up opportunities for expanding surveillance and control mechanisms as a form of biopolitical governance; second, the issue of public trust, where Indonesia's poor track record, such as the BPJS Kesehatan data leak in 2021, has the potential to undermine public trust, the foundation of successful digital transformation; and third, the issue of justice in service distribution, because the assumption of uniform access to smartphones, the internet, and digital literacy does not align with the reality of the digital divide in 3T regions and vulnerable groups, thus risking deepening inequalities in access to basic healthcare services if not addressed.

3.1. Results

3.1.1. Biopolitics

Results from official government documents, including policy documents from the Ministry of Health, provide a clear roadmap toward "AI-based individual health utilization and analysis" (2023) and an "AI, Blockchain, and IoT-based Regulatory Sandbox" (2024) (Ministry of Health, 2023, 2025). Words or phrases from these documents include "digitalization, standardization, and integration" toward "One National Health Data." There is also a statement from the Ministry of Health's SatuSehat socialization materials that the SatuSehat platform is designed for "near real-time government decision-making," "health surveillance," and "early detection of infectious diseases." Furthermore, data from Health Ministerial Regulation 24/2022 has been challenged for enabling "total public surveillance and discrimination based on health status," with the Ministry of Health's access to medical records considered a serious violation (Kemenkes, 2022a, 2022b, 2023b, 2023a, 2025a, 2025b).

The finding of a counter narrative to the government's narrative is that there is a lawsuit against Health Ministerial Regulation 24/2022 which has been challenged for enabling "total public surveillance and discrimination based on health status," with the Ministry of Health's access to medical records considered a serious violation. Response by Aido.id suggests this platform has the potential to become an instrument of "datacracy" and a study at Mulia Regional Hospital (Papua) demonstrated the reality of

"user resistance" and dual workloads (manual and electronic) (Asmawati et al., 2025; dr. Juliana Ng, 2025; Investigasi.org, 2023)

3.1.2. Public Trust

The result found reveal the construction and rifts in public trust in SatuSehat, which relies on technical authority and is challenged by data security issues. Official Narrative (Ministry of Health) said that trust is built through claims of "data security using masking and encryption methods" and restricting access to health workers with consent. Legitimacy is reinforced by demonstrating "12 national and international awards" (such as the 2024 GovTech Prize). The narrative emphasizes SatuSehat as a domestic product "developed directly by the Ministry of Health" to build digital sovereignty (Aji Muhawarman, 2024; Kemenkes, 2025a).

Critical Narrative found by NGOs/Media/Academics that said trust is fundamentally challenged. The judicial review lawsuit highlights the "lack of protection mechanisms" and recalls the "eHac and PeduliLindungi data leaks" as historical evidence of the government's inability to secure data. The Aido.id article classifies health data as "Specific Personal Data" and emphasizes the significant risks if security fails. A Prudential study indicates a broader crisis of trust: 93% of patients delay treatment, in part due to a "lack of clear health information" (dr. Juliana Ng, 2025; Investigasi.org, 2023; Prudential Syariah, 2025)

3.1.3. Justice in Service Distribution

The findings reveal SatuSehat's ambivalence in promoting equity but on the one hand, it has the potential to equalize access to information, while on the other, it risks deepening the digital divide. From The Official Narrative (Ministry of Health) which claim SatuSehat providing equal services, with the benefit of "monitoring patient histories even when receiving treatment at different hospitals." The roadmap targets "expanding health facility integration beyond Java and Bali" by 2023. The narrative emphasizes streamlining the workload of healthcare workers in the regions (example quote from a Madiun Health Office employee) and the long-term goal of "integrated Indonesian healthcare services" (Kemenkes, 2023a, 2025a, 2025b)

In the other hand we found critical narrative from media/academic/NGO reports that the reality of implementation shows deep gaps. A literature review revealed that only 25% of health facilities were fully integrated by the end of 2023, with significant disparities (Hospitals: 65%, Community Health Centers: 43%, Clinics: 27%). A study at Mulia Papua Regional Hospital encountered obstacles such as "unstable internet," "patients without ID cards," and "the system is not yet integrated with SATUSEHAT/BPJS." A Kompas article confirmed that "3,000 community health centers are not yet connected to the internet." A Prudential report highlighted the root of the equity problem: "77% of patients have difficulty making appointments" due to geography and the unequal distribution of doctors (Asmawati et al., 2025; Deonisia Arlinta, 2024; Prudential Syariah, 2025).

3.2. Discussion

While the discussion section explains about power relations and biopolitics in satusehat implementation, biopolitics, public trust, justice in service distribution, deconstructing narratives, SatuSehat features analysis and power actors mapping. This critical analysis examines how SatuSehat, as a Human-Centered AI (HCAI) technology, operates as a "double-edged sword," reproducing power relations, building at a time eroding trust, and producing at a time threatening justice. Meanwhile, governmentality provides a broader analytical lens to understand how AI governance operates through various mechanisms beyond direct state control. This includes examining how AI systems create security apparatuses that manage populations through predictive and preventive interventions, often by encouraging individuals to self-governance. This framework is particularly useful for analyzing how technological governance operates through various institutional arrangements. explanation of all of this is discussed below.

3.2.1. Power Relations and Biopolitics in SatuSehat Implementation

Based on a critical review of the existing literature, this study identified several thematic patterns relevant to the research questions. Global and national literature suggests a shift from a reactive healthcare paradigm to a predictive and preventive approach, in which AI plays a central role. Relevant studies show that AI implementation in the healthcare sector is often framed within a narrative of efficiency, personalization, and transparency (Topol, 2019; Whitelaw et al., 2020). However, behind these optimistic narratives, critical literature reveals potential risks in terms of power, trust, and equity. Several studies highlight how digital platforms such as SatuSehat, with the ability to collect health data at scale, can be used as a tool to strengthen state control over citizens' bodies and behaviors, a manifestation of modern biopolitics (Greenhough, 2014; Lemke, 2024).

This analysis also found that, despite the shift towards algorithmic governance, the empirical literature in Indonesia is still limited. Most studies on SatuSehat and its predecessor, PeduliLindungi, tend to focus on technical aspects of implementation, such as data interoperability or adoption challenges (Hidayat et al., 2023). Research that explicitly analyzes the socio-political and ethical implications of these platforms is minimal, creating a research gap that this article fills. This gap reflects the urgent need for studies that look not only at what the technology does, but also how it affects social and political structures, including the power relations between government and society (Wadipalapa et al., 2024).

A review of international literature shows that the application of AI in the health sector is often positioned as a technocratic solution that promises efficiency, accuracy, and personalization of services. For example, Topol (2019) emphasized how machine learning algorithms can improve image-based medical diagnosis with accuracy levels equivalent to or even higher than human doctors. Whitelaw et al. (2020) highlighted the role of digital technology during the COVID-19 pandemic, where tracing applications became the main instrument to control the spread of the virus in various countries. However, critical literature highlights that these technologies are not neutral, but rather reproduce existing power relations and inequalities in society (Eubanks, 2018; Kate Crawford, 2021).

In the context of Southeast Asia, research by Wadipalapa et al. (2024) on AI governance in Indonesia shows a fundamental tension between the vision of the central government and the implementation capacity at the local level. Differences in infrastructure, human resources, and regulatory limitations mean that AI tends to be a tool for centralizing state power, rather than supporting decentralization of services. Research by Hidayat et al. (2023) also shows that inequality in internet access and digital literacy widens the digital health gap, so that digital transformation can potentially only be enjoyed by certain groups. Thus, international and national literature agree that the application of AI in health should be read not only as a technical innovation, but also as a political intervention with broad social implications.

Foucault's perspective on biopolitics offers an analytical lens to understand this phenomenon. Foucault (2008) defines biopolitics as a form of power that focuses on managing populations through statistical techniques, surveillance, and medical intervention. In the context of SatuSehat, electronic medical record data and health system integration serve as instruments to "measure" and "regulate" citizens' lives. As noted by Greenhough (2014), biopolitics in the digital era is transforming into digital biopolitics, where algorithms serve as a new mechanism to normalize health behaviours. Thus, the relevant literature confirms that the analysis of SatuSehat implementation cannot be separated from the dimensions of power and social justice.

The intersection of biopolitics, governmentality and artificial intelligence in health governance is an emerging field of critical inquiry. Biopolitics, as conceptualized by Michel Foucault, refers to governmental techniques that manage populations through biological and health interventions (Greenhough, 2014), while governmentality encompasses the broader apparatus of power that shapes behavior through various regulatory mechanisms (Al Farauqi, 2022; Foucault, 2008). In the context of digital health technologies and AI, these theoretical frameworks provide important analytical tools to examine how technological governance operates across different political and economic contexts.

3.2.2. Biopolitics in the Implementation of SatuSehat: From Surveillance to Algorithmic Governmentality

The implementation of SatuSehat represents the crystallization of modern Foucaultian biopolitics. The official narrative of "One Health Data" and "surveillance" transparently reveals a biopolitical goal: optimizing the lives of populations through the administration of data-fied bodies. However, a critical discourse analysis reveals a shift from conventional "health surveillance" to "algorithmic governmentality." The real-time dashboard, purportedly for evidence-based policy, also functions as a digital panopticon, enabling centralized visibility and intervention into individual and collective health behaviors.

The main tension lies in the articulation of power. The state, through Minister of Health Regulation 24/2022, positions itself as the primary "controller of personal data" with full access to medical records—a claim YPPRI deems "total surveillance." Biopower techniques are no longer subtle; they materialize in administrative sanctions that threaten the operational permits of non-compliant health facilities. This is a top-down mandate for enforcing compliance to build a national data network. However, the study at Mulia Regional Hospital shows that at the micro level, "resistance" and "dual system use" are subtle forms of non-compliance (infrapolitics) that disrupt the smooth biopolitical plan. Thus, SatuSehat is not simply a neutral tool, but a site of contestation between the logic of centralized surveillance and the practice of local autonomy (Asmawati et al., 2025; Investigasi.org, 2023). Tensions exist between the official discourse of "efficiency and data-driven decision-making" and critical narratives of "total surveillance" and "data monopoly." While the government emphasizes the collective good ("Everyone is Healthy"), critics suspect an expansion of the state's control over the population's bodies.

3.2.3. Public Trust in the Implementation of SatuSehat: The Precarious Legitimacy of Techno-Rational Authority

Trust in SatuSehat has been reconfigured from interpersonal (doctor-patient) trust to trust in a complex techno-rational system. The government constructs legitimacy through two primary discourse strategies: "technical authority" (using the Fast Healthcare Interoperability Resources (FHIR) global standard and encryption) and "external recognition" (international awards). This narrative aims to shift the source of trust from individuals to technological institutions, which are perceived as objective.

However, triangulation of sources reveals that the foundation of this trust is extremely fragile. Critical narratives effectively debunk technical claims by highlighting the "bad precedent" of previous government health system data breaches. This has created a deep "structural distrust." Furthermore, a literature review reveals "low novelty scores" in user evaluations, suggesting that the system fails to build the allure and emotional attachment essential for long-term trust. The Prudential report extends this crisis of trust to a broader realm: patient distrust of the health system as a whole, manifested in delays in care due to "lack of clear information" and "uncertainty about costs."

This contradiction reveals a paradox which SatuSehat was launched amidst a systemic trust deficit in healthcare services and the state's capacity to protect data. Consequently, efforts to build trust through technical narratives must confront historical realities and the public's everyday experiences, which are fraught with uncertainty. There is a significant gap between the government's promises of "data security" and the public's memories of "past data breaches" and concerns about "future risks." The trust sought to be built through awards and technical narratives (encryption) clashes with perceptions of systemic vulnerability and legal uncertainty (Gatra, 2023; Kemenkes, 2025a).

3.2.4. Justice in Service Distribution in the Implementation of SatuSehat: Between Algorithmic Inclusion and Digital Exclusion

Official discourse promotes SatuSehat as a driver of justice through "integration" and "easy access to health records anywhere." Ideally, this platform would create procedural justice by providing the same data to healthcare workers everywhere, and distributive justice by directing resources based on an accurate map of needs.

However, a thematic analysis of various sources reveals a significant risk of "new inequities" created by the system itself. Data shows "uneven" implementation, creating a digital divide between Java and Bali and other regions, as well as between large hospitals and community health centers. The case study of Mulia Regional Hospital (RSUD Mulia) is a prototype of this injustice: infrastructure (electricity, internet) and human resource constraints actually "exclude" the region from the benefits of national integration. This situation could exacerbate existing geographic inequalities, an irony considering the platform was designed to reduce them (Asmawati et al., 2025; Deonisia Arlinta, 2024; Klinik Pintar, 2023; Muchamad Zaid Wahyudi, 2023).

More deeply, substantive equity is threatened by "bias in data and design." While the system is designed based on the context and needs of growth centers (Java), it may be irrelevant or even burdensome in areas with different contexts. Patients without ID cards—often the most vulnerable group—are technically "invisible" in the system, further marginalizing them. Thus, rather than being a tool for equity, SatuSehat risks becoming a tool of "algorithmic normalization" that reinforces the dominance of developed regions while ignoring local diversity, and reproduces injustices for already marginalized groups.

3.2.5. Deconstructing Official Narratives: Between Efficiency and Biopolitical Control

Deconstructing official narratives requires a systematic analysis of how language, regulation, and institutional incentives construct the discourse of “efficiency” while embedding biopolitical control. Using a Foucauldian critical discourse analysis, this section examines key policy documents, including Minister of Health Regulation No. 24 of 2022 on Electronic Medical Records and the Health Digital Transformation Roadmap 2021–2024 (Kemenkes, 2022b, 2025b). These texts frame SatuSehat through terms such as “integration,” “national health data,” and “real-time surveillance,” positioning it as a neutral tool for evidence-based decision-making and public good.

However, a close reading reveals how these discursive strategies normalize state intervention. For example, Article 5 of Permenkes 24/2022 grants the Ministry of Health access to electronic medical records for “government interests in the context of fostering and supervising the implementation of medical records.” The explanatory notes expand “government interests” to include “policy decision-making in the health sector,” which critics argue enables expansive surveillance (Investigasi.org, 2023). The Roadmap further emphasizes “predictive analytics” and “AI-based early detection,” framing population health management as a technical necessity rather than a political project.

This official narrative is contrasted with critical discourse from NGOs and media. For instance, Tempo (2025) reported that 400 community health centers (puskesmas) still lack stable internet, undermining the claim of seamless integration. The Cisdi report shows that there are many citizen complaints regarding difficulties in accessing vaccination features and medical records, especially in 3T areas. The BPJS data leak case in 2021 that affected more than 200 million participants' data also worsened the image of public trust in the government's digital initiatives (Center for Indonesia’s Strategic Development Initiatives, 2022; CNN Indonesia, 2021; tempo.co, 2025). Thus, the modernization narrative built by the Ministry of Health is faced with the reality of infrastructure limitations, user resistance, and a crisis of public trust.

Such counter-narratives expose the tension between the state’s rhetoric of empowerment and the on-ground realities of exclusion and control. Through this discursive analysis, it becomes evident that the state employs a techno-rational lexicon to legitimize its biopolitical agenda. The repeated invocation of “efficiency” and “data-driven governance” obscures the underlying mechanisms of surveillance and normalization, effectively constructing citizens as “datafied subjects” whose biological lives become administrable through digital platforms.

Thus, the deconstruction of this narrative shows that the SatuSehat discourse is not only a matter of technology, but also an effort to shape citizens' subjectivity as "digital patients" who must obey the logic of datafication. This analysis is in line with Foucault's view that official discourse functions as an instrument of power to normalize daily practices, such as the obligation to show health status through the application, which is then internalized by citizens voluntarily.

3.2.6. Analysis of SatuSehat Features as a Foucaultian Biopolitical Technique

Meanwhile, governmentality provides a broader analytical lens to understand how AI governance operates through various mechanisms beyond direct state control. This includes examining how AI systems create security apparatuses that manage populations through predictive and preventive interventions, often by encouraging individuals to self-governance. This framework is particularly useful for analyzing how technological governance operates through various institutional arrangements.

To move beyond labeling features as biopolitical, this section demonstrates how specific functionalities of SatuSehat produce documented effects of discipline, normalization, and control. Empirical evidence is drawn from implementation reports, case studies, and institutional practices. These examples show that SatuSehat's features are not merely technical tools but operationalize what Foucault called "technologies of the self," where individuals internalize state-defined health norms through daily digital interactions. SatuSehat has a number of features that can be read as instruments of biopolitics. An example of a description of one of the features is presented in Figure 1 below. To facilitate understanding, the menus and sub-menus in each figure are marked with a red dashed thick line box.

First, the Electronic Medical Record (RME) feature integrates individual health data from various health facilities into one central database. From Foucault's perspective, this data collection goes beyond mere medical records; it is a tool for disciplinary control over individual bodies and population management en masse. These data allow governments to conduct surveillance and predictive interventions (e.g., predicting disease trends or outbreaks) and turn citizens' bodies into data that can be systematically calculated and organized, which is the essence of modern biopolitics (Greenhough, 2014; Hardiyanta, 1997; Lemke, 2024). The fact that Electronic Medical Records (RME) based on a study at RSUD Mulia in Papua found that despite the mandate to use RME, unstable internet led to dual documentation (manual and digital), increasing staff workload and causing resistance (Asmawati et al., 2025; Hidayat et al., 2023). This reflects Foucault's disciplinary power, where the system imposes new routines but also generates micro-resistances.

Second, the vaccination and immunization feature are a form of normalization technique. This feature, which is a legacy of the PeduliLindungi app, functions as a normalization mechanism and bio-passport (Rachel Farahdiba Regar, 2023). By making vaccination status a requirement to access public spaces, the government effectively uses digital technology to regulate citizens' mobility and social interactions. This is a clear example of how digital technology can be used to control behavior and movement, which is in line with pandemicariat analysis, where the lives of certain groups of people are strictly regulated by data-driven health regulations (Bhowmick & Alam, 2023; Munro, 2012).

Third, the preventive service access feature, this feature encourages individuals to perform such as health risk checks or chronic disease screening, functioning as a self- governance mechanism. This concept shows how power operates not only through coercion from above, but also through the internalization of state surveillance norms. Individuals are encouraged to voluntarily monitor and manage their own health according to standards set by the state, making them active subjects in the broader project of governmentality (Foucault, 2008; Lemke, 1992). The preventive service access feature has 1 main feature menu, namely Disease Risk Detection, which consists of 2 sub menu features, namely Mental Health and Lung Cancer Risk.

Fourth, the Health Score feature is the clearest manifestation of biopolitical categorization. By classifying citizens into "healthy," "at risk," or "chronic" categories based on data, this feature algorithmically creates an ideal body standard that must be followed (Foucault, 2008, 2021). What needs to be scrutinized, as expressed by Agudo and Matute (2021), is the lack of transparency in algorithmic decision-making. These algorithms function as "black boxes" that classify individuals without providing an explanation of the data or the logic behind it. This lack of transparency is not a technical failure, but rather reinforces power asymmetries, where knowledge about oneself is only held by the system, not by the subject themselves (Agudo & Matute, 2021). Without transparency in algorithmic design, the Health Score feature risks stigmatizing "at-risk" groups. A critical report by Aido.id (2022) noted that such scoring systems, if biased, could lead to discrimination in insurance or service access, reinforcing power asymmetries between data subjects and system controllers.

The BPJS integration feature is found in the BPJS Information feature which is then continued by inputting data on other BPJS participant family members. The personal identity data requested is very detailed, starting from the BPJS number, complete address to RT and RW, NIK, Passport Number, of course, probationary data such as full name, date of birth and so on. The mandatory linkage of BPJS data to SatuSehat creates implicit sanctions—users who fail to update their data may face service delays. This disciplinary mechanism ties digital compliance to access to basic health rights, exemplifying how digital platforms enforce participation.

SatuSehat collects health data from millions of users, which is then analyzed by the Ministry of Health and AI vendor partners. This analysis generates new "knowledge" about the population, consisting of data on disease patterns, health trends, and risk behaviors that are then used to design public policies (Burchell Graham, 2009; Foucault, 2017). In Foucault's view, power and knowledge are closely intertwined. The knowledge generated from this data is not neutral; it becomes a tool of power used to design government policies and interventions, potentially perpetuating inequality. The big data feature is found in the Profile section, which is actually still an integral part of the menu with the BPJS integration menu.

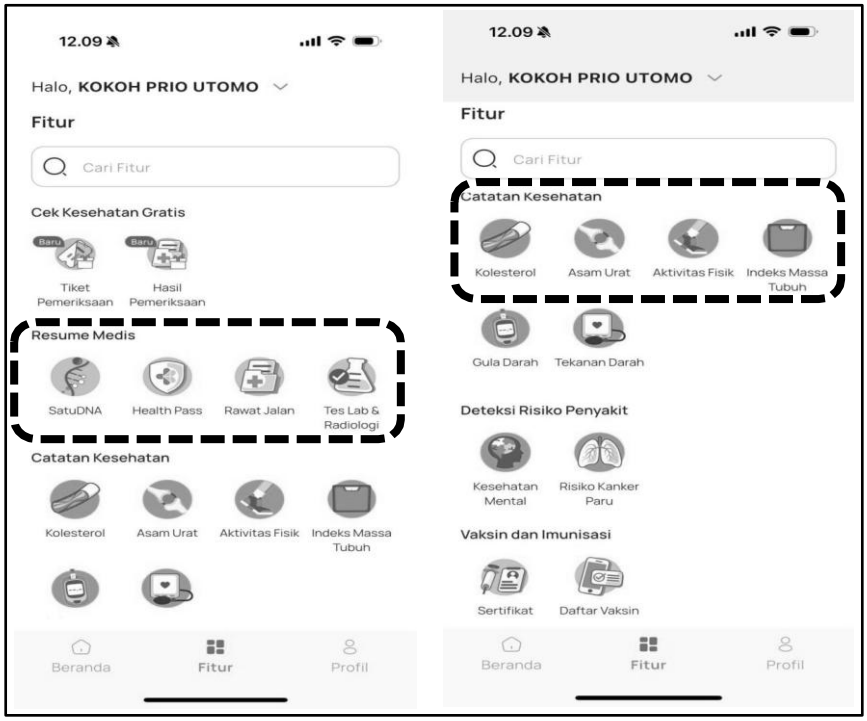

Figure 1. Electronic Medical Record Features

Overall, SatuSehat's features represent a combination of power techniques: discipline (through electronic medical records), population regulation (through vaccination status) and norm internalization (through preventive features). In Foucault's language, SatuSehat is a biopolitical technology that shapes digital citizen subjects as patients, users, and "data points" in population management. This analysis is summarized in the following table to provide a clearer picture.

Table 4. Biopolitical Features in SatuSehat

No	Feature	Power Mechanism	Impact
1	Electronic Medical Record	Disciplinary control and population management	Regulate the health behavior of citizens en masse
2	Vaccination and Immunization Status	Normalization and Bio- Passport	Surveillance and mobility control mechanism
3	Access to Preventive Services	Self-governance and government at a distance	Subjectivization and internalization of health norms

No	Feature	Power Mechanism	Impact
4	Health Score	Population categorization and algorithmic governance	Stigmatization of "at-risk" groups and power asymmetry
5	BPJS integration	Disciplinary power through implicit sanctions	Commercialization of health and subtle behavioral control
6	Drug Recommendation	Commercialization of prescriptions	Conflict of interest with industry
7	Big Data Analytics	Power/Knowledge	Population control through data-driven policies

Source: Author, 2025

3.2.7. Mapping of Power Actors: Actor-Network in the SatuSehat Ecosystem

The analysis of power relations will not be complete without mapping all actors involved in the SatuSehat network. Based on Actor-Network Theory (ANT), power is not centralized in one entity, but distributed among a network of human and non-human actors. In the case of SatuSehat, the network can be analyzed based on three main groups: the state, the private sector, and the community (Latour, 2005).

Visually (figure 2 below), the actor-network of SatuSehat can be depicted as a triangular diagram: the state at the top with regulatory control, the private sector on the left side as technology providers, and the community on the right side as users and data objects. The relationship between actors is not symmetrical; the state has a dominant position, while the community is in a subordinate position. However, community resistance, for example through public criticism, complaints, or non-compliance in using the application, can shift the balance of the network. In Foucault's perspective, this is proof that power is always relational and never absolute. Here is an explanation of Figure 2 below regarding the relationship between actors.

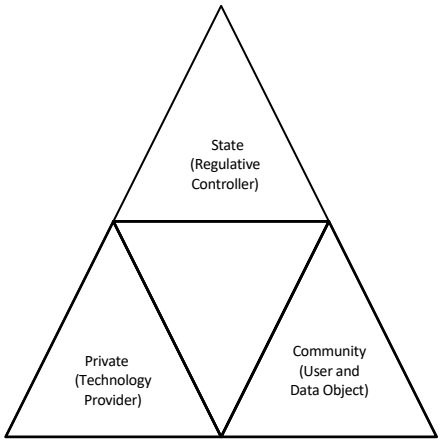

Figure 2. Visualization of SatuSehat Actor-Network
Source: Author, 2025

State: Key actors from the state include the Ministry of Health as the policy architect and main controller, and BPJS Kesehatan as the massive supplier of data on insurance participants. The government functions as a *sovereign power* and *regulator* that asserts standards and policies, which are then implemented by other actors in the network. The Ministry of Health, as the primary actor also as translation and enrollment, defined the problem by fragmented health data and proposed SatuSehat as the solution. Through Permenkes 24/2022, it enrolled health facilities by making integration mandatory.

Private sector: AI vendors and technology developers are important actors with essential technical expertise. They design the system architecture and algorithm logic, effectively controlling the "engineering" of the power itself. In addition, pharmacies and health facilities also act as field operators that turn patients into "data subjects," acting as an extension of the state. This role opens up the potential for commercialization of health data, where economic interests can conflict with public ethics.

Community: This group includes patients, doctors, and vulnerable groups (such as the elderly and communities in 3T areas). They are the source of the data and the users of the app. Although often in a subordinate position, communities are not entirely passive actors. Their power, although limited, is manifested in the form of resistance, refusal of participation, and public criticism of the system. Community pushback by negotiation and resistance, such as lawsuits against data privacy violations (e.g., BPJS leak case) and media criticism, act as "actants" that reshape the network. The judicial review of Permenkes 24/2022 by civil society groups exemplifies how legal challenges can force renegotiation of data governance rules.

The analysis of the network relations map between actors is summarized in the following table to provide a clearer picture.

Table 5. Network Relationship Map of Actors in the SatuSehat Ecosystem

Actors	Power Role	Power Mechanism	Network Relationship
Government (Ministry of Health)	Data Owner & Regulator	Legislation (PDP Law, Permenkes), Control over data (data hub), Regulation	Enforce regulations on all actors (vendors, health facilities, community)
BPJS Health	Data Supplier and Integrator	Claims data, Strategic partnership with MOH	Bridge between financial and medical data, strengthen biopolitical economy
Private (AI Vendors)	Technology Developer	Technical expertise (big data, machine learning), System architecture design	Mediate between government and society, control "technical" power
Pharmacies/ Health Facilities	Field Operators	Data entry, direct interaction with patients	Turning patients into "data subjects", acting as an extension of the state
Society (Patient)	Data Source & User	Provide data, Application adoption/resistance	Often passive in the network, their power limited to "refusal" of participation
Technical Team/ Developers	Algorithm Design	Build technical structures, Organize algorithm logic	Hidden power, determines how data is analyzed and interventions are triggered

Source: Author, 2025

Conclusion

This study concludes that SatuSehat operates as a site of algorithmic biopower, reshaping power, trust, and justice in Indonesia's digital health governance. Through a Foucauldian lens, we have deconstructed the official narrative of efficiency to reveal its biopolitical underpinnings, demonstrated how app features enact discipline and surveillance, and mapped the actor-network through which power circulates.

In some points there is key findings form this study that are (1) Power & Biopolitics, from SatuSehat application extends state capacity for population management through data centralization, predictive analytics, and digital surveillance. Policy documents and implementation reports show a clear shift toward algorithmic governmentality. (2) Trust & Legitimacy, there is issue on public trust is fragile due to historical data breaches and lack of transparent accountability mechanisms. The state's techno-rational narrative clashes with on-ground experiences of vulnerability and exclusion. (3) Justice & Inclusion, while promising equitable access, SatuSehat risks deepening the digital divide, especially in 3T regions and among vulnerable groups. Empirical data shows uneven adoption, infrastructure gaps, and design biases that perpetuate marginalization.

From this study we suggest some practical recommendations that are (1) Enhance Algorithmic Transparency that The Ministry of Health should publish audit reports on algorithms used in features like Health Score, ensuring they are fair, explainable, and bias-free; (2) Strengthen Data Protection, can be done by implement robust, independent oversight bodies (e.g., a health data ombudsman) to handle complaints and ensure compliance with the Personal Data Protection Law; (3) Bridge the Digital Divide which can be done by prioritize infrastructure investment in underserved areas and develop low-literacy

interfaces, offline functionalities, and community-based digital literacy programs; (4) Foster Participatory Design, through engagement or involve civil society, health workers, and marginalized communities in the design and evaluation of SatuSehat to ensure it meets diverse needs.

Limitations

We fully realize that there are still many limitations to this study. This study is based on documentary analysis; future research should include primary data through interviews, surveys, and ethnographic observation to validate and deepen these findings. Longitudinal studies on the impact of SatuSehat on health equity and citizen-state relations are also needed. In sum, SatuSehat represents both a promise and a peril. Without critical reflection and inclusive governance, digital health platforms may reinforce existing inequalities and expand state control. By centering digital justice and public trust, Indonesia can harness AI for truly human-centered health transformation.

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