

Research Article



Platformized Care as Urban Infrastructure- Digital Healthcare Systems in Guangzhou

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Introduction

Across China's smart city agenda, digital platforms have become part of the ordinary routines of urban life (Caprotti & Liu, 2022; Smart et al., 2023). Few areas show this more clearly than healthcare. In Guangzhou, residents now move through a landscape of AI-driven diagnostic tools, app-based triaging systems, and health QR codes that link personal data to both medical and mobility services. These systems rose to prominence during the COVID-19 pandemic, when access to hospitals, transport, and even workplaces depended on them (Li et al., 2023; Li & Long, 2022). Yet their role has not receded with the pandemic. Instead, they remain integral to how people book appointments, obtain prescriptions, or prove eligibility for insurance. In other words, they are not add-ons to an existing healthcare system but have become infrastructures in their own right—quietly shaping access, participation, and, at times, even survival in the city.

Urban studies has long shown that infrastructures occupy a paradoxical position: they are at once visible and invisible. Roads, pipes, and cables, for instance, are highly material, yet they often recede into the background of daily life until something goes wrong. This tension between visibility and invisibility has been widely discussed in infrastructure studies, where scholars emphasize that infrastructures become most noticeable in moments of breakdown, repair, or contestation (Berfelde & Kluzik, 2022; Plantin et al., 2018). As Plantin et al. (2018) argue, infrastructures typically operate as taken-for-granted supports of everyday practices, only surfacing when their functioning is disrupted or when new socio-technical arrangements make them newly perceptible. This paradox provides an important conceptual starting point for understanding how digital platforms, too, can oscillate between being ordinary interfaces of daily life and critical infrastructures that structure access, circulation, and governance. Scholars such as Alvarado and Vegliò (2023) and Easterling (2014) remind us that infrastructures are not inert backdrops but active organizers of urban experience. They script circulation, access, and the possibilities of social life. More recently, work by Anand et al. (2018) has extended this conversation into the digital turn, pointing to how platforms and data systems now perform similar functions to physical utilities. This paper builds on that trajectory by asking what happens when healthcare itself becomes platformized, and when those platforms take on infrastructural roles. The debate over how to situate platforms within the language of infrastructure has grown in recent years. Plantin et al. (2018) describe the “platformization of infrastructures” alongside the “infrastructuralization of platforms,” highlighting how the two increasingly blur. Everyday engagement with an app or QR code makes the platform seem highly visible, yet the underlying networks of servers, databases, and algorithms often remain invisible to users. Frapporti (2024), however, warns against treating platforms and infrastructures as synonymous. Historically, they differed in scale and scope: infrastructures reached across territories, while platforms mediated transactions at smaller scales. Yet in today's political and technological climate, platforms can achieve infrastructural reach, coexisting with, and in some cases displacing, conventional infrastructures.

Digital healthcare in Guangzhou exemplifies this shift: platforms that once seemed like supplementary tools now underpin both daily routines and institutional operations.

Seeing these healthcare platforms as infrastructures also allows us to take seriously the new forms of governance they introduce. Residents are compelled into certain digital practices—registering for apps, scanning QR codes, surrendering personal data—not simply for convenience, but as a precondition for access to care. Hospitals and clinics rely on these same systems for workflow management, patient sorting, and compliance reporting. The result is a healthcare ecosystem in which digital platforms mediate relations between citizens, institutions, and the state. Easterling’s (2014) description of infrastructure as scripting behavior at scale is apt here: the platforms quietly, but powerfully, reshape how people experience health, how institutions deliver it, and how the state governs it.

Of course, this infrastructural role is not evenly experienced. The same platforms that streamline access for some create barriers for others. Older adults may struggle with app interfaces; migrants may lack the necessary identification links for QR codes; digitally marginalized groups may simply not own the required smartphones. The promise of efficiency thus sits alongside new forms of exclusion and dependence. As scholars of platform urbanism note (Strüver & Bauriedl, 2022), the very ordinariness of platforms conceals these uneven geographies of access. In Guangzhou, the infrastructuralization of healthcare through platforms highlights precisely who is included, who is excluded, and under which conditions care is delivered. This paper takes these dynamics as its starting point. It asks:

- How do digital healthcare platforms operate as infrastructures in Guangzhou’s smart city agenda?
- And what kinds of citizenship, governance, and exclusion arise from their infrastructural role?

The analysis draws on ethnographic fieldwork in Guangzhou, including in-depth interviews with residents and healthcare workers, complemented by observations of how digital platforms mediate access to care in everyday settings. These methods make visible both the lived experience of navigating healthcare platforms and the institutional logics through which they are embedded in the city’s governance landscape. In doing so, the paper demonstrates that healthcare platforms are not peripheral supports but central infrastructures reorganizing citizenship and rights to the city in contemporary urban China.

Methods

To ground these conceptual debates in the lived realities of Guangzhou, the paper draws on qualitative research that examines how digital healthcare platforms are encountered and negotiated in everyday life. While theoretical perspectives on the infrastructuralization of platforms highlight their capacity to reorganize urban processes, understanding their concrete effects requires close attention to practice: how residents engage with platforms, how institutions depend on them, and how exclusions and dependencies emerge in situ.

Guided by this methodological orientation, this study draws on ethnographic fieldwork

conducted in Guangzhou between February 2025 and June 2025. Fieldwork sites included public hospitals, community health centers, and everyday urban spaces such as registration halls, pharmacy counters, and waiting areas where residents routinely interact with digital healthcare platforms. Observations focused on both the formal points of engagement—app-based registration systems, QR-code checkpoints, insurance verification portals—and the informal strategies that people devised to navigate them. This combination offered a way to see how platforms operate in practice, not just in their official design.

To deepen this perspective, the fieldwork was complemented by 17 semi-structured interviews with residents, healthcare workers, and local officials. Residents were selected to reflect diverse experiences across age, class, and migration status, with a particular focus on older adults and migrant workers who often face barriers to using digital services. Healthcare staff offered insights into the institutional side of these systems, explaining how platforms shape patient flows, optimize workflows, and impose compliance requirements. Local officials, primarily from municipal health bureaus and district-level health administrations, where access was possible, spoke to the broader governance ambitions behind the integration of digital platforms into Guangzhou's healthcare system.

The material collected consisted of fieldnotes, interview transcripts, and documentary sources, such as municipal policy documents and publicly available guidelines on platform use. These materials were analyzed thematically, with coding organized around three recurring dimensions: the spatial distribution of access and exclusion; the temporal rhythms introduced by platform use in everyday healthcare; and the reorganization of social relations through platform-based forms of governance and algorithmic operations. These categories emerged inductively from fieldwork observations but also resonate with wider theoretical debates about infrastructural visibility, temporality, and governance.

Taken together, the ethnographic and interview-based approach offers a way to see digital healthcare platforms as they are lived, rather than only as they are envisioned by policymakers or designers. By situating platforms in the routines of residents and the practices of institutions, the methods capture both the visible interfaces of smart healthcare and the invisible dependencies, inequalities, and exclusions that they produce. This combination of approaches is therefore well suited to exploring how digital platforms operate as infrastructures in Guangzhou and how they reorganize access to care, citizenship, and governance in the city.

Empirical Context

In China, healthcare reform has long been tied to questions of modernization and technological development (Blumenthal & Hsiao, 2005; Yip et al., 2012). Over the last decade, “smart healthcare” has become a national priority, promoted through initiatives such as *Healthy China 2030* and successive Five-Year Plans. These policies emphasize digitalization as a way to address persistent structural challenges in the health system: overcrowding in large urban hospitals, difficulties in securing timely appointments, and

disparities between urban and rural provision. Within this framework, digital platforms are presented not only as tools of efficiency but as infrastructural solutions capable of reorganizing access, standardizing care, and demonstrating the promise of China's smart city agenda.

Guangzhou has been one of the cities most active in translating these national directives into practice. As a provincial capital and commercial hub, it has both the resources and the political incentives to showcase innovation. The city has invested heavily in partnerships between public hospitals, local government agencies, and private technology firms such as Tencent and Ping An Good Doctor. These collaborations have produced a layered digital ecosystem that links hospital management systems, municipal health records, and citizen-facing mobile apps. Guangzhou's "Internet+ Healthcare" initiative, launched in the late 2010s, laid the groundwork for platforms that integrate registration, payment, insurance claims, and patient data into a single digital interface. At the level of everyday experience, these initiatives have reshaped how residents interact with the healthcare system. Booking an appointment with a specialist now typically requires navigating a hospital app or a WeChat mini-program. As shown in Figure 1, through WeChat, patients can not only make appointments, but also pay medical bills and check their personal health data. Diagnostic results, prescriptions, and billing are delivered digitally, while AI-driven triage tools increasingly guide patients toward appropriate departments before they see a doctor. Digital infrastructures extend beyond the smartphone as well. In many hospitals and community health centers, service machines such as those pictured in Figure 2 provide options for registration, payment, feedback, and record access, reinforcing the integration of digital systems into the clinical environment. For many middle-class, digitally literate residents, these platforms and machines have reduced waiting times and offered a sense of transparency in an otherwise complex medical system. Yet for older adults, migrants, and those less comfortable with smartphones, the shift has often produced new barriers, creating reliance on family members or informal networks to mediate access.



Figure 1: Via WeChat, patients can also pay bills, make an appointment, and check personal medical data (Source: Author).



Figure 2: Service machines in Guangzhou offer feedback options and check personal medical data (Source: Author).

Hospitals and clinics have also reorganized their practices around these digital infrastructures. Patient data collected through apps and codes feed into centralized systems that monitor flows, track compliance, and allocate resources. For medical staff, this has introduced new efficiencies in managing appointments and reducing overcrowding. At the same time, it has created new forms of administrative pressure, as performance is increasingly measured through digital indicators and algorithmic benchmarks.

Taken together, Guangzhou's smart healthcare ecosystem illustrates how digital platforms have been woven into both the governance and practice of urban healthcare. They embody national policy ambitions, municipal innovation, and corporate technological capacity, while also producing uneven effects across different populations. This context provides the foundation for analyzing how healthcare platforms function as infrastructures: organizing spatial access, structuring temporal rhythms of care, and reshaping the social and governance relations at the heart of the city's healthcare system.

Analysis

The infrastructural character of Guangzhou's healthcare platforms is best understood through their spatial, temporal, and social-governance effects. These dimensions are not isolated, but together they reveal how platforms reorganize the distribution of care, the rhythms of access, and the terms of citizenship in the city. Each also shows how infrastructures, as Easterling (2014) reminds us, are not simply material backdrops but "active forms" that script social life.

Spatial dimensions: infrastructures of uneven access

The spatial significance of Guangzhou's healthcare platforms lies not simply in who can or cannot use them, but in how these platforms actively reorganize the urban geography of care. Through digital interfaces, verification systems, and account-based eligibility, platforms shape which healthcare facilities become visible, reachable, and actionable across the city, and which forms of access remain tied to specific places. In this sense, digital healthcare platforms function as spatial infrastructures: they mediate mobility across hospitals and districts, redistribute the practical catchment areas of care, and produce new patterns of inclusion and exclusion within the urban healthcare landscape. Policy documents frame digitalization as a solution to the “three longs and one difficulty” (*san chang yi nan*)—long waits, long queues, long diagnosis times, and the difficulty of securing appointments. By allowing patients to search for and book appointments across multiple hospitals and clinics, platforms project an image of an integrated healthcare space, resembling what Amin and Thrift (2017) describe as a “relational infrastructure” that connects dispersed sites into a seemingly seamless network. For digitally confident residents, this infrastructural effect is tangible. As one office worker explained:

“Before, I only knew about the big hospitals. Now on WeChat I see smaller clinics, and sometimes I go there because it's faster. It feels like the whole city's hospitals are in my phone”

(Ms. Zhou, 36, office worker)

This account illustrates how platforms expand the perceived and practical spatial reach of care by making previously overlooked facilities visible and navigable. In Larkin's (2013) terms, infrastructures are also aesthetic forms: they shape how connectivity is imagined and enacted. Through the platform interface, clinics that were once peripheral in residents' mental maps of the city become part of an accessible healthcare network. However, this platform-produced healthcare geography is highly uneven because access is mediated through place-bound administrative infrastructures, particularly insurance registration and hukou-linked eligibility. For many migrant workers, the platform does not extend mobility across the city's healthcare system but instead constrains it. One interviewee described how his inability to secure appointments through the app was framed as a spatial directive:

“The app says no appointment available for me. My colleague with local hukou can book, but my account doesn't work. They told me I should go back to my hometown”

(Mr. Yang, 44, construction worker)

Here, the platform operates as a boundary-making device that translates administrative status into spatial mobility. Rather than simply excluding users in abstract terms, the system routes them away from certain hospitals and, implicitly, away from the city itself. In this way, the hukou system is re-encoded through digital infrastructures, producing differentiated geographies of care that determine who can move across hospitals and districts and who remains tied to their place of registration (Barns, 2019). Older adults encounter a different but equally spatial form of exclusion. While platforms offer a city-wide channel of access for some users, many older residents are effectively pushed out of this channel and redirected into specific on-site access points, such as manual

registration windows or long queues in community clinics. Observations in community health centers revealed elderly patients waiting for offline registration while platform-based appointment systems operated in parallel. As one retiree recounted:

"The nurse asked me to scan the code. I don't know how. I stood aside until a young man helped me. Without him, I cannot see the doctor"

(Mr. Liu, 68, retired factory worker)

This dependence exemplifies what Star (1999) describes as the "invisible work" of infrastructure, but it also has a clear spatial consequence. When access is conditioned on platform use at entry points, those unable to comply are physically stalled, displaced, or rerouted within clinical spaces. The platform thus produces a splintered spatial arrangement inside healthcare facilities themselves, separating fast, digitally mediated flows from slower, place-bound forms of access reliant on counters, queues, and informal intermediaries.

Taken together, Guangzhou's healthcare platforms generate what Graham (2002) describes as a form of "splintering urbanism," not by replacing physical infrastructure, but by overlaying it with digital spatial logics. Platforms extend cross-facility mobility and visibility for some residents, while constraining others to specific sites, districts, or access points. The result is an uneven urban geography of care in which connectivity is selective, mobility is conditional, and spatial inclusion is increasingly mediated through platform infrastructures. Rather than functioning as neutral connectors, healthcare platforms actively produce new spatial inequalities by reorganizing how, where, and through which channels care can be accessed across the city.

Temporal dimensions: synchronizing and disciplining rhythms of care

If platforms reorganize access spatially, they reshape the rhythms of healthcare temporally. Booking apps do not simply make access more efficient; they reorganize when and how care can be accessed by synchronizing patients, workers, and institutions into tightly coordinated temporal regimes. Drawing on Lefebvre's (2013) rhythm analysis, these platforms can be understood as producing new "arrhythmias" in everyday healthcare, as algorithmic schedules impose uniform tempos onto bodies with uneven capacities to keep pace. For many residents, this reconfiguration offers relief from earlier rhythms of queuing for hours at dawn. As one young IT worker explained:

"At 7 a.m. sharp the new slots appear. I set my alarm every day to grab one. If I'm one second late, it's gone. It's stressful, but at least I don't waste half a day waiting outside"

(Mr. Chen, 29, IT worker)

Here, access to care is no longer organized around physical waiting but around digital punctuality. The platform replaces the slow rhythm of the queue with what Lefebvre would call a linear, abstract time, structured by the clock and the algorithm. While this rhythm suits digitally literate users who are able to synchronize their routines to the app's schedule, it generates exclusion for others. An elderly woman described her experience:

"They say all the appointments are finished before I can even press the button. My hands are slow, and the phone doesn't respond quickly. By the time I figure it out, everything is full"

(Ms. Zhang, 72, pensioner)

From a rhythm analytical perspective, this is not simply a problem of individual skill but of mismatched temporalities. Platform time privileges speed, precision, and constant availability, marginalizing bodies that operate according to slower or less predictable rhythms. Platforms do not merely save time; they redistribute it, concentrating temporal advantages among some users while producing temporal deprivation for others. These rhythms are equally consequential for healthcare workers. Doctors reported that appointment systems now structure not only patient flows but the tempo of clinical labor itself:

"The computer tells me I should see 15 patients in an hour. If I'm slower, it shows up in the report. It feels like the platform is my boss"

(Dr. Wang, 42, hospital physician)

While targets and performance metrics are not new to healthcare work, what is distinctive about platform-based systems is how they synchronize labor rhythms directly with patient access. Appointment slots, consultation length, and reporting requirements are algorithmically aligned, meaning that delays or slowdowns in clinical work immediately reverberate through the system as reduced access for patients. In Lefebvre's terms, the platform produces a tightly coupled rhythm in which institutional time, labor time, and patient time are folded into a single infrastructural tempo.

Seen this way, platforms discipline work not only by setting targets but by reconfiguring the temporal relations between workers and users. The pace of doctors' consultations, the timing of appointment releases, and the competitive rush among patients to secure slots are mutually reinforcing. Infrastructural time thus becomes a mechanism through which labor discipline and access to care are co-produced, revealing how platformized healthcare governs not only who receives care, but when and at what pace it can be delivered.

Social and governance dimensions: platforms as regimes of citizenship

Perhaps the most consequential transformations lie in the social and governance dimensions. Digital healthcare platforms reshape relations of care and citizenship by embedding access within algorithmic protocols. Participation in these infrastructures becomes a condition of rights to the city's healthcare system, recalling Isin and Ruppert's (2020) concept of "digital acts of citizenship."

The health QR code exemplifies this shift. Once an emergency tool during COVID-19, it has persisted as an infrastructural device that, in practice, often conditions entry to hospitals and access to insurance verification, even if formal alternatives occasionally remain available. Residents described both convenience and compulsion:

“The phone decides if I can see the doctor. If my code doesn’t turn green, I am blocked at the door. The doctor cannot change it”

(Ms. Fang, 51, shop assistant)

Here, the platform displaces authority from human actors to algorithmic infrastructure. As Frapporti (2024) argues, platforms in such cases “supplant” traditional infrastructures by monopolizing the very conditions of access.

Healthcare administrators similarly stressed their dependence on platforms:

“The municipal bureau wants efficiency indicators. The system generates them automatically. Without the platform we cannot report compliance, and without compliance we risk penalties”

(Mr. Zhao, 54, hospital administrator)

This aligns with Easterling’s (2014) claim that infrastructures distribute power through protocols: reporting obligations embed platform logic into institutional governance. Hospitals are not merely users but governed through infrastructural scripts.

Yet, infrastructural power is never total. Residents frequently recounted glitches that undermined platform authority. At a community clinic, a migrant worker was denied access because the system failed to verify his insurance. After a heated exchange, staff allowed him entry using paper records. Such incidents resonate with Star and Ruhleder’s (2010) argument that infrastructures are relational and contingent; they become visible precisely when they fail.

These breakdowns also create spaces of resistance. Many elderly residents rely on younger relatives as “digital intermediaries,” effectively redistributing infrastructural labor within families. Others deliberately seek clinics that allow manual registration, resisting total dependence on apps. Such practices echo Scott’s (1985) notion of “everyday resistance”: small acts that subvert infrastructural compulsion without overt protest

The governance dimension therefore demonstrates both the reach and the fragility of platform infrastructures. Beyond mediating access, digital healthcare platforms generate continuous streams of data on patient identities, mobilities, appointment histories, diagnoses, and treatment trajectories. Through integration with municipal health bureaus and insurance systems, these data streams become available to state authorities as instruments of monitoring, evaluation, and policy calibration. Platform infrastructures thus embed state oversight into everyday care, not only by compelling compliance at the point of access, but by rendering healthcare encounters legible, traceable, and governable in real time. In this sense, platforms extend governance from the regulation of services to the regulation of populations. Aggregated platform data informs assessments of hospital performance, patient flows, insurance eligibility, and resource allocation, shaping policy decisions about funding, capacity, and institutional compliance. At the individual level, algorithmic verification systems—such as health QR codes and insurance linkages—translate administrative status into immediate conditions of access, effectively operationalizing citizenship through data. Rights to care are no longer claimed solely through legal entitlement but enacted through successful participation in platform

infrastructures.

At the same time, this form of governance remains fragile and contested. Breakdowns, data mismatches, and discretionary workarounds expose the limits of algorithmic control and reveal how governance is continually negotiated in practice. Yet these moments of failure do not undermine infrastructural power so much as make it visible: they show how platforms govern by aligning data, institutions, and everyday practices, redefining citizenship not simply as access to care, but as ongoing compliance with data-driven systems of verification and oversight.

Synthesis

Across these dimensions, Guangzhou's healthcare platforms illustrate the paradoxical qualities of infrastructural platforms. They expand access while reinforcing digital divides; they accelerate care while disciplining both patients and doctors; they embed governance while generating moments of fragility and resistance.

In theoretical terms, they extend Easterling's (2014) view of infrastructures as "active forms," but also demand attention to their platform-specific qualities: the temporality of app logics, the visibility of interfaces, and the dependence on corporate-state partnerships. As Plantin et al. (2018) note, we are witnessing both the infrastructuralization of platforms and the platformization of infrastructures. In Guangzhou, this duality materializes in everyday healthcare encounters, where platforms are neither neutral tools nor fully totalizing structures, but rather contested infrastructures that reorganize urban life.

Discussion

The case of Guangzhou's healthcare platforms extends ongoing debates on the infrastructuralization of platforms and the platformization of infrastructures (Frapporti, 2024; Plantin et al., 2018). While scholars caution against treating platforms and infrastructures as interchangeable, the Guangzhou case shows how digital healthcare systems acquire infrastructural qualities through their scale, durability, and indispensability. These platforms operate at city-wide and inter-institutional scales, linking municipal health bureaus, public hospitals, insurance systems, and widely used interfaces such as WeChat mini-programs. Their integration across multiple institutions means that access to appointments, payments, insurance verification, and medical records is increasingly centralized within a small number of interoperable systems.

Durability is evident in the persistence of these platforms beyond the emergency conditions of the COVID-19 pandemic. Tools initially introduced as temporary solutions—such as health QR codes and app-based verification—have stabilized into routine components of healthcare delivery, embedding themselves in both institutional workflows and everyday practices. Indispensability emerges from this stabilization: for both patients and healthcare providers, core functions of the healthcare system now depend on platform operation. Booking appointments, verifying eligibility, monitoring patient flows, and reporting compliance are no longer easily imaginable without digital mediation.

By tracing the spatial, temporal, and governance dimensions of healthcare platforms, the analysis confirms and extends several strands of infrastructural theory. In spatial terms, the unevenness of access revealed in Guangzhou highlights the need to understand infrastructures not only as technical systems, but as mechanisms that reorganize mobility, visibility, and routing across urban space. As scholars such as Graham and Marvin (2002a, 2002b) and Datta (2018) have shown, infrastructures generate forms of “splintering urbanism” and “digital citizenship” by selectively connecting users to services and places. The Guangzhou case demonstrates how these dynamics are reworked through healthcare platforms: hukou-linked insurance systems and generational differences in platform use do not merely produce social inequality, but translate into differentiated spatial trajectories of care, shaping which hospitals and clinics users can access, how far they can move across the healthcare system, and whether access occurs through city-wide digital channels or place-bound, offline points of entry. This underlines the need to see platforms not simply as connectors of services, but as infrastructures that actively produce new urban geographies of care, redistributing access, mobility, and spatial inclusion within the city.

Second, the temporal reorganization of healthcare access reveals how infrastructures discipline everyday rhythms. Easterling’s (2014) argument that infrastructures are “active forms” is exemplified in the way that appointment systems structure both patient routines and medical labor. Yet the Guangzhou case also shows how digital platforms intensify these temporalities, creating algorithmically-enforced punctuality and scarcity. The sense of “digital rush hours” or being “timed by the computer” extends Hassan’s (2009) insights on network time and resonates with Foucault’s (2012) observations on disciplinary temporality. Here, the platform is not only synchronizing flows but actively governing the pace and productivity of healthcare interactions.

Third, the governance dimension highlights how infrastructures mediate citizenship and state power. The persistence of the health QR code exemplifies how temporary emergency measures can sediment into durable infrastructures of everyday life. This mirrors Isin and Ruppert’s (2020) argument that digital infrastructures create new “acts of citizenship,” where rights and entitlements are enacted through technological compliance. At the same time, glitches and workarounds reveal that infrastructural power is always partial, contested, and dependent on everyday negotiation (Star & Ruhleder, 2010). In Guangzhou, these negotiations take the form of intergenerational mediation, informal bypasses, or selective resistance, echoing Scott’s (1985) notion of everyday resistance within seemingly totalizing systems.

Taken together, the Guangzhou case invites us to reconsider the conceptual distinction between platforms and infrastructures. Rather than asking whether platforms *are* infrastructures, it may be more productive to ask *when and how* platforms take on infrastructural qualities. Healthcare shows this vividly: platforms do not simply supplement hospitals; they underpin access, redistribute responsibility, and enforce compliance. At the same time, their fragility and contestability mean that they cannot be understood as fully stabilized infrastructures. They are infrastructures-in-the-making, whose authority depends on everyday practices of use, negotiation, and repair.

Conclusion

This paper has argued that digital healthcare platforms in Guangzhou function as infrastructures, reorganizing the spatial, temporal, and governance dimensions of urban life. Drawing on ethnographic fieldwork and interviews, it has shown how platforms expand the geography of care for some while excluding others, how they synchronize and discipline rhythms of access and labor, and how they embed governance logics that reshape citizenship and rights to the city. Together, these findings demonstrate that healthcare platforms are not peripheral technological tools, but central components of contemporary urban governance.

Beyond summarizing these dynamics, the Guangzhou case invites a broader reflection on what it means for care to become infrastructural through platforms. When access to healthcare is mediated by apps, algorithms, and verification systems, care is no longer only a social relation between patients and professionals, nor merely a public service delivered by institutions. Instead, it becomes an ongoing process of infrastructural participation, in which citizens must continually align their bodies, data, and temporal rhythms with platform requirements. This shift subtly redefines care as a conditional entitlement—one that depends less on formal rights than on successful integration into data-driven systems. The findings also complicate celebratory narratives of “smart” or “intelligent” healthcare. While platform infrastructures promise efficiency, transparency, and convenience, they simultaneously normalize new forms of dependence and exposure. The infrastructural power of platforms lies precisely in their ordinariness: by embedding governance into routine practices of booking, verification, and reporting, they render political questions of access, accountability, and control less visible, even as they become more consequential. In this sense, platformized healthcare exemplifies a form of governance that operates not through overt coercion, but through the quiet stabilization of digital infrastructures as indispensable conditions of everyday life.

Empirically, the paper contributes to studies of platform urbanism by placing healthcare—often treated as a technical or sectoral issue—at the center of urban transformation. Conceptually, it suggests that debates on the infrastructuralization of platforms should pay closer attention to domains of social reproduction, where platform failure or exclusion carries especially high stakes. Healthcare makes clear that platforms do not merely reorganize markets or mobility, but intervene in questions of wellbeing, vulnerability, and survival. Looking ahead, these insights raise pressing questions for urban research and policy. How might platform infrastructures be governed in ways that recognize care as a collective responsibility rather than an individualized technical competence? What forms of accountability are possible when governance is distributed across state agencies, hospitals, and private technology firms? And how might alternative or complementary infrastructures emerge to support those whose lives do not easily synchronize with platform time and data regimes?

By reframing healthcare platforms as infrastructures of care and governance, this paper underscores their role not only in delivering medical services, but in shaping the conditions under which urban life itself is sustained. As digital platforms continue to

proliferate across cities, the challenge is not simply to make them smarter or more efficient, but to ask whose rhythms, data, and lives they are ultimately designed to serve.

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