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How to Become "HIV Negative, on PrEP" in the Post-AIDS Era:
The Material Culture of Gay Taiwanese Men's Sexual Health

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The Dissertation of Poyao Huang is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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ABSTRACT OF THE DISSERTATION

How to Become “HIV Negative, on PrEP” in the Post-AIDS Era:

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by

Poyao Huang

Doctor of Philosophy in Communication (Science Studies)

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Professor Lisa Cartwright, Co-Chair
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This dissertation is an ethnographic study of contemporary gay Taiwanese men's sexual health with a focus on the circulation of HIV prevention medicine and blood management. In the 2010s, the governance of HIV/AIDS has undergone a significant shift, moving from biomedical treatment to prevention: pre-exposure prophylaxis (PrEP) is prescribed for HIV-negative individuals to prevent sexually contracting HIV. PrEP engenders a new serological condition, "HIV negative, on PrEP." By signaling the absence of virus and personal use of HIV biomedicine, "HIV negative, on PrEP" implies that this medicine works at the molecular level of human blood to suppress viral incubation and replication, and entails a medical and social urgency of constantly

bringing the drug into an individual's body. This dissertation asks what it means to be “HIV negative, on PrEP” in the neoliberal, transnational context of drug consumption and regulation. In this project, I argue that serostatus associated with HIV biomedicine should not be seen as a fixed scientific category about one’s wellbeing, but instead a dynamic process of becoming “HIV negative, on PrEP.” I tell the story of how gay men, governments, AIDS advocates, pharmaceutical companies, and other social actors utilize "HIV negative, on PrEP" as a means to redefine sexual health during a time when drugs are newly introduced and not yet widely available or financially accessible. In doing so, I unearth the socio-economic tensions, health inequalities, and hegemonic oppressions against gay men amid the HIV biomedical prevention regime. A multi-sited ethnography conducted in Taiwan and Thailand from 2016 to 2019, this dissertation traces PrEP’s social trajectory and gay men’s socio-sexual practices to document the transformation of sexual health in four main chapters: government-led medical support programs, the AIDS advocacy organizations initiated drug-delivery model, gay men’s medical tourism to Thailand, and gay men’s sexual communication through smartphone social apps. Drawing on the theories and methods from the science and technology studies (STS), new feminist materialism, medical anthropology, and media studies, I offer an expansive and performative interpretation of health, safety, risk, and other taken-for-granted notions in public health, illustrating how gay Taiwanese men have undergone a biomedical and social transformation of blood management and body modification. In moving toward self-health enhancement, their bodies and sexualities have become intertwined with the economies of pharmaceutical innovation, governmental regulation, and personal mobility and pleasure. Ultimately, this dissertation contributes to the emerging scholarship of “Queer STS” by addressing the broader issues of the politics of self-medication, the marketization of HIV medicine, and the making of queer sexuality in the digital environment.

Introduction: The Materialization of Sexual Health

In the fourth decade of the AIDS epidemic, the governance of this disease has undergone a revolutionary transition from biomedical treatment to prevention. In 2010, *The New England Journal of Medicine* published "Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men," a report on the efficacy of applying antiretroviral therapy (ART) in treating HIV-negative men or transgender women who sex with men (Grant et al., 2010). In the years that followed, several empirical studies revealed a similar result: A daily pill of pre-exposure prophylaxis (PrEP) pill could prevent one from contracting HIV (e.g., Anderson et al., 2012; Baeten et al., 2012; Choopanya et al., 2013; van Damme at al., 2012; Marrazzo et al., 2015). In 2014, the World Health Organization recommended to scale up PrEP to "end AIDS by 2030." In 2015, *The New England Journal of Medicine* echoed that claim by publishing "Ending the HIV–AIDS Pandemic—Follow the Science," a themed issue that reaffirm PrEP's efficacy and urge the scientific communities and local governments to scale up HIV prevention and treatment. Collectively, these accounts suggest the initiation of an era of HIV biomedical prevention, a regime defined by projecting a hope of ending the AIDS pandemic in the tangible future.

PrEP engenders a new form of serostatus, or HIV status, "HIV negative, on PrEP." Key words in social science and medical sociology link the label "HIV negative, on PrEP" to a set of individuals whose behaviors and social interactions are organized around accessing PrEP. But this classification raises questions about drug compliance and risk management. Scholarship in gender and queer studies has explored the ideology of "HIV negative, on PrEP" category, scrutinizing how this phrase complicates gay men's sexual freedom and promiscuity (e.g., Spieldenner, 2016). Both approaches regard one's "HIV-negative, on PrEP" status as a static, fixed, bodily condition

of being. They overlook how the HIV biomedical prevention regimen entails a dynamic biomedical, material, and social process of becoming “HIV negative, on PrEP.” Without a materialist analysis of serostatus management, we underestimate not only how sexual health is grounded in the materiality of human blood, virus, and scientific artifacts, but more importantly, how “HIV negative, on PrEP” informs new approaches for theorizing health, bodies, and sexualities.

How to Become “HIV Negative, on PrEP” in the Post-AIDS Era asks what it means to be "HIV negative, on PrEP" in the inter-Asian context of Taiwan and Thailand. It tells the story of how gay men, governments, AIDS advocates, pharmaceutical companies, and other social actors utilize "HIV negative, on PrEP" as a means to compete and redefine the legitimacy of sexual health in the national and regional context. This dissertation argues that serostatus associated with HIV biomedicine is not merely a scientific category about one's blood condition. The stakes of this very category are also social, political, and sexual. The phrase “Becoming ‘HIV negative on PrEP’” has many meanings. At the surface level, serostatus "HIV negative, on PrEP" is the textual form, a representation of one's bodily condition associated with the ART regimen. At the molecular level, “becoming HIV negative, on PrEP" suggests that PrEP effectively prevents HIV from replicating in one's blood. At the personal level, it refers to the process of how one negotiates with pharmaceutical interventions and state-control to secure his/her drug supply. In Taiwan's case, moreover, becoming "HIV negative, on PrEP" can be seen in light of AIDS activists' collaboration for establishing medical channels as well as gay men's medical tours to Thailand. Finally, on the social apps and in the digital realm, this serostatus implies a visualized, mediated bodily transformation that legitimates certain bodies and desires and disqualifies others at the same time.

In the Western world, the access to and regulation of PrEP are framed as issues

predominantly related to the pharmaceutical intervention and state-control at the national level. In addition to these issues, the serostatus management of PrEP in East and Southeast Asia also occurs at the transnational level. In 2016, Taiwan became the first East Asian country to incorporate PrEP into its national health system. Having failed to recruit enough participants for the medical trials, the Taiwanese government instead encouraged scientists and AIDS activists from proximal countries to collaborate with the goal of resolving access to PrEP. The Taiwanese and Thai LGBTQ communities and medical professionals worked together to developed bottom-up, medical channels for accessing medicines. This transnational impulse extended to medical tourism: HIV-negative Taiwanese men traveled to Bangkok, Thailand—a destination famous for global gay tourists, to seek affordable healthcare and avoid social stigma about AIDS, knowing that Bangkok is a city where generic versions of PrEP are sold. My dissertation problematizes the *global closeness* between Taiwan and Thailand, the first two Asian countries that respectively initiated patent and generic PrEP availability, and that did so in ways that challenged the western-eastern, post-colonial medical paradigm that governs HIV/AIDS public health and social politics. Taking up two countries with distinct healthcare systems and different models of encounter in sexual modernity, this dissertation sheds light on the geopolitics of health in East and Southeast Asia by exploring gay Taiwanese men's medical tours to Thailand and the entanglement of HIV prevention and the LGBTQ's economic activities, or what might be called "pink economics."[1]

The project is based on a multi-sited ethnographic study conducted in Taiwan and Thailand from 2016 to 2019 in which the transitions of sexual health were traced and documented. It explores four interrelated domains of gay men's sexual health: (1) the Taiwanese government-led demonstration projects devoted to introducing PrEP; (2) the AIDS advocacy organizations initiated

[1] Pink economics refers to integration of the LGBTQ movement and sexual diversity into capitalist activities in ways that generate revenue (See Gluckman and Reed, 1997).

drug-delivery model that frame this rollout; (3) gay men's medical tourism to Thailand; and (4) gay men's sexual communication through smartphone social apps. Together, those topics offer a vantage point for understanding the transformative features of sexual health in relation to state governance, pharmaceutical intervention, and individuals' mobility in becoming "HIV negative, on PrEP."

The next section of this introduction addresses some of the framing concepts used to analyze the ethnography that is the basis of this dissertation. The project draws on the history of blood, feminist science studies, and the genre of chemo-ethnography to propose an analytic framework that I call "the materialization of sexual health." After that, I situate the ethnographic project that is the focus of this main chapters in in the broader historical context of Taiwan's HIV/AIDS and sexual modernity. After describing at greater length my research methods and processes. Finally, I close by outlining chapter plans of this dissertation.

Become "HIV negative, on PrEP"

How to Become "HIV Negative, on PrEP" in the Post-AIDS Era intervenes into the paradigm of HIV/AIDS research by refusing the common understanding of serostatus as either a fixed biomedical category or a static condition of being. Instead, the dissertation conceptualizes serostatus as *becoming*—specifically, a dynamic, biomedical, digital, and social process of becoming "HIV negative, on PrEP." The project puts forward an account of the materialization of sexual health to illuminate how the categorization both biomatter (e.g., blood, cells, and viruses) and scientific artifacts (e.g., testing technologies, medicines, and social apps) inform the politics of medical knowledge and reshape gay men's perceptions of risk, safety, and health. I situate the materialization of sexual health within bodies of literature across three topics: the history of blood, materialist feminist science studies, and the chemo-ethnography of illness and

medicine. The next three subsections address each body of literature by detailing its relation to the scope of my dissertation.

The History of Blood

In *The History of Sexuality: An Introduction, Volume 1*, Michel Foucault (1978: 147) writes that blood has had symbolic functions as a vital material owing to its "instrumental role (the ability to shed blood), to the way it functioned in the order of signs (to have a certain blood, to be of the same blood, to be prepared to risk one's blood), and also to its precariousness (easily spilled, subject to drying up, too readily mixed, capable of being quickly corrupted)." In a certain light, *The History of Sexuality* can be regarded as a project that addresses how blood segregates qualified and disqualified populations and disciplines the politics of life itself. Following that conceptualization, historians have described the intersectional features of blood, emphasizing its possession of symbolic meanings that reflect social transformations (e.g., Star, 1998),[2] indicating connections between made on the basis of blood between illness and identity (e.g., Wailoo, 1997),[3] drawing out the social place of blood in manifesting racial bias and stigma against African Americans (e.g., Tapper, 1999),[4] and showing how research and knowledge about blood has

[2] Historian Douglas Starr's *Blood: An Epic History of Medicine and Commerce* tells a story of how blood becomes symbolically transformed as society learned how to deconstruct and manage it. Starr outlines several transitions in how blood has been conceptualized: (1) from being as a magical humor to becoming a medical substance from the seventeenth through the early twentieth centuries, (2) from being a medical substance to a wartime material through the 1940s, (3) from being a strategic material to a global commodity until the late 1970s, and (4) its current status in the post-AIDS era.

[3] In *Drawing Blood: Technology and Disease Identity in Twentieth Century America,* historian and sociologist of US medicine Keith Wailoo (1997) turns to two important ways of thinking about blood—the development of technologies and the production of multiple identities—in that Wailoo points out that the establishment of modern hematology is coupled with innovations in technology as well as the identities of the professional, the patient, and the disease. A major intervention of *Drawing Blood* is to critique technological determinism that hypothesizes the genesis of modern hematology as merely a consequence of technology's application. Such consideration has conflated the cultural complexity of blood into a problem of economic, hence ignoring that the identity politics of illness and the use of technology are mutually constitutive.

[4] *In the Blood: Sickle Cell Anemia and the Politics of Race,* medical anthropologist Melbourne Tapper (1999) investigates how sickle cell anemia became a race-specific phenomenon that reinforced the social stigma of black people from the 1920s to the 1950s by examining medical discourses and anthropological archive. Tapper details how sickle cell anemia became associated with black people's biological traits, largely in an attempt to undo the stereotype

shaped medical knowledge about human and cultural boundaries of genders and race, especially in light of blood's commercial storage and banking (e.g., Swanson, 2014).[5]

Relevant to the materialization of sexual health is the matter of how blood has been biomedically managed and, in turn, how biomedically configured categories comes to possess market value, moral value, and biovalue. In *The Gift Relationship: From Human Blood to Social Policy*, Richard Titmuss (1970/1997) considers the mobility of blood in various forms, including donation, transfusion, and storage. Titmuss situates blood's dual nature in the time after World War II, noting that blood was conceived as a gift and commodity during this period in the United Kingdom and the United States respectively. Framing the transition of blood in light of a moral standard, *The Gift Relationship* provides useful insight into the question of whether blood should be a tradable commodity or a civilly obligated gift. This conception of blood's multiple values and the moral aspect of managing blood inform my analysis regarding how gay men—who in Taiwan received free PrEP in the government-led demonstration projects to manage sexual health—behaved and felt they should behave in their sexual lives in response to health official's expectations that they performed as docile participants (Chapter 2).

The concept of materialization of sexual health in this project also draws on Catherine Waldby and Robert Mitchell's *Tissue Economies*: *Blood, Organs, and Cell Lines in Late* Capitalism. I take up their concept of the political economy of tissues in the modern world of globalized biotechnology and the time of the neoliberal era. Gesturing toward a posthumanist

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of "the American Negro as a hybrid and therefore inherently diseased individual" (1999: 3). Tapper's major interventions is his refusal to treat blood-related disease as a fixed symptom that needs to be cured, but instead as a social invention that requires multiple perspectives— of clinical medicine, molecular biology, genetics, and biological anthropology—to determine the reality about sickle cell anemia.

[5] Legal and history of science scholar Kara W. Swanson's (2014) recent work, *Banking on the Body: The Market in Blood, Milk, and Sperm in Modern America*, offers a sophisticated analysis of the storage of human tissue in body banks in regard to how embodied blood, as a manufactory, is transformed into semen in male bodies and breast milk in female ones, both in ways allow us to conceive contemporary US laws governing property within the human body in the twentieth century.

turn, Waldby and Mitchell write about how biological materials (e.g., blood, organs, tissues, and waste) can be extracted, preserved, and reinvented, and, as a result, are altered and destabilized from their original ontological stances. Important to my study is the extent to which *Tissues Economies* expands the definition of blood in *The Gift Relationship,* taking blood from its narrow conception of blood as a whole entity to a more form regarded as both multiple and fragmented articulated in their concept of "the proliferation of tissue fragments" and of the multiplicity "of medical and social technologies for their sourcing, storage, and distribution" (Waldby and Mitchell, 2006). In this emphasis on multiplicity and fragmentation, *Tissues Economies* complicates the dual nature of blood as either a gift or commodity, inquiring into the situations where bodily waste can serve as a form of gift, and as a gift that may also have a value as treatment effect. Waldby and Mitchell's conception of value, or *biovalue*, is useful for chapters that follow insofar as it helps us to understand how the capacity of tissues, in its fragmentable and reproducible form, as gift and as valuable treatment, can generate new and unexpected properties (e.g., the case of umbilical cord blood) that are not inherently in the flesh itself. The speculative logic of biovalue, as *Tissues Economies* notes, is not predetermined by the biological properties of tissue, but is shaped by the economies of circulation in which tissues' transformation and exchange of tissue takes place.

With reference to *The Gift Relationship* and *Tissues Economies*, my dissertation takes up the speculative logic of biovalue to investigate the government-led medical programs (Chapter 2), online pharmacies initiated by the AIDS activists (Chapter 3), gay sexual health clinics in Thailand (Chapter 4), and sexual communication through social apps (Chapter 5). In those contexts, the management of serostatus is shown to be entangled with PrEP as itself an object with multifarious ways of being: (1) PrEP as a patented medicine called Truvada; (2) PrEP as a free gift distributed by the Taiwanese government; (3) PrEP as a generic commodity sold in the online gray market

and sexual health clinics in Thailand; and (4) PrEP as a biomedical object, an object of desire and hope to enhance gay men's sexual pleasure and intimacy. While these "four types of being PrEP" yield the same sero-condition (HIV negative, on PrEP), they each refer to distinct sociocultural and economic systems. By identifying those differences, my dissertation scrutinizes the transformation of various forms and values of HIV biomedicine, clarifying what it takes to become "HIV negative, on PrEP" in the time of neoliberal global economics.

Materialist Feminist Science Studies

To treat serostatus as a becoming, my second approach conceptualizes "HIV negative, on PrEP" as an eventful, vibrant type of matter encompassing both biopolitical tension and erotic affect. My first theoretical entry point is to foreground the third-wave feminist movement and its shared lineage of Judith Butler's concept of performativity studies. My first theoretical entry point is to foreground the third-wave feminist movement and its shared lineage with Judith Butler's performativity. Similar to *gender*, the serostatus of being "HIV negative, on PrEP" is a speech act, a phenomenon that is constantly created through the reiterative and citational practices. Moreover, "HIV negative, on PrEP" is also a representation of particular forms of knowledge and embodiment. In *Gender Trouble*, Butler argues that "*gender* is not a noun, but neither is it a set of free-floating attributes . . . gender is performatively produced and compelled by regulatory practices of gender coherence. . . . Gender is always a doing" (Butler, 1990: 34). Later, in *Bodies That Matter: On the Discursive Limits of Sex*, Butler (1993: xvii–xviii) elaborates upon performativity, noting that matter should be understood "not as site or surface, but as a process of materialization that stabilizes over time to produce the effect of boundary, fixity, and surface." In light of Butler's insights, it becomes clear that signs and other means of communication can disguise a person's identity, prompt the fabrication of that identity, and, in turn, obscure the

person's subjectivity. Performativity therefore problematizes a seemingly coherent connection between categorical labels and embodiment and, in the process, reveals a gap between one's pre-existing self and one's socially performative self. In that way, performativity also allows a queer intervention into the study of HIV/AIDS

As Marsha Rosengarten elaborates in *HIV Intervention: Biomedicine and the Traffic Between Information and Flesh*, Butler's work foregrounds "the performative role of intervention that now unwittingly participates in how *only some bodies come to matter*" (2010: 9). Here, Rosengarten's contribution is to problematize seemingly straightforward biomedical intervention in the case of getting "drugs into bodies" during a period when drugs are newly introduced, marketed competitively, and not yet widely available or financially accessible. Given the need to ponder whose bodies are prioritized in decisions about who will receive healthcare and whose bodies are disqualified in the name of public health standards and policies, in this dissertation, I contemplate the layered meanings of sexual health, especially with reference to the concept of performativity and Rosengarten's words. In the process, I view serostatus as a way of doing or, to be more precise, a way of becoming. Instead of validating the pre-existing medical meanings, this dissertation unearths a "queer encounter" derived from understanding one's serostatus as a process of making and becoming. In that sense, my analysis of PrEP does not regard this entity as a fixed object that is either available or not. To borrow words from Sara Ahmed (2006: 165), I seek to reveal how PrEP "does not become an object that we presume is absent or present." In my discussion of online pharmacies (Chapter 3), for example, I show how gay men have outsourced their labor of purchasing generic medicine to a third-party broker, and I further show how, during that process, medical services become connected to gay men's circuit parties and to consumer culture (e.g., pink economics). Beyond that, I extend my analysis of performativity in

queer medical tourism in order to examine gay Taiwanese men's experiences with using recreational drugs and strategies for reducing harm caused by illicit drugs (Chapter 4). In considering sexual health in light of the concept of performativity, that chapter exemplifies unconventional ways of disrupting the normative aspects of the governance of health.

To advance Butler's idea of performativity in the study of PrEP—that is, to foreground performativity at the molecular level of biomatter, my second theoretical anchor point engages feminist science studies on materialism. Feminist science studies consider matter as a lively form of agency, not an inert substance subject to predictable causal forces. New materialism, for example, proposes a posthumanist turn by exploring new forms of agency and life, biopolitical and bioethical concerns regarding nonhuman factors, and, finally, a nondogmatic, nonhuman-centered re-engagement of political economy (Coole and Frost, 2010). In a similar way, object-oriented feminism approaches objects "from the inside-out position of being an object," extending "the ethic of care to promote sympathies and camaraderie with nonhuman neighbors" (Behar, 2016: 8). Feminist science studies also enable "enchanted materialism," to borrow Jane Bennett's (2009: x) language, as a mean to "dissipate the onto-theological binaries of life/matter, human/animal, will/determination, and organic/inorganic" and "to sketch a style of a political analysis that can better account for the contributions of nonhuman actants." My dissertation builds upon that ontological commitment in a bid to situate the politics of nonhuman factors at the fore of my attempt to examine the circulation of blood, CD4, viruses, medicine, and smartphone apps. I mobilize materialist insights into matter—that is, of vibrant, distributive, erotic forms of agency—to scrutinize the materiality of sexual health.

A relevant theoretical framework is Bruno Latour's actor–network theory (ANT) (1996), which could be particularly useful for unpacking social networks as well as interactions among

human and nonhuman factors. However, ANT does not address temporal transformation of matters. In managing serostatus, we need to recognize that, apart from the network that human and nonhuman actants participate in, the virus itself changes over time. The materiality of objects requires attention to the viruses' window periods and invisibility. The materialization of sexual health thus needs to consider the cycle of viral infection, viral incubation, and temporal differences in measuring those differences. With that necessity in mind, Chapter 1 is dedicated to foregrounding the analysis within matter and its corresponding information and name. It identifies the logics of serostatus management, including ways of detecting, blocking, and suppressing HIV in one's blood. Far later, Chapter 5, turning to matter and its visualization, advances Karen Barad's *agential realism* (Barad, 2007) and Sharif Mowlabocus's *cybercarnality* in order to scrutinize the configuration of serostatus and HIV biomedicine on social apps. It proposes to visualize safe sex by showing how social app companies' corporate mission of revealing people's HIV status online has engendered an ultimate form of pornographic bodies.

Chemo-Ethnography

Third and last, I situate the materialization of sexual health within the rapidly emerging field of chemical ethnography, also often called "chemo-ethnography." As Nicholas Shapiro and Eben Kirksey (2017) have posited that chemo-ethnography owes intellectual debts to *Malignant: How Cancer Becomes Us*, a project in which Lochlann Jain advances the idea that cancer is a phenomenon about how "the material humanity of suffering and death informs communicative and collective action" (Jain, 2013: 24). Chemo-ethnography ventures beyond the understanding that illness is an objective, biological, and neutral phenomenon by considering various conditions of life at different scales of governance. It theorizes the material, toxicological, and even neurological valances of the molecular world, particularly by asking "how molecular frictions, catalytic

dynamics, forms of not-life, and other-than-life [are] reconfiguring our conditions of knowing, being, and sociality" (Shapiro and Kirksey, 2017: 482). Building upon those insights, my dissertation contributes to dialogues addressing chemo-ethnography by tracing the social trajectory of "HIV negative, on PrEP" in growing pharmaceutical markets and the neoliberal regime of industrial capitalism. Throughout the dissertation, I engage the philosophies of feminist science studies, medical sociology, queer theory, and Foucauldian governmentality, among others, to consider sociosexual practices in the context of Taiwan's medical programs, online pharmacies, sex clinics in Thailand, and, finally, gay men's social apps. p I have adopted three inter-related frameworks: surveillance medicine, biopolitical precarity, and chemosociality.

First, I problematize how PrEP works to liberate subjects from the fear of contracting HIV while implicitly imposing limits upon their sexual freedom. To that end, I engage David Armstrong's (1995) notion of "surveillance medicine" as a means to identify the categorization of HIV conditions offered by the ART, linking "HIV negative, on PrEP," to the concept "HIV positive, undetectable." I claim that to sustain those HIV conditions, the HIV biomedical regime "redraws the relationship between symptom, sign and illness, and the localization of illness outside the corporal space of the body" (Armstrong, 1995: 393). In a sense, PrEP has installed a panopticon in gay men's blood, a surveillant structure that produces a "biopolitical side-effect," chiefly because the drug's density in the bloodstream becomes the standard for evaluating one's drug compliance (Dean, 2015). To further clarify that conceptualization, I build upon Joseph Dumit's (2012) *Drugs for Life: How Pharmaceutical Companies Define Our Health* to contemplate how risk becomes a fungible concept that precipitates different perceptions and practices among medical experts and laypeople. Whereas Dumit focuses on the medical trials and pharmaceutical marketing innovations, I introduce that account into the implementation of PrEP in Taiwan, and

for a global medical tourism market. Chapter 2, for instance, showcases how PrEP has become associated with the idea of surplus health and has been transformed into something that cannot be fully achieved and, in turn, needs to be constantly maintained and organized.

Second, from the perspective of embodiment and corporeality, the PrEP regime enacts a kind of tension that Elizabeth Mills (2017) dubs "biopolitical precarity." PrEP supports a type of bodily configuration in which HIV and ARTs circulate and accumulate inside the body, which later becomes relocated in a broader context in which "emergent biomedical and socio-economic challenges confound a straightforward reading of ARVs as the solution to the problem of HIV" (Mills, 2017: 350). My dissertation explores the biomedical configuration of bodies in the context of medical tourism, or medical migration (Robert and Scheper-Hughes, 2011). In Chapter 4, I explore the movement of medicine, human bodies, and knowledges about sexual health in the case of gay Taiwanese men's biomedical travels to Thailand. By drawing from feminist science studies on materialism and queer theories on embodiment, my ethnography bridges the ART regime with mobile communication. For example, in Chapter 5, I explore the configuration of HIV and ARTs on social apps, critiquing how safe sex is often framed as an unproblematic notion in public health. By teasing out a pink-washing market principle and social apps' discourses on sexual liberation, I elucidate how the market principle and users' lived experiences with social apps and PrEP might unintentionally entrench social oppression of and stigma against gay men.

Last, my dissertation inspects PrEP-informed subjectivities. This final point concerns the difference between biosociality and chemosociality. In the regime of HIV biomedical prevention, subjectivity entails both biological and chemical traits. That is, "If biosociality involves social relationships that emerge from biological conditions and the science and technology through which they are known, then chemosociality involves novel, altered, attenuated, or augmented

relationships that emerge from shared and shifting chemical ecologies" (Shapiro and Kirksey, 2017: 484). By extension, if gay identity and AIDS advocacy can be broadly defined as forms of biosociality, then gay men's use of PrEP complicates the distinction between bio- and chemo sociality. The entanglement of gender and biomedical aspects of gay life thus prompts an analysis of biologically, sexually, and biomedically associated forms of citizenship (e.g., p, 2018; Johnson, Happe, and Levina, 2018; Nikolas and Novas, 2005).

The approach of chemo-ethnography allows me to scrutinize the subjecthood performed by gay men. To become "HIV negative, on PrEP," gay Taiwanese were simultaneously the participants in government-led medical projects (Chapter 2), the citizens who desired the legal right to form marriage units (Chapter 2), the consumers who infiltrated the capitalist system to purchase and sell generic PrEP online (Chapter 3), the tourists who crossed the border in search of affordable healthcare (Chapter 4), and finally, the netizens who navigated various forms of stigmas and state-violence on social apps (Chapter 5). By detailing the features of those roles, this dissertation offers a chemically grounded analysis of contemporary gay men's socio-sexual practices and ever-evolving identities as complex and multiple.

Of particular importance to this dissertation is Kane Race's series of writing on gay men's sexuality and social science of HIV/AIDS. In *The Gay Science: Intimate Experiments with the Problem of HIV,* Race (2017) situates the transformation of contemporary gay men's sexual practices in three areas: digital infrastructures, chemical infrastructures, and communal infrastructures. Digital infrastructures refer to the ways in which the Internet and digital devices rearrange sex between men. Chemical infrastructures indicate the ways that biomedical pharmaceutical developments change the consumption of drugs in relation to the corporeality and bioactivity of bodies in gay sex scenes. Communal infrastructures concern the change of the

cultural geography of gay life, suggesting a decline in the frequency of presences and face-to-face encounters at bars, clubs, and dance parties, etc.. in favor of digital infrastructures. Inspired by Race's works, my dissertation considers the conjunction of those three infrastructures to explore science through an expansive, generic manner. My project investigates the material complexities of health in the government-led medical programs, online pharmacies that initiated by the AIDS activists, sexual clinics in Bangkok, and sexual communication on the social apps.

My use of *materialization* is not intended to solely evaluate the biomedicine's use and exchange values during its market transition. The term *sexual health* encompasses more than behavioral indicators and measures concerning how to maintain or enhance one's wellbeing, not solely referring to the discursive practices about the knowledge of sexuality, medicine, and HIV/AIDS. Similarly, sexual health. By juxtaposing *materialization* and *sexual health,* this study seeks to complicate the binary of subject/object, behavior/representation, and structure/agency, identifying the politics that emerged from the entanglement of serostatus and the circulation and consumption of biomedicine. Through the lens of materializing sexual health, this study illustrates how gay Taiwanese men manage to maintain their serostatus of "negative on PrEP" while negotiating with different structural oppressions. In doing so, it ultimately offers a critical and reflective assessment of *risk*, *safe sex*, *quality of life*, *health*, and other notions that are taken for granted in public health.

STS Questions and Taiwan

How to Become "HIV Negative, on PrEP" in the Post-AIDS Era addresses issues about science and technology studies, medicalization, and queer embodiment in the recent history of HIV biomedical development. A highly urbanized country in East Asia, Taiwan (also known as the Republic of China) has around a population about 23 million. In Taiwan, HIV

disproportionately affects men who have sex with men, or gay men. Gay men reportedly comprise more than 80% of HIV newly infected individuals (TW CDC, 2016). Similar to the Western world during the first few years of the AIDS pandemic, the Taiwanese government initially developed a so-called ABC strategy—practice abstinence, be faithful, and use condoms—to curb the spread of the epidemic. Despite the comprehensive healthcare in place and the fact that ART has been made free for people living with HIV since 1998, the legal infrastructure has remained hostile to sexual minorities. It has mandated the incarceration of HIV-positive individuals for not disclosing their serostatus to their sexual partners (5-12 years of prison time). Since the 1990s, the emerging AIDS service industry has become integrated into the governance of the national AIDS epidemic.[6] In 2016, Taiwan became the first East Asian country to incorporate PrEP into its national health system. At the time of writing, PrEP commonly refers to a type of ART taken by HIV-negative individuals to prevent the sexual contraction of HIV. But PrEP is also a blue pill, a medication patented under the brand-name Truvada and manufactured by the pharmaceutical company Gilead Sciences in the United States. "PrEP" also comes in generic forms in countries with lower gross domestic products (GDP), places such as Thailand and India. PrEP is not yet covered by the Taiwanese national health insurance.

A parallel development to the above Taiwanese AIDS history is the sexual modernity and progress in human rights in Taiwan. Compared to other parts of Asian countries where homosexual behaviors remained criminalized, and LGBTQ human rights are denied (e.g., Mckirdy, 2019),[7] Taiwan has been known as "the beacon of human rights" in Asia (Jacob, 2014).[8] National human-

[6] Here, the AIDS service industry refers to government-funded LGBTQ health centers, professionals with expertise in AIDS (e.g., medical doctors, university professors, and AIDS case managers), and grassroots NGOs, which resonates with a similar trend in the Western world where the AIDS advocates and expert-based organizations became integrated into the healthcare service (Huang, 2014; Patton, 1990; Segal, 1992).

[7] In 2019, Malaysian tourism minister claimed that "there is no gay men in Malaysia."

[8] Since the 1970s, Taiwan has undergone a transformation of compressed modernity— "the civilizational condition in which the economic, political, social and/or cultural changes occur in an extremely condensed manner in respect to

rights achievements include a ruling that same-sex couples can legally adopt children and a law that states transgender people who receive gender reassignment surgery can legally change their legal gender. The third gender option is made available on the national identification cards. LGBTQ people can openly serve the military. In 2019, Taiwan became the first country in Asia to legalize same-sex marriage (Ramzy, 2019).

In citing these achievements, my attempt is not to praise Taiwan's multiple *firsts* and its leading role in healthcare and human rights in East Asia. Nor do I trace a history of those *firsts* to restore or recast Asian or Taiwanese values. My interest lies in using Taiwan as a reference point to consider, in the words of Kuan-Hsing Chen (2010: 212), how "societies in Asia can become each other's points of reference, so that the understanding of the self be transformed, and subjectivity rebuilt." That is, Taiwan's progress in healthcare and achievement in gender equality is to reflect on the transformation of health in the neoliberal time of the Asian region.

The proximity of Taiwan and Thailand allows me to conduct this project of cross-constituting Asian subjectivity with a degree of specificity. It also allows me to ethnographically scrutinize the complexities of the first Asian countries to initiate patent and generic PrEP, respectively, despite their distinct experiences with sexual modernity. How does sexual modernity in Taiwan (e.g., the first East Asian country to legalize same-sex marriage) compare to that in Thailand (e.g., the most vibrant gay tourist destination in Asia)? What are the historical conditions

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both time and space" (Kyung-Sup, 2010: 446). The significant events include: the rapid economic growth since the 1970s and the abrogation of the Marital Law Act in 1987 (i.e., the Martial Law was initiated by the right-wing, conservative ruling Kuomintang that restricted freedom of speech and social order since 1938), and the reform of the media market in the 1990s. In tandem, ideas about sexual freedom and diversity, as well as the introduction of Western notions of LGBTQ rights, have gradually gained social recognition and visibility in both mass media and the university education system. Within four decades, Taiwan became one of the most liberal societies in East Asia. since 2003, the Taipei Gay Pride parade has become the most attended gay event of this kind in Asia. In 2017, the Taiwanese constitutional court ruled in favor of the rights of same-sex couples to legally form family units. In 2019, Taiwan's legislature approved same-sex marriage law, making Taiwan the first country in Asia to legalize same-sex marriage (Ramzy, 2019).

and medical industry that supports Thai medical tourism? What kind of sexual health has emerged from the Thai medical healthcare? Acknowledging that PrEP circulates not only in Taiwan but also within the Pan-Asian context and online, my dissertation presents an analysis of drug regulation, circulation, and consumption in order to address the broader issues regarding the marketization of HIV medicine, the changing health landscape of medical tours, the politics of self-medication and enhancement, and the transformation of queer sociality in the digital realm.

Between 2016 to 2019, I conducted a multi-sited ethnographic study in Taiwan and Thailand—the first two Asian countries that respectively initiated patent and generic PrEP. I examined how sexual health within the HIV biomedical prevention regime has been transformed into various forms of socio-sexual practices, texts and representations, identities, and interpersonal relationships. I conducted participant observations in online forums, medical workshops, AIDS-related conferences, sex clinics, the Taipei Gay Pride Parade, and the Songkran festival (Thai New Year's festival), and major LGBTQ events in Taiwan and Thailand, in order to map out the scientific, medical, social, sexual, representational, and ethical dimensions of sexual health. Together, I interviewed 100 stakeholders, including 65 gay men who were taking take PrEP during the time of interview, 21 medical professionals, nine representatives of LGBT NGOs, university professors, health officials, medical journalists, the developers of gay men's social apps, and the representatives of the pharmaceutical company.

In part, the methods adopted by this dissertation is an ethnographic experiment, a process of data collection that occurred both in the digital realm and in physical locations where geo-locative GPS revealed different groups of gay men as I moved within and cross Taiwanese cities. As I moved across the different cities in Taiwan and areas in Bangkok, the date I collected through my smartphone apps and the stories I am about to tell mirrored the AIDS epidemic and the local

gay culture. Based on this rationale, the data collection is by no means objective and comprehensive. I will return to this discussion to reflect on the methodology in Chapter 5.

In terms of the recruitment of gay men, I used passive methods (e.g., online flyers), active methods (e.g., outreach through the social apps), medical institutions' referral, and snowball method based upon the existing interviewees' social circle. To be eligible for my study, participants (1) were at least 18 years old, (2) self-identified as gay or man who has sex with men, and (3) had ever taken PrEP before the time of the interview or considering to take PrEP. The interviewees received no compensation for participating in this study. I conducted face-to-face interviews with the participants whereas some interviews were conducted through Internet-based methods (e.g., FaceTime, Skype, LINE). Ranging from 1 to 1/2 hours in length, discussions were audiotaped and made into verbatim transcription for analyses. To protect the informants' confidentiality, we have changed the interviewees' names. To elicit interviewees' experiences, I used a semi-structured interview method to collect qualitative data. Questions centered on four primary modules: (1) motivations of taking PrEP; (2) perceived barriers of maintaining the PrEP regimen; (3) inclinations concerning specifying "on PrEP" on their online profiles; and (4) strategies for discussing PrEP in their communication with sexual partners.

Chapter Outlines

Introduction, "The Materialization of Sexual Health: Becoming 'HIV Negative, on PrEP'" outlines the theoretical framework and the scopes of this dissertation. Situated in the history of blood, feminist science studies, and the chemo-ethnography, this chapter conceptualizes serostatus as a *becoming*—a dynamic, biomedical, digital, and social process of becoming "HIV negative, on PrEP." It considers how the circulation of bio-matter (e.g., blood, cells, and viruses) and scientific artifacts (e.g., testing technologies, medicines, and social apps) classify and monitor gay

men's bodies and sexualities. Ultimately, it argues that the materialization of sexual health not only informs the politics of medical knowledge but also reshapes gay men's perceptions about risk, safety, and health.

Chapter 1, "Serostatus As Technology: Tracing The Material History of Serostatus Management," contends that the reconstruction of the history of HIV/AIDS can be seen as a process of categorizing one's serostatus (HIV status). The chapter traces a material history of serostatus and the social science of HIV/AIDS to explore how serostatus has become categorized as a means to reorganize gay men's sexual health. It proposes "serostatus as technology" to consider different approaches to visualize and detect HIV in one's bloodstream. "Serostatus as technology" goes beyond the binary distinction between viewing HIV either as a merely biological indicator or as a merely cultural phenomenon. It instead explores how the management of serostatus—ways of measuring, detecting, blocking, and suppressing viruses—became historically situated, and how the emerging categories become biopolitically and sexually contested. This chapter further engages Andrew Barry's *informed matter* to consider PrEP's multiple forms (i.e., chemical, patent, and generic forms), investigating how information about sexual health, ethics, and sexual freedom was built into and detached from the medical objects of PrEP. Ultimately, this chapter provides a historical backdrop necessary for the remainder of my dissertation.

Chapter 2, "How to Have Sex in a Demonstration Project: Two Tales of One Epidemic" examines how top-down, governmental-led medical programs placed gay men's sexual practices under national surveillance by distributing PrEP free of charge. From 2016 to 2019, the Taiwanese government launched several demonstration projects as contingency plans in order to circumvent how PrEP's high retail prices were stopping people from getting the healthcare. The rollout of the demonstration projects and the social movement of same-sex marriage rights occurred

simultaneously, serving as the important sites for considering the acces to healthcare, gay men's sexual practices, and the debate between health and family rights. Using the theoretical framework of medicalization and biomedicalization, this chapter crafts two tales of one epidemic to illustrate how gay men not only followed the principles of the demo projects and thus became biomedical citizens but also developed an economic mind-set in appraising the cost of their sex. Despite the Taiwanese government's attempt to eliminate PrEP's price from the equation, the medicine nevertheless accumulated a loaded value to redefine *marriage*, as well as *risk*, *safety*, *health,* and other taken-for-granted concepts in public health.

Chapter 3, "Click for Sexual Health: The Online Pharmacy and PrEP Economics," explores the materialization of sexual health in the case of an online pharmacy. In 2016, a group of Taiwanese and Thai medical professionals and AIDS activists initiated a delivery model for gay men in accessing less expensive, generic versions of PrEP in Thailand. The collaboration among medical professionals from two countries exemplified *implementation science* as this platform offered novel methods and strategies to resolve PrEP's access. This delivery model also entailed a new form of freedom insofar as laypersons can pursue self-medication outside the strictures of the nation-state. This chapter introduces the operation of the online pharmacy in light of *assemblage*, addressing the entanglement of multiple social factors and the political economy of Taiwan's drug regulation. Going beyond the knowledge- and class-based analyses of knowledge production, it explores how *guanxi* (關係, kinship or habitus)—an East-Asian thought style of relationship management—provided the basis for the scientific collaboration among LGBTQ people. Ultimately, this chapter addresses a novel form of *PrEP economics* in which gay men's bodies and sexualities have become intertwined with the pharmaceutical intervention, governmental regulation, and personal mobility and pleasure.

Chapter 4, “Bangkok Is Burning: Queer Medical Tourism and the Birth of the Gay Clinic,” introduces the rise of global PrEP tourists and the emerging market of generic PrEP in Thailand. The chapter considers the transformative nature and theoretical potential of *Bangkok*—as a reference point for other part of Asian countries to scrutinize both normative aspects of health and embodied performance of queer intimacy and desire. It begins by historicizing how PrEP and AIDS healthcare evolved from the country’s domestic health inquiry into an export-oriented industry since the 2000s. It then introduces a gay sexual health clinic to exemplify how sexual health has transformed into a performative concept in the city of Bangkok. Finally, it draws on two gay Taiwanese men’s medical tours to articulate how the analysis of sexual practices and medical tours can be grounded in light of labor, in particular emotional labor. This chapter concludes that queer men’s bodies and sexualities have become embedded within the logic of consumption that, on the one hand, denotes the personal freedom of crossing national boundaries to enhance PrEP’s biovalue and, on the other, manifests inequalities in social, cultural, and bodily capitals.

Chapter 5, "Visualizing Safe Sex: Pornographic Bodies and Virus Talks," argues that on the social apps, *safe sex* entails a transformation of bodies—a process of visualization through which unknown, invisible virus is measured, translated, and finally made legible. This chapter opposes the notion that safe sex as is an unproblematic principle in public health and social science. Drawing on the scholarship of STS-feminism and queer studies, this chapter unpacks social apps' designs, the market practice in Taiwan, and the individual's safe sex negotiation on social apps. It shows that with social apps, the scientific and social gaze of HIV/AIDS sees through the exterior, visible bodily parts of human skin and flesh, toward a molecular visualization of living matter such as human blood, serostatuses, and viral loads. This process constitutes panoptic surveillance and an ultimate form of the pornographic body. Despite its intention to promote a transparent and

oppression-free environment, the safe-sex design has propagated the social stigma and discrimination against HIV/AIDS in Taiwan.

Epilogue, "Gay Sex and Gay Science in the *Post* Post-AIDS Era," concludes by turning to the implications, limitations, and future direction of this dissertation. It re-situates the project in the recent historical shift of biomedical prevention to not only address what we can learn from the past but more importantly, what this project can contribute to the ongoing dialogue and emerging field study of queer STS (e.g., Cipolla, Gupta, Rubin, and Willey, 2017; Race, 2019). With Taiwan's case, this dissertation attempts to offer a critical analysis of public health and gay men's sexual practices by bridging science studies' focus on the politics of knowledge as well as queer studies' emphasis of gender and subject diversities. By turning to the management of serostatus in the context of demonstration projects, online pharmacies, medical tourism, and online sexual communication, this project expands the normative and regulative features of *science*, opening up both an analytic and imaginative landscape of how we can alternatively conceptualize *health*, *risk*, *safe sex*, and *quality of life* and other concepts that are always already being taken for granted in public health. The dissertation concludes with feature directions of gay men's biomedical and chemical practices, and biomedical travels in the region of Asia, and history of HIV/AIDS in East and Southeast Asia.

Chapter 1: Serostatus as Technology

The reconstruction of the history of HIV/AIDS can be seen in light of the changes in the process of categorizing HIV status, or serostatus. In 1996, highly active antiretroviral treatments (HAART)—widely called cocktail treatment—were introduced. Before HAART, HIV/AIDS were managed by *reading* blood—that is, testing blood for the presence of HIV antibodies. This method offered two types of HIV conditions: HIV negative and HIV positive (Waldby, 1996). In the post-AIDS era, HIV/AIDS is managed both by *reading* and *regulating* blood—that is, by using antiretroviral therapy (ART) to restrict viral replication within the bloodstream. The introduction of a viral suppression agent presented a new serostatus category into the testing model: "HIV positive, undetectable." In the 2010s, pre-exposure prophylaxis (PrEP) was introduced. Before PrEP, prevention was behavioral not pharmaceutical. PrEP initiated another level of HIV pharmaceutical management, this time taking the form of prevention. To avoid contracting HIV, sexually active individuals must maintain a sufficient amount of the drug in their bloodstream. To date, individuals who take PrEP daily have avoided contracting the virus. Based on this development, PrEP has engendered another serostatus category: "HIV negative, on PrEP."

What is the nature of contemporary gay sex in a so-called *post* post-AIDS era, in which the biomedical approach has evolved from treatment to prevention? What are the ways in which serostatuses categories are forged, how do they reorganize gay men's sexual health? To what extent can STS scholarship and feminism help us better understand the embodied politics of serostatus management and the deployment of biomedicine and biotechnology? Finally, in regard to PrEP's material forms and distinctive names, how do we contemplate the relationship between medical substances, flesh, and information in the recent history of PrEP?

To answer these questions, I trace the material history of serostatus and the social science of HIV/AIDS to provide a necessary foundation for understanding the transformation of sexual health in the inter-Asian context and the digital environment. Drawing on feminist science studies, critical race studies, and cultural studies of biomedical science, I address how the scale of governance has moved from behavioral regulation to serostatus management. I propose "serostatus as technology" to encompass the different approaches of visualizing and detecting HIV in one's bloodstream. "Serostatus as technology" goes beyond the binary distinction of viewing HIV as either a solely biological indicator or a solely cultural indicator. Instead, it explores how serostatus management—ways of measuring, detecting, blocking, and suppressing the virus—became historically situated, as well as how the emerging categories have become biopolitically and sexually contested. Additionally, I incorporate Andrew Barry's concept of *informed matter* to consider PrEP's multiple forms (i.e., chemical, patent, and generic), investigating the process through which information about sexual health, ethics, and sexual freedom was built into and detached from the medical objects of PrEP.

This chapter establishes the historical underpinnings for the remainder of my dissertation and is comprised of four parts. After the introduction, the section "The Logics of Sero-Management" delves into the politics of measurement mechanisms, biomedical intervention, and techniques of scaling up HIV treatment and prevention. It takes one of the most significant global AIDS policy recommendations— UNAIDS's 90-90-90 document—as a working example to outline the logics of managing one's serostatus, including ways of detecting, blocking, and suppressing the virus through bloodwork. The section titled "The History of PrEP: Informed Matter" describes PrEP's biomedical expansion, from its application as treatment in 2004 to its global circulation in the second half of the 2010s. In developing an account of when information

becomes atter, the chapter addresses important issues such as the marketization of chemical substances, the bioethics of medical trials, and changes in the geopolitics of health. Finally, the concluding section, "Serostatus as Technology," postulates that, serostatus should be seen as a set of ongoing biotechnical, biomedical, social, and sexual relationships, and not solely as an epidemiological marker of the presence and level of the virus,

The term "post-AIDS" has been consensus adopted by the scientific community and AIDS activists since the late 1990s (DeCarlo and Grinstead, 1999; Junge, 2002; Kippax and Race, 2003). But I am aware that the concept "post-AIDS era" has also been criticized for being too biotechnically centered and for focusing on the Global North (Walker, 2017). In moving toward the concepts of sero-management and the history as "informed matter, this chapter advocates for an account of blood management that values the significance of gender, race, social class, dis/abilities, and other forms of social inequality. I interpret "serostatus as a technology," arguing that sexual health is already always grounded in matter. in the section "Serostatus as technology," I establish what I mean by matter, and I suggest this term as a foundation for scrutinizing the entanglement of matter, the deployment of biomedical interventions, and gender politics' increasing attention to living molecules.

The Logics of Sero-Management

As introduced in the previous chapter, scholars of feminist science studies postulate that matter should be perceived as a vibrant or exhibiting agency, not as an inert substance that is subject to causal forces and predictable measurement (e.g., Barad, 2003; Bennett, 2009; Coole and Frost, 2010). Critical race studies similarly contemplate the essence of race, indicating that the ontology of race is composed of relational, racializing assemblages. For example, Alexander Weheliye (2014: 4) constructs race "not as a biological or cultural classification but as a set of

sociopolitical processes that discipline humanity into full humans, not-quite-humans, and nonhumans." Analyzing the mediatization model of race, Wendy Hui Chun proposes "race as technology," turning "from the *what* of race to the *how* of race, from *knowing* race to *doing* race by emphasizing the similarities between race and technology" (Chun, 2011: 38). Importantly, these accounts displace the ontological question by asking the ethical question of how race can serve as a mediator to set up a new model of agency and causality, rather than fixing race as purely biological or cultural. In referring to these accounts, I emphasize the conceptual overlaps between race and blood/serostatus while simultaneously acknowledging the distinct histories and physicalities of the two subjects. I argue that conceptions of race and serostatus are similar in that both have biological and cultural entanglements.

By conceptualizing "serostatus as technology," I unearth how matter comes to mobilize a set of techniques to assemble blood, viruses, and medicine—and, in turn, to govern gay men's health and sexualities. My primary focus is PrEP, an entity that is arguably more relevant to HIV prevention. I assert, however, that an analysis of PrEP should be situated within the broader historical process of sero-management. This approach allows us to see how the scientific and medical enterprises of HIV treatment and prevention have been so closely related. In the following pages, I focus on *90-90-90*, an influential document published by the United Nations Programme on HIV/AIDS (UNAIDS) in 2014. Through an analysis of *90-90-90*, a global strategy for eradicating AIDS by 2030, I explain the logics of sero-management.

90-90-90: An Ambitious Treatment Target to Help End the AIDS Epidemic detailed the imperatives of scaling up treatments for AIDS, suggesting that focusing on AIDS treatments could significantly improve disease prevention and control the further spread of HIV/AIDS, and more

importantly, end AIDS by 2030. It outlined three initial goals for completely eliminating HIV infection worldwide:

1. By 2020, 90% of all people living with HIV will know their HIV status.
2. By 2020, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy.
3. By 2020, 90% of all people receiving antiretroviral therapy will have viral suppression.

Even though each individual principle had been gradually implemented since the 1990s, the document provided, in 2014, a new cost-effective strategy to manage the AIDS epidemic. Since 2014, 90-90-90 has served as the common languages and guiding principles for many global AIDS communities and countries such as Taiwan. The 90-90-90 principles differ from the previous models that predominantly focused on scaling up treatment, turning instead to target a so-called "test and treat" approach to address how HIV treatment and prevention can benefit each other. Through the logics of sero-management, the next three subsections revisit the premises of 90-90-90 to examine the materialization of sexual health at the molecular scales of managing blood and viral loads. I illustrate how the bio-matter of blood, cells, viruses has become the locus of control that evolves from a binary of HIV negative/positive to the more complicated biomedical classifications of "HIV negative," "HIV negative, on PrEP," "HIV positive," and "HIV positive undetectable."

Viral Detection

The first goal of 90-90-90 is that 90% of all people living with HIV become aware of their HIV status. To achieve that goal, UNAIDS asked policymakers to encourage at-risk populations to connect to the existing medical system—to "recognize their own risk and come forward on their own to learn their HIV status" (UNAIDS, 2014: 16). Among the methods suggested was "testing

promotion for key geographic and population hot spots," making "investments in strategies to increase demand for testing services," and utilizing "a broader array of HIV testing and counseling approaches" (UNAIDS, 2014: 16).

The first rule made an explicit connection between detecting risk and receiving HIV tests by promoting methods for both detecting and visualizing the viruses in one's body via bloodwork. Early AIDS literature about the politics of viral visibility pointed out that HIV tests were subject to the rule of uncertainty. That uncertainty lies in the indirect way of measuring viruses, insofar as the HIV-testing mechanism looked not for the existence of virus, but for antibodies to particular virus's proteins. Reflecting on the indirect manner of visualizing viruses and the politics of uncertainty, Catherine Waldby notes:

> The HIV test is a test organized around the virus's failures to "pass" within the immune system. However, the partial and somewhat idiosyncratic nature of the antibody response to viral presence…cannot always be determined in the absolute sense implied by the either/or logic of the positive or negative test result. While this binary logic of the HIV test implies that biomedical technology can exceed the limitations of the body's own interpretive and scopic 'technologies' with regard to the HIV, it is nevertheless dependent upon the ambiguous and partial antibody recognition that it is designed to overcome. (Waldby, 1996: 119)

With reference to Cindy Patton's (1990) claim that "HIV does not exist outside the test," Waldby asserts that the interpretation of HIV tests depends on the ambiguity of measurement (i.e., false-positive or negative) in conjunction with the virus's "window period" and the precision of measurement technologies. Here, virus's "window period" does not solely mean that HIV's incubation and mutation takes up at least about three months to be detected. It also means that the precision of measuring technologies is built around a sense of uncertainty. While the *reading* of blood centered on a duality to identify who is HIV-negative and positive. The window period of viral entity further complicates that absolute fashion of that duality.

Early AIDS literature has also indicated that HIV testing served as a "technology of self" insofar as testing rearranged gay men's sexual identity and sex practices. Notably, HIV testing mobilizes a new type of subjecthood, producing a variety of subject position including the "high-risk individuals," a label that might adhere to some who engage in risky sexual behaviors or those who are under other people's influence (e.g., the most vulnerable population of HIV/AIDS such as pregnant women and infants), if not both.[1]For instance, in the mid-1980s, US urban gay communities gradually came to adopt a social outlook in which HIV testing was understood to be part of gay men's identity, and in which it was understood that MSM would incorporate their HIV test status as in realizing their HIV status and in their selection of sexual partners. Since the early 1990s, viral detection has evolved into a strategy of serosorting tightly linked to the conception of how to practice safe sex (e.g., Golden et al., 2008; Butler and Smith, 2007; Zablotska et al., 2009). According to the above two sets of reviews, viral detection and bloodwork serve as an important mechanism to detect and determine one's health conditions. HIV testing engenders two kinds of subjects: namely negative and positive.

But, what makes PrEP unique lies in how this medicine has wrapped up long-established understandings of prevention strategies and viral detection in ways to create a new biomedical category further. PrEP's efficacy is determined mainly by whether PrEP can be consistently brought into the human body, making HIV-negative people continuously become "HIV negative, on PrEP." In other words, in the HIV biomedical prevention regime, at-risk individuals need to take a daily PrEP to optimize this drug's efficacy, raising the concerns regarding drug compliance (e.g., Glidden et al., 2016; Golub et al., 2013; Molina et al., 2015). In that sense, PrEP served as

[1]For example, in spring 1987, several US states mandated volunteer testing programs for pregnant women and applicants for marriage licenses in the belief that unwillingness to receive testing signified moral dereliction (Patton, 1999: 39).

what David Armstrong (1995) called "surveillance medicine"--an object that entails biopolitical tension regarding how drug adherence can become a mechanism that disrupts sexual pleasure and queer intimacy (e.g., Dean, 2015; Race, 2016, elaborated in Chapter 2).

As a result, PrEP complicates the uncertainty of HIV testing by altering a person's HIV status from one of being to one of becoming—from embodying a static, bodily condition of HIV negative to a complicated, ever-changing biomedical configuration of "HIV negative, on PrEP." With new serostatus "HIV negative, on PrEP," this HIV prevention medicine concretized the invisible risk and uncertainty of contracting HIV to an edible daily pill, from an already-unstable viral detection to a more complicated biomedical configuration of calculating risk and drug adherence. This process engendered at least three types of biomarkers: namely, "HIV-negative," "HIV-positive," and "HIV-negative, on-PrEP" statuses.

Viral Block

For the second principle of the 90-90-90 plan, UNAIDS aims for 90% of all people with diagnosed HIV infection to receive sustained antiretroviral therapy by 2020. To that goal, UNAIDS recommends administering “antiretroviral therapy (ART) to all people with diagnosed HIV infection, regardless of their prior CD4 test” (2014, 7). To be clear, CD4 is a glycoprotein, a type of white blood cell essential to the human immune system’s capacity to destroy bacteria and viruses. A healthy individual’s CD4 count should be 500–1,200 cells/mm3. A HIV-infected person does not necessarily become *ill* as his/her CD4 might still be at an optimal level because HIV would develop over time. While UNAIDS has suggested initiating treatment for anyone with CD4 counts of less than 200 cells/mm3 (a criterion adopted by HIV treatment since 2003), in the 90-90-90 document, the significant change is to move toward a complete disregard of patients’ CD4 counts.

Note that it would be misguided to infer that CD4 is no longer critical. Quite the opposite, CD4 remains essential as it serves as the focus of control in the second logic— namely, viral block. The first consequence of altering CD4 scale is to do with the medical economics. To initiate the treatment regimen regardless of one's CD4 counts, UNAIDS (2014, 19) asserted that "to achieve and maintain high treatment coverage levels, countries will need to ensure that HIV treatment and care, including diagnostic tests and other treatment-related items, is free to the individual." When implemented, this measure would significantly increase the number of people eligible to receive treatment— the global number of people who received ART treatment rose from 11 million to 34 million in 2012 (UNAIDS, 2014, 8). Moreover, it will increase each countries' expenses on HIV treatment and, in turn, crowd out the budgets for other illnesses. To back up its legitimacy, UNAIDS claimed that the rapid scale-up HIV treatment for all people with HIV, for the long run, can save patients more money for later medical expenses (Figure 2.1).

The categorical variation of CD4 shifted the surveillance on already-ill bodies (i.e., with CD4 counts less than 200 cell/mm3) to bodies that will deteriorate (i.e., with healthy CD4 counts but HIV infection as well). Here, some might argue that in practice CD4 counts make little difference for those HIV-positive individuals simply because they are already infected, and receiving treatment is only a matter of time. In response, I contend that time does matter, as do CD4 counts. This change first impacted medical access and inequality, especially for those who live with other sorts of chronic illnesses. Also, from a patient's perspective, initiating antiretroviral therapy (ART) is a demanding, lifelong commitment as the treatment effect is determined by one's drug compliance. In that sense, ART creates a sense of coercion to limit personal freedom by binding patients to the medical system until the day when the cure for HIV/AIDS is discovered.

ARTs work to block the potential viral replication in one's blood. Some study has shown that initiating treatment early (CD4 counts 350 to 550 cell/mm3) can reduce the sexual transmission of HIV[2], concluding that treatment can benefit to HIV prevention. Resonating with that optimism, the global AIDS community has proposed "treatment as prevention" (TasP) to suggest that people living with HIV are given ART (regardless of their CD4) to reduce their viral loads to make them less infectious to others (Guta et al., 2016). Framed as a cost-effective tool for curbing the HIV epidemic (Montaner et al., 2006), TasP is understood as "a dual pathway to controlling and ultimately ending AIDS pandemic" (Fauci et al., 2013: 1104).

Notably, TasP has shifted the focus "from 'drug into bodies' that desperately need them, to getting drugs into bodies that *may* need them, or *will* need them, for the benefits of those not infected" (Guta et al., 2016: 170). With a tension of surveillance, the medical gaze in the TasP regime has narrowed from visible bodies to invisible viruses, CD4 counts, and viral loads, from looking at "the ongoing presence of persons who are ill" to viewing epidemics according to statistical means and from the viewpoint of the public (Patton, 2011: 255). In this second logic, medicine and the measurement of CD4 yield a new type of body and serostatus—HIV positive and under treatment. I continue elaborating its impact in the next subsection.

[2] Such discovery is based on the study of HPTN 052, a clinical trial conducted from 2011 to 2016 by the HIV Prevention Trial Network that found out that the early initiation of ART (i.e., for individuals with CD4 counts from 350 to 550 cells per cubic millimeter) reduced the sexual transmission of HIV among 1,763 serodiscordant couples by as much as 93% compared to the delayed-treatment group with CD4 counts of less than 250 cells per cubic millimeter (Cohen et al., 2011 and 2016).

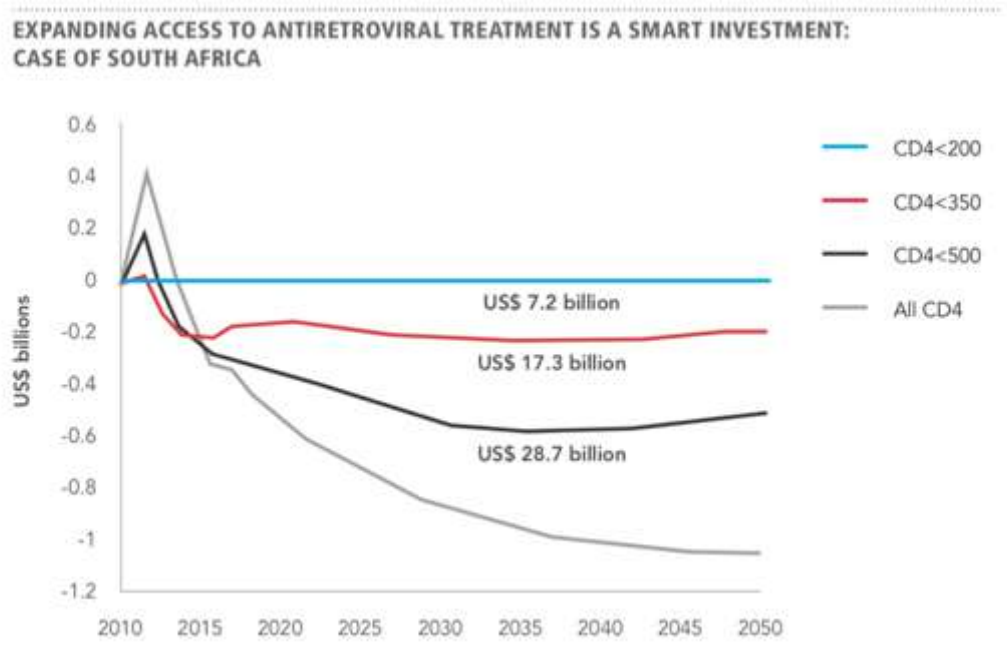

Figure 2. 1 The Economic benefit of early initiation of treatment.

Viral Suppression

The last goal of the 90-90-90 plan is to raise 90% of all people receiving ART to the level of viral suppression, which I term as "the logic of viral suppression." The primary objective of viral suppression is to lower a person's HIV load in the blood or any bodily fluid to an undetectable level—less than 40 copies of HIV/mL of blood—in order to reduce the risk of the sexual transmission of HIV. Based on the medicine's efficacy, UNAIDS notes that "high rates of viral suppression are attainable not only in individual countries and provinces but across entire regions" (UNAIDS, 2014: 20).

By suppressing viral loads, this logic of sero-management yields a new type of HIV status: "HIV positive, undetectable." A person's HIV-undetectable status has reconstructed and reconsolidated subject and object position around viral load measures (Guta, 2016). Most obviously, it proves the efficacy of treatment, meaning that ART is working to suppress viral replication in a person's body. Also, it shows a patient's robust drug adherence— taking daily ART

without missing any dose. At the same time, it suggests that viral load has become a unique indicator given its capacity to measure the patient's prognosis as HIV un-transmittable (Race, 2001). In a sense, "HIV positive, undetectable" should also be seen as a way of becoming as it demands HIV-positive individuals to perform particular kinds of labor to keep pace with the medical regimen. In the Western context, as Race (2001) notes, viral load has become, on the one hand, a new criterion referring to a public health problem that needs be controlled and, on the other, a technology of self that regulates an individual's sexual responsibility by lowering a person's viral load to an undetectable level.

As the focus has shifted from HIV status (i.e., being HIV positive, HIV negative, or HIV negative and on PrEP) in the first principle, to CD4 counts in the second principle, and to viral load in the last principle, the global scientific community has reached a consensus that being undetectable should be deemed as a new normality. In early 2016, the Prevention Access Campaign issued a statement of "Undetectable=Untransmissable," or "U=U," with its slogan being quickly endorsed by more than 550 organizations from 71 different countries ever since.[3] The consensus of U=U claims that:

> People living with HIV on ART with an undetectable viral load in their blood have a negligible risk of sexual transmission of HIV. Depending on the drugs employed it may take as long as six months for the viral load to become undetectable. Continued and reliable HIV suppression requires selection of appropriate agents and excellent adherence to treatment. HIV viral suppression should be monitored to assure both personal health and public health benefits.[4]

This document puts objects (viral loads and medicine) upfront, demonstrating how HIV can be treated as an object that can be managed as well as how viral load can be suppressed and blocked by the distribution of medicine. It opens by referring to "people living with HIV," a term

[3] https://www.preventionaccess.org
[4] https://www.preventionaccess.org/consensus

immediately replaced by the virus in a later description as "on ART with an undetectable viral load in their blood." Quickly turning to the relationship between undetectable viral load and the likelihood of HIV transmission, it goes on by calling the possibility passing virus to others as being "negligible"—implying the likelihood of infecting HIV is "so small or unimportant as to be not worth considering; insignificant" It then concludes by addressing the importance of continued, reliable medical treatment in order to suppress viral transmission.

U=U prescribes the naturalization of AIDS through which the ideal viral loads (undetectable) becomes the norm, "a one-size-fits-all approach around which to mobilize" (Guta et al., 2016: 89). As a result, U=U reinforces another set of binary: detectable and undetectable. "HIV positive, undetectable" then complicates the status of "HIV positive and under-treatment" insofar as the idea of "HIV positive and undetectable" has become one, and the sole, legitimate strategy in the medical domain and MSM social circles. As noted by Race (2011), the status of being undetectable entails a crisis associated with the docile body framed in the name of self-driven responsibility.

> Rather than becoming invisible, HIV now becomes visible in different ways, through different techniques, and in different concentrations and intensities. For many gay men with HIV, it becomes visible as a private responsibility, as a 'chronic manageable illness', as something about which it would be shameful to make too much of a fuss about. If HIV antibody testing changed the space of HIV – where and how risk was located – the apparatus of HAART magnetizes this space in a particular way, specifically in relation to 'the future' (Race, 2001: 178-179).

The problem of "undetectable" science is that detectability becomes an unproblematic method that legitimatizes gay men's sexual beings. This evokes the issue of "naturalization of HIV," one that is morally, sexually, and economically charged but nevertheless normalized in the name of health (Persson, 2013). In Chapter 5, I elaborate on this issue by exemplifying how gay Taiwanese men disclose their "U=U" and "HIV negative, on PrEP" on social apps.

Having elaborated on the logics of identifying blood, virus, and the subject-object embodiment in HIV/AIDS, I have shown how matter reorients our understanding about the

governance of bodies and sexualities. The logics of sero-management entail three sets of interconnected thought styles and corresponding scientific practices that detect, block, and suppress HIV. The medicine and measuring mechanism rework the public perceptions of what is deemed to be healthy/unhealthy, desire/undesire, normal/abnormal. During that process, we shift our attention from witnessing illness to witnessing disease, a process in which medical gaze has moved to invisible human matter so that individualities disappear or become categorized as the species-body (Patton, 2011). Together, those logics yield five distinct serostatuses: "HIV negative," "HIV negative, on PrEP," "HIV positive," "HIV positive, under treatment," "HIV positive, undetectable," highlighting the entanglement of science, governmentality, and gay men's sexuality in different period of HIV/AIDS.

However, with the logics of sero-mangement, I do not suggest that other structural inequality such as genders, races, social classes, dis/abilities, and nationalities, become insignificant. In my dissertation, I instead argue that the management of serostatuses has entangled with genders, social classes, cultural capitals, and one's ability to cross national boundaries. I illustrate how the logics of sero-managment migrate from one's bodies, to state-let medical programs, online pharmacies, gay men's medical tours, and finally, the digital environment of sexual communication through social apps. If anything, this dissertation exemplifies how sero-management becomes gendered and framed as a gay-exclusive issue in Taiwan. Before closing this chapter, I address the implications of 90-90-90 in Taiwan and situate the logics of sero-management in the broader scope of this dissertation.

90-90-90 in Taiwan

I close this section by offering readers an overarching assessment of the AIDS epidemic in Taiwan in light of 90-90-90. Even though this articulation provides useful insight into Taiwan's

roles in the prevention and treatment of HIV/AIDS, given the scope of my dissertation, I cannot exhaust every single principle in the later chapters. I will emphasize their significance and connections to my overall project.

By December 2017, 79% of all people in living with HIV knew their HIV status, 84% of all people diagnosed with HIV infection had received sustained antiretroviral therapy, and 88% of all people in receiving antiretroviral therapy had marked viral suppression (TW CDC, 2017). Compared to the 90-90-90 in the global (79%-78%-86%), Eastern Europe and Central Asia (72%-53%-77%), and Asia and the Pacific (69%-78%-91%) (Avert, 2019), those three nearly-90% performance revealed Taiwan's enduring medical network and healthcare.[5] Among the HIV prevention strategies, the service of HIV voluntary counseling and testing (VCT) has been treated as one of the most effective approaches for identifying and recruiting at-risk populations to the medical network. Since the mid-1980s, the policy of HIV testing and screening blood has been expanded from the high-risk population to more general populations, such as all donated blood in 1988, all draftees in 1989, all foreigner workers in 1991, all pregnant women in 2005, to recreational drug users in 2006, to name just a few (Huang, 2012: 99). In that sense, VCT (also known as the anonymous HIV testing) embodied the logics of viral detection as to connect potentially-sick populations to the existing medical network. To keep pace with global trends, especially to meet the first principle of 90-90-90, the Taiwanese Center for Diseases Control (TW CDC) has scaled up the service of VCT to 439 locations,[6] (outnumbering Starbucks cafe in Taiwan), ranging from medical centers, hospitals, and clinics to nongovernmental organizations (NGOs), in an attempt to offer more comprehensive network of clinical points of care and

[5] The United States alone is 86%, 74%, 83% in 2016 (Hall and Mermin, 2019).
[6] Also, a reference for readers to understand the prevalence of VCT on the island— in 2017 there are 408 Starbucks Coffee shops in Taiwan.

anonymous HIV testing for men who have sex with men.[7] In that context, PrEP has become a means of connecting the at-risk, still HIV-negative individuals to the medical network once their risk is identified through the work of VCT. Chapter 2 takes up this premise of expanding VCT and allowing more people to connect to the medical network, elaborating on how Taiwanese government initiated the medical programs to distribute PrEP free of charge. That chapter discusses the consequence of the government's attempt to make people become "HIV negative, on PrEP."

In regard to the second logic of sero-management—that is, by blocking viruses, the TW CDC outsourced work related to HIV prevention and treatment to NGOs and hospitals in the form of grant and research projects (Chapter 2). Emulating the scheme of the U.S. CDC, the TW CDC implemented a program for AIDS case management in 2007 to better connect PLWHAs with medical networks via case managers who could personalize healthcare for people living with HIV (PLWHA) to improve their drug compliance as well as retain HIV-positive individuals, regardless of their CD4 counts, in medical networks (Chi et al., 2010). Dominating the regimen of HIV healthcare in Taiwan ever since, that HIV case management program redefined the meaning of *AIDS* from a medically manageable disease (i.e., via HAART) to a controversial disease demanding high-profile attention (Huang, 2014). In that context, CD4 counts became a means of examining the effectiveness of the HIV case management program (Chi et al., 2010). In 2016, the TW CDC followed UNAIDS's suggestion to modify its 2013 treatment regimen from admitting only HIV-positive patients with CD4 counts of fewer than 500 cells/mm^3 to all such patients

[7] Moreover, the TW CDC has promoted at-home oral rapid HIV testing by offering discounted kits for individuals with privacy-related concerns for easy purchase at appointed pharmacies, NGOs, gay bathhouses, and even vending machines. Medicine also plays a role in achieving the first principle. For one, post-exposure prophylaxis (PEP)—antiretroviral medicine (ART) to be taken within 72 hours after exposure to risk—has been available to the public since 2012. PEP is for individuals exposed to HIV but not yet infected. A person needs to take PEP for 28 consecutive days to complete a treatment circle. As aforementioned, beginning in 2016, PrEP became another tool for HIV prevention, particularly one that can detect the virus.

regardless of their CD4 counts. The TW CDC characterized its decision as being "in agreement with advanced countries' policies," given its observance of the global 90–90–90 principle, adherence to which rose from 79% in 2016 to 84% in 2017.

Regarding the third logic, despite pharmaceutical interest in and medical efforts toward enhancing PLWHAs' quality of life by lowering viral loads to undetectable levels, advancements in medicine have not eliminated the social stigma of HIV-positive status. The legal and social treatment in Taiwan demonstrate how novel medical outbreaks conflict with standing categories and thereby engender fear and stigma of the disease. At the time of writing, the TW CDC has not endorsed more up-to-date scientific claims such as U=U to facilitate the discussion of HIV-related stigma. In Taiwan's criminal justice system, PWLWAs continue to be held accountable for not disclosing their HIV-positive status to sexual partners. As such, the government's effort to push the third 90% forward manifested social oppression. In that light, Chapter 5 tells a story of how a HIV-positive individual falsely disclosed his HIV-status on the social apps, exemplifying unintended consequence sero-disclosure on the social apps.

The History of PrEP: Informed Matter

In medicine, a drug has three names: chemical name, brand name, and generic name. A drug's chemical name reflects to the drug's atomic or molecular structure, if not both, and is typically assigned during the research and development (R&D) phase. The pharmaceutical company typically searches for a brand name and a trademark while the drug undergoes review by the government agency (e.g., the Food and Drug Administration, FDA). Between the patented drug's market release and the expiration of that patent (typically a 20-year span), the drug informally acquires a generic name, a process that escalates as other pharmaceutical companies become licensed to produce equivalents of the brand-name medicine, either because the patent has

expired or because there is a ruling or decision on the matter. When a drug acquires a generic name, this moniker is often presented in lowercase letters to distinguish it from the brand name. Together, three names suggest that a drug contains multiple entities with different material forms circulated in different social registers.

I begin with three names of the biomedical object to emphasize the ways in which a linguistic reality of AIDS treatment informs the unfolding of the lived material conditions of HIV/AIDS in terms of markers, the virus, bodies, and lived practice. The concept *informed matter* to helps me to explain how meanings are built into and then detached from things. In "Pharmaceutical matters: The invention of informed materials," Andrew Barry (2005) describes an ontological shift in contemporary chemistry and pharmaceutical innovation. Drawing on Bernadette Bensaude-Vincent and Isabelle Stengers's history of chemistry, as well as on A. N. Whitehead's conception of "science as associations," Barry postulates that pharmaceutical companies do not just sell information, nor do they solely produce material objects or bare molecules (e.g., structures of carbon, hydrogen, oxygen, and other elements) in isolation from their environments. Calling chemicals and medicines *informed materials,* Barry (2005: 52) notes that molecules should be viewed "as constituted in their relations to complex informational and material environments." Chemical research and development entails a process through which the identities and properties of atoms and molecules are transformed through their changing associations, which includes the ways in which their names circulate and take on meanings.

In *HIV Interventions: Biomedicine and the Traffic between Information and Flesh,* Marsha Rosengarten (2009) furthers the concept of informed matter by proposing to collapse the distinction between information and flesh in the domain of HIV prevention. Rosengarten contends that the molecule embodies the environment in which the informational process takes place.

Aligning with Barry, Rosengarten (2009: 5) takes a stance that opposes the idea that object comes with already-inscribed meaning. She explains that we must examine "the processes through which what initially seems to be 'information' turns out to transform that which we know as 'flesh' or, conversely, flesh turns out to have informational effect." As a concept, informed matter leads us to notice how scientific activities and research design build information *into* the structure of things such as molecules and viruses. The scope of this information includes but is not limited to—as Rosengarten (2009: 63) puts it, "data about potency, metabolism, and toxicity but also, intellectual property law, patents, and other legal or economic information."

Central to the works of Barry and Rosengarten is the idea that objects should be scrutinized in light of their *becoming*. The chemical name, brand name, and generic names of PrEP are labels that designate context-specific information about the biomedical objects. To tease out the relationship between materiality and information, we, to borrow the words from Paula Treichler (1999: 11), cannot merely "look 'through' language to determine what AIDS 'really' is. Rather, we must explore the site where such determinations *really* occur and intervene at the point where meaning is created: in language." Treating labels and names of medicine as more than merely textual representations, I employ the concept of informed matter to discuss the development of PrEP, from its application as treatment in 2004 to its global circulation in the second half of the 2010s. This is not an attempt to conduct a comprehensive review of PrEP's history. Rather, I focus on the transformation of biomedical objects' three definitions in relation to PrEP's marketization, its implications for bioethics, and finally, its influence on the global geopolitics of health. Though the following three sections are genealogically conceived, they adopt a linear approach to tracing this drug's chemical forms to the marketplace and into the layperson's daily life.

TDF/FTC for Treatment

At the time of writing, when people say PrEP they are commonly referring to Truvada, its brand-name form, a blue pill taken daily by HIV-negative individuals in order to prevent sexual contraction of HIV **(Figure 2.2).** An antiretroviral therapy (ART) patented and manufactured by Gilead Sciences Inc., Truvada has a chemical name: tenofovir disoproxil fumarate (TDF) and emtricitabine (FTC), or TDF/FTC.[8] This medicine has been prescribed to treat HIV infection for nearly a decade. In 2012, the US FDA approved Gilead's application for TDF/FTC as an HIV prevention medicine.[9] Here, I elaborate on the information built into TDF/FTC in light of the chemical's wide application and pharma profitability.[10]

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[8] Both TDF and FTC are nucleoside reverse transcriptase inhibitors (NRTIs), a class of HIV medicines used to block reverse transcriptase, an enzyme in HIV, in order to prevent HIV from proliferating in the blood. The uniqueness about TDF/FTC lies in that this medicine provides a more simplified dosing regimen than that of highly active antiretroviral therapy (HAART). A patient needs only to take a single dose of Truvada in order to achieve the effect that the two medicines offer (US FDA, 2018). Also see: https://aidsinfo.nih.gov/drugs/406/truvada/0/patient

[9] One of the ways to understand the history of HIV and AIDS is to examine the development of medicines (cf., Kippax and Race, 2003; Smith and Siplon, 2006). In early days of the epidemic, between 1986 to 1995, the treatment remained to be "monotherapy," treating HIV with a single drug Zidovudine (AZT) or called Retovir. The approach of using single drug sometimes led to a drug resistance and treatment failure because HIV could quickly develop resistance to any one drug and eventually any one class of drugs (Smith and Siplon, 2005). In the mid-1990s, the treatment regime had switched from montherapy to combination therapy, also known as "highly active antiretroviral therapy" (HAART) in that NRTIs, Non-NRTIs, and Protease inhibitors (PIs) are used in conjunction to prevent the emergence of the muted forms of HIV before viruses have opportunities to proliferate (Smith and Siplon, 2006). With HAART, AIDS transformed from a death sentence to a chronic illness of living with HIV, and hence called for a "post-AIDS" era. Of course, this history is never being a biomedical one. It is also a sociopolitical trajectory within which drugs become situated, controlled, and regulated as forms of commodities. In the neoliberal global market, HIV medicine is subject to the regulation of the World Trade Organization (WTO) and the enactment of the Trade-Related Assets of Intellectual Property (TRIPS) Agreement.

[10] The other built-in information lies in Truvada poly-pharmacological application, one in which TDF can also be prescribed as treatment for hepatitis B. The poly-pharmacology means that a single component of a drug can sometimes treat various symptoms and therefore has multiple applications in the market. A well-known example is the shifting application of Sildenafil, more commonly known by its brand-name Viagra, from treatment for high blood pressure to the treatment of erectile dysfunction in men (Loe, 2004). In Truvada's case, TDF has also been used to treat chronic hepatitis B, caused by the hepatitis B virus (HBV), with which HIV shares a long lineage beginning in the early days of HIV/AIDS (Cantwell, 1993; Starr, 1998). Such shared root has partly stemmed from the fact that both viruses share routes of transmission (i.e., blood to blood during sexual activity or needle sharing) and symptoms (i.e., damage to the immune system). At the molecular level, both diseases also exhibit similar reverse transcriptase, which prompted their misclassification early on during the AIDS pandemic. Due to those similarities, people with HIV are nevertheless often also prone to be affected by chronic viral hepatitis; however, though TDF's use in treating HBV is not new (See Liaw et al., 2011; Pan et al., 2016; Ristig et al., 2002; Sheldon et al., 2005), Truvada has not been approved by the US FDA to treat chronic HBV. In fact, Gilead Sciences applied the other TDF-based medicine called Viread (brand name) for HIV in 2001 and Viread for HBV in 2008 in order to distinguish two different markets of treatment (Gilead Sciences, 2018). Since using Truvada to treat HBV is classified as off-label use of medicine, the

First, TDF/FTC has been conceived of and prescribed as one of the most stable backbone medicines in HIV treatment. This application is to do with the molecular feature of TDF. Note that TDF has a long intracellular half-life that allows extended protection in the body even if some doses are not taken (Grant et al., 2005). Because of that feature, TDF has been widely used as crucial nucleoside reverse transcriptase inhibitors in many HIV medicines, including Atripla, Complera, Genvoya, and Odefsey[11], making Truvada a blockbuster, one of the most profitable drugs that Gilead Sciences has manufactured. Meanwhile, TDF has a treatment effect on hepatitis B, a disease that has a long lineage in the early days of HIV/AIDS in that scientists initially considered hepatitis B virus (HBV) and HIV identical entities (Cantwell, 1993; Starr, 1998). Such a feature is understood as poly-pharmacology in that a single component of a drug can sometimes treat various symptoms and therefore has multiple applications in the market.[12] For example, Gilead Sciences applied the other TDF-based medicine called Viread (brand name) for HIV in 2001 and Viread for HBV in 2008 in order to distinguish two different markets of treatment (Gilead Sciences, 2018). In either case, both medicines share same chemical component but become marketed differently in order to expand the pharma's profit.

I detailed the molecular features of TDF not to praise the molecule's wide implications, but to emphasize the politico-economic significance that has been built into Truvada. The stability and wide application of TDF have made Truvada a common prescription in HIV treatment and an off-label drug for hepatitis B treatment, suggesting that manufacturing Truvada has been a good business since the 2000s. For instance, in 2012, Truvada alone contributed US$ 3.18 billion, 33%

drug injury relief of Truvada (i.e., the legal system that offers patients with the prompt financial remedy in the case of adverse drug reactions) is less likely applicable to situations in which people with HBV develop liver dysfunction due to Truvada. Such discrepancies in medical applications, as well as in the chemical name and brand-name, indicate a conflict in classification because those categories do not always consistently align with each other.

[11] https://www.drugs.com/mtm/tenofovir.html

[12] A well-known example is the shifting application of Sildenafil, more commonly known by its brand-name Viagra, from treatment for high blood pressure to the treatment of erectile dysfunction in men (Loe, 2004).

of Gilead Sciences' annual revenues in the same year (Gilead Sciences, 2013). Truvada and its generic form that Gilead Sciences licenses to produce become adopted by more and more countries, such that, until 2017, Truvada has been registered for HIV treatment in 154 countries worldwide, including 108 developing countries (Gilead Sciences, 2017; Cáceres et al., 2015). That profitability explains not only the pharma's continuous attempt of filing extension Truvada license in the second half of the 2010s but also pharma's reluctance to adjust Truvada's price for prevention. I return to this topic in the later section and Chapters 2 and 3.

TDF/FTC for Prevention

In the second half of the 2000s, the development of Truvada evolved into a new chapter to extend TDF's effectiveness in preventing HIV infection. TDF/FTC has evoked at least two sets of debates: the bioethics of medical trials and the surveillance of sexual freedom. During this stage, the controversies first surrounded the bioethics of how to bring medicine into sexual minorities' bodies in the randomized clinical trials (RCTs). The initial multinational RCTs were conducted in Botswana, Ghana, Malawi, Peru, Thailand, and the United States (Rosengarten & Michael, 2009). Researchers sought to extend TDF's effectiveness in the mother-to-child transmission of HIV and post-exposure prophylaxis (PEP) in non-occupational settings (e.g., condom break or sharing syringe for injection drug use) (Schouten et al., 2011; Siegfried et al., 2011). RCTs evoked the debate of the manipulative feature of the medical trials and its irreversible consequences to participants' changed behaviors.

At the time, AIDS activists and the scientific community took competing stances. AIDS activists raised the concerns that Truvada's side effects (e.g., kidney failure, bone density insufficiency) would cause more harm than benefit. The disputes between the scientific community and AIDS activists were not merely the distrust over the efficacy of Truvada for PrEP, but more

importantly reflected the collective anxiety and concerns for applying seemingly toxic medicine to HIV-negative individuals. For example, the ACT UP-Paris alleged that sex workers had been infected by Gilead Sciences during RCTs. In Thailand, it's reported that researchers failed to provide clean needles and syringes to the injecting drug users (IDUs) (Singh and Mills, 2005).[13] In response to the allegations, scientists have argued that "we must not let protestors derail trials of Pre-Exposure Prophylaxis for HIV" because "such form of activism is only practiced by a tiny minority, but it has taken us hostage" (Lange, 2005: 0833). In the other response, scientists added that "activism should be based on informed opinion and communication" (Singh and Mills, 2005: 826). Later, the scientific community urged the global AIDS community to "promote HIV chemoprophylaxis research, don't prevent it" (Grant et al., 2005: 2170). Later in the 2010s, the dispute over the bioethics of Truvada for PrEP has moved from the executions of RCTs to drug access among at-risk populations, a topic I shall return to in the next section.

In the 2010s, TDF/FTC for PrEP has raised concerns about limiting one's freedom. Since 2012, there has been the statistical discrepancy regarding PrEP's efficacy, ranging from 48%, 86%, to 97% (e.g., McCormack et al., 2015; Molina et al., 2015; Molina et al., 2017).[14] Those variations do not suggest that PrEP works only for certain ethnic groups and in specific locations but instead

[13] It's reported that researchers failed to provide clean needles and syringes to the injecting drug users (IDUs), which clearly violated Guideline 29 of the Declaration of Helsinki. Here the guideline of Helsinki Declaration refers to its version in 2000, which states that "The benefits, risks, burdens and effectiveness of a new method should be tested against those of the best current prophylactic, diagnostic, and therapeutic methods. This does not exclude the use of placebo, or no treatment, in studies where no proven prophylactic, diagnostic or therapeutic method exists."

[14] The basis of Truvada's efficacy as PrEP can be traced to the iPrEP study, a series of RCTs conducted in Brazil, Ecuador, Peru, South Africa, Thailand, and the United States from 2007 to 2009 whose results were published in *The New England Journal of Medicine* in 2010. Among the 2,499 trial participants, all HIV-seronegative MSM and transgender women, daily oral PrEP reduced HIV infection by up to 44% (Grant et al., 2010). The results encouraged an optimistic belief among the global AIDS community to end AIDS with the help of PrEP. In later PrEP-related studies, researchers extensively tested PrEP's effectiveness on MSM (Anderson et al., 2012; Grant et al., 2010; Pines et al., 2014), serodiscordant couples (i.e., partners with different HIV statuses; Baeten et al., 2012), intravenous drug users (Choopanya et al., 2013), and at-risk heterosexual individuals (vanDamme at al., 2012; Marrazzo et al., 2015; Thigpen et al., 2012). The results of such work have prompted the global scientific community in more recent years to believe that PrEP can prevent HIV infection by up to 86% (McCormack et al., 2016; Molina et al., 2016), 90% (US CDC, 2018), and even 97% (Molina et al., 2017).

demonstrate that some participants in the trials were not transparent about their drug use. They did not follow PrEP's regimen by showing robust drug adherence (i.e., taking a pill daily).[15] To maximize PrEP's effectiveness, one needs to routinely bring PrEP to his/her body, that is, to maintain the amount of drug in the bloodstream for preventing HIV to develop and replicate. In that sense, daily PrEP has manifested a biopolitical relationship between drug compliance and freedom. Critiquing the "biopolitical side-effect" of PrEP, Tim Dean (2015) has pointed out that the daily regimen of PrEP has deprived queer men of their sexual autonomy and intimacy because this medicine now mediates bareback sex among men. Furthermore, the daily regimen of PrEP put gay men's behaviors under the surveillance, one that demands individuals to demonstrate robust compliance in order to become "HIV negative, on PrEP."

By extension of the medicine's dual features for allowing and constraining one's freedom, Truvada has evolved into various competing meanings. Immediately, Truvada was associated with a new movement of "sexual revolution" in the United States (McNeil, 2014). When used as PrEP, Truvada itself was called a "new condom," an analogy that troubled many health practitioners and gay men when it comes to redefining *safe sex* (Murphy, 2013; Ruch, 2014). Yet, the drug's scientific, revolutionary feature for safer sex practice was stigmatized. PrEP users were dubbed "Truvada Whores"—that is, reckless, irresponsible individuals who like to enjoy bareback sex (Duran, 2012; Spieldenner, 2016). Within the LGBTQ community, the drug's capacity to liberate one's fear and prevent one from contracting HIV was both racialized and fetishized. For example, Regan Hofmann, the former editor-in-chief of *Poz*, opposed PrEP by calling it a "profit-driven sex

[15] In the iPrEP study, for example, Grant et al. (2010), through measuring the amount of PrEP lingering in participants' blood during the trial, pointed out that if participants did not take PrEP regularly and the drug in their blood was therefore insufficient to block the body's interaction with the virus, PrEP was ineffective. Likewise, as shown in a meta-analysis by the AIDS Vaccine Advocacy Coalition (AVAC, 2016), the effectiveness of the PrEP regimen is positively associated with drug adherence, meaning that if an individual can take a sufficient daily dose of PrEP, the drug can prevent him or her from becoming infected with HIV by up to nearly 100%.

toy for rich Westerners," whereas Michael Weinstein, the head of the AIDS Healthcare Foundation, named PrEP as a "party drug" that promotes nothing but reckless, condomless sex (Glazek 2013). In Taiwan, PrEP also excited a moral concern in that the conservative evangelicals called PrEP a "hookup pill" that had no public merit but merely facilitated male promiscuity (See Chapter 2). In the tourist site such as Bangkok, Thailand, gay sexual health clinics incorporated generic PrEP into their service, calling this medicine "a science God sent from above" in ways to attract the global drug buyers (See Chapter 4).

Writing these denotations of PrEP, this review attempts to capture some of the on-going debate about the drug's medical implications and its unintended social consequences. Those characteristics became complicated in the third stage of its expansion—generic form of PrEP.

TDF/FTC for Generic Medicine

In 2012, the US FDA approved Truvada for PrEP. Later, the World Health Organization (WHO) issued guidelines for PrEP demonstration projects. In 2014, the United Nations Programme on HIV/AIDS (UNAIDS) included PrEP in the latest global AIDS policy recommendation (See the next section on the 90-90-90 document). Up to 2019, 53 countries or regions, compared to only 11 in 2016, had completed regulatory applications to use Truvada for PrEP (AVAC, 2019) (**Figure 2.3**). At this stage, the pharma expansion and the different methods of accessing PrEP manifested the issues of social, health, and racial inequalities as well as the uneven process of globalization.

Up to this point, HIV prevention medicine was often framed as a hope that can end the global AIDS epidemic by 2030. But, hinged on the pharmaceutical company's patent protection and high price, the delivery of that hope worldwide reveals a very different picture. The bio-hope of PrEP

is a pricy one. For example, without insurance, a month of Truvada sells for $1,600 to $2,000 in the US (Lovelace, 2019), $445 in Europe (Medical Press, 2018), and $400 in Taiwan.

In the US, the pharmaceutical company, insurance institutes, and the government offered the drug assist-program, one that covered the gap in the cost of PrEP by up to $4,800 per year (Pulsipher et al., 2016). Countries with a more comprehensive social welfare model (e.g., France and Norway) have provided free access to PrEP since January 2016 (Lawrence, 2015; Whalen, 2016). In some other countries (e.g., Australia), PrEP was accessible via three channels: the existing medical system without health insurance, an online venue for generic versions of PrEP, and, for a limited time, state-funded trials (Winsor, 2016). [16]Moreover, for many countries where the RCTs did not take place from 2007 to 2012 and where the healthcare insurance has not yet covered Truvada for PrEP, the access has manifested health inequality and, in turn, led to the social movement and transnational drug buyers-club. For example, in the United Kingdom, the access of PrEP was led by the AIDS activists who initiated "IWantPrEPNow.co.uk," a website that offered individuals a channel for purchasing less expensive generic forms of PrEP overseas.[17]

[16] For one, an individual can access PrEP through hospitals and health systems—a model similar to that of the US with the notable exception of an insurance co-payment and governmental subsidy—through which PrEP costs USD 28 per day (USD 10,000 per year). Second, through an online venue, an individual can purchase the generic version of PrEP, which can reduce the individual's daily expense to USD 8. Third, the state-funded trails have recruited more than 10,000 MSM since the late 2000s.
At the time of writing, Australia had around 15,000 people participating in PrEP trials. In 2018, the Australian government motioned to list PrEP in its Pharmaceutical Benefits Scheme and, with the hope of facilitating its rollout, even announced federal funding for PrEP to the tune of US$ 134 million (Gribbin; 2018; Hirst, 2018; WAAC, 2018).

[17] In the United Kingdom, with other cofounder, Greg Owen, a gay British man who turned into HIV positive in 2015 at the age of 35, established a generic PrEP website "IWantPrEPNow.co.uk" in an attempt to offer local British men with more affordable PrEP in the time when the approval of Truvada for PrEP was still under the debate by the UK National Health Service. Greg Owen's encounter with HIV and AIDS was indeed a tragedy in that this 35-year-old man became infected by HIV due to not having enough time to enroll with the local PrEP trial and wait for PrEP becoming legally available in the British market. Yet it is an inspiring story in which a newly HIV-infected man dedicated himself into safeguarding sexual health among LGBTQ community by bridging the supply of the generic PrEP to the local people. Owen and his friends decided that "we don't even need the government right now," and "we'll tell everyone to order pharmaceutical drugs on the Internet and start taking them" (de Castella, 2018). The website "IWantPrEPNow.co.uk" not only provides updates about current clinical trials of PrEP, but also offers information about how to purchase "genuine generic PrEP."

Yet, in some developing countries, PrEP has been made available in generic forms. Based on the World Trade Organization's trade regulation of the Trade-Related Aspects of Intellectual Property Rights (TRIPS), the local government with low GDP or in national health crisis can issue *compulsory licensing* to manufacture generic forms of medicines on their own (WTO, 2018).In Thailand, for example, TDF/FTC was sold under its generic name "TENO-EM," both for treatment and prevention, by a state-owned drug company called Thai Government Pharmaceutical Organization (GPO) (**Figure 2.3**). A bottle of TENO-EM (30 tablets) costs 680-1200 Thai baht (US$ 22- 40), almost 90% cheaper than the cost of Truvada in Taiwan (See Chapter 4 on Thailand's medical industry).[18]

At this stage, the scientific and LGBTQ communities did not argue over how to best bring drugs into human bodies. They have instead turned to the social and health inequality of drug access. Notably, each countries' distinct response to PrEP access has prompted scientists and AIDS activists to collaborate to resolve the issue of access to PrEP. Medical practitioners and AIDS activists from different proximal locations, such as Taiwan and Thailand, worked to resolve the access to PrEP. Moreover, private, gay-centered clinics in Thailand seized the market opportunity fto sell the generic PrEP to global tourists. For example, in 2016, having failed to recruit enough participants for the medical trials, the Taiwanese government instead encouraged LGBTQ

[18] As for Gilead Science, the threat of generic market is real, such that the global sales of Truvada in 2017, both for HIV and PrEP, decreased by 12 percent (a loss of US$ 432 million) as compared to Gilead Sciences's sales in 2016 (Gilead Sciences, February 7, 2017 and February 6, 2018). According to Gilead Sciences's financial reports, the global sales of Truvada (HIV and PrEP) have a growth from -1% to 10% from 2012 to 2016 (10% in 2012; -1% in 2013; 6.5% in 2014; 3% in 2015; 3% in 2016). In particular, the sales of Truvada increased from 3,459 million in 2015 to 3,566 million in 2016. The United State is the major market to contribute such growth, which increased 15% of sales in 2016 compared to that of 2015. In 2017, the sales of Truvada experienced its first negative growth since it was licensed for PrEP. In response, Gilead Sciences attributed to "an uncertain global macroeconomic environment" which is caused by the introduction of generic versions of Viread and Truvada outside the United States (Gilead Sciences, February 7, 2017). Interestingly enough, until that point, Gilead Sciences, through monopolizing the patent of Truvada, had invested a relatively small budget to market Truvada for PrEP ($450,000 in 2016 and $260,000 in 2015 in the US). Gilead Sciences then began to take a more active role in rolling out advertisements and marketing plans for PrEP from 2017 onward, a shift that produces more visual materials and discourses around PrEP and sexual health at large.

communities and medical professionals to develop channels for accessing medicines. To seek affordable healthcare and to avoid social stigma about AIDS, HIV-negative Taiwanese men traveled to Thailand to purchase generic versions of PrEP.

In a sense, the *global-closeness* of the regional countries—such as Taiwan and Thailand—challenges the western-eastern, post-colonial medical paradigm of governing HIV/AIDS and can provide a different insight into the changes of the geopolitics of health in East and Southeast Asia. Situated in that context, my dissertation juxtaposes the first two Asian countries that respectively initiated patent and generic PrEP, also two countries with distinct healthcare systems and encounters of sexual modernity, in ways to explore the changes of the geopolitics of health in East and Southeast Asia. From Chapter 2 to 4, I craft a story of how the local Taiwanese medical demonstration projects engendered not only the local HIV-medicine market, but also a digital network of drug access program and gay men's transnational medical tours to Thailand.

PrEP is not a medical object with a single meaning. Through the lens of informed matter, this review has addressed the transformation of PrEP's chemical name, brand name, and generic name, illustrating how during that process, information was built into and detached from the medical objects. The chemical form of TDF/FTC indicated TDF as a stable molecule and a lucrative object. With its implication on HIV prevention, TDF/FTD reflected the concerns regarding the limits of freedom and control. Yet, TDF/FTD has evolved into an object of sex, reflecting on competing meanings such as Truvada whores, hookup pills, and a bio-hope. Finally, the meanings and information built into the objects also manifested the uneven process of globalization, a process that embodied the social and health inequality on the one hand, and encouraged the bottom-up collaboration of drug access models and gay men's transnational travels on the other.

Figure 2. 2 Images of Truvada.

At the time of writing, without insurance, a month of Truvada sells for $1,600 to $2,000 in the US, $445 in Europe, and $400 in Taiwan.

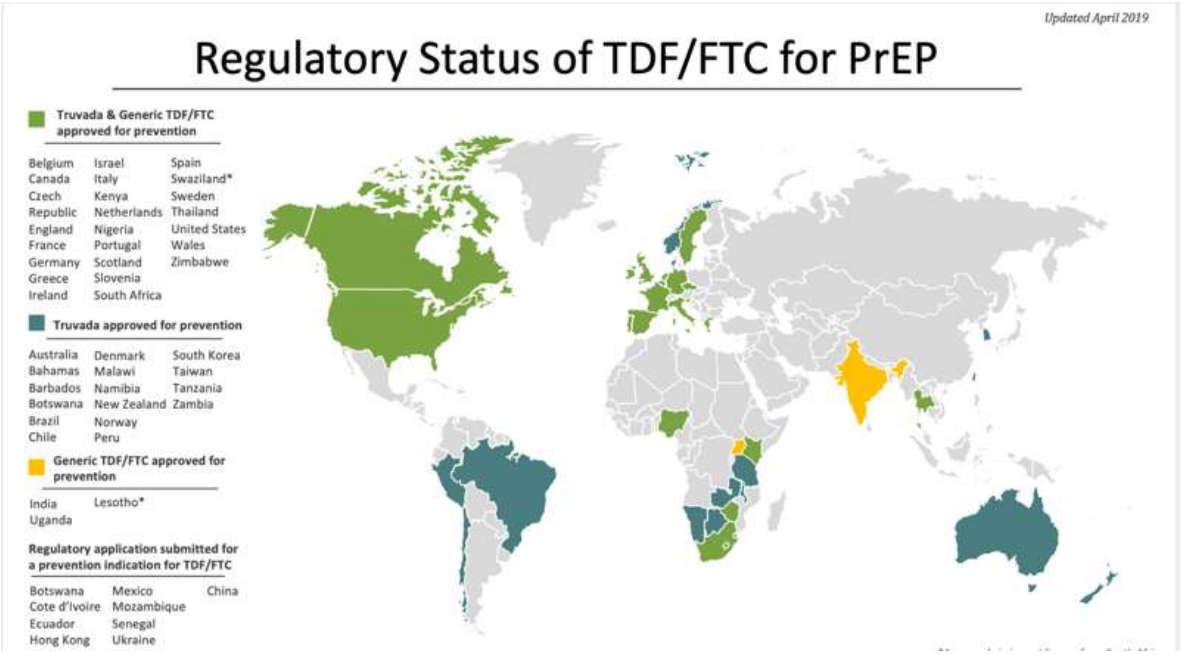

Figure 2. 3 Global TDF/FTC Regulatory Map

https://www.avac.org/infographic/regulatory-status-tdfftc-prep

Figure 2. 4 Generic PrEP.

TENO-EM Manufactured by the Thai Government Pharmaceutical Organization, the genetic PrEP TENO-EM costs 680-1200 Thai baht (US$ 22- 40) for a one-month supply.

Conclusion: Serostatus as Technology

This chapter explored the governance of one's serostatus in relation to the deployment of the various testing and biomedical regimes. Drawing from feminist science studies, critical race studies, and the cultural studies of biomedical science, I outlined the logics of sero-management to conceptualize the entanglement of medicine, blood, CD4 cells, and viral loads. By engaging the works of Barry and Rosengarten, I undertook a materialist analysis to elucidate how information became prescribed onto and detached from the biomedical object. I sketched the development of TDF/FTC from the 2000s to 2010s, from its original implication for HIV treatment, to its clinical expansion, and finally, to its application into prevention and generic forms.

The central contribution of this chapter is the conception of "serostatus as technology." Inspired by feminist science studies and critical race studies, "serostatus as technology" complicates the binary of the epidemiological and sociocultural characteristics of human blood in HIV/AIDS. It inquires to what extent serostatus can be seen as *becoming* in ways to reorganize gay men's sexual lives. To be clear, the account of "serostatus and technology" manifests in the behavior paradigm and textual analysis in ways to sustain an ontological hierarchy of subject/object, science/mind, practice/representation, and finally serostatus/technology. The analysis of "serostatus and technology" suggests that the operation of science is a mode of dominance and that HIV-condition has fixed, inert entities and are subject to predictable causal relations.

By contrast, "serostatus as technology" illuminates an ontological commitment of how HIV-conditions serve as a technology of sexuality and therefore becomes a contested site of knowledge production that legitimizes and disqualifies *life itself* at the different scales of governing HIV/AIDS. Concerning how individuals' lives are made at the level of living matter, "serostatus

as technology" complicates the binary between materials and their various corresponding names, contending that we should neither risk to flatten the information into purely immaterial text, nor treat flesh/body as a purely non-textual expression. As such, "serostatus as technology" allows us to turn the analytic perspective from the behavioral paradigm and the textual analysis toward a material culture of HIV/AIDS. It enables us to identify the biomedicine's sexual and politico-economic significance in different social registers.

the biomedicine's sexual and politico-economic significance in different social registers.

The introductory chapter and Chapter 1 established the theoretical and historical underpinning for reviewing the biomedical developments in HIV/AIDS. Together these two chapters identify how *matter* serves as an imperative lens to study the transformation of HIV biomedical prevention regime. The reminders of this dissertation explore the materialization of sexual health, scrutinizing how "serostatus as technology" evolves into the trans-Asian context and the digital environment. Four main chapters explore the social trajectory of serostatus "HIV negative, on PrEP" in the cases of government-led medical programs, online pharmacies organized by AIDS activists, gay Taiwanese men's medical tours to Thailand, and finally, gay men's sero-disclosure and sexual communication on the social apps. Given that the scope of my dissertation is primarily on HIV prevention, it's impossible to exhaust the implication of each logic of sero-management in my case study. I will further address the theoretical potentials and applications of the logics of sero-management in the conclusion of this dissertation.

Chapter 2: How to Have Sex in PrEP Demonstration Projects

In 2016, four years into PrEP's global rollout, Taiwan became the first East Asian country to incorporate PrEP into its national AIDS prevention policy. To offset the high price of patent PrEP, sold under the name Truvada, the Taiwanese Centers for Disease Control (TW CDC) launched three demonstration projects, or "demo projects," from 2016 to 2019 that provide free PrEP for at-risk, HIV-negative individuals. At the time, because gay men represented more than 80% of people newly infected with HIV in Taiwan (TW CDC, 2016, 2018), the TW CDC actively sought to recruit gay men in the demo projects. Once launched, however, the projects started generating unintended consequences. Opposing the legitimacy of the projects, the outspoken extremists and conservative evangelical groups in Taiwan began publicly accusing the demo project of contributing to social inequality, further claiming that PrEP, along with the same-sex marriage movement, would incite male promiscuity. Caught between limited medical resources and decades-long battle of the legalization of same-sex marriage, gay men in Taiwan had to critically reappraise the balance of their sexual health weighed against the collective desire for passing marriage bills. Beyond that, the government-led medical programs inadvertently engendered a captive market of HIV biomedicine, one that had reverse effects of encouraging bottom-up drug access from online pharmacies and, at times, via medical tourism in Thailand.

Using Taiwan's demo projects as case study, this chapter scrutinizes the access and implementation of healthcare, gay men's sexual practices, and the debate between health and family rights. I ask: how do we situate the roles that demo projects play in PrEP's global and local rollout? To what extent does STS scholarship and research on PrEP contribute to the

materialization of sexual health in East Asian countries such as Taiwan? What social and bio-values have the demo projects inscribed upon and detached from the process of distributing PrEP free of charge? Last, based on the debate regarding the demo projects and same-sex marriage movement, how could we more incisively understand social inequality, health rights, and queer kinship and subjectivities in the post-AIDS era?

I approach the above questions through two ways of studying illness: from the perspective of medicalization and from the perspective of biomedicalization. With a tendency to render any health-related phenomenon an exclusively medical issue, *medicalization* refers to applying scientific rationality in "defining a problem in a medical term, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to 'treat' it" (Conrad, 1999: 221). By contrast, *biomedicalization* refers to the transformation of a medical phenomenon, in which the management of illness becomes intertwined within the political and economic logics of pharmaceutical companies, the risk and surveillance of biomedicine, the circulation of biomedical information and knowledge, and finally, the enhancement of bodily capacity (Clarke et al., 2010). In what follows, I utilize the medicalization and biomedicalization as the framework to examine gay men's sexual practices and the changing norms associated with drug's regulation and distribution.[1]

Drawing from the public discourses, health campaigns, and the interviews with medical practitioners, AIDS activists, and gay men who enrolled in the demo projects, this chapter is comprised of four main sections. First, "The Demo Projects Reconsidered" reintroduces *drug access* to the Foucauldian PrEP study to contemplate how health and medical infrastructures have

[1] Despite being criticized as "so comprehensive and inclusive" that "includes virtually all of biotechnology, medical informatics and information technology, changes in health services, the production of technoscientific identities" (Conrad, 2005: 5), biomedicalization remains to be heuristic in terms of complicating the moralistic character of health.

placed gay men's sexual freedom under national surveillance via distributing PrEP free of charge Next, "Seeking At-Risk Populations" uses the demo projects' recruitment process to illustrate different evaluations of *sexual risk* between medical experts and laypersons. "Repricing Safe Sex" considers how safe sex came attached to a price in ways that differentiated the values and costs of sexual safety. Last, turning to the conflict of family and health rights, "Castrating Male Promiscuity" scrutinizes the entanglement of Taiwan's AIDS epidemic and marriage movement in light of a parallel Western history and queer theories. This section gestures toward a queer critique of neoliberalism to elaborate on how Taiwan's LGBTQ community has developed a sense of homonormativity, and how, in turn, health rights and family rights possessed competing values.

Altogether, crafting two tales of one epidemic, the chapter shows how gay men not only followed the principles of the demo projects and thus became biomedical citizens but also developed their own interpretations and ways of living out their sexual lives. On top of that, the discussion of medicalization and biomedicalization elucidates that gay Taiwanese men have adopted an economic mind-set in appraising the cost of their sex. Despite the Taiwanese government's attempt to eliminate PrEP's price from the equation, the medicine nevertheless accumulated a loaded value to redefine *marriage*, as well as *risk*, *safety*, *health,* and other taken-for-granted concepts in public health. The chapter concludes by contenting that the captive market of PrEP has engendered underground economic activities of both gray market of PrEP and medical tours among gay men.

The Demo Projects Reconsidered

In Taiwan, the demo projects have been utilized as the governments' contingency plan to offset Truvada's patent rights and retail price. In this section, I begin with a brief literature of medicalization and biomedicalization of PrEP. I narrow my focus to drug access, sexual freedom,

and surveillance as those three concepts are directly relevant how sexual health was materialized. I then describe how the TW CDC, pharmaceutical company, local hospitals, and gay men's roles shaped the meanings of sexual health. Drug Access, Sexual Freedom, and Surveillance

Since 2012, literature detailing PrEP's impact on gay men's sexual health has steadily accumulated in the Western world. Concerning the drug efficacy and effectiveness of PrEP, proponents of medicalization have adopted a behavioral approach to explore users' willingness and attitudes toward drug use, drug adherence and compliance, and risk assessment and compensation (e.g., Auerbach and Hoppe, 2015; Corneli, 2014; Hojilla et al., 2016; Grov et al., 2015; Newcomb et., 2018). To date, few studies from the perspective of medicalization have taken medical access into consideration, in part because the behavioral approach concerns more with the drug use (e.g., drug compliance) and health outcome (e.g., HIV-negative) than with the context within which drug consumption takes place. In the Western context, the drug's price, an individual's access to the drug, and how the infrastructure of access comes into being have either seemingly been resolved or knowingly been ignored by the insurance industry and pharmaceutical companies. Moreover, conflicts regarding social inequality and drug access are too often framed either as a racial issue or as a point on an intersectional agenda that nevertheless places more weight on racial components, not an issue directly relevant to the infrastructure or the market in which changes and exchanges of value occur.[2] That theoretical preference, I contend, offers limited insight into the cultural environment in East Asia or in Taiwan where the racial diversity resonates less than other issues. There, HIV healthcare is better framed as a market issue because

[2] In the United States, the issue related drug's access and social inequality took place through the combination of race and class. For instance, whites comprised 72% of the entire PrEP users in the US, Hispanics 12%, African American 10%, and Asians 4%, whereas Blacks took up 44% of new HIV diagnoses (Bush et al., 2016). Another example about the United States—Blacks take up only 2% of the total 3,000 PrEP users in the Strut clinic (a clinic founded by San Francisco AIDS Foundation in the Castro street) whereas in reality comprising 6% of racial makeup in the city of San Francisco (interview with Jared Hemming, the Director of the Strut), as of March 2018.

Truvada for PrEP is monopolized by Gilead Sciences and not yet resolved by the national health regimen or local health insurance industry. To pave a way for analyzing the demo projects in Taiwan in this chapter, I narrow my discussion to the *access* of medicine, contending that the demo projects should not be treated as transparent or apolitical.

Against the premises of medicalization, scholars have drawn from Foucauldian biopolitics and governmentality, theory of sexual freedom, among other relevant concepts, to assemble a field of study on the cultural impact of PrEP. Many of them have extended the Foucauldian ideas to different cultural conditions, including the stigmatization of so-called "Truvada whores" (Spieldenner, 2016), barebacking and subjectivity (Brisson, 2019), sexual-somatic ethics (Schubert, 2019), the integration of body and selves (Hughes et al., 2018), and bio-citizenship and bio-sexual citizenship (Orne and Gall, 2019), to name just a few. Predominantly centering on the Western world where PrEP was first developed and distributed, such scholarly works have cultivated a subfield for the study of HIV/AIDS, with a distinct focus on how PrEP has liberated yet constrained individuals' sexual freedom in the name of health. For example, Tim Dean (2015) claims that PrEP more accurately entails "a biopolitical side-effect" that deprives queer men of their sexual autonomy. By problematizing drug efficacy as conceived from the viewpoint of medicalization, Dean critiques the surveillance of sexual health at the molecular scale of human blood. PrEP has mediated and disrupted bareback sex as an ultimate form of queer kinship. As such, the biomedical regime accommodates neither absolute freedom nor pure intimacy, because contemporary societies have allowed panopticism to function in the name of health.

Another important reference relevant to biomedicalization is PrEP as a "reluctant object," a notion that queer scholar Kane Race (2015) proposes in order to critique how the social science of HIV/AIDS has never truly reflected on gay men's sexual pleasure and how the consumption of

HIV prevention medicine inadvertently leads to unexpected consequences. Race addresses the aversive tendency of public health and science, calling PrEP a *reluctant object*—"an object that may well make tangible difference to people's lives, but whose promise is so threatening or confronting to enduring habits of getting by in this world that it provoked aversion, avoidance—even condemnation and moralism" (Race, 2015: 17). Race points out how pleasure has been uncritically assessed, if not entirely disregarded, in the social science of HIV/AIDS. A reluctant object, PrEP embodies the competing understanding and practices of regulative science and gay sexuality. Race's account further advocates so-called "queer science" to explore the performative feature of HIV knowledge (See Race, 2018). Particularly, he pinpoints how failed attempts and oblique experiences with PrEP might have otherwise prompted fruitful ways of thinking about science, sex, and identity.

I juxtapose the works of Tim Dean and Kane Race to highlight a tension between the normative features of science and the social life of medicine. Both Dean and Race consider PrEP and gay sexualities through a duality in that the scientific enterprise and medial infrastructure come to govern and further complicate gay men's sexual beings. The shared concern in their accounts has been that the social science of HIV/AIDS needs really take gay men's *sex* into account. In reference to their works, I seek to foreground gay sex in the material context of demo project. Sex is, as reminded by Marsha Rosengarten (2009: 63), "not only as a source of transmission but also as a source of the most conceptually and materially effective intervention." The performance and enactment of sex entails "a host of relations—not simply human relations but relations involving non-human actors: condoms, HIV antibody testing, and virus (Rosengarten, 2009: 63). PrEP is no exception to that relationship. As a prevention medicine, PrEP entails a surplus value that, to borrow the words from Joseph Dumit (2012: 17), can enhance "the capacity of bodies in order to

reduce the risk required to be deemed at risk." The biovalue of PrEP hinges on the ways in which PrEP is conceived as a biomedical solution, a drug about freedom that liberates one from the fear of contracting HIV. In that sense, PrEP empowers queer sexuality. Yet, medicine is also an object of surveillance, one that remaps the space and illness through the process of classification (Armstrong, 1995). Not only treating illness, drugs also redraw the relationship between symptoms, signs and illness in ways to relocate the illness outside the corporal space of the body. In the following sections, I situate the conflict between drug's promise and its impact on surveillance in the case of Taiwan's demo projects. I address how the demo projects serve as a channel that brings gay men's drug consumption, sexual practices, and the governance of bodies together in the name of health. I argue that the demo projects can also be seen as a market that implicitly implant the economic mindset in gay men's sexual practices.

PrEP arrived in East Asia somewhat late. The HIV biomedical prevention regime landed there not in the form of randomized controlled trials but through a series of demo projects. The randomized controlled trials refer to clinical trials and experiments whereas demo projects seek to evaluate the feasibility and acceptability of PrEP delivery models in various populations (Cohen et al., 2015; WHO, 2012).[3] At the time of writing, PrEP remained under patent protection and still uncovered by national health insurance. Sold as its brand name Truvada, this medicine cost an individual TW $12,000 (US $400), roughly a month's rent for a single studio apartment in Taipei City, for a month-long prescription. Thus, enrolling in the demo projects became the most

[3] RCTs and demonstration projects serve different functions. Aiming to reduce the bias when testing new medicine, RCTs assign participants to the treatment and control groups in order to see if the intervention really works on human bodies. Its design is meant to be narrow and isolated in nature. A demonstration project, by contrast, examines RCT's causal assumption in the real-world setting by offering a geographically and time-limited framework that collects the experiences gain from its execution (Howard et al., 2016). A demonstration project sometimes raises ethical concerns as the project changes participants' behaviors but fails to provide sustainable drug supply due to its limited resources. Both cases, however, should be considered to be as an assemblage of designs, historical and local specificities of participants, drug effect, possible engagements in risk practices outside the regulation of the experimental protocol, etc. (e.g., Rosengarten and Michale, 2010)

convenient method to avoid not only the financial burden of purchasing patent drugs domestically but also the hassle of buying generic drugs internationally. In that light, the Taiwanese government treated the demo projects as a contingency plan to offset Truvada's price, reduce the inequality among people in need of healthcare, and finally, better manage HIV/AIDS in Taiwan.

Seemingly by default, the demo projects exemplified the approach of medicalization. After all, the hope of the public health practitioners and campaigners was to curb the spread of HIV/AIDS and better manage people in need of healthcare. However, as I detail throughout this chapter, the demo projects can also illustrate biomedicalization, revealing how multiple social actors interacted to sustain and yet compete the meanings and legitimacy of health. From 2016 to 2019, the TW CDC, five partner hospitals, Gilead Sciences, nongovernmental organizations (NGOs), and individuals in need of PrEP became involved in the demo projects. Those social actors' joint efforts aimed to maximize drug's efficacy, to recruit at-risk people (e.g., gay men), and to lower HIV-infection rate in Taiwan.

To begin, the TW CDC distributed PrEP to gay men free of charge. Hailing PrEP as "the last piece of the puzzle that can create an effective HIV prevention strategy," the TW CDC positioned PrEP as an incentive to encourage people to receive HIV testing, chiefly as a means to connect at-risk populations to the medical regimen of HIV prevention.

From the institutional perspective, the TW CDC and Gilead Sciences had reached a deal in that Gilead Science offered discounted Truvada to the TW CDC to maintain a fixed market share. At the time of writing, the company declined to reduce PrEP's market retail prices (See next chapter). Instead, they used their collaboration with the TW CDC as a pharma excuse to enact corporate social responsibility, and more importantly, to exempted them from directly resolving the medicine's high retail price.

The TW CDC and its partner hospitals formed a contractor-client relationship insofar as the TW CDC outsourced the medial projects (e.g., the demo projects) to local hospitals. The TW CDC then instructed those hospitals to recruit enough participants for the demo projects, to follow up on the drug compliance and risk compensation of the PrEP users, and finally, to collect useful data for subsequent research projects and decision making about health policy. Cast in that role, hospitals became sites where the docile bodies and biomedical citizenship was to be manufactured.

At the individual level, gay men were framed as the most vulnerable populations to the AIDS epidemic. To become "HIV-negative on PrEP," they needed to perform three roles at once: that of research subjects who could generate medical data under governmental surveillance; that of patients who would receive medical care from partner hospitals and report their PrEP use for the institutional database; and that of consumers who would purchase the remaining PrEP in order to support their use after they had exhausted the gift from the TW CDC. Clearly, each role entailed a different level of labor in relation to PrEP, which, regardless of being framed as a free gift, was not entirely free of charge. Beyond that, if participants failed to fulfill those requirements, they risked losing their seats in the projects.

But, participants were also *gay men*. The demo projects were also sexually and morally charged when we consider participants' sexual identities and civic imaginations. Gay Taiwanese men's involvement needs to be seen in light of their sexual autonomy and desires for establishing intimacy with others. More importantly, they were also the sexual citizens in Taiwan who demand the rights to be treated as normal and to legally form family units.

In the first demo project, the TW CDC aimed to recruit 1,000 at-risk individuals in a year-long program by subsidizing each of them with 105 pills free of charge. Interesting enough, five months into the project's launch, only 85 people had enrolled, which left 915 seats unfilled (Chen,

2017). In August 2017, less than a year after its launch, the first demo project, having recruited only 302 participants, of whom 277 (92%) were MSM, was terminated.[4] While later demo projects were able to recruit sufficient participants due largely to a more generous compensation package,[5] what this first demo project revealed seemed to suggest that the idea of making PrEP free from charge and the effort of framing PrEP as a bio-hope did not match many health experts' predictions. Instead, it bred the controversy regarding how to best utilize the government's resources and who should benefit from the gift from the TW CDC. In the next three sections, I scrutinize Taiwan' demo projects through the lens of STS scholarship and queer theories that deals with critiques of homonormativity. Although Taiwan hosted three demo projects from 2016 to 2019, for the sake of my argument I focus primarily on the first project while making meaningful comparisons with the other two along the way.

Seeking At-Risk Populations

In the literature of medicalization and biomedicalization, *risk* has been differently conceived. Risk factors, for example, assess the likelihood of infecting illness through a behavioral and statistical point of view, suggesting that risk is quantifiable and measurable. By contrast, *perceived risk* suggests that such a concept could be personally, communally, and morally considered (e.g., Bourne and Boson, 2009; Brooks et al., 2012; Halperin, 2008; Junge, 2002; Warner, 1995). In *Drug for Life: How Pharmaceutical Companies Define our Health,* Joseph

[4] Among 302 participants, 289 (96%) were male, 270 (89%) were MSM, 274 (91%) had bachelor or higher degrees. Also, 75 (25%) individuals reportedly had serodiscordant partners; 181 (60%) indicated to have condomless sex; 72 (24%) have had used recreational drugs. The participants' average age is 32.4 years old (15%: 18-24 years old; 56%: 25-34 years old; 25%: 35-44 years old). See Wu et al. (2018)

[5] In 2017 and 2018 demo projects, the Taiwanese CDC and Gilead Sciences reached an agreement that Gilead Sciences, as a gesture to fulfil their corporate social responsibility, "donated" free Truvada to the Taiwanese government. With that drug donation, the TW CDC was able to provide a year-long support, 365 pills, to 1,000 participants for two years, equivalent to US $9.7 millions. The demo projects imposed more rigorous recruitment criteria such as first prioritizing MSM who are less than 30 years old and MSM who are in a serodiscordant relationship.

Dumit notes that "risk is fungible when it comes to health. It depends on large-scale trials in order to be discovered at all. And the flipside of risk as discovered by trails is that it is no longer connected to how you feel or to something a doctor can see, though it can be transformed into biomarkers like cholesterol" (2012: 202). In Dumit's assessment, risk is a concept of uncertainty, being *fungible* because, rather than having a quick and fast criterion, the pharma interests, political-economic condition, and the design of research trials, all play roles in eliciting what we consider to be risky. The demo projects are by no means an exception to those logics.

Sanitizing Gay Sex

For the Taiwanese government, risk is real, clearly reflected in the TW CDC's annual expenses on HIV medicine and the statistics of the newly infected population. In the demo projects, the TW CDC followed relatively rigorous criteria in recruiting qualified participants, gauging and assigning points to individuals based on risk factors such as age, sexual orientation, frequency of condom use, history of STD infection, use of recreational drugs in the past year, sexual partners' HIV status, and use of post-exposure prophylaxis in the past year. For example, if an individual is a man who have sex with other men (5 points), who is between 20-29 years old (5 points), having anal intercourse for the past year (10 points), not using condoms (5 points), having had infected sexually transmitted diseases (10 points), and/or having using recreational drugs (10 points), then this person is then qualified as the participant in the demon projects (more than 30 points). Upon receiving scores of more than 30 points, candidate participants were considered to represent a substantially at-risk population.[6]

[6] The criterion are: (1) age: less than 19 years old: 0 point, 20-29 years old: 5 points, 30-39 years old: 2 points, more than 40: 0 point; (2) sexual orientation: gay or lesbian: 5 points; (3) having sexual behaviors (anal or vagina) in the past year: 10 points; (4) sex workers: 10 points; (5) not using condoms: 5 points; (6) STD history: 10 points; (7) using recreational drugs: 10 points; (8) partners are HIV positive: 10 points; (9) using PEP: 10 points (TW CDC, 2016).

In the TW CDC's health campaign, risk was featured along with affects and gendered roles, linking HIV prevention to athletic form of masculinity. For example, the TW CDC's poster used American football as a metaphor to stress: "Have the courage. Don't avoid HIV. Be more responsible for our health" (Figure 3.1). Aside from the fact that American football has never been a major sport in Taiwan, that campaign constituted a gendered role in ways to link HIV prevention to masculinity. Here, PrEP was depicted as a football, with its physical form suggested as something to be held, to be desired, and to be touch-downed. This campaign connected HIV prevention and health to a form of masculine performance. The kind of masculinity displayed in images of athletes' bodies, coupled with the cultural imagination of the strength, speed, and energy of football players, suggested that PrEP and HIV prevention had less to do with sexual desire and pleasure than with determination and will.

One local hospital approached at-risk populations through another type of affect, framing *risk* in terms of love and responsibility. In "PrEP of Love" (愛的撇步),[7] the campaigners portrayed that two young gay and lesbian couples either interlocking arms or hugging against a pink backdrop in a studio (**Figure 3. 2**). The campaign's key message was "PrEP of love and greater protection" (愛有撇步，更有保護). Here, this message meant that initiating HIV prevention medication was a way of not only protecting but also expressing love of self and others. By appealing to one's emotions, managing the risk of HIV infection became an individual-oriented effort of enhancing personal responsibility. Similar to the CDC's attempt, this particular visual image implied that one's determination and love can reduce the risk of HIV infection. The campaigns considered surplus health to be asexual. Both campaigns considered surplus health to

[7] In Mandarin, 撇步 (*pie bu*) is understood as a tip, good method, cleaver strategy, and gimmick. Its English transliteration is similar to PrEP. The campaign's insight is therefore to echo that PrEP is a clever move for its users to prevent from infecting HIV.

be asexual, at least not somthing relavant to gay sex. In their effort of recruiting "at-risk" populations, it can be said that both visual narratives elucidated a public health strategy of sanitizing sex while implicitly inviting the project's participants to conceive of athleticism or love as reasons to introduce PrEP into their bodies.

Figure 3. 1 A promotional poster of the first demo project.

This image shows PrEP as an athletic competition underscores that "PrEP has a preventive effect. We can throw a touchdown to prevent HIV infection (提早預防 達陣不怕染愛滋)."

Figure 3. 2 The campaign image of "PrEP of love and greater protection."

The Multiplicities of Risk

Aside from its medical features, risk is also sexually, erotically, and economically conceived. Perhaps to TW CDC's surprise, the first wave of participants in one major medical center in Taipei rarely included any at-risk individual. The recruitment information, as one medical professional revealed, first resonated among people of higher socioeconomic status such that well-educated urban gay men who self-reported themselves as high-risk population in order to enjoy the medical benefits. Those early applicants exploited it as a convenient way of replenishing their supply of PrEP and, more practically, of saving money. Despite such applicants' lack of qualifications, hospitals still accepted their applications in an attempt to meet the CDC's request

of recruiting adequate at-risk individuals. Those participants extended their previous habits of managing their sexual health as well as their manners as being savvy consumers—neither of which conformed to the TW CDC's definition of *at-risk.*

Later in the demo projects, the TW CDC additionally prioritized gay men who were in a serodiscordant relationship (i.e., gay men whose partners were HIV-positive) to receive free PrEP, a rule based on the statistic that serodiscordant couples compared to others were more vulnerable to HIV/AIDS. This let some gay men reportedly used their friends' HIV-positive status to enroll in the demo projects. It also resulted in a situation in which some HIV-positive individuals had multiple partners in the TW CDC's record because they have allowed their friends/partners to use their HIV-status to enroll in the demo projects.

The self-report method later resulted in another unintended consequence. Some latecomers to the demo projects insisted that they are members of an at-risk population. The reason they gave was severe fear and anxiety about HIV infection, even though they used condoms regularly. Some of them reportedly had hypochondriasis—a mental condition associated with abnormal anxiety about personal health. By self-identifying as patients in need of medical attention, they believed that PrEP could act as a layer of protection in addition to condoms but nevertheless continuously challenged its effectiveness. Lucas (25 years old) who used to date and hook up with people living with HIV shared his life story about PrEP.

> Fear was the reason why I joined the Vanguard Project. When I have sex with other people whose HIV status was unknown, I get really nervous even though I know that we use condoms. After one hookup last year, I became so panicked that I almost wrote a suicide note. I understand that AIDS is a chronic disease. But, I still can't reconcile my anxiety about the disease. Society hasn't been very friendly to gay people. I don't want to carry the stigma of AIDS.

Intent upon joining the demonstration project although medical practitioners advised otherwise, Lucas even tested his hypochondriasis by intentionally hooking up with one HIV-positive person.

He ended up repeatedly taking his temperature and worrying that he might turn into HIV positive. In this case, PrEP became another coping mechanism for individuals like Lucas to navigate their emotional fluctuations. PrEP, rather than lowering the risk of infecting HIV, might have offered resources that intensified their anxiety and fear about HIV/AIDS.

For some other participants, PrEP worked as a tool of harm reduction as they took PrEP along with chemsex—long-session sexual adventures in combination with recreational drugs (e.g., crystal meth, GHB, and MDMA). Unlike the previous group, the risk of infecting HIV for those people was urgent and real. They had very different takes on the risk of HIV infection, reporting that, due to their involvement in chemsex, becoming HIV positive seemed to be their destiny. "It's just a matter of time [before I turn into HIV positive], and PrEP might simply work to prolong my time as a HIV-negative person," one interviewee told me. Their role as research participants in the demonstration project did not bother them at all. As a matter of fact, they believed that participating in the project was a good deal because they could obtain free gift for life in return.

Some participants felt that they were paying an invisible cost. Peter (26 years old) expressed that:

> I can't really believe PrEP's effectiveness. Taking it is just because I don't have alternatives to protect myself because I am using crystal meth. Some protection is better than no protection. But, what does it mean to have a *robust drug adherence*? It means that you need to take a pill everyday throughout your entire life. Just think about who will benefit from your robust adherence. It's the government and pharmaceutical company.

In order to be effective, PrEP needs to be constantly brought into human bodies. Fearing becoming controlled by PrEP as if swallowing the pill were a lifelong commitment, Peter's remark illustrated his struggle as being a research subject and a patient, as well as PrEP's surplus value and surveillance feature. Taking PrEP for him was not only a medical behavior. He felt scared by the thought of submitting his health to the control of the pharmaceutical company and the Taiwanese

CDC's project. Swallowing medicine is also to digest the whole enterprise of pharma-nation intervention.

Matt (32 years old) felt troubled by the idea of free gift, because, with PrEP, he could enjoy more raw sex but inevitably felt guilty every time that he used the free gift in the settings of chemsex. "The CDC's gift should be used in other, better ways," he added. Jack, an interviewee who also engaged in chemsex, expressed similar struggle, noting that:

> I supposed that the CDC's subsidy should be used in prevention. PrEP is a medicine to enhance your quality of life. If you're using it in the setting of illegal drug, it goes against the CDC's purpose. It is not the way it should be.

Reading those remarks in light of the medicalization/biomedicalization, this analysis shows that neither of my interviewee's encounters with PrEP completely aligned with the TW CDC's and hospitals' versions about the assessment of risk**.** Note that my intention is not to condemn individuals taking advantage of the public health resourses and getting PrEP for free. Gay men's survival tactic and sexual practices in order to prevent themselves from infecting HIV should not be blamed as a greedy, reckless individuals' deviance. What should be criticized, if anything, should be the structural and political-economic pharma interests and state-governmentality that put sexual minorities in such a dilemma position. Grounded in the debate between medicalization and biomedicalization, my primary critique is to reveal the fungible nature of defining risk in the public health and laypersons' real life.

Those narratives indicate that risk did not possess fixed characteristics but rather was treated as something "fluid, embedded in special social formations" and involving "the negotiation of meanings" (Kippax and Stephenson, 2005: 361). Sexual risk is defined through the statistics and the resources allocated on certain populations for the purpose of better managing HIV/AIDS. However, the medically-focused conception of risk is also insufficient for understanding the fungible feature of this concept. Most clearly, the laypersons' perceptions about risk were

influenced how the demo projects were designed and executed. Risk is also to do with how individuals conceived of and calculated upon the investment and cost necessary for them to maintain their health. An implicit and also very nuanced consideration among my informants revealed that their roles as research participants, patients, and consumers in exchange for free pills and healthcare were complicated in the demo projects. The demo project troubled the ideas of risk in the medical sense, implanting the idea of demand and supply as well as the scarcity of Truvada into gay men's sexual practices.

Repricing Safe Sex

PrEP is a medicine designed for safe sex. But, safe sex, or safer sex, is itself a troubled concept. Adam Bourne and Margaret Robson (2009), for example, indicate that safety is established via a complex interplay of medical and lay rationalities and their discourses. In suggesting that safety is more than the separation of bodies and the establishment of fluid exchange barriers, many have pointed out the difference between sexual behaviors and sexual practices. To quote Kippax and Stephenson (2012: 113), "people do not 'do' behaviors, such as penis-in-vaginal sex. They engage in sexual practices: they make love, they 'hook up,' they 'party and play,' they 'lose their virginity,' they work/pay for sex, and so forth.' In other words, behaviors are conceived as static, inner conceptions about sex, whereas the analysis of practices needs to be grounded in sociocultural contexts. That very distinction also applies to how people manage their sexual safety and risk. In this regard, public health and social science accounts have pointed out that people develop the behaviors of "risk compensation" by substituting PrEP for condoms in order to maxmize their sexual pleasure, an adjustment in sexual behaviors that ultimately lead to the increase of STDs (e.g., Brooks et al., 2012; Calabrese and Underhill, 2015; Grov et al., 2015; van

der Straten et al., 2012). Here, I elaborate on how medical practitioners and gay men in the demo projects developed distinct perceptions of and approaches to safer sex.

"Taiwan is Not Yet Ready"

Initially, some Taiwanese health practitioners and physicians doubted PrEP's efficacy. They did not promote or even mention the medicine as a preventive solution in their professional practice. Some held a belief that Taiwan's economic and sociocultural context would not accommodate the new medical regimen of PrEP. They claimed that "Taiwan is not yet ready for PrEP" and "We are not like the United States," implicitly revealing the impression among Taiwanese physicians regarding that PrEP was a cultural product of the Western world. At the early stages of PrEP's rollout in Taiwan, many health practitioners reportedly hesitated to inform their patients about the existence of PrEP as an option for HIV prevention. The reason for their reluctance was straightforward; if no foreseeable demand for the drug exists, then why bother communicating information about its supply, whether real or potential?

Those medical practitioners' inaction can be understood via the competing cost of ensuring safe sex. At the time of this writing, the longstanding idea that "sex with condoms is safe sex" remained deeply seated in many Taiwanese' understanding. They continued to believe that condoms were the affordable and the most effective, if not also the ideal, method of preventing the transmission of HIV and other STDs. When only being able to talk to each patient for a limited amount of time during his/her clinic visit, normally less than 15 minutes, medical practitioners felt obligated to introduce the most practical and affordable prevention tool—condoms—to their patients. Moreover, some health practitioners ran into a dilemma, worrying that PrEP would inevitably encourage gay men developing risk-compensation behaviors such that bareback sex would lead to the increase of STDs. In that context, the notion of safe sex derives not only from

scientific evidence but also from economic and moral speculation. Put differently, the decisions about the prescription of PrEP is not made entirely based on patients' perspectives, but guided by the cost-benefit analysis of health professionals.

On-Demand PrEP

Contrary to professionals' concerns, the Taiwanese gay men's experiences told a different story. For many, PrEP has an added value that, in the sense of economics, can facilitate safe sex, help mitigate their fear of virus contamination, and sustain the relationships with their serodiscordant partners (i.e., couple whose HIV statuses are different). Recognizing that PrEP can also facilitate and enhance their sexual pleasure, gay men in the demo projects did not to treat their risk compensation as a behavior of deviation, but instead justified their condomless sexual practices by applying the logic of economics. Simon (27 years old), for example, applied "the cost-to-performance ratio" to defend his behaviors of risk compensation. Simon noted:

> With free PrEP from the Taiwanese CDC, I have to spend only TW $2,000 (US $66) for the first month, and I can get a sense of safety, and I'm protected. It's cheaper than using condoms, because you might be using multiple condoms per night if you're high and using crystal meth. Think about this scenario: [during chemsex] it's pretty bothersome and unrealistic to repeatedly put on and take off condoms. If you're really concerned about safety, you need to change the condom every time when you fuck different bottoms. No one is that serious in the party.[8]

In Simon's assessment of PrEP's effects and his sexual performance, the TW CDC's gift became a cost-effective strategy for enjoying safe sex. Here, Simon's lay logic of appraising safety and sexual practices complicates public health's concept of risk compensation by not defining safe sex in an absolute fashion. The logic of safe sex instead became situated in a new context in which safety is now determined by and calculated in relation to the availability of drug supply.

[8] "有疾管署提供的PrEP，我第一個月只要花新台幣兩千元就可以獲得安全保護。這個[安全]比我用保險套還要便宜，因為如果你使用娛樂性用藥的話一個晚上可能就要用掉很多保險套。你想看看：如果你真得很重視安全，你幹不同零號就必須常要穿脫保險套，是非常不實際的行為。"

An individual can maximize PrEP's effectiveness only by taking this medicine daily. That is, in a medicinal sense, a person needs to demonstrate robust drug compliance by taking least four pills of PrEP per week to effectively reduce the risk of infecting HIV by 95%. Such process, as I mentioned in earlier sections, implies a body-medicine configuration that, both Dean and Race would agree, entails a tension between biomedical surveillance and individual's freedom. Following PrEP's daily regimen, some participants reported worrying that missing only one or two doses can prompt PrEP's failure and risk being infected by HIV. By contrast, other gay men who were potentially less sexually active found conflict between swallowing a pill daily and avoiding all risky behavior. The strict daily regimen of PrEP and limited governmental supply troubled gay men's sexual freedom.

For example, Henry, a 24-year-old gay Taiwan man, expressed, "Taking PrEP everyday makes me feel that I'm obliged to have more sex in order to maximize the use of this medicine. But, if I have random sex twice or have no sex at all, and still take PrEP every day, I'm totally wasting money because the CDC's supply is limited."[9] By extension, Antony (34 years old) connected PrEP to not only a logic of economics but also an economic logic combined with a kind of psychological or mental illness. He emphasized that "taking PrEP daily is unrealistic simply because I don't have sex every day. Also, I'm not addicted to sex."[10] By the same token, 24-year-old Owen noted, "It just doesn't feel right to take PrEP every day because I'm not a sex worker."[11] In an extension of the idea of the cost of safe sex, 30-year-old Todd, considering the amount of time and money that he spends on PrEP, reported that "being on PrEP makes me aware of how much I've spent on staying HIV negative. To totally reduce the risk of infection, I now rarely hook

[9] "每天都要吃PrEP讓我覺得我好像要有更多性行為，這樣可以極大化PrEP的效用。但是如果我只有一兩次約炮，或是根本沒有打到砲，卻還要天天吃，我就是在浪費錢，因為疾管署給的要有限量。"
[10] "每天吃PrEP是非常不實際的，因為我沒有天天都有性行為，而且我也不是性成癮。"
[11] "每天吃PrEP讓我覺得不太對勁，因為我不是性工作者。"

up with anyone."[12] In his experience with the demo project, PrEP has not only protected him from HIV infection but also diminished his libido.

By pointing out the shared concerns among those narratives, my emphasis is that while PrEP's medicalization allows "barrier-free intimacy without fear of contracting HIV" (Auerbach and Hoppe, 2015: 2), the kind of freedom entails an invisible price. Even though the demo projects attempted to put the factors of price aside, when the role of PrEP evolved from a biomedical substance, to a gift free from charge, and finally, an unavailable commodity in the market, that process deeply influenced the extent to which gay men conceived of and reacted to their sexual lives. When both Anthony and Owen immediately associated with PrEP's daily regimen with abnormal, sex-intensive activities (i.e., sex addition and sex work), their words exemplified that the sexual liberation of PrEP was adversely conceived in Taiwan. The demo project not only manifested the negative impression of having excessive sex but also embodied the stigmas of gay sexual pleasure.

Quite a few individuals have turned to use PrEP in ways that countered to the manufacturer's recommendations. Gay men modified the suggested daily regimen into an intermittent, event-driven method in order to suit the sole purpose of ensuring safe sex on the go. Such use of PrEP is an off-label application of the medication, in which a user takes two pills 2–24 hours before sex, followed by a third pill 24 hours after the first one and a fourth pill another 24 hours later (See Molina et al., 2015).[13] Although not yet recommended by the Taiwanese CDC during the time of data collection, the on-demand method allowed many gay men to get away from

[12] "自從吃了PrEP之後，讓我更覺得我花了多少錢在維持自己的HIV狀態。為了要避免全部的風險，我現在根本很少約炮了。"

[13] In 2017, the Taiwan AIDS Society undertook a revision of the *Guidelines* by including the event-driven regimen. This revision reflects the actual use of PrEP and the economic situation in Taiwan. As of June 2018, Taiwan is the first East Asian country to approve the on-demand regimen of PrEP.

PrEP's rigorous daily regimen so that gay men adopted personalized approach to accommodate their sexual routine and more practically, to save money. Less-sexually-active participants can considerably reduce drug costs by adjusting their drug consumption in alignment with the frequency of their sexual activities.

Simon, who normally engaged in one or two sessions of chemsex per month, only needed to take four to eight pills per month instead of a full month's subscription of 30 pills. "A bottle of Truvada is enough for me for up to three months,"[14] he said, adding that he could save the remaining pills, about TW $8,800 (US $294) for the future. Similar to Simon, many informants also reported not only feeling relieved from financial constraint because they could personalize their PrEP use by applying the law of supply and demand. They also expressed that the on-demand method allowed them to temporarily escape from the idea that they were in a government-led medical project. As a result, the medical infrastructure converted some participants into economic thinkers by implicitly guiding them to squirrel away drugs. Once they used up the stored gift supply and decide that they did not want to purchase the expensive commodity, many participants dropped out of the demo project.[15]

Castrating Male Promiscuity (On Same-Sex Marriage Debate)

Having discussed how the demo project redirected gay men's perceptions and sexual practices regarding risk and safety, I now turn to how the first demo project became entangled with the marriage-rights social movement in Taiwan. The recruitment rate of the first demo project was low. Five months into the project's launch, only 85 people had enrolled, which left 915 seats unfilled (Chen, 2017). For an explanation of the poor recruitment rate, many medical professionals

[14] "一瓶Truvada足夠我用三個月。"

[15] The dropout rate for the first demo project was 26%.

speculated on the lack of awareness among the gay community, fueled by the additional lack of large-scale marketing. However, that reason couldn't fully explain why considerable numbers of gay men chose to purchase the generic version of PrEP online and or by traveling to Thailand (See next two chapters). Facing that dismal recruitment rate, many have connected that the social movement of same-sex marriage had upstaged the implementation of PrEP. But, how exactly did the desire for establishing family units among same-sex couples—for reasons of love or household finances—outshine the right to health? If so, what then is the price of that sacrifice, and who should pay for it?

I undertake this analysis by turning to the entanglement of health rights and family rights in Taiwan. A western-centered queer critique of neoliberalism has indicated that since the 1980s, family values and marriage systems have become the means to discipline queer sex. Lisa Duggan (2002) famously notes neoliberal sexual politics can be termed as "homonormativity,"

> [Homonormativity is] a politics that does not contest dominant heteronormative assumptions and institutions but upholds and sustains them while promising the possibility of a demobilized gay constituency and a privatized, depoliticized gay culture anchored in domesticity and consumption (Dugan, 2002: 179)

In Duggan's words, homonormativity embodies an internal conflict in which LGBTQ people seek to be *normal* in the eyes of heterosexual standards. This new sexual politics connects once disruptive queer sex to the privatized realm of personal lives and economic orders, making same-sex marriages an object of critique in the Western context. Here, I bring this theoretical lens to Taiwan, unpacking how the desires for PrEP and for family became contested. Not in an attempt to unconditionally apply homonormativity and other queer critiques in a Taiwanese context, I engage those theories to address a historical conjuncture that mirrors a similar debate in the early days of HIV/AIDS. I ultimately show that in the fourth decade of HIV/AIDS, gay sex has again become the scapegoat of the social movement for human rights.

A Hookup Pill

After decades of discussion and trials, in May 2017 Taiwan's constitutional court ruled that same-sex married couples have the right to legally form a family unit. That constitutional decision has made Taiwan the first country in Asia, the 21st country in the world, to legalize same-sex marriage (Reuters, 2017). The decision represents a significant victory both for the legal protection for both the LGBT community and Taiwan's reputation of advocating progressive human values. But the journey to that ruling was by no means seamless.

Back in 2016, the Taiwanese legislators submitted a proposal for a new amendment to legalize same-sex marriage, after which followed a series of public hearings to seek consensus among the various versions of amendments to Taiwan's Civil Code (民法). Since then, the increasing visibility and discussion of LGBTQ rights divided Taiwanese society into two camps of pro- and against- same sex marriage. The consensus outside the court was simply too difficult to reach. The final two months of 2016—also the time when the Taiwanese CDC proposed the demonstration project—involved massive street protests almost every week in Taipei. The protests pitted the hope of the LGBT community against the backlash of antigay, evangelical Christians regarding same-sex marriage.

However, discourse and social debate addressing this issue seemed to not incorporate the gay men's sexual health as a potential benefit of justifying same-sex marriage. Quite the opposite, the health benefit of PrEP has become a scapegoat for the marriage-rights movement in that the evangelical groups, while losing the battle of the same-sex marriage bill in the courtroom, turned to attacking the legitimacy of the TW CDC's demo project and to extending their media exposure. For example, an active anti-LGBTQ rightwing group lobbied the politicians and to tackling the AIDS issues by reinforcing this disease's connection to gay people. Dubbing PrEP a "hookup pill"

(約砲丸), this group claimed that the demo project not only worked against social fairness by giving specific groups free drugs. By making the hookup pill more accessible, the demo projects would also promote gay men's promiscuity. That attack was a strategic one, treating CDC's PrEP demonstration project as a scapegoat in ways to continue to ignite the debate of marriage rights.

Another evangelical group attacked the legitimacy of same-sex marriage, revealing that the marriage rights for same-sex couples would contribute nothing but invoke excessive sex and male promiscuity. They claimed that marriage and sex among gay people would facilitate the spread HIV followed by burdening the national cost of health. This group's stance was that the distribution of PrEP would disrupt the social and sexual orders in Taiwan. Finally, they added that that same-sex marriage cannot resolve the health crisis of HIV/AIDS and that health benefits of PrEP will jeopardize the values of heteronormative family.

The conservative extremists mobilized their political influences, spread fake news, created media buzz, and further accused that this PrEP would foster bareback sex among gay men's hookup culture because this medicine's preventive effect. Not only that, those evangelical groups even brought the TW CDC to the courtroom, appealing to the TW CDC to halt the demo projects. They further accused the CDC officials and LGBT-friendly, pro-PrEP doctors for spreading obscenity and sexually offensive information, all in an attempt to slow down the rollout of PrEP and, in turn, to impede the same-sex marriage bill. As ridiculous as those remarks might sound to the educated readers, and as familiar as this process might be familiar to Western readers, above two paragraphs reveal a thorny and unsteady progress of sexual modernity in East Asia where Taiwan bears the burden of being the first East Asian country that undergoes the same-sex marriage and the rollout of PrEP simultaneously.

The influence of anti-gay religious groups was real and strong. It disrupted and further dismantled the health campaign. For instance, one local hospital launched a PrEP campaign called "Lan-Pu-Ren" (懶僕人, or equivalent as 'Dick Helper' in English), a mobile advertisement displayed in the train of the Mass Rapid Transit (MRT). In the visual display, the campaigners portrayed a male-genitalia shaped cartoon figure—one that has been used in many other commercial settings—to introduce the functions of PrEP in a hope to create some buzz (**Figure 3.3** and **Figure 3.4**). The evangelical groups lashed out at this campaign, accusing that the sexual insinuation was too obscene to be seen in the public. The mobile advertisement of Lan Pu Ren was withdrawn in two days. In their defense, that hospital, worrying that the health campaign could become a PR crisis, disclaimed that the campaign of Lan Pu Ren had never intended to promote bareback sex. This commercial seemed to become the last straw that broke the camel's back. Two months after this PR crisis, in August 2017 the TW CDC terminated the first demo project (30% recruitment rate).

Figure 3. 3 The Mobile Advertisement of Lan Pu Ren (懶僕人).

A set of cartoon figures in the shape male genitalia, the campaign outlines different HIV-prevention methods. In a tone of humor, this campaign directs viewers' eyeballs to what the male genitalia think and want. For example, the raincoat that cartoon figure wears symbolizes condoms. The nearly naked cartoon figure indicates that PrEP works as an invisible layer of protection. The image presented here portrays indicates that the cartoon figure is "the spokesperson of HIV prevention" (HIV 愛滋防治大使), followed by three steps: (1) HIV testing, (2) consulting, (3) taking PrEP (1 篩, 2 評, 3 服).

"PrEP Can Wait"

Within the LGBTQ community, discourse about same-sex marriage and the right to health did not strike the same chord. Unlike earlier days when AIDS activists pushed the scientific research and urged the fair price and accessibility of HIV medicine, some Taiwanese LGBTQ NGOs withheld their endorsement of PrEP. The reason was because many of their members and supporters did not consider PrEP to be the most imperative issue to pursue at the moment. A spokesperson of one LGBTQ NGO stated:

> This is now a critical time to pass same-sex marriage bills, and we've been paying considerable attention to this for a really long time. The current sociocultural climate might not be the best time for PrEP because conservative evangelicals are stalking our every step and waiting to attack us. They're irrational and crazy. We might want to put this issue [the promotion of PrEP] on hold until we have more concrete progress in terms of same-sex marriage.[16]

That particular NGO representative prioritized same-sex marriage over PrEP and suggested that AIDS-related health issues might at the moment delay the progress of pursuing the greater goal of same-sex marriage. Within such a political climate, PrEP can wait.

Some gay men themselves held a similar viewpoint by thinking that implementing PrEP can wait and have thus downplayed their desires for the large-scale rollout of PrEP. Similarly, some of my informants, recognizing the effectiveness of PrEP, hesitated to advocate that medicine to their peers. For example, Todd (29 years old) was concerned the anti-gay groups would accuse the TW CDC of promoting bareback sex, noting that "PrEP should not be made as a free gift [by the TW CDC]. With the government's subsidy, antigay groups might 'see a gap and stick in a needle' (見縫插針), turning PrEP into an excuse to attack same-sex marriage, which might distract and dilute the progress of marriage bill."[17] On the same topic, another interviewee, Josh (35 years old), considered PrEP in conjunction with the strategy of the social movement, saying

> AIDS-related issue would jeopardize the legitimacy of same-sex marriage. Health rights are indeed human rights, but marriage is the first step toward many other things. You cannot expect to complete every task in one step. After the right of same-sex marriage, the next issue should be the right of child adoption for LGBTQ people. Strategically speaking, throwing ten topics on the table at once only mitigates each one's power. I think we should put the PrEP issue aside.[18]

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[16] "現在是一個通過同婚法案的重要時刻，我們已經關注這個法案很久了。目前的社會文化氛圍可能不是談PrEP的最好時候，因為反同團體一直密切關注我們的每一步並準備攻擊我們。我們在面對的是群不理性且瘋狂的人。我們必須把這個[PrEP]議題先放在一旁，等到在同婚運動上面有更多具體成果再說。"

[17] "疾管署不應該讓PrEP免費。因為有政府的補助的話反同團體就會見縫插針，用PrEP來攻擊同志婚姻，這樣會影響同婚運動的推動。"

[18] "愛滋病的議題會影響同婚運動的合法性。健康權是人權，但是婚姻是通往很多其他權利的第一步。你不能期待這些權利會一步到位，婚姻權之後，下一步應該是扶養權。從策略性的角度來看，你把全部的議題都拋出來只會影響每個議題的力道。我認為我們應該先把PrEP議題放在一邊。"

Interestingly enough, even though they did not work for any LGBTQ NGO, both Todd's and Josh's concerns resonated with a similar rationale —'PrEP can wait.' Their remarks illustrate how PrEP users in the Taiwanese context of the demo projects internalized the needs and desires for the surplus health—or, in Todd's words, "sacrificed oneself for the sake of the nation's glory" (相忍為國)— by prioritizing same-sex marriage over their personal health demands for PrEP.

Metaphorically, Todd's use *nation's glory* denoted a profound, shared desire among gay Taiwanese men. Gay people wanted to be treated as normal, as someone who can also be regarded as "citizens." In that sense, marriage equality served as the means and the first steps for many LGBTQ people to reach that goal. They worried that AIDS might encumber the progress of same-sex marriage. They used words that subtlety revealed how the long-existing stigmas about HIV/AIDS transformed into the new biomedical regime. The stigmas became so incorrigible that some gay men expressed a shared sense of urgency to sanitize same-sex marriage by temporally putting gay sex aside.

The unbearable stigma associated with HIV/AIDS also transformed and became attached to a material meaning. The TW CDC's gift extracted queer sexuality. Ray (26 years old) reached such a conclusion:

> There is nothing wrong with the high price [of PrEP], because the more affordable PrEP is, the hornier people might become. I think that those kinds of [promiscuous] people are wasting our medical resourses. PrEP is a means of protection, not an excuse to get out of control.[19]

In Ray's own words, the unaffordable price and limited supply of PrEP became a legitimate reason for regulating social norms and gay promiscuity.

[19] "PrEP貴一點沒有錯，因為如果你讓PrEP很便宜只會讓人越來越好色。我覺得這些愛玩的人就是浪費醫療資源。PrEP是一種保護工具，不是讓你失控的藉口。"

Homonormativity

The conflict between LGBTQ's family and health rights in Taiwan constituted what Lauren Berlant (2011) calls "cruel optimism"—something you desire is actually an obstacle to your flourishing. What liberates gay men from the fear of infecting HIV became a threat that inadvertently compromised the possibilities and the future of the LGBTQ movement at large. The prosperities of gay life, in this Taiwanese case, hinge on the sacrifice of queer promiscuity. Reflecting on the education of safe sex and abstinence during the first few years of AIDS epidemic, Douglas Crimp (1987: 253) notes that "our [gay men's] promiscuity taught us many things, not only about the pleasures of sex, but about the great multiplicity of those pleasures," and that "it is that psychic preparation, that experimentation, that conscious work on our own sexualities that has allowed many of us to change our sexual behaviors." It is Crimp's intention to emphasize that male promiscuity, in terms of gay men's sexual desire and motivations of self-health, served as a survival tactic in the time of epidemic. The narratives presented in this section suggested a similar fashion in that male promiscuity guided queer people's navigation of their struggles and hopes for the greater surplus health. My analysis has further prepared the ground for homonormativity, especially regarding the competing values and invisible prices of health and family rights.

The critique of how homonormativity serves as a means to discipline gay sexual politics can be traced back to the early days of HIV/AIDS. Shortly after the outbreak of the AIDS epidemic, monogamous relationships were soon framed as one of the most optimal method to ensure safe sex and to end AIDS. The approach of abstinence constrained sexual desires and chances of contaminating viruses within the domain of personal relationships and individual households (Patton, 1986). Early AIDS researchers not only idealized absolute monogamy but also utilized it as an indicator to measure an individual's safe sex practices in order to lower HIV infection

(Goedert, 1987). Declaring that the AIDS epidemic was diseases borne of lifestyle choices, the Reagan administration explicitly suggested that, for gay people, family values could offer a solution to end AIDS. Melinda Cooper (2017) chronicles the history of AIDS care of how the medical insurance system in the time of the Reagan administration positioned the family as the primary unit of care, and how personal responsibility became a means to legitimize AIDS care. Reflecting upon more recent discussion of the gay-rights movement, Cooper states that the US discourse of legalizing gay marriages has represented "the ultimate form of privatized risk protection and the perfect solution to moral hazard. If AIDS was the price to pay for irresponsible lifestyle choice, same-sex marriage is now presented as the route to personal (and hence familial) responsibility" (2017: 214).

The entanglement of family units and disease management exemplifies the operation of homonormativity in the post-AIDS era. The debate regarding marriage and health rights in the Western World provides a reference for the uneven progress of sexual modernity in Taiwan. It would be convenient to critique that a sense of homonormativity has permeated in the Taiwanese context. After all, many of the quotas above showed that gay Taiwanese men and NGOs idolized engagement rings over blue pills (PrEP), and prioritized family over health. However, I'd argue that Taiwan's case could also, and should better, serve as a counterexample of homonormative critique on neoliberal sexual politics.

Taiwan's discourses showcase how family values were framed as a means of disciplining sexuality and health. It's rare that other Asian countries could have that kind of "fortune" to encounter both social forces simultaneously. However, if we take evangelicals' attacks into serious consideration, if we acknowledge the political resource that they can mobilize, and if we recognize how precarious human rights and sexual rights are in East Asia, a critique of homonormativity

would put too much unbearable weight on gay Taiwanese men. It is because Taiwan and many other Western countries are dealing with different experiences of sexual modernity, and because the marriage rights were, for many Taiwanese gay men, so close and so real at the moment. As many have expressed, marriage rights were the measure of expediency. "Without marriage right, it's hard to move on to the next agenda," as NGOs and many gay men have told me. Gauging two types of human rights and prioritizing one over the other at the same time might be just too cruel for many gay Taiwanese men to make decision.

Conclusion: A Captive Market of PrEP

I began this chapter with a framework of medicalization of biomedicalization of PrEP, contending that demo projects, by no means a pure phenomenon about medicalization, had its biomedical and biopolitical implications. Writing the implementation of Taiwan's demo projects, I engaged the Foucauldian study of PrEP, STS scholarship on medical sociology, and queer theories, to elaborate on the complication of sexual freedom. My argument has been that government-led medical programs complicated the idea of sexual freedom through medical surveillance. Meanwhile, I have addressed that Taiwan's demo projects were not just the Taiwanese CDC's attempt of resolving PrEP's supply and retail price, but infrastructures that had profound implications for understanding the entanglement of risk, safety, and health in the state-individual-health complex.

This chapter is an account of the genesis of a captive PrEP market, one in which the Taiwanese government procrastinated the market of PrEP by promoting a series of demo projects that, in turn, inadvertently brought the idea of market into gay men's sexual practices. The price of gay sex has several meanings in my case study. The first characteristic of the captive market of PrEP was that gay men began to see their sexual lives in light of values and costs, or to be precise,

drug's surplus values and the social and economic cost of their sexual lives. As Dean and Race postulated, the pharma interventions and scientific enterprise disrupt queer intimacy and sexual pleasure in the name of public health. Building on their accounts, my analysis furthered how the biomedical HIV prevention regime had not only troubled gay men's sexual freedom but also reworked the definitions and practices of *risk*, *safety*, and *health*. Gay Taiwanese men have developed a micro level, economic mind-set to gauge the values of their sex lives. My interviewees considered the supply from the TW CDC, compared the cost of their involvement, and made decisions to arrange both their sex and identities. Those micro, embodied approaches of appraising sexual practices are often treated as risky, harmful, and deviant behaviors in public health study, and therefore not worth pursuing. My analyses provided a lens to examine their complexities, and gave an ontological account of those sexual practices.

The second feature of the captive market of PrEP is to articulate—also in light of cost and values—the debate of family rights and health rights in Taiwan. My analysis centered on *male promiscuity*, arguing that this queer vitality and sexual agency now become the means to evaluate the priority of health and/or family rights. The entanglement of family and health rights not only embodied a neoliberal turn of queer values that personalized and dometicized queer sex in the household. Here in Taiwan, the LGBTQ community and evangelicals negotiated, competed, and contemplated the values of marriage and health benefits. Drawing on a parallel history of Western AIDS and family rights, I elucidated a queer critique of homonormativity as a theoretical anchor point for articulating how the LGBTQ community prioritized marriages over healthcare, I suggest a necessity to re-consider the uneven progress and development of sexual modernity between the West and the East.

This chapter's final intention is to point out the unintended consequences of how the demo projects have prompted the gray market of PrEP and gay men's medical tours to Thailand. At the time of data collection and writing, PrEP remained under patent protection of Gilead Sciences. This drug for many gay people in Taiwan remained to be "a pie in the sky," a promising biomedical solution with an unaffordable price that prevent many from becoming "HIV negative, on PrEP." The initiation of the demo project has allowed many to be aware of PrEP's benefits and finally, turned to the online pharmacy and Thailand for more affordable generic versions of PrEP. As a result, the initial implementation of PrEP in Taiwan has promoted a rise of a vibrant drug market in East and Southeast Asia. To become "HIV negative, on PrEP," gay men turn to manage their serostatus in a trans-Asian context. The study of sexual health needs to be situated in a broader materialist network. I continue to explore those topics in the remainder of this dissertation.

Chapter 3: Click for Sexual Health

Between 2016 to 2019, the implementation of the Taiwanese CDC's medical trial accidentally promoted gay Taiwanese men's consumption of generic medicine online and their medical tourism in Thailand, discussed in Chapters 3 and 4, respectively. Here, I focus on how an online pharmacy that managed the exchange of information and financial transactions had profound implications for health and embodiment, for sexuality and freedom, and for the novel ways of identifying PrEP economics in the global and local contexts. In 2016, a group of Taiwanese and Thai medical professionals and AIDS activists initiated a delivery model for gay men to access less expensive, generic versions of PrEP in Thailand. The collaboration among medical professionals from two countries exemplified implementation science as this platform offered novel methods and strategies to resolve PrEP's access. This delivery model further entailed a new form of freedom so that the medical experts can collaborate on medical projects, and laypersons can pursue self-medication outside the framework of the nation-state.

This chapter explores the implementation of science, drug delivery, and the politics of self-medication. Questions that I consider in this chapter include: How did the implementation science of that online pharmacy come into being? During that process, how did the online pharmacy encourage and yet constrain individuals' freedom of accessing generic drugs? What are the ways in which gay men's self-medication contributed to the rise of underground PrEP economics? Finally, what does that process tell us about the making of queer desire, freedom, and bodily capacity in the fourth decade of AIDS epidemic?

I approach those questions by putting STS about infrastructures and scientific practices in dialogue with the Foucauldian understanding of freedom. STS scholarship has a long legacy of studying infrastructure. Infrastructure is not an inner and transparent platform but a set of vibrant,

relational transformations about social structures and lived experiences among collectives and individuals (Star, 1999). Many have pointed out that infrastructure often does not work outside the social reality that it aims to create (cf. Barad, 2007; Mol, 2002; Race, 2015; Star, 1999 & 2010; Wilson, 2016).[20] Here, I consider the implementation science an assemblage of multiple medical and economic sectors in Taiwan and Thailand as well as how they informed gay men's sexual practices.

Ethnographic and historical STS scholarship applies knowledge- and class-based indicators to analyze the social practices of science (e.g., Knorr-Cetina, 1981; Murphy, 2006). Those indicators include: the distinction between lay and expert knowledge (Epstein, 1996, 2018; Shim, 2014), the organizations and their social credits (Latour and Woolgar, 1986; Latour, 1987), and the distinction between gatekeepers and entrepreneurial consumers (Aizura, 2018). Building on those accounts, I advance queer identity as an analytic tool to articulate how *guanxi* (關係, kinship or habitus, see later sections) serves as a theoretical lens to examine scientific collaboration among LGBTQ people.

Equally important to this chapter is *neoliberalism*, a well-studied concept at the levels of both the nation-state and individual mobility. In my analysis, I undertake a Foucauldian approach to consider neoliberalism as a mode of governing through freedom. Following Aihwa Ong (2006 and 2007), I conceptualize neoliberalism not at the level of state governance and economic management (e.g., David Harvey) but at the embodied level of how freedom and health become materialized through individual migrations and social practices. I assert that the materialization of

[20] For example, the ontology of a disease" is not given in the order of things, but that, instead, ontologies are brought into being, sustained, or allowed to wither away in common, day-to-day, sociomaterial practice" (Mol, 2002: 6). Michelle Murphy (2006) in *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers,* appropriated Foucault's discursive formation and Deleuze and Guattari's assemblage to consider a politics of uncertainty that continues to characterize contemporary American environmental debates.

sexual health needs to consider gay men's freedom, not in terms of one's free will but in terms of how one entrepreneurially manages his body and risk. The analysis of self-medication therefore sheds light on how personal adaptability and flexibility can flourish within the material context of capitalism.

This chapter is comprised of three main sections. "The Rise of the Online Pharmacy" introduces the operation of an online infrastructure in light of *assemblage* to explore the entanglement of multiple social factors and the political economics of Taiwan's drug regulation. This section examines how queer identity has evolved into different thought styles and ways of producing knowledge. After that, "Freedom and its Limits" turns to the politics of freedom by discussing how user consent forms, medical prescriptions, and generic PrEP were critical for the execution of the online pharmacy. This section details the potentiality and alienation imposed on individuals' freedom of becoming "HIV negative, on PrEP." Finally, "Self-Medication," shifting the gears to a feminist stance of knowledge production, tells stories of how gay Taiwanese men negotiated with and escaped from the state-surveillance and control of the online pharmacy. Altogether, three main sections elucidate how the materialization of sexual health has moved from a top-down paradigm of drug distribution to a bottom-up approach of becoming "HIV negative, on PrEP." By addressing PrEP's commodification, this chapter critiques the seemingly unproblematic, one-dimensional neoliberal ethos of freedom. It concludes by highlighting new forms of *PrEP economics* in which gay men's bodies and sexualities have become intertwined with the economics of pharmaceutical innovation, governmental regulation, and personal mobility and pleasure.

The Rise of the Online Pharmacy

In "PrEP Implementation Science: State-of-the-Art and Research Agenda," a special issue of the *Journal of the International AIDS Society*, the coeditors urged that the optimal PrEP implementation will require insights from various disciplinary perspectives: social science, policy and ethics, health systems, and economics, including cost-effectiveness studies (Hankins et al., 2015). Here, *implementation science* refers to the study of "the methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice and hence improve the quality and effectiveness of health service" (Eccles and Mittman, 2006: 1). I conceive of the implementation science as an assemblage of various social factors united to govern gay men's bodies and sexualities. Derived from Deleuze and Guattari's *A Thousand Plateaus* with an original implication in aesthetics, *assemblage* is a highly appropriated term in social theories, critical race study, and STS. Not yet having a consensus regarding its scopes and operationalization, scholars use *assemblage* to refer to "emergence, heterogeneity, the de-centered and the ephemeral in nonetheless ordered social life" (Marcus and Saka, 2006: 101), a product of "multiple determinations that are not reducible to a single logic" (Collier and Ong, 2005: 12), and the material implications that are "formed of not only words, but also objects, actions, and subjects" (Murphy, 2006), to just name a few. Recognizing its critique, I use *assemblage* to identify the emergence and heterogeneity of the online pharmacy and the social and historical controversies that the online pharmacy evoked. Moreover, I use *assemblage* to think through how material and affective components of sexual health become connected in the online pharmacy.

A theoretical alliance of assemblage would be Latour's actor-network theory (ANT), one that provides useful insight into the irreductionist and relationist ontology (Latour, 1996). However, I argue that ANT's ontological stance is insufficient to account for the unintended consequences

of drug circulation and personal mobility at the global and local scales. The reason is because ANT seeks a fully-fledged system toward a single goal of maximization (See a critique of ANT from Aihwa Ong, 2007) and is unable to identify the endless friction and sometimes oblique expansion of social systems. Inspired by Ong's works on global assemblages and neoliberal critique, I pay close attention to the heterogeneous, unstable and situated scales and social practices. In what follows, I first discuss how the assemblage of the implementation science brought various social factors together to shape gay men's bodies and sexualities. I then unearth the ways in which *guanxi* (kinship, relationship) shaped the collaboration among medical experts from both countries.

Implementation Science as an Assemblage

In 2016, a group of Taiwanese doctors and AIDS advocates initiated a delivery model for gay Taiwanese men to access less expensive, generic version of PrEP in Thailand. During that process, factors such as the design of the demonstration projects, the glitch of Taiwan's medicine regulation, and the legal limit to personal oversea drug consumption, all contributed to the rise of the online pharmacy. Gay men's sexual health needs to be examined in such assemblage. First and foremost, the consumption of generic antiretroviral therapy (ART) among HIV-negative individuals draws on the experiences of gay men living with HIV. Uninsured foreigners living with HIV and Hepatitis C virus (HCV) are the bellwethers who brought information about generic ARTs back to Taiwan since the 2000s. HIV-positive men who could not register with local healthcare insurance (e.g., foreigner workers and/or people holding foreigner Visas) have reportedly traveled to Bangkok or other countries near Taiwan to purchase less expensive generic ARTs in order to sustain their drug supplies and control their viral loads. With an even longer history of shopping

generic ARTs aboard, patients with HCV have already obtained ARTs, one that was sold at a high retail price, through online buyers' club (Cousins, 2017).[21]

In the case of PrEP, as part of their professional practices, most Thai clinics requested foreign clients to demonstrate the most up-to-date medical checkups (e.g., HIV testing and kidney and bone density examination) and prescriptions for Tenofovir/emtricitabine (TDF/FTC, the components of PrEP). Since 2014, some Taiwanese doctors have helped HIV-negative men by providing physical examination and prescriptions. As the demand for more affordable PrEP has gradually increased since 2016, these doctors' volunteer gestures gradually became a routine of a binational project that included several clinics in Bangkok and Chiang Mai. Since 2017, this organized binational delivery system was designated as a provider-assisted PrEP access, or call PrEP-PAPA.

The operation of the PrEP-PAPA model encompassed three steps (Chu et al., 2018) (**Figure 4.1**). First, potential PrEP users visited Taiwanese clinics for consultations, medical examinations,

[21] The 2013 award-winning movie *Dallas Buyers Club* tells the story of Ron Woodroof, a HIV patient who smuggled HIV medicine from Mexico and Japan into Texas, United States in order to treat his symptoms of AIDS during the late-1980s when the treatment was still under-researched and unapproved by the US Food and Drug Administration (FDA). Based on a true story, this film details Woodroof's efforts of establishing the "Dallas Buyers Club" that sold drugs to other people with HIV whereas Woodroof himself battled with the US FDA over the legal dispute regarding importing of Zidovudine (AZT), the only kind of antiretroviral drug that can treat HIV at that time.
In the era of PrEP, an economic activity similar to "Dallas Buyers Club" has taken place at an underground, transnational scale. With other cofounder, Greg Owen, a gay British man who turned into HIV positive in 2015 at the age of 35, established a generic PrEP website "IWantPrEPNow.co.uk" in an attempt to offer local British men with more affordable PrEP in the time when the approval of Truvada for PrEP was still under the debate by the UK National Health Service. Greg Owen's encounter with HIV and AIDS was indeed a tragedy in that this 35-year-old man became infected by HIV due to not having enough time to enroll with the local PrEP trial and wait for PrEP becoming legally available in the British market. Yet it is an inspiring journey in which a newly HIV-infected man dedicated himself into safeguarding sexual health among LGBTQ community by bridging the supply of the generic PrEP to the local people. Owen and his friends decided that "we don't even need the government right now," and "we'll tell everyone to order pharmaceutical drugs on the Internet and start taking them" (Castella, 2018). The website "IWantPrEPNow.co.uk" not only provides updates about current clinical trials of PrEP, but also offers information about how to purchase "genuine generic PrEP." Assembling a new social movement about the accessibility of affordable HIV medicine, this website provocatively states "we want anyone to be able to access PrEP and be able to confidently make their own choice about their sexual health and HIV protection. It's your sex-your choice." A website that symbolizes a neoliberal turn of managing one's own sexual health, IWantPrEPNow.co.uk along with other clinical trials contribute a significant decrease of HIV infection in United Kingdom by 20% as well as a drop of 40% in the city of London from 2015 to 2016 (Wilson, 2017).

and lab tests. Second, Taiwanese clinicians confirmed lab results and sent prescriptions, written in English as the chosen *lingua franca*, to the participating clinics in Thailand. After confirming prescriptions and collecting payments, the Thai clinics sent out the parcels to Taiwanese consumers. Whereas previously these individuals would have needed to travel to Thailand, now, through the PAPA, they partook in the binational "medical tourism" without leaving their home country.

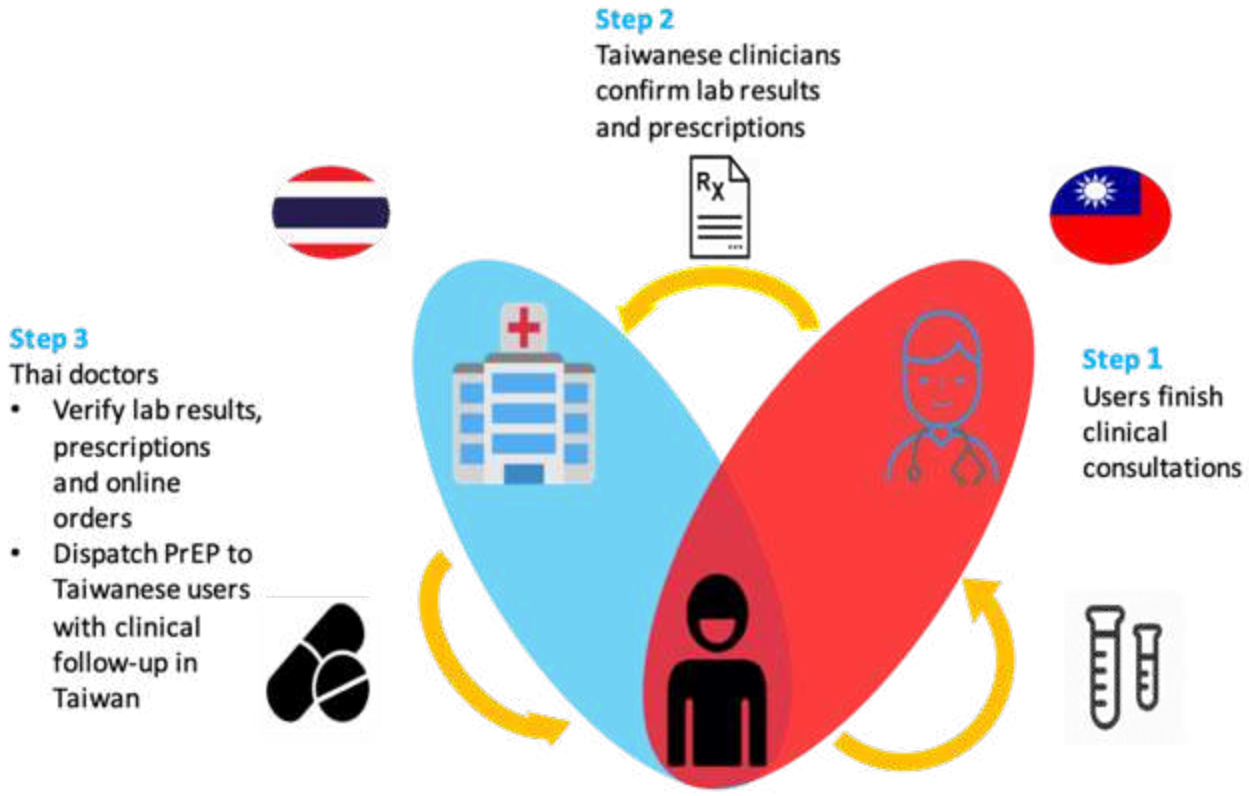


Figure 4. 1 Provider-Assisted PrEP Access (PrEP-PAPA) Model

From the perspective of implementation science, there were several benefits of the PAPA model. The major benefit of this model was its simplicity—the roles that pharmaceutical company and the Taiwanese CDC played were ruled out from this process, and Taiwanese men may shop transnationally without leaving home, after receiving medical examinations domestically. Second, this model drastically reduced the cost of PrEP—from patent Truvada to its generic equivalent

TENO-EM—from TW$ 12,000 (US$ 400) to TW$ 1,150 (around US$ 40). It helped the consumers save up to 90% expense on the medicine for a month of supply. Here, the assumption was that by securing the supply and reducing the price, it could increase the demand of PrEP and hence allow more people to take PrEP. The third benefit of the PAPA model lay in that PrEP consumers could receive their PrEP from the clinic in Thailand within an average time of two weeks from their medical exams to delivery. By circumventing Taiwanese legal regulation of the patent drug, doctors have offloaded drug delivery to the loosely controlled market in Thailand (Also see Chapter 3). From the PAPA model's launch in 2017 through the middle of 2018, 256 individuals have used this channel to obtain their generic PrEP, among them at least 20% was formally registered in the demonstration project (Chu et al., 2018).

The implementation of the PAPA model reflected on that the scope of Taiwan's national health insurance (NHI) had not yet covered HIV prevention. Whereas the TW NHI was famous for its comprehensive coverage and affordability (i.e., 5 USD per clinic visit), it has still not yet covered Truvada for PrEP. It suggested that the NHI remained conceiving of HIV prevention an uninsurable object. In that sense, treating people with HIV demanded a sense of urgency and a public obligation whereas preventing HIV infection was considered to be a personal affair, something outside the government's responsibility.

The PAPA model also manifested a legal conflict regarding how to best regulate the price of medicine in Taiwan. According to the TW NHI, drugs with the same effect and quality need to be sold at the same price in Taiwan. Therefore, Truvada—whether prescribed for HIV treatment or for prevention—could only be sold at one price in the market. In other words, for the sake of stabilizing the drug market, Truvada cannot have two distinct prices in the market. This explained why Gilead Sciences was being reluctant to adjust the price of Truvada for HIV treatment from

the 2016 to 2018.[22] It's because that Gilead Sciences has monopolized Truvada and benefited from the treatment market ever since 2008. Unable to predict the scale of the market of Truvada for PrEP in Taiwan, the pharma opted not to lower Truvada's price in order to maintain their current profit rate (See Chapter 1).[23]

Guanxi: Queer Kinship in Action

Given the lack of written contract binding the medical professionals in both countries, how could the Taiwanese and Thai experts work within the same drug delivery model? Yes, considering that Taiwan and Thailand both have their unique healthcare system and sociocultural understanding of LGBTQ health and human rights, how could the scientific collaboration between the Taiwanese and Thai medical experts become sustainable? I reply those questions by elaborating the implementation science with *guanxi* (關係), a term equivalent to the Western notions of "relationship" and "social connection" that captures the human relationships and informs networking in business and institutional support in Asian contexts (e.g., Luo, 1997; Xin and Pearce, 1996). Cultural anthropologist Aihwa Ong (1999) writes that guanxi embodies the dispositions and practices that emphasize pragmatism, interpersonal dependence, bodily discipline, gender and age hierarchy, and other mode of social production and reproduction. I draw on Ong's insight to conceive of guanxi and freedom as types of neoliberal configurations in order to analyze the scientific collaboration of experts and the consumption of generic PrEP among gay men.

Guanxi took on different layers of meaning. For one, the model exemplified how implementation science was applied in bottom-up fashion and, in that way, illustrated that the

[22] Later in 2019, the Gilead Science worked with the Taiwanese CDC to launch new campaign, offering discounted Truvada for PrEP to gay or bi-sexual men. The discounted package included buy-on

[23] This part of conclusion was in fact a speculation that was made based on my interview with the pharmaceutical representatives and medical doctors. Gilead Sciences of course never directly addressed the issues about profit in Taiwan.

Taiwanese and Thai scientists, medical professionals, and AIDS advocates recognized each other's professional work about HIV/AIDS. In that sense, science was derived not from the Taiwanese government's endeavor—that is, the Taiwanese CDC's demonstration projects (see Chapter 2)—but from the friendship, or comradeship, nurtured by the group of Taiwanese and Thai LGBTQ and LGBTQ-friendly medical professionals and scientists. The mutual trust and tacit knowledge between the medical experts and scientists in both countries were crucial. Such understanding allowed them to establish a kind of informal relationship outside their respective workplaces, because they had learned and exchanged the most up-to-date scientific and HIV-related knowledge at international conferences. There, they were able to mingle with each other and engage in casual conversations about their latest research projects. At times, those conversations extended into post-conference dinners, bar hopping, Facebook group chats, and even plans for future collaboration. Ultimately, such informal interactions also provided insights into the initiation of the PAPA model.

In my case study, guanxi allows a gender- and identity-based analysis in which LGBTQ comradeship nurtured the scientific collaboration among the medical experts in Taiwan and Thailand. From 2016 to 2019, I visited five clinics in Thailand to collect data for my dissertation. As an outsider of Thai medical culture, I often began my interviews by bluntly asking why the Thai medical professionals were doing what they were doing. Answers such as "Because AIDS disproportionally hits gay people, gay people must help each other" ranked among the replies heard most often from the Thai medical staff whom I interviewed. In fact, nearly all of them told a similar story: that because a close friend was or had been devastatingly affected by HIV and because they, as LGBTQ people, have been discriminated for being gay since childhood, it was the right time for them to use their medical resources to help more LGBTQ people. Perhaps that their remarks would have been less shocking to me had I known that Thailand once had the highest prevalence

of adult HIV in Asia: 30.8% among men who have sex with men in 2007 (Colby et al., 2015).[24] In response to HIV's epidemiological prevalence in Thailand, the corresponding structure of feeling had cultivated a queer kinship through which individual-level experiences with medical trauma and social oppression for being sexual minorities had become transformed into a collective response of communal care. Building upon those factors, one of the most significant traits shared between the Taiwanese and Thai medical professionals, as well as between the Thai interviewees and me, is that *we are LGBTQ and LGBTQ-friendly people*. Such connection transcended language barriers and cultural differences in ways to catalyst the online infrastructure.

By extension of friendship and comradeship, guanxi within the PAPA model also referred to how the collaboration of the Taiwanese and Thai LGBTQ medical and scientific professionals embodied a "thought style." A *thought style,* to borrow Ludwik Fleck's words from *Genesis and Development of a Scientific Fact*, is characterized "by common features in the problems of interest to a thought collective, by the judgment which the thought collective considers evident, and by the methods which it applies as a means of cognition" (Fleck, 1979: 99). Fleck's distinction of two thought collectives—esoteric and exoteric—is useful. For one, the comradeship among the Taiwanese and Thai medical professionals can be interpreted as an esoteric circle in which they, as LGBTQ-friendly experts, shared a worldview that prioritized resolving the PrEP's high price and limited access. Intending to solve the accessibility of PrEP in their society, the medical professionals involved in the PAPA model were not interested in profiting by selling Truvada or its generic counterparts. Instead, they were more enthusiastic about maximizing the distribution of PrEP, bringing affordable drugs to people whose bodies need them, and, in turn, better controlling the spread of HIV in their home countries. Their interactions outside their original professional

[24] For instance, the HIV prevalence in Bangkok was 30.8% among men who have sex with men (MSM) in 2007, which shows a significant increase from 17.3 % in 2003 (Colby et al., 2015).

practices served as a role to not only facilitate the rollout of medicine but also produce knowledge associated with health, safety, risk, and pleasure.

From my observations, the medical professionals in question were younger—most were less 40 years old—than others who did not endorse the PAPA model in Taiwan. Nevertheless, they were less concerned than their Taiwanese counterparts about their relationship with pharmaceutical companies, even if such companies frequently funded their research, international travel, and registration at medial conferences. In a way, it can be said that those medical professionals were more pro-patient choice than the others who were not involved with the PAPA model. Their collaboration on the model indicated how the implementation science was applied in pro-gay, pro-patient, and pro-choice ways that allowed the execution of a medical channel for the LGTBQ community.

By contrast, gay Taiwanese men who participated in the PAPA model and those who chose to travel to Bangkok by themselves (see Chapter 3) promoted an exoteric circle that, in Fleck's sense, primarily belonged to laypeople and entailed a more popular and therefore less sophisticated understanding about utilities and applications of medicine. In later sections of this chapter, I elaborate upon how such an exoteric circle produced situated knowledges for accessing medicine.

In *Mobile Subjects: Transnational Imaginaries of Gender*, Aren Aizura (2018) proposed the framework of gatekeeper and the entrepreneurial consumer to account for how transgender people cross countries to receive the medical care in need of gender reassignment surgery. In Aizura's dual framework, the gatekeeper model means that the medical professionals determine the feasibility of issuing a transgender surgery. In contrast, the entrepreneurial consumer framework resonates with the neoliberal ethos and rationality in that individuals dispute the understanding of transsexual-as-patient but instead assert their autonomy of making the surgical

decision to enhance their bodies. Here, the esoteric circle of the Thai and Taiwanese medical professionals can be seen through the lens of Aizura's gatekeeper model in that medical professionals in both countries managed to maintain a fine line between their professionalism and individuals' freedom. Note that both Taiwanese CDC's medical trials and the PAPA model remained associated with the gatekeeper model chiefly because both channels relied on a certain degree of medical authority to draw the boundaries between illness and health. But, their difference was that the PAPA model allowed individuals to exercise more freedom not only by granting gay men a getaway to bypass the existing medical regulation but also by inviting them to enter another less-regulated infrastructure. In that sense, those medical professionals worked jointly to allow gay men to actualize their freedom without being constrained in the Taiwanese CDC's demo projects.

Freedom and its Limits: Three Objects

The assemblage of the online infrastructure encouraged both medical professionals and laypeople to pursue gay men's sexual health outside the framework of the nation-state. Here, my attempt is not to romanticize the personal freedom. Instead, I seek to problematize that seemingly one-dimensional neoliberal ethos and agency by writing about their limits. My analysis will center on three objects in the PAPA model: users consent forms, medical prescriptions, and labor outsourced to third parties. With reference to all three objects, I argue that the dual features of freedom have both allowed and limited personal sexual health in the context of distributing generic PrEP.

Users Consent Forms

In the PAPA model, the users' consent form was a document that certified PrEP users' status from a domestic patient of patent PrEP to an international consumer of generic ARTs. The consent

form served two purposes. For one, it was a written document that protected Taiwanese medical practitioners from potential lawsuits related to medical malpractice. Second, the consent form can be treated as an affidavit, an individual's testimony that exempted the government's responsibility of offering legal protections. I elaborate those two points in details.

First, when the generic PrEP market grew in Taiwan, the pharmaceutical company Gilead Sciences could have sought to press legal charges against the PAPA model based on the reason that such model posed a threat to their bottom line—patent rights. But, the company did not. In fact, in order to avoid the conversation about the possibility of adjusting Truvada's market price, the company, according to my interviews with the representatives of its local commercial agent, regarded the PAPA model to be a not-for-profit behavior from the users. Despite the growing numbers of the PAPA participants, they persisted the online pharmacy of the PAPA model a platform that only existed at the individual level rather than a planned infringement for the purpose of increasing the accessibility of medicine. Gilead Sciences concluded that a generic form of Truvada has not violated the company's property rights.

Instead, the company directed the public's attention by stirring up fear and panic regarding the risk of self-health management and medical protection (Figure 3.2). "A highly convenient gesture that might lead to ineffective HIV prevention," as the pro patent-PrEP news coverage warned, there has been the hidden concerns about off-label drug use (邱玉珍, 2019). "If the consumers do not have solid medication information, do not consult their doctors with the accurate methods of taking medicine, or have incomplete understanding of following the PrEP regimen," generic PrEP might lead to the decrease of PrEP's effectiveness. They further pointed out the hidden concerns about off-label drug use, namely, compensation for drug hazard.[25]

[25] In medicine, off-label use of a drug equates to using the medicine for a purpose other than that established by the FDA's approved guidance (Miller, 2009). It is important to note that off-label use of drugs is not entirely without

Figure 4. 2 Pro-patent PrEP coverage.

The two titles indicated that "Following the correct PrEP regimen is the key to successfully prevent HIV infection" (PrEP 防治愛滋有成 正確用藥是關鍵) and that "Need to be cautious about the low efficacy if purchasing PrEP online" (PrEP 網路購藥便利性高，小心暗藏無效風險) (邱玉珍, 2019).

In Taiwan, the off-label use of PrEP denotes a tension between the personal management of sexual risk and the compensation for the adverse drug reactions (ADRs). Note that ADRs in Taiwan referred to a type of injury caused by taking patent medicines. In the PAPA model,

merits. For example, off-label drug use can serve as an alternative treatment option when current treatment methods are exhausted. Additionally, off-label drug use can help reduce prescription costs when a non-approved medicine that has similar treatment effects is used in the place of an approved medicine. From the perspective of the Taiwanese medical community, the case of the PAPA model amounted to off-label drug use. However, off-label drug use can pose risks and dangers, as patients cannot seek compensation in the event of adverse drug reactions (ADRs).

individuals became legitimate PrEP consumers only after they signed a consent form to acknowledge that they were aware of the risk associated with purchasing generic medicine and that, in the event of an ADR, they cannot pursue "drug hazard relief" (藥害救濟法). By signing the consent form, they claimed to give up their rights to access the Taiwanese legal-medical compensation system that can offer timely subsidy for the consumers' injury caused by the use of patent drugs in Taiwan.[26] Thereafter, the consent form embodied an exchange in values and rights to health. The price of becoming an HIV-negative, healthy consumer who accessed more affordable generic medicine demand an individual to declare his or her consent to give up the legal rights that one could have enjoyed in his/her own country.

The irony of the consent form was that while the PAPA model was designed for assisting gay men to circumvent the rigid local medical scheme, its execution was based on the deprivation of personal health rights. It did so by allowing personal freedom in choosing between more affordable healthcare elsewhere and constraining one's own health and legal rights at the same time. When the dominant discourses created by the pharmaceutical company correctly pointed out the hidden concern associated with the lack of drug hazard relief, the connotation of those narratives was clear: the patent drug, regardless of its affordability, can guarantee more health benefits because it obeyed the Taiwanese government's regulations. Remarks like this kind set up a reverse causal claim in that patent drug's superiority was not entirely based on the science of the medicine, but based on the medical experts' authority. The problem with the common responses such as "we'd better not

[26] Unique to Taiwan and some other countries such as Japan, Germany, Sweden, Denmark, Finland, and Norway), the Drug Hazard Relief system consists of a set of legal procedures for promptly assisting people who suffer from ADRs (On et al., 2012). Specifically, Taiwan's drug injury hazard scheme adopts a no-fault, compensation-based system in which ADR victims receive immediate compensation without having to endure litigation that can be time- and labor-consuming. In addition to civil law, the drug hazard relief system serves as an extra layer of legal protection in reflecting a strong sprit of consumer protection. Access to the system is limited to those who follow government-approved medical guidelines. However, the drug injury relief system exists not so much to hold pharmaceutical companies legally accountable as it is a consideration of humanitarian charity (On et al., 2012).

disobey the laws" from the majority pro-patent medical doctors and pharmaceutical company revealed that the pro-patent drug discourses blindly neglected how the medicine's high cost meant that only a few could enjoy the benefit of Truvada for PrEP. The irony about the competing meanings between personal freedom and medical authority was that when urging users to have "solid medication information" and "complete understanding of the PrEP regimen," those narratives exploited fears to sustain the medical authority. In turn, this covered up that there was no merit for upholding a legal system of drug hazard protection.

Prescriptions

The second object regarding the biopolitical implication is the medical prescriptions. Importantly, a prescription in the PAPA model was not merely a medical record that documented a doctor's diagnosis, but rather an object carrying social and cultural meanings. A prescription provided several types of information (Figure 3.3). First, it reported the PrEP client's laboratory test results, including HIV, hepatitis B (HBsAg), the alanine aminotransferase test (ALT; for liver function), and creatinine (for kidney function). Following a clear protocol, this information indicated more than a person's health condition and eligibility for taking PrEP. By using the standardized language and measures, it also provided the basis for the medical professionals both in Taiwan and Thailand to proceed to the necessary medical treatment.

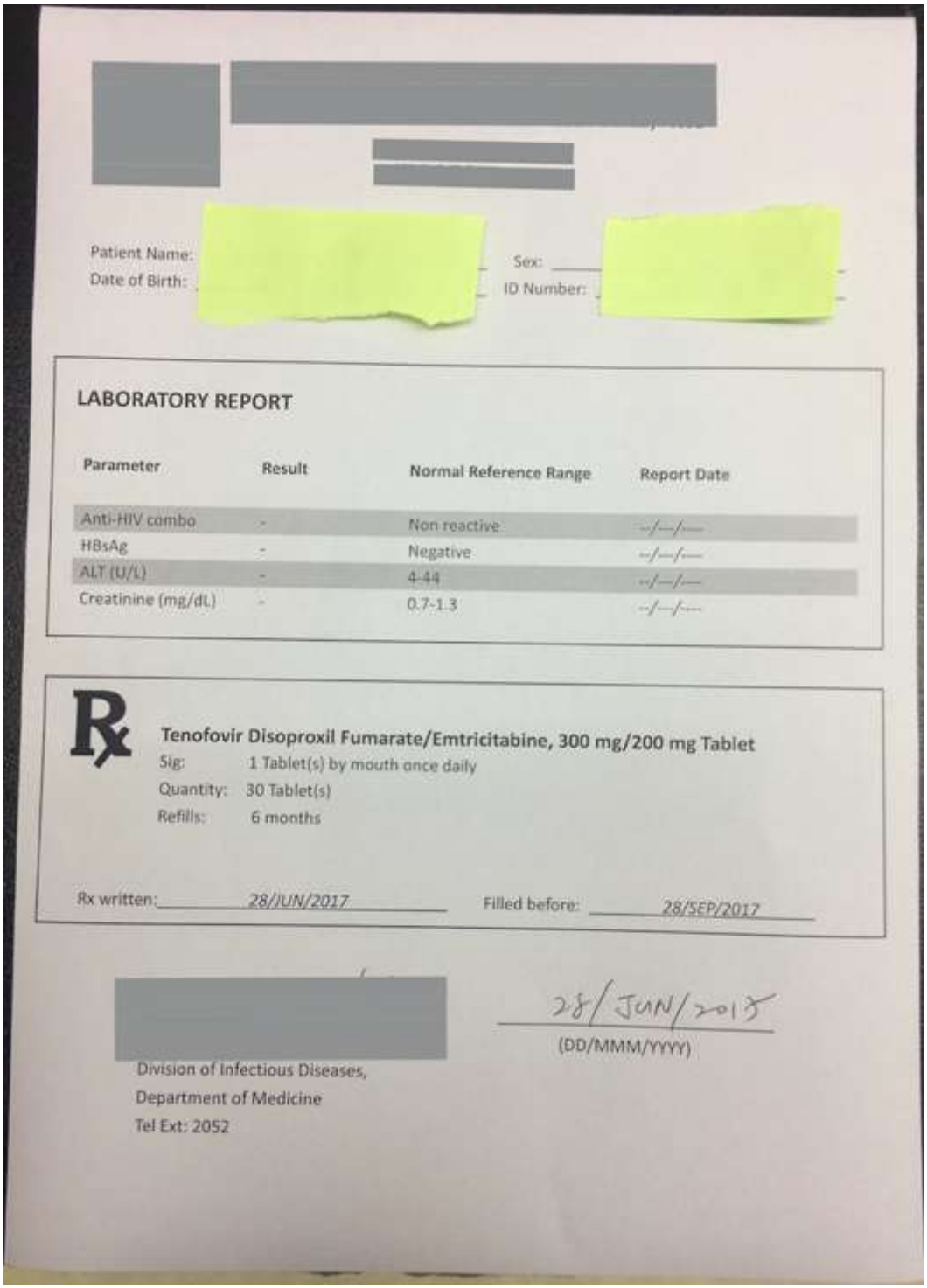
The second part of the prescription displayed PrEP's chemical name, "Tenofovir Disoproxil/Emtricitabine," and the recommended dosage: "300 mg/200 mg Tablet." The language used in the document demands more careful consideration. Recall that, in Chapter 1, I discussed the three names of any given drug: the chemical name, the brand name, and the generic name. I asserted that matter not only changes in the process of materialization but also impacts how a drug's names, its textualities, are coined. Unlike brand and generic names, which are often

associated with government regulations and corporate operations, the chemical name provides the scientific information about the given drug, which usually indicates the atomic or molecular structure of the drug as a biomedical object. In a sense, an indication of the drug's chemical components can be interpreted either as Truvada or its generic equivalents: TENO-EM or Ricovir-EM. Shown in **Figure 3.3**, for instance, the language of the prescription embodied that kind of strategical opaqueness. "Tenofovir Disoproxil/Emtricitabine" was sufficiently clear for the medical professionals to proceed with their orders; however, it was also vague enough to afford them more freedom in specifying the kind of medicine that they could distribute. By turning to the matter of the biomedical objects—that is, by using the chemical names of the medication—their attempt can be read as a maneuver for navigating the rigid legal regulations of medicine in Taiwan and the loosely controlled medical market in Thailand.

However, even though both medical experts and gay consumers seemingly obtained certain degrees of freedom, individuals in the PAPA system cannot own the prescriptions on their own. Instead, the prescription was sent by the Taiwanese infectious specialist to a Thai medical clinic of the client's choosing in ways to ensure that individuals did not hoard PrEP by shopping around the same prescriptions to different clinics. In this manner, the prescription became a means of retaining people within the medical network of the PAPA model so that the medical professionals could provide continuous care every three to six months, depending on the prescription's refill duration.

Up to that point, the prescription embodied the dual nature of freedom. On the one hand, it opened up a gateway for the medical professionals to practice medicine more freely, for the language deployed therein denoted a strategic opaqueness, one that welcomed additional interpretation. On the other hand, it served as an object of control. It constrained gay men's

freedom at the individual level by retaining them within the infrastructure. The prescription thus manifested the authority of medical knowledge, re-regulated PrEP's access, and, in turn, determined the kinds of gay men's bodies eligible for or disqualified from obtaining medical resources.



Patient Name:
Date of Birth:
Sex:
ID Number:

LABORATORY REPORT

Parameter	Result	Normal Reference Range	Report Date
Anti-HIV combo	-	Non reactive	--/--/----
HBsAg	-	Negative	--/--/----
ALT (U/L)	-	4-44	--/--/----
Creatinine (mg/dL)	-	0.7-1.3	--/--/----

Rx

Tenofovir Disoproxil Fumarate/Emtricitabine, 300 mg/200 mg Tablet

Sig: 1 Tablet(s) by mouth once daily
Quantity: 30 Tablet(s)
Refills: 6 months

Rx written: 28/JUN/2017 Filled before: 28/SEP/2017

28/JUN/2017
(DD/MMM/YYYY)

Division of Infectious Diseases,
Department of Medicine
Tel Ext: 2052

Figure 4. 3 An actual English prescription as used in the PAPA model.

The language displayed here served as the basis for medical professionals from both countries to proceed the medical procedure. I have covered the names and titles of the institutions, doctors, and patients.

Generic PrEP (Party Drug and Outsourcing Labor)

The third object with biopolitical implications is PrEP itself. My focus lies in not the materiality of PrEP (TDF/FDC, See Chapter 1) but the commodification of PrEP. The PAPA model can be considered a success precisely because it enabled 256 clients to purchase generic PrEP in Thailand during 2017 and 2018, nearly comparable amount to 302 people who participated in the Taiwanese demonstration project during 2016 and 2017. Behind the scene of that achievement was a growing concern regarding the obsessive commodification of pharmaceuticals. In 2017, the labor of purchasing generic medicine became increasingly outsourced. The primary reason was because not every PrEP user had adequate time or felt comfortable communicating in English about logistics with the staff of Thai clinics. An agent, a third-party broker from Singapore, seized this business opportunity and has been in place to assist Taiwanese PrEP buyers with logistics, cash flow, and communications since 2016. This middleman agent created a niche market for PrEP services by charging each client 10% to 15% of the drug price as a handling fee. Additionally, this agent launched a brand called *PrEP Taiwan* to provide an integrated service that comprised a Facebook page, a website with product descriptions, as well as an app LINE.[27] *PrEP Taiwan* offered gay consumers with comprehensive one-sited services including education, information dissemination, cash handling, responses to customer questions, and other related features. As a result, the access of PrEP has come to be seen as a consumer-driven industry rather than a patient-focused public health service in Taiwan.

The irony here is that the brand-name *PrEP Taiwan* could appear to be an attempt to mislead PrEP users that the site was an official, legitimate platform run by the Taiwanese

[27] Line app is a communication app providing users to text as well as send images and videos. It works similarly to WhatsApp. Line a common app used in Taiwan, Thailand, Japan, and Korea.

government. But, the site itself was clearly a profit-driven platform, a product of a capitalist system. At the time of this writing, approximately half of the users of the PAPA model used or have used this third-party service, indicating a growing demand for a more convenient, less labor-intensive process of shopping for PrEP. More relevantly, this expansion suggested that gay Taiwanese men have outsourced the logistics of communicating with the Thai clinics to the third party broker. Being able to more conveniently receive their healthcare, gay Taiwanese men obtained more freedom because, up to this point, their sexual health became ever handier. Just a click away, they could choose to involve less of their labor to become "HIV negative, on PrEP."

One of the significant consequences about gay men's outsourcing labor of purchasing generic PrEP to *PrEP Taiwan* was the alienation of labor itself. This process showed that the mainstream gay party culture has gradually permeated the health service of PrEP. To boost their clienteles, *PrEP Taiwan* actively participated in major gay events to increase their brand visibility. For example, *PrEP Taiwan* partnered with major circuit parties by offering party-goers special discounts on PrEP (Figure 3. 5). The company also set up booths at the circuit party to accept customers' on-site.[28] For example, the party announcement highlighted that:

> MEGA TAIPEI 2018, the biggest gay party, is around the corner. Global famous music DJs and gogo boys will be celebrating the Dragon Boat Festival with you. During the party, you also want to play safe. Now pre-order PrEP and enjoy up to a $550 NT discount from preptaiwan.org. Order with our representatives onsite to enjoy a discount up to $1,050 NT.[29]

Furthermore, during the Thai Songkran Festival, *PrEP Taiwan* launched a sale campaign to offer that gay Taiwanese travelers could pick up their orders in Bangkok or Chiang Mai and receive

[28] By ordering PrEP through *PrEP Taiwan*, consumers still need to visit the Taiwanese medical sites in order to receive the English prescription. Through the consumer events, however, PrEP Taiwan brings potential new PrEP users to the PAPA model.

[29] 最後機會：MEGA TAIPEI 2018，端午連假最大的派對，即將展開！國際級的DJ與GOGO陣容，與你狂歡在端午！在準備好PARTY的同時也要玩的安全 - 購買預售票的客戶也可同時在PrEPTaiwan享有高達550NTD的額外折扣，而在活動主場的兩晚和我們PrEP大使訂購的客戶還可以享高達1050NTD的優惠。

HIV test with no charge. They also provided delivery service for those who stayed in the hotels in Bangkok so that those gay Taiwanese party goers could receive their PrEP parcels without visiting the clinics.

As a result, those commercial efforts and consumer services pushed the PAPA model from the realm of pure implementation science to the domain of *homo-economics*, or *pink economics*—that is, the integration of the LGBTQ movement and sexual diversity into capitalist activities in ways that generate revenue (e.g., Gluckman and Reed, 1997). The meanings of generic PrEP gradually evolved from a medical commodity to a drug associated with gay circuit parties. In my case study, gay Taiwanese men obtained more freedom, or least more free time, by outsourcing their involvement to the third-party broker. However, this seemingly irreversible commodification was criticized for being too one-sided in representing queer bodies and upholding, instead of disrupting, hegemonic heteronormative discourses. The unseen price of that convenience was the pressing concern of commodified PrEP and, in turn, the manifestation of a sense of exclusion among other members of the LGBTQ community. The overlaps between healthcare and the commodification of PrEP-related service limited the freedom of individuals insofar as gay men who were not associated with the party scene were excluded not only from the access of the more affordable healthcare, but also from the rapidly emerging medical and consumer discourses of PrEP culture. Beyond that, it cast a normative conundrum regarding to what extent PrEP was an object of recreation, or put differently, to what extent ART could be a recreational drug.

The commodification of healthcare is by no means a new phenomenon in the medical humanities. The consumption of drugs transforms and materializes one's sexuality and identity, exerting effects on pleasure, harms and risks (e.g., Piennar et al., 2020; Race, 2009 and 2015). The uniqueness of my case is that the commodification of medicine rekindled the debate in the case of

HIV prevention, a domain that has not been associated with commodification and alienation in Taiwan. By connecting PrEP to the party scene, as well as by linking self-medication to bodily performance (**Figure 4.4**), PrEP in Taiwan opened up a new intellectual space for thinking about safety, risk, and health, both from a moral stance and a practical one. On the one hand, it evoked the urgency of implementing PrEP. On the other hand, it redirected attention to where the partygoers were gathering and thus where risky sex was most likely to occur. Interestingly, it did so in a bold, unapologetic manner. Insofar as, circuit parties, medical tours for gay men, and other parts of the entertainment sectors all played a role in constituting gay men's sexual lives and their sexual health. Such entanglement of medicine and entertainment also opened up space for an analysis the performativity of sexual health, a topic that I continue exploring with reference to the case of queer medical tourism in Thailand in the next chapter.

Figure 4. 4 The Health Campaign of PrEP Taiwan.

The images and campaign displayed here suggested that PrEP has emerged as a key feature of gay men's circuit parties. On its Facebook page, *PrEP Taiwan* announced its promotional event and introduced the major circuit party MEGA Taiwan. In particular, this Facebook post featured the Dragon Boat Music Festival and introduced its DJs.

Self-Medication as Disruptive Practices

In "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," Donna Haraway (1991:190) wrote that "feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object." Situated knowledges call for the imperatives of responsibility for making scientific claims that work against "various forms of unlocatable, and so irresponsible, knowledge claims." Gay Taiwanese men circumvented the digital infrastructure to purchase PrEP without a prescription from doctors. Their collective practices resonated with Aizura's entrepreneurial consumer framework and Fleck's idea of exoteric circles as they produced useful but often ignored situated knowledges about sexual health.

Here, I connect situated knowledges with gay men's self-medication as a means to reflect on individuals' movements both within and around the online infrastructure. A concept of public health, *self-medication* is commonly defined as "obtaining and consuming one (or more) drug(s) without the advice of a physician either for diagnosis, prescription or surveillance of the treatment" (Montastruc et al., 1997). By shifting the term's behavioral focus to a meaningful social practice, I conceive of self-medication as a process of how individuals negotiate structural barriers in order to access healthcare, interpret medical information, and ultimately navigate ways of supporting their self-care. The gay men's self-medication reveals the neoliberal practice of pursuing one's freedom beyond the control of state and the online infrastructure. It is that kind of freedom that made situated knowledges possible; however, exercising freedom also manifests the inequality of one's social and cultural capital, especially when gay men manages to work around or escape from the digital infrastructure. To pave a way for that analysis, in what follows I draw from three gay

men's stories to highlight different aspects of situated knowledges of becoming "HIV negative, on PrEP."

Similar but not the Same

My first point is to connect the similarities and differences between the patented and generic PrEP to the embodied knowledge produced by gay men. Josh was a 35-year-old gay Taiwanese man whose boyfriend is HIV positive. A former participant of the Taiwanese CDC's demonstration project, Josh has been diagnosed with the Hepatitis B virus (HBV), a disease that excludes him from adopting the on-demand method of PrEP (TDF/FTC),[30] which would allow him to take less PrEP in order to save more medicine and money. Because the treatment TDF has an effect on HBV (See Chapter 1), being "on PrEP" for Josh and many others with similar conditions equates to starting the treatment regimen for HBV, a chronic illness that, by default, requires patients to take medicine daily. Josh exhausted the TW CDC's gift rather quickly. After spending an additional TW $24,000 (US $800) on two bottles of patent drug (Truvada), Josh decided to turn to more affordable forms of medicine. Josh ordered six bottles of TENO-EM, a generic version of PrEP, at a cost of TW $8,500 (US $284) from a clinic in Thailand. After several weeks, Josh's parcel was detained by customs due to the legal regulations of the Taiwanese Food and Drug Administration (TFDA) on whether an individual can purchase medicines from other countries in the case that a similar medication is manufactured and available in Taiwan. Concerned about the shortage of PrEP, Josh and his boyfriend decided to fly to Bangkok to purchase the generic version of PrEP. During their five-day travel in Bangkok, they visited two clinics and

[30] On-demand regimen of PrEP is to take a pill of PrEP 2 to 24 hours before sexual encounter, followed by a third 24 hours after the first drug intake and a fourth pill 24 hours later.

bought 13 bottles of TENO-EM with the price of TW $ 15,600 (US $ 520), an amount of drug large enough for Josh to maintain his HIV-negative status until 2019.

Josh's story first evokes the debate on whether patent PrEP and generic PrEP are the same. While previously gay men have imported the generic medicine from other countries, it's not until 2017 when the TFDA discovered an increasing number of people importing TENO-EM from Thailand to Taiwan. This unusual situation caused the government's concern, particularly regarding the stability of the local drug market. After signing the consent form and submitting a prescription, Josh never received his PrEP. Instead, his parcel was detained by customs officials due to a TFDA regulation restricting individuals from purchasing medicines from other countries when a similar medication is manufactured and available in Taiwan.

Josh's case led to a legal dispute over the similarity and sameness of Truvada and its generic counterparts. The initial decision made by the TFDA was based on the fact that TENO-EM is similar to Truvada due to two drugs' chemical names (TDF and FTC). In denying Josh's import, the TFDA emphasized that the same medicine has been made available in Taiwan. They even went further to add that "it is not possible to evaluate the effectiveness, safety, and quality of drugs made by the Thai Government Pharmaceutical Organization (GPO)," implicitly suggesting the TENO-EM might cause more harm rather than actually preventing people from contracting HIV. Incensed, Josh turned his dissatisfaction into legal action. He took a different position to elaborate the difference between patent and generic PrEP, litigating that TENO-EM and Truvada, although having the same ingredients, should be treated as two different products with interchangeable ingredients. The rationale of Josh's defense was that if the TFDA claimed that Truvada and TENO-EM were similar, he then turned to argue that both drugs were merely *interchangeable* and therefore different. But, the TFDA later replied that "Truvada and TENO-EM, even though sharing

the same ingredients, remain two different brands that are produced by different companies. Because of this particular reason, they should not be treated as the same drugs."[31]

Later in 2018, the Taiwanese FDA reached an agreement that treated PrEP (TENO-EM and other generic equivalents) a special case for personal importing drug to Taiwan. As a result, Josh's litigation against the TFDA was left unsettled. This case nevertheless elucidated the blurring standards for evaluating biomedical objects on both the government's and layperson's parts. Obviously, the TFDA took contradicting standards. On the one hand, they first claimed the sameness based on biomedical objects' molecular features. On the other hand, they upheld the difference based on the brand names of drugs. As for the TFDA, TENO-EM and Truvada were different but similar enough to be claimed the same. The scientific standard and the government's regulation did not match with one and another. In both cases, those distinctions made very little sense to laypeople. As for Josh, sameness equated to similarity, as long as he could be HIV-free.

In *Generic: The Unbranding of Modern Medicine*, medical historian Jeremy Greene (2004:11) postulated that the relationhip between a brand-name drug and its generic equivalent lies in "the sciences of similarity" at the level of "molecular equivalence." Greene emphasized that the relationship is gauged by the extent to which generic drugs are not identical to brand-name drugs but are sufficiently similar in all ways that matter. What I have described here is a more complicated picture, one in which individuals demanded to navigate the nuanced difference between similarity and sameness that was sometimes rather arbitrary. Later in 2018, due to agreement of the Taiwanese FDA and CDC, the personal orders of PrEP (TENO-EM and other generic equivalents) has then been treated as a special case, hence quelling other potential lawsuits.

[31] "訴願人主張醫生處方箋開立原廠藥名Truvada和申請書上申請學名藥TENO-EM成分相同可替代一事，為藥品成份雖相同，仍為不同廠牌不同藥名知產品，不應視為相同之藥品。"
The statements cited in this section were taken from Josh's litigation materials with the TFDA. Josh has permitted me to review and cite this particular document.

However, this legal dispute led to an unexpected consequence—the rise of PrEP tourists—a topic that I briefly address in the next section. In the next chapter, I historize the rise of PrEP tourists by situating my case in the recent history of Thailand's medical tourism and industry.

PrEPing Serodiscordant Couples

The second case addresses how couples with different HIV-conditions (negative and positive) managed to cross social and state boundaries to travel to Thailand for healthcare. Dexter's story exemplified how one's social and cultural capital manifested one's sexual health. Dexter, a 38-year-old sales representative working for a pharmaceutical company, had been aware of the existence of PrEP for some time. Dexter's partner was HIV-positive. Dexter, intending to have condomless sex with his partner, did not want his partner to feel shame and think that "his sperm was dirty." Instead, Dexter wanted his partner to enjoy sex with him—to "feel comfortable ejaculating in front of me"— as he believed that "the virus should not become the barrier to the intimate relationship." Dexter not only participated in the Taiwanese demonstration project to get three bottles of free Truvada but also visited several pharmacies in Bangkok after substantially researching where to buy generic PrEP. At one local pharmacy, Dexter and his partner negotiated to buy 40 bottles of TENO-EM, an amount of drug sufficient to last more than three years.

Both Josh's and Dexter's encounters were about the *sero-discordant couple* (i.e., HIV-positive and HIV-negative). Having navigated among different infrastructures, Josh and Dexter possessed multiple roles, including that of the vulnerable individuals who might be easily infected with HIV from their partners, domestic participants in the state-operated trial, international consumers of the online pharmacy, and, on top of that, tourists in Bangkok. For them, the risk of becoming HIV positive was real on a daily basis. Their experiences with PrEP were nevertheless different. Josh followed a rather stepwise procedure in that his HBV, the design of the Taiwanese

demonstration projects, online pharmacies, and Taiwan's somewhat arbitrary legal inspection altogether failed him in securing PrEP. Additionally, his high-school-level English proficiency did not equip him with adequate cultural capital to promptly resolve his PrEP shortage. As a result, Josh and his boyfriend managed to find the clinics of the PAPA model and to secure just enough medication for him to maintain his sexual health.

On the contrary, working knowledge as a representative of a pharmaceutical company made Dexter a savvy consumer. Able to comprehend scientific jargon, Dexter chose to skip the local medical channel and the PAPA online pharmacy. He landed in Thailand confident that he could procure enough drugs, and he did. Dexter and his partner visited several local pharmacies in the Silom area (see Chapter 3 for an introduction to Silom), made a solid price comparison, and finally, negotiated a reasonable discount for their bulk purchase. Not only that, but they even circumvented the Taiwanese customs inspection for the limits of medicine consumed abroad (12 bottles for the same drug). To get away with the airport inspection, they repacked their 40 bottles of TENO-EM—a total 1,200 pills—in different containers intended for vitamin C and B complexes, for instance, to appear as though they were everyday travelers. Although Josh and Dexter have never questioned the efficacy of PrEP, their embodied practices in negotiating infrastructure exemplified different scales of freedom in becoming "HIV negative, on PrEP."

Parallel Importing PrEP

I now turn to the last type story to elaborate on how individuals developed the entrepreneurship of operating PrEP business by selling generic medicine on smartphone social applications. Here, gay social apps (e.g., Grindr) have become an extension of online infrastructure for selling PrEP without requiring a prescription. For example, Shane, a 44-year-old tour guide living in Taipei, had heard of PrEP from an HIV-positive friend in 2013. Ever since he began using

"ice" (crystal methamphetamine) many years ago, Shane had stopped using condoms. Having witnessed many of his friends turn from HIV-negative to positive due to the influence of ice, Shane cultivated an attitude of "the ostrich syndrome" in believing that "it's just a matter of time before I become infected by HIV." As he explained, "before I was aware of PrEP, I could only pray that I wouldn't be infected with HIV whenever I left a sex party." Later, Shane found the Thai Red Cross Anonymous AIDS Clinic in 2014, the same year a self-pay demonstration project called "PrEP-30" launched (See the previous section) in Thailand. There, Shane was able to register as a PrEP client and purchase less expansive PrEP (Thai Baht 900, US$ 30/per month) every quarter. In the years that followed, Shane found other pharmacies at the gay commercial area Silom in Bangkok. Luckily for him, those medical establishments neither requested a prescription nor evaluated his risk factors of sexual behaviors. Buying PrEP at those kinds of clinics became as easy as buying other consumer goods. Shane was able to purchase as many bottles of PrEP as he wanted.

Shane's journey of "becoming HIV-negative" is a story of how one combined his survival tactic as a gay man and an application of his expertise as a tour guide. Shane further developed a small-scale business of parallel-importing non-counterfeit (generic PrEP) from Thailand without paying tax and without the permission of the intellectual owner (both Gilead Science and Thai GPO). In his own small-scale business, he opened up a gray market in which he hoarded drugs, shared them with friends who were also part of the recreational drug scene, and sold PrEP through Grindr. Shane used Federal Express or 7-Eleven (the most popular convenience chain store in Taiwan) to deliver PrEP to his clients. In his service, PrEP-interested buyers can pick up their orders at convenience stores without even meeting Shane. Shane used the social app not only to seek out sexual partners but also to market generic PrEP. Shane had become an owner of a buyer club, an underground entrepreneur of gay sex and PrEP.

His profile description—"One pill a day keeps the doctor away & enjoy pleasure of sex. Contact me if you are serious and smart for better life" (Figure 3.5)—indicates a lived experience with actual PrEP use that was thus far rarely mentioned in public health campaigns in Taiwan. Shane's practice further illustrated that PrEP was used for harm reduction and for maximizing gay men's sexual pleasure in the underground setting of the recreational drug scene. In order to scale up his business and educate potential clients along the way, Shane further created a Tumblr account "PrEPforyou" where he posted graphic images and videos and educational materials of HIV/AIDS. At the time of data collection, Tumblr was among one of the most popular social media sites for people to exchange information about chemsex. On Tumblr, Shane was able to share messages with graphic images or with pornography to precisely target at niche audiences.

If anything, above three accounts indicate that the access, distribution, and consumption of PrEP jointly informed personal freedom and evoked situated knowledges. With PrEP, gay men's sexual health illustrated Ong's neoliberal logic through which the access of healthcare embodies "the interplay among technologies of governing and of disciplining, of inclusion and exclusion, of giving value or denying value to human conduct" (Ong, 2006: 5). Health was not defined by the layperson in an absolute fashion. Health became a relational concept in which the inclusion and exclusion took place simultaneously. Importantly, the laypersons did not necessarily question the drug's efficacy and were not confused with PrEP's multiple forms. In their attempt to overcome the structural barriers and regulations, they have not yet left the *infrastructure*.

In Josh's story, the individual was locked in a series of social infrastructure. His HBV did not allow him to more freely adopt PrEP's on-demand regimen. Because of this particular reason, Josh then negotiated with multiple infrastructures, including the TW CDC, TFDA, online pharmacy/the PAPA model, and the clinic in Thailand. Similar to Josh, Dexter became a tourist,

traveling with his HIV-positive partner to secure their medicine. Their cultural capitals not only ensured but also maximized their adaptability and flexibility of crossing social and national abroad. By extension, Shane's story revealed a dialectic relationship between sexual freedom and its limits within the digital infrastructure. In Shane's experiences with circumventing the existing medical and digital infrastructure, there seemed to be no space external to the infrastructure. A platform originally designated for gay men to socialize, the social app has become an alternative channel to an informal, gray market for PrEP. There, gay men, after leaving the CDC's medical program and PAPA model, entered into another infrastructure where sexual pleasure and desire of becoming "HIV negative, on PrEP" as well as gay men's sociality intersected and contributed to the rise of novel economics of PrEP. That process, I assert, embodied the neoliberal logic of freedom in that sexual health is deeply intertwined with personal adaptability and flexibility in the material context of capitalism.

Figure 4. 5 Shane's Grindr profile.

Toward A PrEP Economics

I began this chapter with a reference to an unexpected consequence of Taiwan's official PrEP implementation— the rise of an online pharmacy and the initiation of gay men's medical tours to Thailand. In this chapter, I explored the online pharmacy and the materialization of sexual health through three intersected domains: the assemblage of the PAPA model and the guanxi of scientific collaboration, freedom and the limits to navigating in the infrastructure, and finally individuals' endeavors of escaping from the infrastructures. Three aspects together addressed implications for health and embodiment, for sexuality and freedom, and for the novel ways of identifying PrEP economics in the context of East and Southeast Asia.

For one, my case study exemplified *implementation science* served as a means of assembling various social actors and historical contingencies. On the one hand, the PAPA model integrated medical sectors from both countries in ways to offer users a convenient channel for accessing healthcare. On the other hand, its operation manifested a conflict in the existing health national regimen in that prevention and treatment were differently handled. That difference had an impact on price regulation and market control. Furthermore, I engaged guanxi, a relation-based and identity-centered concept in the Asian context, to intervene in the study of the social practice of science. Hinged on a sense of communal care, the way queer people handled medicine was nothing less than perfection. Those two approaches (i.e., assemblage and guanxi) complemented ANT's shortcoming about the tendency of seeking a fully-fledged system toward a single goal of maximization (Ong, 2007) and the omission of treating gender and sexuality as apolitical (Sturman, 2006; Race, 2019).

This chapter also problematized *freedom* in light of how personal adaptability and flexibility can flourish within the material context of capitalism. The section "Freedom and its Limits," along with the methods I analyzed sexual health, can be seen as an example of how to conduct materialist analysis of sexual health. By pointing out the potentiality and potential alienation of health service, I aimed not only to unearth the material complexities of sexual health but, more relevantly, to contemplate the dual nature of freedom. Note that I have not yet concluded by either upholding or disregarding the commodification of healthcare. The critique that we should quickly and completely cast commodification aside contributes very little to the dialogue of the current political and economic stake on PrEP's circulation and consumption. In many cases (e.g., Shane's chemsex practice and his clients), the commodification of HIV biomedicine prevented

them from turning into HIV-positive. In next chapter, I push the analysis of healthcare's commodification forward by engaging *performativity* in the case of gay men's medical tourism.

Finally, this chapter addressed *PrEP economics*, neither the economic activities led by the state, nor the market expansion initiated by pharmaceutical companies. *PrEP economics* refers to the activities assembled by experts' collaboration and enacted by laypersons' migratory practices. Through three stories detailed in the previous section, I contemplated the possibilities and limits of social structures. The rise of *PrEP economics* highlighted a getaway—a kind of freedom—that the PAPA model unexpectedly rendered, an opportunity that the third-party broker quickly seized, and a shortcut that gay men experienced with social stigmas, oppressions, and desires. Here, the serostatus management turned to an assemblage of (digital) infrastructures. Gay men seek to maintain their HIV status by moving across different social registers. Understanding those activities along with their relationships with infrastructure allows us to more meaningfully comprehend contemporary gay men's sexual health and the social science of HIV/AIDS. The next chapter continues to explore *PrEP economics* by shifting the focus to Thailand, introducing the rise of PrEP tourists and the gay clinic.

Chapter 4: Bangkok Is Burning

A Homecoming Journey to Bangkok

"Thai Songkran Festival is around the corner. Many gay men who love Thailand will soon begin their 'homecoming journey, returning to the embrace of their 'motherland,"[1] a piece of news announced by a Taiwanese LGBTQ sexual health website in April 2015. This news coverage featured the Thai government's recent introduction of generic PrEP into the country's drug market. As one of the most attended gay events not only in Thailand but across Asia, the Songkran Festival brings gay men from around the world "home" every April. Using the analogy of such a "home-coming journey," this website's announcement of the event characterized gay Taiwanese men participating in both the Songkran Festival and medical tourism as having shifted from ordinary people to tourists and healthy citizens. Although the feature went on to describe the requirements for purchasing generic PrEP in Bangkok, central to that quotation and of interest to my investigation is how gay Taiwanese men's medical tourism relates to Bangkok's market for generic PrEP.

In the two previous chapters, I addressed the circulation of PrEP and the politics of gay Taiwanese men's sexual practices in the respective cases of Taiwan's national demonstration project and online pharmacies initiated by AIDS advocates. Therein, I have illustrated how the governance of HIV/AIDS in Taiwan has gradually transformed from a top-down, government-led approach to a community-based channel for drug access. I have begun this chapter with reference to gay Taiwanese men's so-called "home-coming journey" to Thailand in a bid to put my analysis

[1] 潑水節快到了，許多愛泰男同志又要開始「返鄉之旅」，投入「祖國」的懷抱。在潑水節各國男同志大集合前，泰國男男性行為網站 Adam's Love 也大力推動他們的新計畫－PrEP-30. See http://www.songyy.org.tw

of sexual health into dialogue with queer medical tourism in the trans-Asian context. Queer tourism has been ranked among the most important yet least examined topics associated with the globalization of sexuality and sexual identities (Puar, 2002a). Scholars have pointed out the topic's dual nature: on the one hand, a person's body and sexuality can thrive as a result of his or her mobility (e.g., Johnston, 2005 & 2007); on the other, a person's visibility as a queer tourist depends upon his or her race, ethnicity, class, gender, and nationality (e.g., Puar, 2002b). Similarly, discussions about how queer people seek medical services beyond their origin countries have been rooted in a postcolonial, Euro–American-centric context.[2] Departing from that trend, I continue to scrutinize sexual health by shifting my focus to gay men's mobility and PrEP's trajectory in the trans-Asian context encompassing Taiwan and Thailand.

The chapter's title is inspired by Howard Chiang and Alvin K. Wong's (2017) "Asia Is Burning: Queer Asia as Critique," an essay that considers the transformative nature and theoretical potential of queer theories and Asian studies. As noted by Chiang and Wong (2017), both queer theory and Asian studies share features including an acute sense of ambiguity, playfulness, and non-determination, which allows a critical alliance and mutually transformative potential that can overcome their limitations. For example, by introducing queer theory into Asian studies, Euro–American metropolitanism and continued Orientalist tendencies can be surpassed, just as the limits of viewing Asia as mere nation–states and the subject of area studies can be as well. Informed by Chiang and Wong's critique, I seek to complicate a Western–Eastern duality in queer medical tourism by examining how gay men's sexual health becomes regulated in Taiwan and Thailand, two relatively proximate countries with different healthcare systems where patent and generic PrEP are respectively sold. To that purpose, I followed HIV-negative Taiwanese men to sex clinics,

[2] For instance, Cindy Patton and Benigno Sánchez-Eppler's (2000) edited collection *Queer Diasporas,* has addressed the spread of HIV and AIDS about queer men's global travel during the early days of the AIDS pandemic.

bars, and sex parties in Bangkok to capture their encounters with generic biomedicine and AIDS. I scrutinize the transformative roles that Bangkok has played in both challenging and manifesting the normative meanings of health in the transnational context of gay men's self-medication. I show how Bangkok has become a place of contradiction and an essential site for investigating the transformations of contemporary gay men's sexual health and governance of HIV/AIDS in Asia.

In the region of East and Southeast Asia, gay culture is not only infused by Western tradition and the Global North but also affected by *global-close* of intra-Asian interactions. Between Taiwan and Thailand in particular, separated by as little as a 3.5-hour round-trip flight, the economic flow, exchange of information, and cultural interactions of two gay populations are rapid and vibrant. Of course, by no means do I assert that Taiwanese acts as the only participant in the process of consuming generic PrEP. The significance of my case rests within my positioning of Taiwan as a vantage point for showcasing how two nearby countries with distinct experiences of sexual modernity (i.e., Taiwan as the first Asia country that legalized marriage rights for same-sex couples and Thailand as the hotspot for global LGBTQ tourists) become connected in the second half of the 2010s. I showcase that the expansion and transformation of HIV-prevention regime have not only taken place in both countries but also evolved into other domains of social life, including digital consumption and medical tourism.

A chapter of gay Taiwanese men's homecoming journey to Thailand, "Bangkok Is Burning" comprises three main sections. The first section, "Thai Medical Tourism and HIV/AIDS," historicizes the political economy of the Thai health system. I show how PrEP and AIDS service have evolved from the country's domestic health inquiry into an export-oriented industry since the 2000s. The second section, "The Birth of the Gay Clinic," brings readers to see how sexual health has become embedded within the vibrant economics of homosexuality (or called "pink economies")

in Thailand in the 2010s. By juxtaposing the medical gaze and the tourist gaze, I exemplify how sexual health has evolved into a performative concept in a clinic in Bangkok. Shifting to the individual level, the third section, "Seasons of Risk," uses two gay Taiwanese men's medical tours to articulate how sexual practices and medical tours can be grounded through the lens of labor, in particular emotional labor. Whereas each section has its distinct focus on the historical/political, communal/spatial, and personal/sexual significance, they are intertwined and therefore shedding light on the broader picture of queer medial tourism. In conclusion, I elaborate how gay Taiwanese men's "homecoming journey" to Thailand has distrupted the normative features of health. Queer men's bodies and sexualities have become embedded within the logic of consumption that, on the one hand, denotes the personal freedom of crossing national boundaries to enhance PrEP's biovalue and, on the other, manifests inequalities in social, cultural, and bodily capitals.

Thai Medical Tourism and HIV/AIDS

This section considers the history and political economy of PrEP in Thailand. I illustrate how contemporary medical regimen of HIV prevention has intersected with the medical tourism in Thailand, Taiwan, and other East Asian countries in the second decade of the 21st century, as well as how health migrations, in that process, take up their medical travel to Thailand to enhance their sexual health. I first show how the Thai government responded to the national financial crisis by developing the Thai pharmaceutical industry. I will then discuss how the local health service evolved into a new business, an export-oriented market of sexual health.

Curing the Nation

Encapsulating a paradox that combines tourism and hospitalization, the term *medical tourism* often refers to the interplay of the consumerism and citizenship in pursuing medical care

in a transnational setting (Botterill et al., 2013; Cohen, 2008).[3] This term is also criticized as being limited to medical commerce without fulling considering how "medical migration" involves "the disparate and unequal distribution of heath and sickness, health care, and the maintenance of borders between bodies, social collectivities (classes, castes, races), polities and nation-states" (Roberts and Scheper-Hughes, 2011:4-5), and how "medical travel" has a more distinct focus on "the emergent and global profit-driven market that facilitates travel to obtain cheaper or less-regulated health care in different countries" (Aizura, 2018: 138). Here, I use *medical tourism* to describe the entanglement of the Thai medical industry and its commodification while acknowledging broader debate of the term's applications.

Despite the various ways of conceptualizing medical tourism, its driving force has been that "people need or desire something that is not on offer at home or that is not on offer in the right conditions" (Botterill et al., 2013: 4). Considerable studies have pointed out the economic motivation as the primary reason for promoting tourism, noting that high costs and long waits at home versus new technology, skills, and reduced transport costs in the destinations draw people to travel to other countries. Queer medical tourism has also defined LGBTQ people's travel as a strategy for sustaining their own identities or avoiding stigmas and oppressions from their home countries (e.g., Aizura, 2018). However, as many have noted, because white gay capital follows the same economic path of white heterosexual cash flow, the tourist practices of queer women,

[3] While the origin of the concept medical tourism can be linked to how ancient Romans and Egyptians built remote resorts of health thermal spas in order to cure ailments like tuberculosis, its modern forms are associated with how people from underdeveloped countries travel to Western countries for more advanced medical services as well as how patients people due the rise of health cost look for affordable options of surgery offshore (cf., Cohen, 2008; Pickert, 2008). In regard to its contemporary form, the civilian redeployment of aircraft technologies after the Second World War—that is, a shifting regime of infrastructure from war to recreation— offered the basis for developing international tourism (Botterill et al., 2013). Since the late 1990s, medical tourism has undergone an explosive growth through which patients traveled across international borders such as India, Thailand and Mexico in search of medical treatment that they could not afford in their home countries (Connell, 2013; WHO, 2013).

queers of color, and postcolonial gays and lesbians have gone unconsidered (Alexander, 1997; Puar, 2002c).

Thailand has been known as a destination of medical tourism since the 1970s, especially in the specialized areas of sex reassignment surgery and later its expansion into cosmetic surgery. Famous for its "first world service at third world cost" (Connell, 2006), Thai medical services have been considered to be both advanced and affordable. As a consequence, the development of Thai medical tourism has been a process of using the medical industry to "cure" a national financial crisis (Cohen, 2008; Wilson, 2010 & 2011). However, during the financial crisis in 1997, many Thai hospitals underwent a loss of middle-class Thai patients, and as a result, Thai medical enterprises sought to expand overseas markets by incorporating the Western style of management. Those hospitals not only sent out sales representatives to the major cities in Asia and the United States for marketing Thai medical services. They also upgraded their facilities to meet the first world's medical standards. Thai medical tourism hit a new high after the 9/11 attack in 2001, after which Thailand gradually came to replace the United States as one of the favorite medical destinations among Middle Eastern visitors because the US government enforced more rigorous measures in regulating foreign VISA applications (Finch, 2014).

Contemporary Thai medical tourism needs to be scrutinized in light of the Thai dual-track of medical infrastructure, a system established during (2001 to 2006) that sought to recover from the impact of the Asian financial crisis since 1997. In an attempt to reform its public and private healthcare systems, the Thai government first introduced the Universal Coverage Scheme (UCS), also known as the "30-baht scheme," a medical program that charged patients 30 baht (US$ 1) per hospital visit and consultation. Its goal was to expand the scope of medical coverage to those who were previously uninsured (Damrongplasit and Melnick, 2009; Towse et al., 2014). Increasing

access to healthcare to more than 70% of the Thai population, the UCS successfully turned Thailand into one of the first developing countries that moved toward universal health coverage (Kittikanya, 2004; WHO, 2014). While this policy won applause among the general public for expanding the scope of health care and increasing job opportunities, it was also criticized for being populist (Wilson, 2010). As it demanded a significant increase in the fiscal budget for serving more low-income patients, the UCS inevitably led to the bifurcation of social classes that contribute to an escalating dissatisfaction with the quality of medical services.[4]

The second track of the Thaksin administration's health infrastructure was to develop the international medical tourism industry. This policy aimed to turn Thailand into a regional medical hub, an Asian center of health care excellence that could compete with Singapore (Wilson, 2010). This track advanced the existing export-oriented health service through state-corporate collaborative projects. The Thai government offered less expensive loans and tax breaks for allowing hospitals to purchase costly medical equipment (Wilson, 2011). Recognized as Thailand's strategic national response to global economic competition, the second track created "a zone of exception for tourists and corporations similar to export processing zones" (Wilson, 2010: 134).[5]

[4] For instance, 53% of Thai people in a survey reportedly said that they preferred to obtain drugs from pharmacists than from the facilities covered by the scheme (Kittikanya, 2004). From the other perspective, one study that examines the patterns of health-seeking behaviors reports that patients who are categorized as low-income, unemployed, having chronic illness tend to rely more on the UCS, suggesting an inequality of accessing health system among different social classes (Paek et al., 2016).

[5] One of the most famous examples is Bumrungrad International Hospital Bangkok, a medical establishment that attracts more than 500,000 international visitors from more than 190 countries per year, a new medical landscape that has evolved into a new type of hybrid establishment similar to that of five-star hotels (Cohen, 2008; Wilson, 2010). The operation of Bumrungrad International Hospital is a special zone that natures domestic economics. By employing 70 interpreters, hiring all English-speaking staff, and having its 200 surgeons certified in the United States, the Bumrungrad International Hospital exemplifies a domestically situated, transnational assemblage that accommodates its international clients (Connell, 2006). Not only keeping up a Western standard of medical service, the Bumrungrad International Hospital also offers halal food, installs prayer rooms, and offered prayer mats in the rooms, in a series of immaterial labors in an attempt to turn Thailand into a health hub in South Asia (Wilson, 2010).

That development shows how certain medical services became an export-oriented, foreigner-centered business industry, in turn, excluding native Thai from accessing medical care. In Thailand's case, medical tourism has nurtured the inequality regarding the allocation of health resources, as to lure more workers away from the private and public sectors and toward hospitals catering to foreigners (See Finch, 2014; NaRanong and NaRanong, 2011). In a sense, foreigner customers' medical convenience and cost-benefit were based on the exploitation of the local health system. As I will show, two tracks later emerged in the case of PrEP and AIDS service industry, attracting international victors to purchase generic PrEP in Bangkok.

PrEP Tourists

The implementation of PrEP has brought two tracks together in the second decade of the 21st century. Thailand used to have the highest adult HIV prevalence in Asia (1.2% in 2012) (Colby et al., 2015).[6] In response to the high incidence of AIDS, the Thai government has subsidized access to antiretroviral therapy treatments (ARTs) by offering patients free medicines since 2003. In the long-term, access to ARTs has been associated with pandemic management through the UCS at the local level. From 2006 to 2007, the Thai government further issued compulsory licenses for two second-line ARV drugs (efavirenz and combination of lopinavir and ritonavir) (Steinbrook, 2007; Wilson, 2010; WHO, 2014; Yiengprugsawan et al., 2010).[7] The decision for compulsory licenses was based on the World Trade Organization's (WTO) regulation of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (Also see Introductory Chapter). Article 31 of TRIPS states, "Other use without authorization of the right holder" (e.g., compulsory

[6] For instance, the HIV prevalence in Bangkok was 30.8% among men who have sex with men (MSM) in 2007, which shows a significant increase from 17.3 % in 2003 (Colby et al., 2015).

[7] From December 2006 to January 2007, the Public Health Ministry of Thailand issued two antiretroviral HIV medicines: efavirenz (Merck) and a combination of lopinavir and ritonavir (Abbott's Kaletra), a result based on the negotiation of WTO's TRIPS agreement (Rungpry, 2013).

licenses) is allowed under the conditions of "national emergency or other circumstances of extreme urgency or in cases of public non-commercial use" (WTO, 2006). Under this rule and based on Thai's high AIDS prevalence rate, the Thai government was able to issue the compulsory license for HIV biomedicine.

However, the ways that the Thai government regulated HIV medicines, along with their compulsory licensing, has been attacked as merely a way of boosting the local economies, not to resolve the domestic AIDS epidemic. For example, compulsory licensing for HIV medicines was criticized by the US as having "little to do with public health emergencies but much more to do with the country's economic and political priorities" (Bate, 2007: 2). Furthermore, it was framed as a short term remedy to a long term problem (Skees, 2007). As a matter of fact, the Thai government's maneuver in compulsorily licensing multiple medicines resulted in incremental benefits of US$ 132.4 million from 2006 to 2011 (Yamabhai et al, 2011), and hence, was accused of eroding the pharmaceutical companies' cost on research and development in that region (Skees, 2007).

Compared to other Asian regions where PrEP arrived late (in the 2010s), Thailand's encounter with PrEP can be traced to the 2000s. Thailand is the first Asian country that hosted the iPrEP study (i.e., the first multinational randomized control trials of PrEP) from 2007 to 2009.[8] From 2005 to 2014, multiple RCTs[9] were conducted in Bangkok and Chiang Mai for evaluating the effectiveness of TDF/FTC on men who have sex with men (MSM), transgender women, and people who injected drugs. In 2012, the state-owned drug company that manufactured generic medicines, Thai Government Pharmaceutical Organization (GPO), released the results of

[8] The iPrEP study is the first large scale international RCT of PrEP conducted in Brazil, Ecuador, Peru, South Africa, Thailand, and the United States from 2007 to 2009 to test the preventive effect of TDF/FTC. See Chapter 2.
[9] Those RCTs include: the iPrEP study (2007-2009); the Bangkok Tenofovir Study (BTS) (2005-2012); NPTN 067 (2011-2014); and MTN (2014-) (Colby et al., 2015).

bioequivalence testing that compared the effectiveness between patent drug and generic PrEP. The test compared the drug concentration in participants' plasma between TENO-EM (Tenoforvir 300 mg + Emtricitabine 200mg) and Truvada, concluding that the two drugs were biomedically equivalent, which became the basis regarding TENO-EM's effectiveness (GPO, 2012).

I offer this historical sketch of the Thai medical industry and HIV medicines in an attempt to elucidate the political economy of PrEP in the Thai local health regimen. From 2005 to 2012, PrEP was an object of science that was free of charge for the participants in the research and yet not entirely reflected on its market values and controversies. The Thailand National Guidelines on HIV/AIDS Treatment and Prevention moved forward to recommend TENO-EM as the medicine for PrEP in 2014. In the same year, the rollout of PrEP proceeded to the demonstration projects, a new stage through which the object of science finally met the market. The goal of the demonstration project is to examine the RCTs' results in the real-world setting in ways to offer a geographically and time-limited framework and to collect the experiences gained from its execution (Howard et al., 2016). In Chapters 2 and 3, I have shown that demonstration projects do not exclude the market practice but implicitly bring the market into play. I have also noted that, via the demonstration project, the rule of supply and demand have entered into gay men's sexual practices in various nuanced ways. Building on the findings from previous chapters, I contend that the case about Thai's demonstration projects presented here offers insight into how local implementation of PrEP connected to the transnational medical tours.

In December 2014, the Thai Red Cross AIDS Research Center launched the first demonstration project "PrEP 30," a delivery model to evaluate the feasibility of a self-pay PrEP approach (Colby et al., 2015). While this model did not rely on government or external funding, from the PrEP users' side, it's rather straightforward—users paid 30 baht (US$ 1) per day that can

cover the fee of TENO-EM, counseling, and laboratory testing during the campaign period. During our conversation, the Chief of Prevention Department at TRC-ARC Dr. Nittaya Phanuphak emphasized its convenience and innovation: "a cost that is cheaper than a cup of iced coffee." Clearly, it was a demonstration project in the form of the UCS— an apparent reference to the 30-baht scheme, a medical practice that has been rooted in most Thais' daily life. In doing so, PrEP 30 was relatively accessible for most Thai people to recognize, so that PrEP did not sound like a brand-new intervention. Moreover, it had an ambition of generating robust scientific data about PrEP's efficacy, such that, since 2014, PrEP 30, along with other demonstration projects, has been used as a leverage to lobby the Thai government to include PrEP into the national healthcare regime. In that sense, PrEP, from 2014 to 2018, was not yet a free gift (regardless of how affordable it is), but a biomedicine in a disguised form of a gift (i.e., extremely affordable commodity) that aimed to convert the role of PrEP from a commodity to the other end of spectrum—free healthcare.[10]

Here, the term generic medicine is a relational, context-specific concept. The difference between the patent medicine and its generic equivalents resonates very little among Thai locals as PrEP has been sold in the form of generic ART from the get-go. However, 900 baht (US$ 30) per month was a big deal for the consumers in the developed countries where PrEP remained under patent protection. Health migrations begin to pursue PrEP through the route of medical tourism. Initially, only five clients signed up for PrEP 30 each month— most were non-Thai who had been "waiting for PrEP elsewhere," according to Dr. Phanuphak. The participants of PrEP 30 gradually took up to 50 to 70 persons per month and then accumulated to 1,500 in December 2017, upon which the major clientele also shifted from non-Thai to Thai, which comprised 90% of participants.

[10] In October 2018, the Thai government began to cover TENO-EM, making PrEP free for all people.

The project of PrEP 30 accidentally turned the management of HIV/AIDS, one that used to be the inquiry of local healthcare, into a regional, transnational phenomenon of medical tourism. The project became an attraction for gay men who have been waiting for PrEP in their home countries. This trend—in particular, the market of the TENO-EM—has shifted from treatment to prevention, from patients with chronic illness of HIV to still HIV-negative gay men. As a consequence of this transformation, the demonstration project of PrEP-30, a self-pay PrEP delivery model initially designed for resolving local health problems, implicitly became integrated into the export-oriented health service, namely, the neoliberal practices of medical tourism. The clinics and health establishments that offered PrEP became a destination of many non-Thai gay men's "home-coming journey."

As framed in the Taiwanese media report introduced at the beginning of this chapter, the cost had been gay Taiwanese men's primary concern of traveling to Thailand to purchase PrEP. For example, a bottle of TENO-EM (TWD 800-1200; USD 26-40) was about 10% of Truvada's price sold in Taiwan. Five-day roundtrip from Taipei to Bangkok, including hotels, was approximately TWD 24,000 (USD 800), at the time of writing, the cost of two bottles of Truvada in Taiwan. Since 2014, there have been several private clinics in Bangkok undertaking the business of the generic PrEP and healthcare for both local Thais and tourists. The emergence of "PrEP tourists," a term later coined by one private clinic called Pulse Clinic, came to mark a new era of HIV prevention.

During its infancy, the uniqueness of this industry did not reflect on its scale of sales because, after all, the idea of biomedical prevention through taking a daily ART pill remained relatively novel. HIV prevention by its nature is very different from HIV treatment as well as cosmetic surgery and sex reassignment surgery (which Thailand has been famous for). The

importance of PrEP tourists demonstrates that sexual health has become both individually centered and globally assembled through the distribution and consumption of HIV biomedicine. For one, medical tourism of PrEP highlighted the significance of gay men's self-medication because medicines were used in a non-prescribed, off-label fashion without the involvement of their doctors. An individual's ability to move across the border determined if one could access the healthcare that he or she could not enjoy in his or her home country. At the global level, it highlights how sexual health was connected to and circulated within a transnational, capitalist system. The prevention of HIV became a new market for sexual health in which gay men participate in the process of "becoming HIV negative, on PrEP," a phenomenon unique to the history of HIV/AIDS. In the next two sections, I continue discussing how the HIV prevention regimen of PrEP in Thailand connected to gay Taiwanese men's tours to Thailand.

The Birth of the Gay Clinic

In this section, I discuss my ethnography through the lens of two types of gaze: medical gaze and tourist gaze. A directional looking at that operation of medicine in the name of health with a precise focus on bodily parts and matters, medical gaze is a process of how science manifests the existence of living bodies through the operation of technology and medicine (cf., Clarke et al., 2003; Foucault, 1973; Rose, 2007). It indicates that science and medicine configures a relationship between science and people, between medical practitioners and patients, and between all of these elements and the state (Patton, 2010: xvii). Tourist gaze, by contrast, is the drifting eyes upon which the power structure between looking and being looked is always already subtle and in negotiation. As John Urry (1992) notes, to gaze is to insert oneself within a historical process to consume signs or markers of a particular history. Tourist gaze is operated to establish a process in

which the material world and objects obtain aesthetic values for visual consumption. Both gazes are associated with how bodies become re-imagined and resituated in the social world.

From November 2017 to December 2019, I visited Thailand three times. During each visit, I stayed in the Silom (**สีลม**) area in Bangkok for one to two weeks. I conducted interviews at a clinic called Pulse Clinic and other four small clinics in the area. In my fieldwork, I explored Silom and Pulse Clinic as a researcher with an eye toward the process of how Bangkok's health landscape has evolved in the post-AIDS era. In what follows, I first weave two types of gazes to situate the rise of Pulse Clinic in the broader context of the economics of homosexuality in Bangkok. I then scrutinize the tension between medical and tourist gaze by revealing how *safe sex* became aesthetically eroticized and biomedically commodified. Ultimately, I analyze the clinic's pedagogical materials about harm reduction, arguing that "HIV negative, on PrEP" has become a performative category and that sexual health has evolved into the domain of consumption.

The Gay Clinic

A financial district, Silom ranks among the most cosmopolitan areas of Bangkok and has long been famous for its vibrant gay life. Locating in the center of the Silom area, Pulse Clinic is only a two-minute walk from the D.J. station and only seconds away from G.O.D., two of the most famous nightclubs in Bangkok. Pulse Clinic is the very first and one of the most successful private clinics that grafted the traditional Thai, customer-oriented, hospitality industry to a new domain of sexual health, namely, the prevention of HIV. During my visits, I saw many men with extremely short, buzz-cut hairstyle wearing tank-tops and tight shorts bearing the logos of *Superdry*, a fashion brand popular among gay men in East Asia. I observed quite a few white Westerners at the clinic as well. I witnessed how busy a single clinic could be on a weekday. While walking with some of my interviewees to Pulse Clinic and other clinics to see what Silom had to offer, I noticed that gay

Taiwanese men, and perhaps many other gay men, purchased not only generic PrEP but also generic Viagra and other generic, unheard-of medicines that can enhance sexual performance. At those pharmacies, unlike at Pulse Clinic, no questions from the pharmacists were asked. In fact, the transactions were rather straightforward; consumers visited at the pharmacy, presented photos on their phones of the drugs that they wanted to buy or sometimes simply mentioned some keywords (e.g., "TENO-EM" or "Viagra"), paid in cash, and left. In a sense, I have witnessed a process of materializing sexual health in which bodies, sexualities, medicines, and healthcare became integrated into gay men's practices of medical tours.

On April 11, 2018, one day before Songkran Festival, a soft reopening party featuring Pulse Clinic's expansion and remodeling took place in the clinic's reception area, a newly-designed space with a low-profile, luxurious, ballroom-like atmosphere. In the party, soft drinks were served, and the clinic was filled with trendy music and decorated with stage lighting. Muscular go-go dancers and drag queens performed in ways to turn the cold clinic into a trendy nightclub. Glancing in from outside, innocent passersby were likely distracted by these dancers' well-defined abs and might not have been aware that they were walking past a sexual health clinic (**Figure 5.1, 5.2, 5.3**).

In his opening speech, physician Natthakhet Yaemin, a 31-year old gay doctor and medical director of Pulse Clinic, spoke to the guests and visitors in fluent English: "Gay men have been the minority. If no one is taking care of gay people, we [Pulse Clinic] are taking care of gay people." On the surface level, Yaemin's remark suggests that queer people fostered their kinship and cultivated a sense of communal care in this very location for gay men. Pulse Clinic in its capacity safeguarded gay men who needed healthcare and, more relevantly, in need of generic PrEP. Also central to Yaemin's statement is that the Thai political economics has provided the necessary foundation for the rise of gay men's sexual health clinic in the city of Bangkok. Yaemin's

statement further suggests that gay men's sexual health can be an independent, niche business to the gay community.[11] Since it first opened in 2015, Pulse Clinic has expanded from a local clinic to a regional health hub of gay men's sexual wellbeing, from an one-floor clinic with only three staff members to a three-floor establishment with a nightclub-like reception floor, a mini-laboratory, four exam rooms, and a total 19 bilingual staff members and LGBTQ medical doctors. The number of monthly visitors to Pulse Clinic tripled from 500 to almost 1,700 between 2016 and 2017. Meanwhile, PrEP prescriptions issued by Pulse Clinic increased six-fold within one year (Yaemim, 2018). Although Pulse Clinic's fees were slightly higher than other clinics, their monthly PrEP clients were ten times more than the PrEP-30 project, the other self-pay model launched by the Thai Red Cross AIDS Anonymous Clinic located in the same neighborhood. Pulse Clinic alone contributed to almost one-third of total PrEP users in Thailand as of December 2017. Needless to say, the single-site Pulse Clinic outnumbered PrEP users in the Taiwanese demonstration project (302 individuals).

Thus far in 2018, Pulse Clinic has opened four other clinics at popular tourist destinations like Phuket, Pattaya, and Hat Yai in Thailand. Additionally, Pulse Clinic has partnered with IWantPrEPNow.co.uk (introduced in chapter 1),[12] along with many other medical institutions in

[11] On the same day of its reopening, the visitors to the Pulse hit a new high by successfully attracting 100 clients to the clinic, a number way exceeding its daily capacity of 60-70 clients.

[12] The 2013 award-winning movie *Dallas Buyers Club* tells the story of Ron Woodroof, an HIV patient who smuggled HIV medicine from Mexico and Japan into Texas, United States in order to treat his symptoms of AIDS during the late-1980s when the treatment was still under-researched and unapproved by the US Food and Drug Administration (FDA). Based on a true story, this film details Woodroof's efforts to establish the "Dallas Buyers Club" that sold drugs to other people with HIV. In contrast, Woodroof himself battled with the US FDA over the legal dispute regarding the importing of Zidovudine (AZT), the only kind of antiretroviral drug that can treat HIV at that time.
In the era of PrEP, an economic activity similar to "Dallas Buyers Club" has taken place at an underground, transnational scale. With other co-founder, Greg Owen, a gay British man who turned into HIV positive in 2015 at the age of 35, established a generic PrEP website "IWantPrEPNow.co.uk" in an attempt to offer local British men with more affordable PrEP in the time when the approval of Truvada for PrEP was still under the debate by the UK National Health Service. Greg Owen's encounter with HIV and AIDS was indeed a tragedy in that this 35-year-old man became infected by HIV due to not having enough time to enroll with the local PrEP trial and wait for PrEP becoming legally available in the British market. Yet, it is an inspiring journey in which a newly HIV-infected man dedicated himself to safeguarding the sexual health among LGBTQ communities by bridging the supply of the generic

Taiwan, Hong Kong, Singapore, Indonesia, and Zurich, offering a nine-language, digital platform to deliver PrEP to the world. Non-Thai foreigners comprise 25% of total visitors (as of July 2018), with international visitors mostly coming from the Global North and developed countries/regions (e.g., United States, United Kingdom, Germany, Singapore, Hong Kong, and Japan).

However, Pulse Clinic's rapid rise in Asia lies not in a single clinic's capacity to shape the market of generic PrEP, but in how the homosexual economy—the LGBTQ-focused, (mainly) gay-men centered consumerism, or called pink economics—converged with the marketplace of HIV prevention. With both Thai tourism and medical tourism serving as the foundation of the generic PrEP market, the transnational mobility of metropolitan gay men further catalyzed the cash flow, especially during major gay events, such as the biggest circuit party in Asia, the gCircuit party during Songkran festival, and the White Party on New Year's Eve.[13]

In the clinic, bodies are flexible enterprises capable of being reconfigured, transformed, and modified. For instance, similar to other spas that charge customers according to the service of body parts (e.g., foot massage, head massage, shoulder massage), Pulse Clinic treated nearly every HIV-related or sexual problem with one corresponding biomedical solution— such as PrEP, STDs treatment, HIV testing, emergency Post Exposure Prophylaxis (PEP),[14] HIV medicines, and/or hangover and after-party treatment, to name just a few. Such flexibility has led to the

PrEP to the local people. Owen and his friends decided that "we don't even need the government right now," and "we'll tell everyone to order pharmaceutical drugs on the Internet and start taking them" (Castella, 2018). The website "IWantPrEPNow.co.uk" not only provides updates about current clinical trials of PrEP but also offers information about how to purchase "genuine generic PrEP." Assembling a new social movement about the accessibility of affordable HIV medicine, this website provocatively states: "we want anyone to be able to access PrEP and be able to confidently make their own choice about their sexual health and HIV protection. It's your sex-your choice." A website that symbolizes a neoliberal turn of managing one's sexual health, IWantPrEPNow.co.uk along with other clinical trials contribute a significant decrease of HIV infection in the United Kingdom by 20% as well as a drop of 40% in the city of London from 2015 to 2016 (Wilson, 2017).

[13] The visitors of Pulse Clinic reached a new high during major gay events such that 15,000 MSM visited Pulse in December 2016. In the 2018 Songkran festival, it served 100 visitors (standard capacity is 60 clients) in one day.

[14] PEP is the medicine taken 72 hours after a risky sexual encounter in order to prevent HIV infection.

commodification of bodies. Take HIV prevention as an example: at the clinic, a bottle of generic PrEP, TENO, cost 1,200 baht (USD 40), around 10% of Truvada sold in Taiwan, at the time of this writing. With that price, maintaining one's HIV-status via consuming generic PrEP became a primary attraction that drew gay Taiwanese men and gay men from other countries to fly to Bangkok to become HIV negative.

Figure 5. 1 The exterior of Pulse Clinic.

Photo taken on April 2018

Figure 5. 2 Opening party event at Pulse Clinic

Photo taken on April 2018

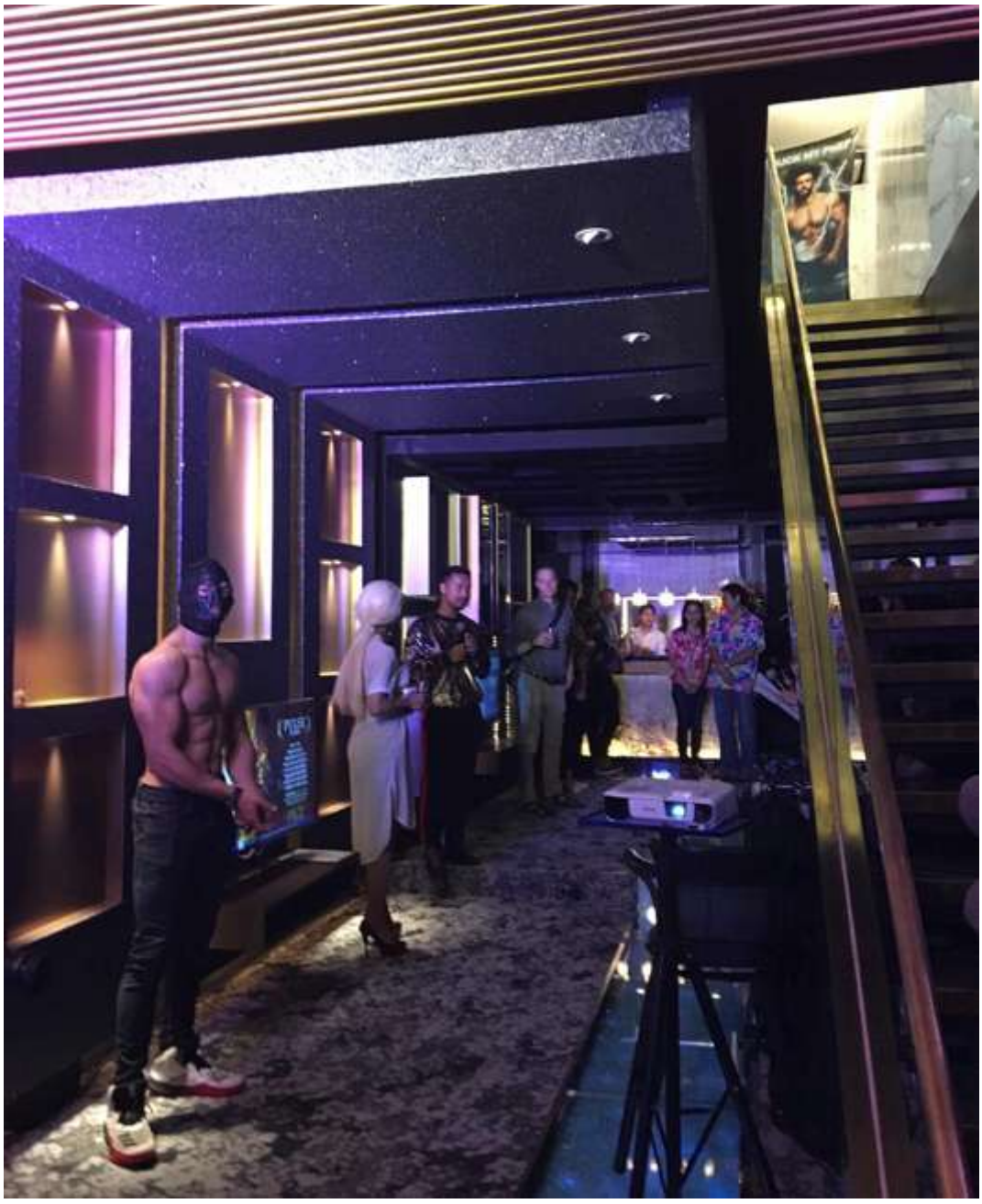


Figure 5. 3 The decoration of the reception floor of Pulse Clinic follows a nightclub-style.

Photo taken on April 2018

Eroticizing Safe Sex

In *The Birth of the Clinic: An Archaeology of Medical Perception*, Foucault (1973) characterizes the mutation of modern medicine. The *medical gaze* is observed by authorities

(doctors) who endowed with power of decision and intervention. Medical gaze should grasp colors, variations, tiny anomalies, always receptive to the deviation. Finally, medical gaze makes it possible to outlines of the changes and risks (Foucault, 1973). In Pulse Clinic, the aesthetic expression of sexual health and harm reduction illustrated the fusing of the medical gaze and tourist gaze. At the most surface level, the visual presentation of Pulse Clinic replicated contemporary gay party culture in the Western World by boldly engaging the symbols of sexual appeals. Pulse made it impossible for visitors to ignore how male bodies were staged either on the wall or on their pamphlets. Those visual products eroticized sexual health by reorienting viewers' eyeballs to the male body, to disease, and finally to its biomedical solutions—PrEP, Emergency PEP, HIV testing, STI testing and treatment, as well as chemsex support. The words accompanying those visual products are both conventional and playful. They, on the one hand, resonated with the mission of public health by proposing to "End HIV, Reduce STI, Safe Sex, and No Stigma" (**Figure 5.4**). Meanwhile, they used sexual puns such as "Suck my PrEP" (**Figure 5.5**) in ways that subdued viewers to inquire more information. In a sense, the juxtaposition of the medical gaze and tourist gaze produced an ambivalent encounter that invited visitors to keep wandering around the clinic. Those visual materials, rather than evoking a sense of urgency of repairing and fixing one's bodily damages and problems, delivered a sense of sexual pleasure.

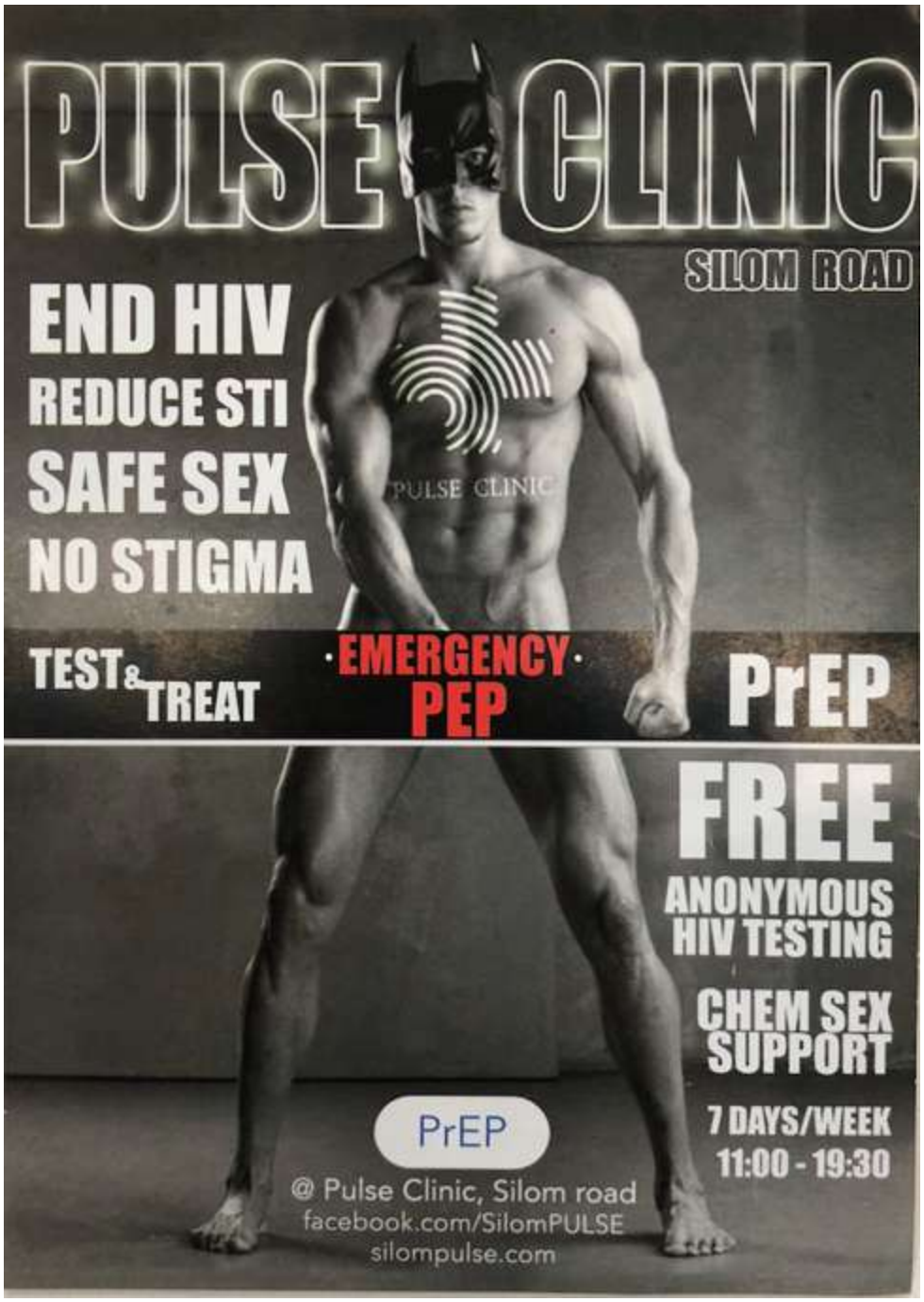


Figure 5. 4 End HIV, Reduce STI, Safe Sex, and No Stigma

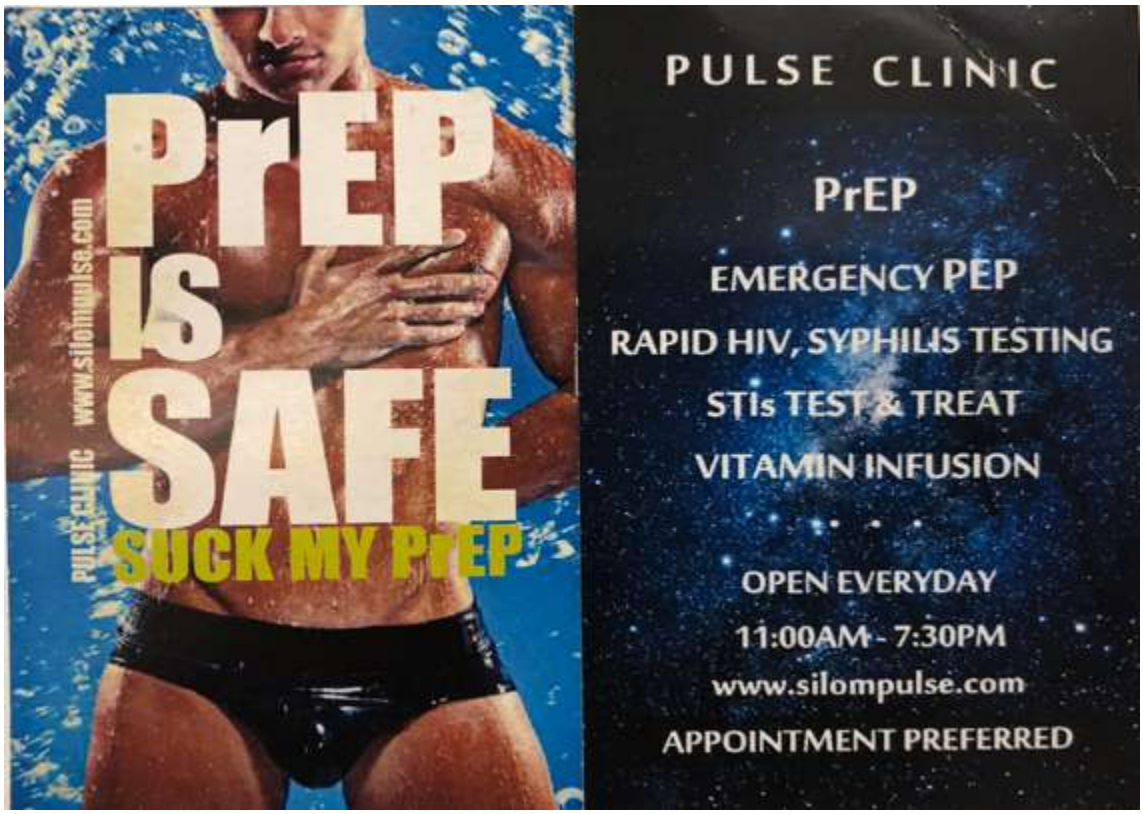


Figure 5. 5 Suck my PrEP

How then do we understand the cultural meanings of those visual materials in the context of tourism? In *Gay Tourism: Culture and Context*, Gordon Waitt and Kevin Markwell (2014: 4) note that "gay men seek out a counter-hegemonic place where they can discover or become themselves by their performativity of gender and sex roles." They point out that gay men actualize their sexual selves by performing the roles of tourists. Following *Gay Tourism*, we can claim that Pulse Clinic not only offered healthcare different from the normative, often heterosexual-oriented, healthcare but also served as a destination that resisted hegemonic culture by allowing gay men to be who they are. However, with a closer look at the clinic and their educational materials, one can quickly identify a permeated symbolic reference on the Caucasian, muscular, male models either in their harness/mask or being fully or half naked. From that perspective, the aesthetic style seemed a bit totalizing and perhaps essentialized because they incorporated the elements of the Western culture of gay circuit parties. It then suggested that queer men from different places came to

consume party culture in a nearly similar way. As a result, the absent-minded viewers might misjudge the distinction between public health education and the circuit party. By extension, the critical aspect of Pulse Clinic would then be erased because such space became a privileged site of sexuality, one that adored certain body types while disqualifying others. We hence will lose insight into how queer medical tourism can disrupt the racialized, gendered, and classed space.

Postcolonial critiques on medical tourism have noted that the destination countries replicate their inequalities by adopting exoticizing strategic essentialist approaches to attract tourists (Buzinde and Yarnal, 2012). However, what Pulse Clinic offered is instead the coexistence of the Western homosexual norms and alternative ways of seeing bodies and pleasure as a means to resist normative and moralized health. Here, rather than making a quick conclusion that these visual products were being docile or resistant, I suggest to re-read works from Cindy Patton and Kane Race to better conceive the performative and material features of health. In *Fatal Advice: How Safe-Sex Education Went Wrong,* Patton (1996) noted that safe sex education in the late 1980s and the early 1990s followed a problematic approach as it disregarded how sex can be a form of power that makes and saves queer lives. In defining safe sex, Patton reminded us to "reject any idea of a wholesome gay lifestyle" as well as to stop identifying and promoting sex as "an object that can be categorically distinguished from its multiple others" (Patton, 1996: 155). Considering the issue of harm reduction, Race (2009) in *Pleasure Consuming Medicine: The Queer Politics of Drugs* elaborated on the notion of pleasure, a concept that has been insufficiently theorized in public health and cultural studies as compared to "desire and sex."[15] Harm reduction, as Race postulated (2008: 418), is by nature a refusal because "rather than seeking to eliminate drug use *per se*, it

[15] Race situates his argument in Foucault's The History of Sexuality Vol (3), advancing a new way of studying gay sexuality. Here his primary argument is that desire has been a common research topic as it is treated as a symptom or source of a disease.

aims to reduce the harms associated with drug use through measures, such as needle and syringe exchange, supervised injecting rooms, drug education for users, and pill testing at raves [parties]." Race gestured toward a theoretical and methodological imperative for using pleasure to examine the un-moralized "practices of safety and care that would otherwise go unregistered in the current punitive political environment" (Race, 2008: 42).

Both Patton's and Race's remarks rejected a totalizing account of safe sex. Neither of them would slide ontological status to the representation or its pre-existing meaning. Instead, they would agree that the politics of meaning derives at the very moment when objects are put into use. Such interpretation opens up a space for considering queer medical tourism through the lens of performativity, in that sexual health becomes a layered, multifaceted symbolic system, one that continually defines and redefines the boundaries of bodies, sexual pleasure, and sexualities. To tease out that performative feature of sexual health, I now turn to analyze one of Pulse Clinic's commercial material associated with harm reduction to better conceive the material complexities regarding cultural resistance and hegemony.

"Here to Help, Not to Judge"

In their promotion video "Here to Help, Not to Judge"[16] (a 3.5-minute production launched in May 2018) (Yaemin & Janas, 2018), Pulse Clinic features their harm reduction service and unique LGBTQ-friendly atmosphere. Permeated with a playful, seductive tone and various sexually explicit symbols, this video depicts a drag queen named "Dr. Mariah" (an obvious reference to the famous gay icon, singer Mariah Carey) helping a young, innocent daughter (a reference to young version of Beyoncé) with her frustration and fear of being infected with HIV (Figure 3-5 a). Watching "Here to Help, Not to Judge" (as well as exploring Pulse Clinic as a

[16] https://www.youtube.com/watch?v=8STGpZp_xo4&t=7s

medical and tourist site), viewers might find a sense of strange familiarity, feeling amused by how a common topic in public health can be told in a non-normative way in which the drag queen of Mariah Carey and Beyoncé are trans-culturally scripted as the narrators. Aside from its entertaining factors, this video, I argue, offers insight into the performative features of sexual health in that the relationship between medicine and sexual health has changed from the traditional medical and scientific gaze and control to the combination of medical gaze, tourist gaze, and medical consumption.

In *Bodies That Matter*, Judith Butler (1993: xxi) describes the materialization of sex, noting that "performativity is not a singular act for it is always a reiteration of a norm or set of norms, and to the extent that it acquires an act-like status in the present, it conceals or dissimulates the conventions of which it is a repetition." That is to say, drag queen performance itself alone does not guarantee a form of performative and radical resistance. To be performative, the category of gender (Butler's working example), or in my case *sexual health*, need to be situated along with their reiterative and citational practices. An individual's embodied and social engagement have to constantly cite from the existing social system in ways to refer to and negotiate with social norms.

“Here to Help, Not to Judge” exemplifies how sexual health becomes performative. Within the first 1.5 minutes, this video tells the story of queer people’s struggle and dilemma associated with pleasure, sexual desire, disease, and stigma. It begins with the daughter describing her enormous appetite for sex and her regrets for having sex with multiple men without protection. Instead of showing graphic contents, it is done in a rather humorous way in that everyday kitchen objects are seamlessly staged to represent a broader connotation of sex. It connects appetite to sexual desire, chilies and peppers to the temptation of sexual intercourse, and finally a messy kitchen to an orgy party. In depicting the spiciness of the food, it further suggests the daughter

could not resist the allure of "ice" (i.e., a common expression of crystal meth in Thailand, Taiwan, and other East Asian countries) (Figure 3-3 b). Dr. Mariah then sets the tone for this video by saying that "this is a classic issue of those who're afraid of going to see a doctor, [who] worried that they would be judged by someone else."

The remaining story of the video directs viewers' attention to the interior of the clinic, which is the second floor of the Pulse Clinic with a modern, white-marbling color, spacious lobby, and a private consulting room. Walking around the clinic, Dr. Mariah introduces multiple sexual health services provided in Pulse—PrEP, PEP, STD check and treatment, and harm reduction services for before and after parties. As shown in the video, the health service, along with the problems related to party culture and HIV/AIDS, can find their corresponding biomedical solution. While multiple medicines are shown in the video, their brands are left blank to obscure the distinction between patent drugs and their generic counterparts (Figure 3-5 c). Up to this point, this video resonates with the symbols and aesthetics that Pulse Clinic deliberately aims to articulate— a bold, vibrant, anti-shaming health service with a specific target at the partygoers or people who enjoyed unconventional sexual adventures.

To be clear, I am not suggesting that the drag queen performance of Mariah and Beyoncé themselves is performative. By no means authentic or original, the genre and performance as such are a common replication of the nightclub cabaret from the Western world. One might see "Here to Help, Not to Judge" as conventional as its aesthetics remains to follow the mainstream Western queer culture, utilizing standard elements such as muscular men, circuit party, orgy party to fantasize a story of how to have safer sex. I argue, however**,** it is also provocative in ways to allow viewers to consider the unorthodox approach of accessing healthcare. By unapologetically connecting the relationship between individuals' recreational drug use and biomedical solutions

for sexually transmitted disease, it legitimizes the controversial and often-tabooed topics of chemsex. It does so by reorienting viewers' attention from treating HIV/AIDS as a severe and lethal condition to normalizing it as a manageable illness. Furthermore, it highlights the importance of sexual pleasure in the setting of harm reduction. Rather than dissuading one from participating in the recreational drug scene, it re-creates an environment in which risk and biomedical solution can cohabit and hence can be managed in the clinic. By blending the medical gaze and tourist gaze to normalize sexual pleasure, it resonates with Race's words "health does not stand in opposition to pleasure; rather, it is something that has to be collaboratively negotiated and produced through the careful interaction of bodies (2009: 1-2)**.**" In that context, PrEP and PEP become acceptable and even appropriate tools for an individual to seek, if not maximize, pleasure**.**

As Butler (1990: 34) notes, that "gender is performatively produced and compelled by regulatory practices and gender coherence…. Gender is always a doing." Informed by Butler's and among other feminists' accounts, throughout this dissertation, I have illustrated that serostatus of "HIV negative, on PrEP" should not be understood as a fixed *being*, but a dynamic process of biomedical and sociocultural becoming. The non-normative, queer twist of "Here to Help, Not to Judge" affirms my very argument that "HIV negative, on PrEP" is also a performative category. The story ends at a ballroom party (the reception area on Pulse's first floor), where Dr. Mariah turned to the camera/audience and narrated, "Let her be herself. I don't judge her" **(Figure 5.6, 5.7, 5.8, 5.9)**. Here, the performed *category* is obviously "HIV-negative, on PrEP," a medical category that at this point has evolved into a performative and social category in ways to entangle queer people's sexual pleasure, sexualities, bodies, and health.

Figure 5. 6 Here to Help, Not to Judge

Figure 5. 7 Here to Help, Not to Judge

Figure 5. 8 Here to Help, Not to Judge

Figure 5. 9 Here to Help, Not to Judge

Seasons of Risk

> I believe it's very difficult to carry on the struggle using the terms of sexuality without, at a certain point, getting trapped by notions such as sexual disease, sexual pathology, normal sexuality…. After all, there is no "abnormal" pleasure; there is no "pathology" of pleasure. Which seems to me to escape these medical and naturalist connotations and which have the notion of sexuality built into them (Foucault, 2011: 388).

In "The Gay Science," an interview for a French magazine conduced in 1978, Foucault made above statement to elaborate the theme of *The History of Sexuality, Vol I*. Foucault made it clear about the adverse tendency of science toward sexuality: the history of sexuality has entailed a regime of power-knowledge-pleasure in repressing and criminalizing sexual pleasure. Public health scholarship tends to conceive gay men's sex as biological, neutral, and hence apolitical behaviors. They approach the topics of HIV/AIDS, STDs, and chemsex by proposing new measurements for categorizing individuals' deviant activities. For example, in their article in *AIDS and Behaviors*, Elsesser et al. (2016) describe a phenomenon of "seasons of risk" based on evidence that gay men tend to engage in risky sexual behaviors (e.g., sex without condoms) more often on vacation than at home. Those authors recommend that PrEP can be used as an effective strategy for gay men to prevent HIV infection while they travel (Elsesser et al., 2016). More recently, in the *International Journal of Drug and Policy*, Mohamed Hammoud et al. (2018) proposed "MTV generation," a term that depicts how gay and bisexual men use methamphetamine (i.e., crystal meth), Truvada (or its generic formulations), and Viagra (or other erectile dysfunction medications) during chemsex in order to reduce the possibility of contracting HIV. In adapting "seasons of risk" and "MTV generation" from public health literature, my goal in this section is to contextualize gay Taiwanese men's sexual behaviors in the case of medical tourism.

In what follows, I use two gay Taiwanese men's medical tours in Bangkok to think through how PrEP has become incorporated into medical tourism, and how the generic PrEP clinic

catalyzed gay men's alternative safe sex practices. I aim to provide a counterexample of the season of risk. Mundane practices—making travel plans to Thailand, purchasing less expensive generic medicine, mixing and maximizing the functions of each medicine, returning to work—can be seen through the lens of labor and consumption. I identify how gay men's sex and bodies enter into the social network of value exchange, and how, during that process, the values of bodies and drugs are extracted, exchanged, and refined. This process, I argue, should not be categorized as a series of deviant, reckless, and risky behaviors but instead meaningful and erotic bodily performances.

The MTV Generation (On Harm Reduction)

Although having used recreational drugs for more than a decade, Jack—a 35-year-old gay Taiwanese man—was one of the few interviewees of mine who still practiced conventional safe sex methods by using condoms. While using crystal meth and having sex without a condom were tempting for Jack, the threat of contracting HIV was even more powerful. To maintain his HIV-negative status, Jack has also demanded that some of his sexual partners take a rapid HIV test just before their sexual encounters. Despite his safe sex practices, Jack was deeply concerned about contracting HIV and pessimistic about his sexual health. Over a national holiday in October 2017, Jack flew to Bangkok to kick off his season of risk. In contrast to his many other trips to Bangkok, Jack did substantial research before this trip and decided to buy generic PrEP during his visit. Upon his arrival on a Thursday, Jack used Google Maps to find the clinic. Not fluent in English, he relied on Google Translate to communicate with the staff members at the clinic and successfully purchased three bottles of PrEP. During the day on Friday, Jack went shopping at the mall and got a Thai massage at a spa. In the evening, he had random sex with a guy with whom he had chatted on Grindr since Thursday. It turned out that they stayed at the same hotel. After that, he then met two more men for long sessions of chemsex on Saturday, followed by visiting a local gay sauna

for more sex on Sunday. During this long weekend, Jack had sexual intercourse with at least ten different people, both with and without condoms. Catching the red-eye to Taiwan on Sunday night, Jack was able to return to his normal life and was back at his workplace by Monday afternoon. In Jack's season of risk, he followed a rather complicated medical plan to minimize his risk of contracting HIV—an extended on-demand regimen that takes up a total of 7 tablets of TENO-EM, including 2 tablets 2 to 24 hours before intercourse and 5 tablets each day after taking the first 2 pills.

Whereas Jack's narrative reveals how a well-executed sex adventure can become a burden that drains one's energy, emotions, and libido, Clark's experience tells a different story about how one's medical tourism can take an unexpected turn that ends in a drug-infused orgy party. Like many other urban gay men in Taipei, Clark worked hard, but he managed to find the time to travel to other Asian cities (e.g., Bangkok, Bali, Seoul, and Tokyo) twice a year. Acknowledging the risk of contracting HIV during random hookups, Clark visited a Thai clinic to purchase a bottle of generic PrEP in April 2018, during the Thai New Year. Prior to that trip, the 27-year-old had never smoked a cigarette and drunk alcohol, let alone used recreational drugs. But two nights before he returned to Taipei, Clark received a message on Grindr, being invited to a sex party in one of Bangkok's most luxury hotels. Unable to resist the temptation of the man who had invited him—who, based on the pictures on his Grindr profile, "looked like a muscular fashion model"—Clark swallowed his fear as well as two tablets of TENO-EM before heading to the party. During his 12 hours at the party, Clark had condomless sex with multiple "handsome, model-looking, hunk guys from Hong Kong, Singapore, and Seoul." For the first time in his life, Clark not only used crystal meth but also tried various drugs to maintain his erection and maximize his sexual satisfaction.

Clark returned to the clinic the next afternoon to buy more PrEP. After listening to Clark's sexual adventure, the doctor further recommended that he begin 30 days of post-exposure prophylaxis (PEP) treatment. "Since TENO-EM is also one medicine used in the treatment of PEP, my doctor advised me to buy more antiretroviral drugs so that I can ensure that I wouldn't contract HIV," Clark said. At the time of this writing, Clark had completed his PEP treatment and remained HIV negative. Three months after our interview, Clark and I became social-media friends. We never really chatted in any capacity but just followed each other's life. I know that he was promoted in his company and then later hired by another more prominent company as a sales manager. From his Grindr profile, he changed his status from "HIV negative" to "Negative, on PrEP" whereas at the same time specifying "no agenda" on his profile, which commonly refers to looking for chemsex in Taiwan. From both his Facebook and Grindr profiles, I also know that he is now more aware of the function and effect of different recreational drugs, and that he visits Thailand every three months to refill his PrEP, to "becoming HIV negative, on PrEP."

If we were to follow the public health literature mentioned above closely, the conclusion seems to be straightforward: both Jack and Clark involved in abnormal, risky behaviors and were subject to the health intervention. But, like Kippax and Stephenson's reminder, those risky behaviors took place in the context of medical tours in which Jack and Clark were tourists, patients, consumers of the clinic, various shopping malls, and gay bathhouses. How then should we situate the encounters of Jack and Clark in the broader context of medical tourism? In what ways do their alternative practices inform our understanding of the politics of bodies? In addressing how queer and trans people embody their identities in the context of medical travel, Aren Z. Aizura in *Mobile Subjects: Transnational Imaginaries of Gender Reassignment* (2018: 19) postulates that "embodiment and identity might be read as part of the production process of this social factor

[referring to places outside one's workplace], formed by, resisting, always already re-appropriated back into but simultaneously always exceeding capitalism's cycles of value extraction." In other words, bodies and identities do not have fixed entities, but rather change along with the social network. The proposed interplay of the capitalist structure and subjects' agency suggests that both constitute each other and that identities inform a type of resistance through one's bodily transformation. My ethnographic stories reflect a similar dynamic regarding how the relationships of power versus pleasure, subject versus object, and medicine versus recreational drugs become blurred in ways that generate a new type of health-subject.

It can be elaborated in two ways. For one, gay Taiwanese men's sexual mobility and experiences with becoming "HIV negative, on PrEP" inform a type of disobedience against normative aspects of law and health. Whereas having restrict boundaries about safe sex in their home country, both Jack and Clark became members of the so-called "MTV generation"—cyborg-like subjects who learned to maximize their pleasure by introducing medicines into their bodies, creating and continuing to create a type of new drug-mediated subjects who complicate the difference between PrEP and recreational drugs. The fact Jack and Clark took PrEP to reduce the risk associated with recreational drug use and HIV infection indicates that their actions were subject to an unconventional approach of preventing HIV infection—namely, harm reduction.[17] A form of "counterpublic health," to borrow Race's (2009) term, harm reduction involves ways of enhancing the well-being and pleasure of subordinate, endangered populations, and works against hegemonic norms. In Jack's case, for instance, he was cautious, while traveling with different sex scenes, in following the medical regimen in order to reduce the likelihood of contracting HIV.

[17] Harm reduction has been regarded as a more practical approach to healthcare in the domain of HIV/AIDS. One example of harm reduction is assisting injected-drug users (IDUs) to maintain a functional life by offering IDUs with methadone, a medicine used for treating severe pain so that IDUs won't pass or infect with HIV (Chen, 2011).

Clark, by contrast, followed the medical staffs' recommendation to change his PrEP regimen into PEP to more comprehensively ensure this health condition.

Second, both Jack's and Clark's encounters with PrEP and recreational drugs also highlight that gay men who purchase generic PrEP in Bangkok enter into a larger capitalist, neoliberal context of self-medication. To enhance their sexual health, such gay men bolster their HIV-negative status through the act of consumption. Instead of waiting in their home country to enroll in demonstration projects, the gay men in my study collected information online, accumulated and exchanged their lay knowledge, and flew to Thailand to purchase generic PrEP at 10% of the cost paid in Taiwan. Becoming "HIV negative, on PrEP" thus entails a series of deliberate calculations regarding the drug's bio-, social, and market values in a transnational network of drug regulation and circulation. But, the definitions of medical tourists, as Ara Wilson (2011) notes, are not only measured at a national level but also conceptualized as mobile consumers with different social backgrounds. The mobility and labor that Jack and Clark revealed were not only because they possessed certain social capitals that allowed them to move across geographic boundaries. Their practices of seasons of risk and MTV generations also suggest that other types of gay men couldn't imagine participating in the kind of experience of becoming HIV negative. While Jack and Clark might be financially comfortable in Bangkok, I should note that traveling to Bangkok with four nights of hotel costs an individual roughly two bottles of Truvada (TW$ 24,000; US$ 400) in Taiwan, a price that remains a burden for certain gay Taiwanese men. As free as the members of these groups may be in certain social domains, invisible obstacles such as language barriers or financial difficulties prevent and continue to prevent them from moving from one group to another. As such, their practices resonated with Aizura's argument regarding the circle of capitalism as to how generic PrEP clinics have become destinations for gay men visiting Bangkok, a starting point

for alternative safe sex practices. Equally as important, it articulates an account of materializing sexual health, through which the entanglement of bodies, sexualities, and drugs sustain the legitimacy of health yet can be viewed as a type of subversion.

Materializing Feelings

How should the participants' emotions derived from their experiences with becoming "HIV negative, on PrEP" be interpreted? During our interview, both Jack and Clark repeatedly narrated how nervous, fearful, yet thrilled they were about engaging in chemsex during their trips to Thailand. Public health scholars have tended to pathologize the adverse emotions associated with risky behaviors because negative feelings often lead to deviant behaviors. By extension, while *behaviors* are material in nature and could be measured, feelings, either positive or negative, normally are seen as immaterial and therefore less significant. However, the approach of harm reduction remains insufficiently addressing the politics of those emotions by not taking how emotions are managed into consideration. Note that the discussion of immaterial labor is rooted in the Marxist feminist scholarship, with its original meaning referring to the economic activities such as human contact, communication, and interaction in the service sectors (Hardt and Negri, 2001). This concept is useful for understanding the operation of biopolitics because once-unquantifiable human affects are now subject to alienation in the forms of care, love, and nurturance (e.g., Hardt, 1999; Weeks, 2007). In my case of queer medical tourism, I do not claim that gay men perform immaterial labor to earn generic PrEP or recreational drugs. By applying the concept *labor* to identify the emotional process of medical tourism rooted in the neoliberal capitalism, I aim to point out that, because those feelings are materially configured and attached in the capitalist network, gay men's emotions demand an analysis of immaterial labor essential to

becoming "HIV negative, on PrEP." I use Jack's encounters with PrEP to exemplify this point. When recalling his three-day sexual adventure, Jack had ambivalent feelings.

> My priority was to buy PrEP. I needed to do that right after I arrived in Bangkok. One day, I used crystal meth with a local Thai gay man whose accent was so thick that I barely understood his English. But, we still fucked for a very long time at his place. . .. I hate myself for doing it, but I told him that I wanted to try BB [bareback sex]. After hours of sex, I remembered to take PrEP. If I test positive for HIV, then I'll accept it, because that's my destiny. I've been trying my best to protect myself, but if I become HIV positive anyway, then I'll consider it to be God's punishment for being too promiscuous.

Permeating Jack's remarks is a substantial degree of regret. He acknowledged that the intensity of his sex was slightly extreme, if not abnormal. By reading his story through the lens of emotions, we can identify that Jack performed a series of immaterial labors in order to manage the fluctuation of his fear, his anxiety, and the temptation of sexual pleasure. He learned to manage uncertainty in the face of communicating with medical staff and local Thai who spoke languages other than his own. Jack tried to experience as much sexual pleasure as he could while navigating the danger of being exposed to and infected with HIV in different places. Along the way, he was also cautious in calculating the dose of the medicines that he consumed. It can be said that Jack dealt with his fear, anxiety, and pleasure so carefully that his Bangkok vacation did not necessarily afford him a chance to rest. Instead, Jack turned himself into a sexual subject who moved among various social spaces. Reflecting upon his experiences, he told me that he was beyond exhausted with chemsex and probably would not engage in chemsex in Bangkok again. Finally, he fatalistically concluded that God might punish him for his promiscuous behaviors —an intangible causal claim that he had no way whatsoever to prove— even though he was on PrEP.

Both Jack and Clark revealed how gay men use immaterial, affective forms of labor—fear, anxiety, desire, pleasure, and the mix of all—to navigate the uncertainty of traveling and moving among different social registers. Perhaps the nervous, sexual desire for better sex—whatever that

means—and the fear of being infected with HIV drove them to Bangkok. Those feelings empowered a kind of vitality of sexual beings, something that cannot be and should not be erased from the discussion of sexual health. Gay men's sexual experiences during what public health practitioners framed as "the seasons of risk," to borrow the words of Bangko(1978: 57), empower gay men by allowing them to "evaluate those aspects honestly in terms of their relative meaning within [their] lives." In that sense, we should not conceive of Jack and Clark's emotions as pathological traits but as vital energy for maintaining, if not improving, their sexual health. While we can identify a sense of alienation in Jack's story in that an individual is trapped within the capitalist system, equally salient, Clark's case showcases how gay men work hard and (sometimes) play harder to maintain their sexual freedom in the transnational network. I argue, because those feelings are materially configured and attached in the capitalist system, gay men's emotions demand an analysis of immaterial labor essential to becoming "HIV negative, on PrEP."

By introducing gay men's encounters with drugs that yielded two distinct consequences (i.e., Jack regretted and Clark gave in), I by no means suggest that gay men do not do recreational drugs in their home countries. Neither do I assert that all gay men do recreational drugs during their medical trip. If anything, my account of queer medical tourism is to articulate how the entanglement of bodies, sexualities, and drugs sustain the legitimacy of health and how that entanglement could be regarded as a type of subversion. During seasons of risk, the healthcare of HIV/AIDS, gay entertainment (parties), and drug use were brought together in gay men's desired utopia—Bangkok—for queer sexuality, mobility, and pleasure to flourish. As a consequence of this transformation, individuals' roles in medical care have also evolved: no longer just a patient/client closely following medical professionals' instructions. The individual is now a patient, tourist, and consumer, enjoying more freedom to bring drugs (both recreational and therapeutic)

into his or her body. The practice of using methamphetamine, Truvada, and Viagra —or mixing any type of drugs in an attempt to protect the user from HIV infection—could be considered an alternative safe sex practice, one that drugs' uses for treatment (Viagra), prevention (Truvada), and recreation (meth) intersect to yield embodied and situated knowledges.

Conclusion: Bangkok is Burning

I begin this chapter with an analogy that gay Taiwanese men undertake their homecoming journey to Bangkok, to become tourists and gay men. The broader theoretical path of this chapter's development has been to trace multiple forms of sexual health from the Taiwanese local demonstration project (Chapter 2), to an AIDS-advocate initiated digital pharmacy (Chapter 3), and finally to the neoliberal context of tourism and self-medication. I situated my analysis in the more extensive debate of queer tourism, queer theory, and Asian studies to trace the trajectory of PrEP to consider the making of sexual health in its inter-Asian transformation. Using Bangkok as a case, I have scrutinized the history of generic PrEP in the context of Thai medical tourism. I have shown how the prevention of HIV has now become an export-oriented, gay-centered marketplace in the post-AIDS era. Central to my argument of materializing sexual health was the rise of the gay clinic in Bangkok. I have further analyzed how the effort of HIV prevention became connected to gay men's medical tours, and how PrEP tourists utilized the antiretroviral therapy medicines (ARTs) as a strategy for ensuring safe sex and reducing the harm associated with HIV and recreational drugs. The process described in this chapter showed that healthcare gradually expanded to the domain of consumption.

"Contemporary biological citizenship operates within the field of hope," said Nikolas Rose (2007: 136). It does so by allowing patient groups to mobilize resources and challenges health experts in ways to amend the health policies. The practices of biological citizenship in the US, as

S. Lochlann Jain (2006) notes, are nevertheless intertwined with consumer citizenship. Yet, as Héctor Carrillo (2017) noted, the examination of sexual freedom and sexual citizenship needs to be scrutinized in the uneven, dynamic global network. HIV-negative gay Taiwanese men traveled not from the Global North but from *global close* and *global nearby* to Thailand to enhance their bodily capacity. Such mobility is made possible by not only the affordable price of generic PrEP, but more importantly, the historical contingency of the rise of Thai medical tour industry as well as the emerging gay men's consumer culture at the global and regional scales. This chapter, to borrow Ara Wilson's (2006) insight, suggests that we should understand "Asia not merely as the recipient of first-world influences but as itself generating complex modernity and transnational flows in a global context shaped by political-economic asymmetries." It contributes to the dialogue among inter-Asian countries regarding how sexual health, desire, queer bodies, and economics become assembled in Bangkok, a city of Asian gay men's homecoming destination.

As shown in this chapter, although I acknowledge the vibrant, bottom-up approach of becoming HIV negative, on PrEP in Bangkok, I am cautious to not write in a mode of celebration. Echoing the title of my chapter and resonating with many critical thinkers' uses of the analogy "*Something* is burning" (See bell hook, 1992; Butler, 1993; Chiang & Wong, 2017; and Livingston, 1990), I cannot yet conclude if Bangkok is actually burning. I cannot yet determine if the queer medical service indeed informs a kind subversion that disrupts the normative aspect of health and if Bangkok serves as the living case of demonstrating such kind of resistance. Of course we do not want to blame how individuals exercise their freedom in the capacity as consumers to buy ARTs to maintain their sexual health while partying along the way. My unsettling concern is that we might unfairly slide and misrecognize the freedom of consumption as the agency to support sexual health and ensure queer subjectivity. I suggest treating the gay clinic and Bangkok as the reference

points for Taiwan and other East Asian countries that just implemented PrEP so that we can continue inquiring about the conundrum of gay men's sexual health, sexual pleasure, and desires in the broader context of inter-Asia queer medical tourism.

Chapter 5: Visualizing Safe Sex

Since the 1980s, *safe sex* has been deemed as one of the most effective methods for preventing sexually contracting HIV. Commonly framed in light of personal responsibility and collective moral consensus, safe sex has also been validated in the scientific and medical research. Among all of the measures for ensuring safe sex, learning about one's HIV status ranks as one of the most straightforward approaches for a HIV-negative individual to decide whether and how to maintain his/her serostatus. Through that lens, safe sex entails a transformation of visualizing bodies in which unknown, invisible virus is measured, translated, and finally made legible.

In the second decade of the 2000s, smartphone social apps have drastically changed how gay men arranged their social and sexual lives. The study of social science and public health, by focusing on the behavioral changes, tend not to take the matter of objects into consideration.[1] Many accounts uphold an assumption that virtual, online engagement is a precondition of actual, offline interaction, supporting that "relationships are formed and negotiated within internet environments that offer opportunities to meet people on-line and move into relationships off-line" (Hardey, 2002: 570). To complicate the understanding about the immateriality of virtual space and the duality of virtual and real space, this chapter explores the visualization of safe sex on

[1] With different research designs and premises, the accounts of public health and health communication nevertheless reached very opposite conclusions regarding the impact of technology toward sexual health. For example, in a cross-sectional survey of 856 clients for a HIV counseling and testing site, McFarlane et al. (2000: 90) found out that Internet sex seekers reported to engage more risk behaviors (e.g., more previous STDs, more sexual partners, and more anal sex, and more HIV positive partners) and suggested that the Internet is a newly emerging risk environment for STDs. On the contrary, in their study involving interviews with 128 men who have sex with men in London, Davis et al. (2006a) suggest that the strength of technology can allow HIV-positive gay men to avoid discrimination and sexual rejection, and that Internet-based HIV prevention campaigns therefore need to take into account the different ways in which gay reflexively manage aspects of their identities online. Davis et al. (2006b: 457) further concluded that the central feature of e-dating among MSM is the capacity to filter others, meaning that users can engage in a do-it-yourself practice of using texts and images in order to depict their various sexual identities.

smartphone apps, asking what it means to be "HIV negative, on PrEP" when sexual health and queer sociality are only one tap, scroll, and click away. Questions that I consider in this chapter include: How can the scholarship of STS and feminism shed light on the visualization of safe sex and digital bodies? What approaches have the developers of smartphone apps taken to engage PrEP and other HIV biomedicine in their product designs? How do gay Taiwanese men navigate safe sex as a biomedical category signaling personal wellbeing and responsibility as well as a social category (or a commodity) offered by the social app developers? Lastly, how has the categorization of biomedical information made certain bodies become legitimated and disqualified others at the same time?

This chapter is comprised of four main sections. "Digital Bodies and Pornographic Bodies" first draws on the scholarship of STS-feminism and queer studies to address the transformation of bodies. I then investigate three interrelated dimensions: the design, market practice, and personal use of social apps, respectively. "Visualizing Safe Sex" engages the walkthrough method to analyze the design of two social apps Hornet and Scruff, exemplifying how social apps have incorporated PrEP-related information as an aspect of users' profiles. After that, "A Good Business?" reveals how a neoliberal and homonormative discourse sanitized queer sex on social apps in Taiwan. Subsequently, "Unspeakable PrEP and U=U" tells the story of how gay Taiwanese men utilized "HIV negative, on PrEP" in an unconventional manner to navigate their sexual desire and online surveillance.

To be clear, I do not oppose safe sex in regard to its importance of preventing and treating HIV. Recognizing its scientific, sociocultural, and moral significance, my position is instead *against* safe sex in ways to challenge how this concept has been commonly treated as an unproblematic principle in public health that regulates gay men's sexual practices. I contribute to

the understanding of safe sex by unpacking social apps' seemingly faultless designs, the market practice, and individual's use in Taiwan. I challenge social app developers' claims that the innovation technology alone can eliminate social stigmas about AIDS and illness. I assert that with social apps, the scientific and social gaze of HIV/AIDS sees through the exterior, visible bodily parts of human skin and flesh, toward a molecular visualization of living matter such as human blood, serostatus, and viral loads. Ultimately, I argue that social apps constitute panoptic surveillance and an ultimate form of the pornographic body. In Taiwan, safe-sex design, despite its intention to promote a transparent and oppression-free environment, has propagated the social stigma and discrimination against HIV/AIDS.

Digital Bodies and Pornographic Bodies

"Power spoke through blood," Michel Foucault writes in *The History of Sexuality, Vol I.* Biopower operates "through the themes of health, progeny, race, the future of the species, the vitality of the social body, power spoke of sexuality and to sexuality" (Foucault, 1978: 147). By connecting blood's symbolic functions to its materiality, Foucault stresses that vital material possesses an "instrumental role (the ability to shed blood), to the way it functioned in the order of signs (to have a certain blood, to be of the same blood, to be prepared to risk one's blood), and also to its precariousness (easily spilled, subject to drying up, too readily mixed, capable of being quickly corrupted)." In Foucault's words, blood is conceptualized as a means for inventing, regulating, surveilling, and producing sexuality.

Important to my analysis of social apps and visualizing safe sex is how the scale of biopower has evolved from gazing the whole blood to locating the living matter of serostatus and viral loads. Such a process has generated more sophisticated methods for managing one's health and sexuality. For example, Cindy Patton (1989) and Catherine Waldby (1996) claim HIV testing

technology in the early days of the epidemic shaped gay men's perceptions about health because testing technology allowed invisible viruses to possess medical and social meaning. Reflecting upon the post-AIDS era, or "treatment as prevention" (TasP, see Chapter 1), Susan Kippax and Kane Race (2003) elaborated how viral loads became a means of separating healthy and unhealthy individuals, as well as chronic and lethal disease. Since the late 1990s, the development of visualization of safe sex has expanded from the public health domain to gay men's socio-sexual relationships. For instance, for the past 20 years, users of online dating sites have been able to specify their preferences for safe sex.[2] In the 2010s, the growing popularity of personal devices and online platforms have developed as a social site that enabled gay men to initiate social and intimate relationships. A means of communication, social apps not only hosted user-generated content but also invited users to display their HIV status and their use of HIV medicine (e.g., PrEP or HAART), as a result of that transition, gradually translating the offline body and expanding the medical gaze into the online context.

In *Gaydar Culture: Gay Men, Technology, and Embodiment in the Digital Age,* Sharif Mowlabocus proposes *cybercarnality* as a means to challenge the notion of the immateriality of digital bodies, claiming that the relationship between the digital body and the real body "is intimately tied up with the structures of looking and of consumption that are to be found in gay pornography" (Mowlabocus, 2010: 81). Opposing the idea that digital bodies are non-corporeal, cybercarnality takes up two propositions: pornographic expression of bodies and bodies under surveillance. In Mowlabocus's analysis of gay men's dating websites, pornographic bodies refer to the corporeality that is created through a set of representational techniques that excessively

[2] For example, in 1999, the UK-based site Gaydar allowed users to indicate their condom use by choosing options such as "Always," "Sometimes," "Never," "Need discussion," and "Rather not say" (Race, 2018). Later, the US-based site Manhunt, founded in 2001, allowed users to declare their HIV status by choosing "Ask me," "Negative," "Positive," "Unknown," and "No answer" (Race, 2018).

expose one's body, and hence digital bodies are both pornographically staged and biopolitically surveilled. Digital infrastructure and ways that platforms and categories are set up structure users' access to others. In line with Mowlabocus's position, recent work in queer studies and mobile communication approach the materiality of the digital space, exploring users' experiences and self-representation (e.g., Backwell et al., 2014; Roth, 2014).[3]

Here, my goal is to intervene in the long-lasting debate of immateriality of digital body and to re-consider categorizations of gay men's bodies and serostatus management. I advance Mowlabocus's conception *cybercarnality* by scrutinizing pornographic body in the post-AIDS era in relation to the emerging popularity of social apps among gay community. To contemplate the digital bodies and matter, I put cybercarnality in conversation with Karen Barad's posthumanist ontology to theorize the biopolitcial significance of visualizing safe sex. In her account of agential-realism, Barad gestures toward a posthumanist performativity, noting that the visual apparatuses should not be treated as a static arrangement *in* the world but as a dynamic configuration *of* the world. In the example of the measurement and visualization of quantum physics, Barad challenges the conventional ontological stance of realism and relativism insofar as to rework the linear causality as such notion often entails a cultural hierarchy between subjects and objects. In claiming that there are no preexisting relations among things, Barad indicates that realism is *agential*, meaning that realism lies in intra-activities, the inseparability between the agency of observation and the object being observed.

[3] For example, Courtney Blackwell et al. (2014) explore how Grindr aggregates individuals into a single virtual place that (1) juxtaposes virtual and physical places, (2) collapses or erases contextual information, and (3) creates tension in users' strategies for self-presentation. Others have noted the tangible interaction between bodies and machines to call attention to the importance of embodiment and digital devices. Yoel Roth (2014: 2115) argues that "the body is never absent from these [online] interactions; instead, it is differently mediated depending on context," such that "browsing takes place at users' fingertips" (2120) and "by touching the device, users directly incorporate their bodies into the experience of using electronic media" (2121).

Other STS-feminist scholars have adopted Barad's account to analyze HIV biomedical intervention and other types of life forms.[4] Here, I take a similar stance of posthumanist ontology along with Barad and others to consider the visualization of safe sex on smartphone apps, contending that cybercarnality does not vanish in the digital realm but instead becomes re-configured with the design, market practice, and personal use of the social apps. Recognizing Mowlabocus's contribution to the transformation of gay sexuality and self-representation on the digital space, I bridge cybercarnality to critical public health research, arguing that smartphone social apps render an ultimately form of pornographic bodies—a new political stance of embodiment in which medical gaze and social gaze penetrate the exterior, visible bodily parts in ways to scrutinize the molecular level of living matters. Smartphone apps, drugs, and other social factors, jointly reify pornographic bodies in the name of safety and health.

Against my stance, one might fairly claim that that safe sex remains an issue fundamentally associated with representation because, after all, it's the *language* and *image* on smartphone social apps that draw our attentions and signal gay men's behaviors about how to properly and safely conduct their sexual lives. In reply, my word choice of *visualization* aims to complement that the term *representation* often implies the immateriality of the textural and symbolic meanings. What I am suggesting here is not a question about, to borrow the words from Barad (2003: 802), "the correspondence between descriptions and reality" but about "matters of practices/doing/actions." As I detail in the later sections, serostatus has become a distinct set of informative texts, labels,

[4] For example, in *HIV Interventions: Biomedicine and the Traffic between Information and Flesh*, Marsha Rosengarten (2009: 5) writes "biotechnologies as active in the materialization of the object that they are more conventionally understood to identify and/or intervene in." Rather than making a hard and fast distinction between "information" and "flesh," Rosengarten engaged the works from Barad, and A. N. Whitehead, among others, to direct our attention to "the process through which what initially seems to be 'information' turns out to transform what we know as 'flesh,' or conversely, flesh turns out to have information effect" (2009: 5). What Rosengarten elucidates is a posthumanist account of agential realism about illness, a shared ontology between corporeality and representation, one in which "information "is built *into* the structure of the molecule" in the case of the pharmaceutical research and design (Rosengarten, 2009: 63). Also see Chapter 1 "Informed Matter" section.

and images on the social apps in ways that reorganize how an individual's sexual desire and health, the operation of market principles, and the LGBTQ community's collective efforts jointly shaped the norms of HIV disclosure. During that process, bodies and sexual health are constantly made and remade during its visualization and therefore should be seen as relational concepts.

Barad's conception of agency is crucial for understanding the biopolitical stance of bodies that are made on the social apps. In the discussion of the ontology of quantum physics *under* and *within* the gaze of the visual apparatus, Barad (2007: 178) writes:

> Agency is a matter of intra-acting; it is an enactment, not something that someone or something has. It cannot be designated as an attribute of subjects or objects (as they do not preexist as such). It is not an attribute whatsoever. Agency is ''doing'' or ''being'' in its intra-activity. It is the enactment of iterative changes to particular practices—iterative reconfigurings of topological manifolds of spacetime-matter relations—through the dynamics of intra-activity. Agency is about changing possibilities of change entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulations and exclusions that are marked by those practices in the enactment of a causal structure.

Barad's conception on agential agency is particular helpful for us to intervene in the social scientific study of HIV/AID, redirecting our attention from the behavioral paradigm toward the materialization of sexual health. Throughout this dissertation, I build on Foucault, Butler, and many STS-materialist feminist such as Barad, to consider the materialization of sexual health. I advocate that "HIV negative, on PrEP" should be regarded as neither a fixed biomedical category nor a stable bodily condition, but instead a dynamic material and social process of *becoming*. Even though Barad's original words were *doing* and *being*, the interpretation of her account, I argue, should be more precisely read as a *becoming*, especially in light of "intra-activity" and that "agency is about changing possibilities of change entailed in reconfiguring material-discursive apparatuses of bodily production." By extension of Barad's *intra-activities,* the condition of *life itself* emerges at the moment of its materialization. Regardless of the difference in physicalities between Barad's object of analysis (i.e., quantum physics and its measurement) and mine (i.e., smartphone apps and

serostatus), I assert that the visualization of safe sex on social apps shares a conceptual similarity. The ontology of quantum physics, the life itself that is under the technical scrutiny, and sexual health and safe sex rendered by smartphone apps, are similar in terms of how the positionalities of viewing and being viewed co-constitute an ontological stance that is simultaneously technical, embodied, and social.

The remainder of this chapter pushes forward the analysis of visualization of safe sex, exemplifying how smartphone apps, market principles, gay men's self-participation, the precarious temporal condition of serostatus, and HIV testing (e.g., window period), all contribute to the process of visualizing safe sex. By showing how the medical gaze and social gaze of one's health have moved from the excessive bodily consumption to revealing the molecular level of human bodies, I argue that the social apps have rendered an ultimate form of pornographic bodies. In that process, the market principles and individuals *intra-act* with the designs in ways to negotiate the panopticon and surveillance that is done in the name of safe sex.

Visualizing Safe Sex

In this section, I apply the walkthrough method to analyze how *safe sex* become presented as a set of visual data related to serostatus and biomedicines on social apps. I argue that the novel design of social apps has constituted a pornographic body, shifting from visualizing races, heights, weights, to gazing body at the molecular level of serostatus and viral loads. This process is often coated with corporates' forward looking mission statements and a technological determinism.

To be clear, the walkthrough method does not focus on one particular function or aesthetic expression of a specific app but instead serves as "a way of engaging directly with an app's interface to examine its technological mechanisms and embedded cultural references to understand how it guides users and shapes their experiences" (Light, Burgess, and Duguay, 2018: 882). This

method engages a slow-motion approach to reveal the often-time tedious trajectory of using a social app, detailing "the step-by-step observation and documentation of an app's screens, features and flows of activity" (Light, Burgess, and Duguay, 2018: 882). Relevant to this method is the affordance theory, which, according to James Gibson, STS scholars, and many queer technology scholars, is not what environment can offer to individuals nor a subjective property (e.g., Albury et al., 2017; Chemero 2010; Shaw and Sender, 2016). It's both. Similar to the affordance theory, the walkthrough method does not uphold a technological determinism but instead weaves the design and use of technology together to problematize the often taken-for-granted concept *use*, shedding light on the mundane, banal use, tap, click, scroll, and swipe mobile machine. Unlike the affordance theory, the walkthrough method is proposed exclusively for studying social apps, offering a vantage point for us to identify the invisible structure of social apps—e.g., the mission of design, algorithm, and geo-locative system—that would be otherwise unseen. With this method, I am able to go beyond the design of social apps merely as a representation of the texts about serostatus and medicine. I can better articulate safe-sex design in light of the aesthetic expressions, app developers' corporate missions, and the sociocultural controversies and moral implications that the design has evoked.

The objects of analyses are social app Hornet and Scruff, the first two companies that included features related to safe sex and PrEP-related information in their designs in 2011 and 2014, respectively. Grindr, perhaps a more famous app for most readers, launched its safe-sex features relatively late in 2018 by mainly replicating Hornet's blueprint. For the sake of my dissertation, I should note that my primary focus is Hornet, a leading social app in Taiwan that, at the time of writing, had roughly 700,000 Taiwanese registered users, about 50,000 of whom log in daily. Hornet has been the leading company that engages with the HIV prevention by collaborating

with the AIDS scientists and health officials in Taiwan, Thailand, France and many other countries since 2011. As a Hornet user, I have observed Hornet's expansion into the Taiwanese market since 2015. In fall 2016, Hornet launched its first Asian office in Taipei, a decision that cofounder Christof Wittig attributed to Taiwan's leading role in the movement for marriage equality and its vibrant LGBTQ market (潘伯翰, 2018). For comparison, I exemplify how Scruff—a global social app that is less popular in Taiwan—provides an alternative approach for visualizing safe sex. As I will illustrate, Hornet showcases the transparency of HIV status in the gay community whereas Scruff is strategically opaque about users' serostatus. Regardless of those differences, two approaches respond to the long-existing stigmas about HIV/AIDS, shedding light on how mobile technology, design, and medical intervention have informed a new type of socio-sexual practice in the second half of the 2010s.

Hornet and "Know Your Status" (KYS)

Established in 2011, Hornet is, at the time of writing, the world's second-largest gay social networking app. Hornet provides 25 million users across the globe with geosocial information about other gay men in their vicinity. Not only a platform of hookup app, Hornet has also claimed that it's "the world's premier gay social network." Some of its features highlight their ambitions. First, unlike most other apps that permit each user to upload a single photo, Hornet allows users to post multiple photos and control different location settings. Hornet also affords users more space for profile descriptions. Such design is meant to enable gay men to better manage their online presence. Second, upon logging in, a Hornet user can access a grid of 12 squares, each with an image representing another user's profile and photos. A Hornet user can also provide a short self-description and specify his age, ethnicity, height, weight, and sex roles (i.e., top, bottom, or versatile) that he prefers to perform. By scrolling the screen down, an individual gain unlimited

access to the other profiles of Hornet users. In 2016, Hornet allowed its users to volunteer as "ambassadors" to share with and to be consulted by nearby users. A Hornet ambassador can directly disseminate the lifestyle-related information and useful tips (e.g., travel and health) to the community. Since 2018, this social app has gradually evolved into a content-site, or what Hornet calls "the largest LGBT+ newsroom," one that hosted generic news and feature stories about LGBTQ community with additional function for allowing users to comment on the content. In 2019, it went further to launch blockchain service, creating the token initiative exclusively for LGBTQ people.

I detail these and those features not with an attempt to suggest that this single social app has shaped the politics of LGBTQ's sexual life and resolved queer people's struggles by offering more app functions. My intention is to indicate that the design of social app has gradually, if not radically, allowed once socially discriminated and often invisible forms of queer sociality to become more visible. Hornet does so by building a platform that engages as many aspects of queer life as possible. Directly relevant to this chapter is how safe sex becomes a visible category and how the process of its visualization informs the politics of bodies and ways of engaging knowledge about HIV treatment and prevention.

In 2011, Hornet launched Know Your Status (KYS), a service that reveals user's current HIV test results and demands users to display their most recent test date.

> Hornet is the first to introduce the "Know your Status" (KYS) campaign to mobile social networks for gay people. In their profiles, positive or recently tested guys will get a special marker, so that users are prompted to enroll in this purely voluntary campaign for a safer environment. Once a test comes up for renewal, Hornet reminds people to get tested again, or their KYS status lapses to unknown (Hornet, 2012).

The surface meaning of this news release seems straightforward: KYS facilitates the process of HIV disclosure. However, the languages employed here along with the hidden agenda about the

politics of bodies and HIV/AIDS require a closer examination. First and foremost, Hornet utilizes a relatively plain, business-like tone to narrate the complex process of communicating about sex and exchanging information among other gay men. It simplifies the sexual communication into six options for users to describe their HIV-test results— "Negative," "Positive," "Negative on PrEP," "Positive Undetectable," "Not Sure," and "Do Not Show"—if they decide to show them at all (**Figure 5-1, 5-2**, and **5-3**). The intention behind the design is that serostatus wants to be seen and hence safety could be ensured. Second, Hornet made KYS a public health campaign so that "know your status" is in fact to let others know your HIV status. With a badge added to the users who reveal their HIV status, it also adds an additional indication regarding how HIV disclosure could be transformed into personal identifications that in turn are connected to collective responsibility.

KYS entails a process of visualizing and transforming one's serostatus into corporate-collected and collectively-identifiable data. Reflecting upon the motivation of this design, Hornet founder Sean Howell stated that KYS aimed to "eliminate stigma associated with HIV and AIDS; share the latest health facts about preventing the disease; and empower people who live with it, chiefly by affording them [users] improved options for self-expression (Huffpost, 2015). A typical utopian, forward-looking narrative that implicitly reveals the usefulness of technology, Howell's remarks embodies a logic of technological determinism insofar as the technology makes difficult, often-contested conversation about HIV-disclosure become effortless as if the technology alone can complete the tough tasks for gay men to communicate about sex. His words regarding how KYS can "afford them improved options for self-expression" further elucidate that, by juxtaposing KYS with the categories of height, weight, relationship status, and reasons for being online (shown as *Looking For*), KYS works as a regulatory tool for promoting a culture of transparency to normalize HIV disclosure.

As mentioned earlier, the walkthrough method does not merely examine what the environment can offer. To make the KYS data viable, the ways in which users generate data also need to be considered. As addressed in the previous chapters, given the features of viruses' invisibility and the window period for viral incubation, HIV status should be understood as a category of uncertainty. The reason is because the molecular features and interaction of blood, virus, and PrEP (or HAART) are the living matter that continually changes over time. To truly accommodate the features of uncertainty, a Hornet user has to perform specific acts—such as receiving HIV testing, consulting with health practitioners, and consuming medicine—in order to make his KYS viable. Moreover, to keep one's KYS current, a Hornet user has to update his HIV test result every 3-6 months in order to more precisely reflect the window period for viral incubation. Should he fail to do so, Hornet will issue him a reminder at the 6-month mark with the words "this is a friendly reminder that it has been 6 months since your last HIV test date" (Figure 5-4). The wording of this reminder, resonating with what Howell's claim about the mission of KYS, is strategically natural and plain, serving as a rhetoric of personal health-management. Up to this point, delaying in updating your serostatus is similar to late in paying your online bills—serostatus management is now something like managing your online credit and bank account.

Therein, biotechnology (i.e., testing), biomedicine (i.e., HAART and PrEP), and communication technology (i.e., smartphones) shape the meaning of safe sex by providing personalized, identifiable labels that assist gay men to navigate their sexual desire, avoid the stigmas about HIV/AIDS, and finally fulfill their needs for seeking out and cultivating queer kinship online. Furthermore, the features of KYS underscore that an individual's blood is a personal, embodied substance whose condition is now becoming an objectified, disembodied piece

of information that tells the story of gay men's wellbeing. In that sense, KYS can be seen as a type of visual data that can be exchanged as well as circulated among different social actors.

Figure 6. 1 KYS

Source: Apple Store

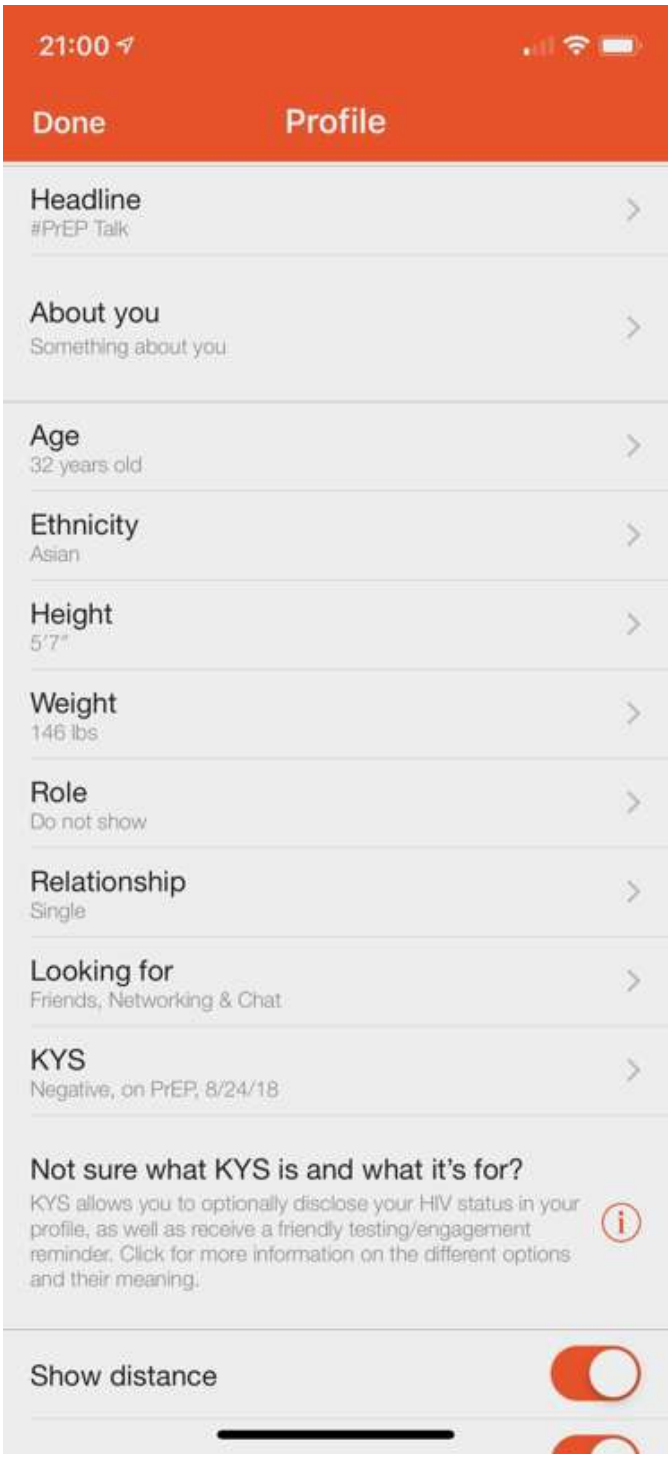


Figure 6. 2 KYS

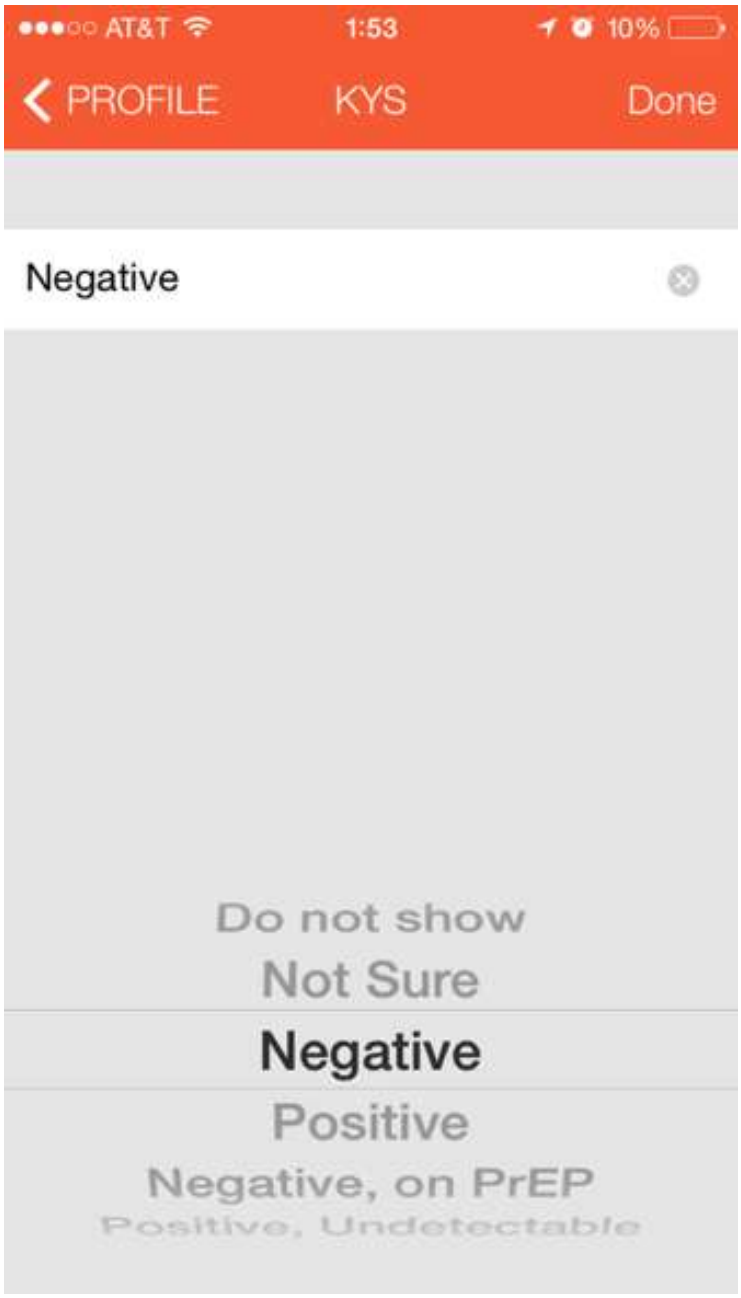


Figure 6. 3 The six options of KYS

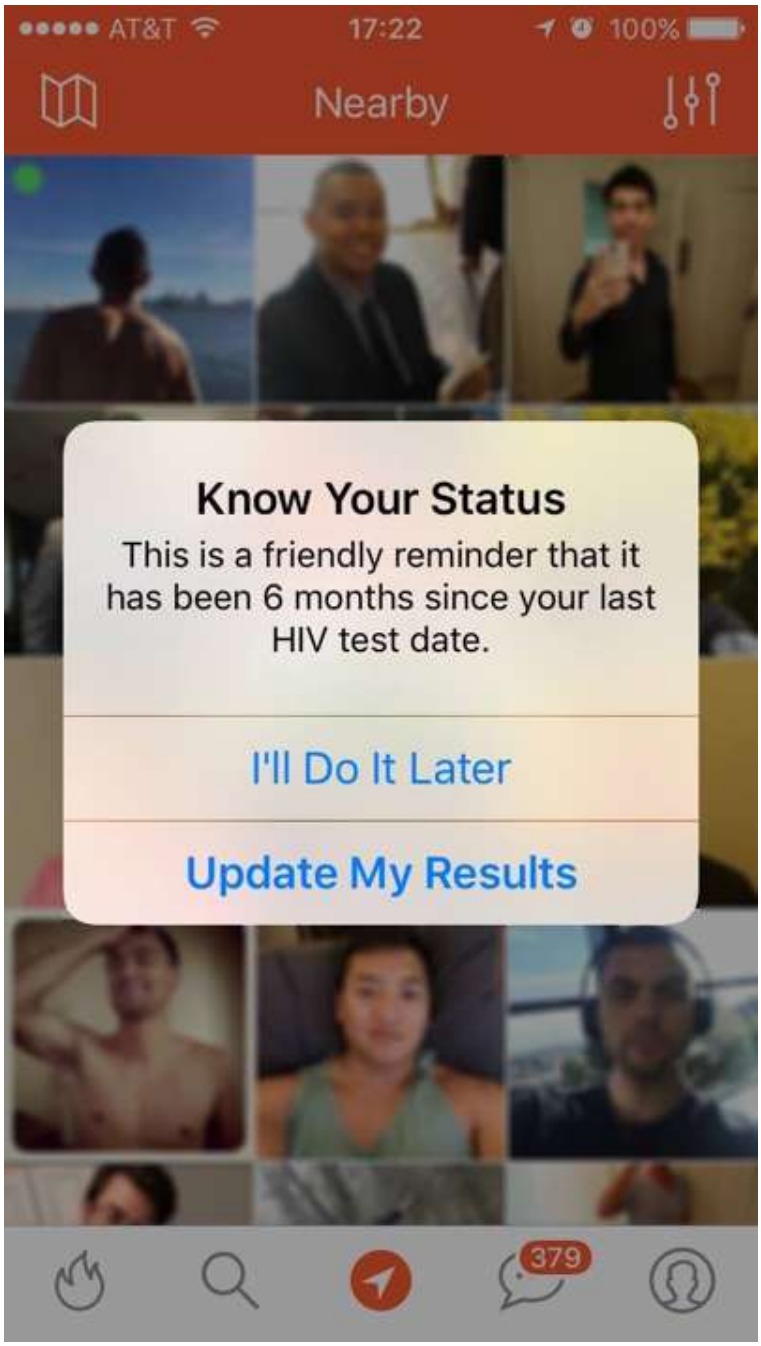


Figure 6. 4 The reminder of expiration of the window period.

First image is the user's profile, including main photos and short description, race, height, and weights, and KYS (right corner). Upon entering EDIT function, one can specify his KYS (second image) in which six serostatus option will be displayed (third image).

Scruff and its Safety Practices

Scruff is a social app that has ranked among the most famous apps in the Western gay communities since 2010. By 2019, Scruff's network had grown to include 14 million users. Scruff is popular among "bears"— the larger, hairier men who are considered to be more rugged and muscular than other types of gay men. Upon logging in, a Scruff user is exposed to a grid of 16 square images of other users that present their personal information, including username, last login time, proximity, dating preference, and reason for using the app. Scrolling down the page, a Scruff user is able to see up to 100 other users, with whom he can initiate as many conversations as he likes. Similar to other social apps, Scruff is keen to expand its service scopes in ways to make their products more like a social site than simply a platform for arranging sexual hookups. For example, "Scruff Venture" is a function that lists gay-related social events where users can explore; "Scruff Ambassadors" allows local users to be a resource for visitors to provide tourist tips and advice (McElory, 2015).

The extent to which Scruff users can view others' profiles is determined by the global positioning system (GPS) and other filter settings. Whereas Hornet lists users profile options in a rather formulaic manner by showing age, ethnicity, height, weight, sexual roles, relationship status, purposes of being online, and KYS, Scruff situates its users in a more expansive and transformative way. A Scruff guy can specify the communities that he associates with, in that any account can subscribe up to 5 out of 18 (**Figure 5-5**). The scopes of those communities vary and are by no means exhaustive. For example, a user can select "muscle," "jock," or "twink" to signal his physical features whereas he is also able to identify himself as "military," "college," or "daddy" in ways to characterize either the social roles that he performs or the kinds of the lifestyle he is familiar with. By the same token, a Scruff user can be "bisexual" or "transgender"—or both—with

a preference for "drag" or "the guy next door"—or both. To be clear, none of those categories were originally created by Scruff. They are in fact the concepts and labels associated with sex and social life of gay communities that have existed prior to Scruff's launch. The ways in which Scruff has brought those labels together suggests that the design of Scruff is performative, simply because Scruff's categories allow a rather multifaceted, fluid way of stitching one's beings and identities.

In 2015, Scruff launched a new profile option that allows users to disclose their *safety practices* by displaying condoms, pre-exposure prophylaxis (PrEP), or treatment as prevention (TasP) (Figure 5-6, 5-7, and 5-8**)**. Whereas Hornet's KYS limits an individual's safe-sex choice as single option (e.g., HIV- negative, positive, on PrEP, or undetectable), Scruff's safety practices seem intentionally ambiguous and uncertain about safe-sex measure. Michael J. Murphy (2018) elaborates such ambiguity:

> Do options in the "safety practices" menu describe the profile owner's *own* safety practices? Those he requires from *partners?* Or, those he *supports* as legitimate sexual health strategies? In other words, if a user selects the "condoms" option in the menu, does that mean *he* uses condoms for sex, expects *partners* to use them, or that he *views condoms* as a legitimate safety practice?

Murphy's words describe many Scruff users' concerns. A Scruff user can specify as many as options of safety practices as he likes. But, when selecting "condoms," for example, it might simply imply that an individual endorses condoms as a legitimate way of ensuring safe sex but not necessarily uses condoms. If KYS is a way of connecting safe sex practice to one's serostatus by linking the textual representation of one's health condition to blood and biomedicines, Scruff's safety practices achieve the same goal through a distinct strategy. By specifying one or any other methods other than serostatus, a Scruff user displays his preferences without necessarily revealing his HIV status. By extension, while selecting condoms and PrEP might imply that a person is willing to play only with protection, it does not exclude the possibility that this person might be HIV-negative. In a similar vein, while selecting TasP implicitly suggests that one might be HIV-

positive or "Positive and undetectable," the texts on others' screens might be interpreted otherwise. The ambiguity of Scruff, I argue, indicates that safe sex is now being detached from one's serostatus. It unknots how sexual safety about HIV/AIDS is always already attached to gay men's blood.

My argument here is that Hornet's KYS promote safe sex through visualizing HIV status for the gay community, and that Scruff is being strategically opaque about its users' serostatus. Insight about that ambiguity could be elaborated through the lens of Scruff's corporate vision. Instead of making serostatus visible, "the goal [of the design of Scruff's safety practices] is to [allow users to] spend less time thinking about the virus and more time swapping hot photos and actually hooking up," explained Jason Marchant, Scruff's chief product officer (Johnson, 2015). Earlier in this section, I addressed that Hornet's attempt of inventing KYS is to normalize serostatus through its visualization. By making once stigmatized HIV-status an accessible data, KYS proposes to remove stigma about HIV and AIDS so that gay men can better arrange their sex lives and, as a result, explore their sexuality. Such an attempt encounters a dilemma because the app company inadvertently turns a queer space into a transparent, all-you-can-see digital platform. On the contrary, Scruff's endeavor is to redirect our attention from the virus and viral-attached blood to HIV biomedicine (i.e., PrEP, and HAART), from biomarker (i.e., serostatus) to nonhuman objects (i.e., condom), and ultimately from infected body-living matter to medical solutions for HIV/AIDS. Scruff's design of safety practices, by extension of Marchant's words, wants to help users circumvent awkward, sometimes problematic conversations about HIV status. It is similar to Hornet's KYS in that categories take over the role of sexual communication to deal with the issues of safety and HIV condition. Yet, it differs from Hornet's KYS because it allows a rather

counterintuitive approach to ensuring safe sex, one that demands gay men to not directly confront—to not *see*—HIV.

Figure 6. 5 The visual design of Scruff and the options for community.

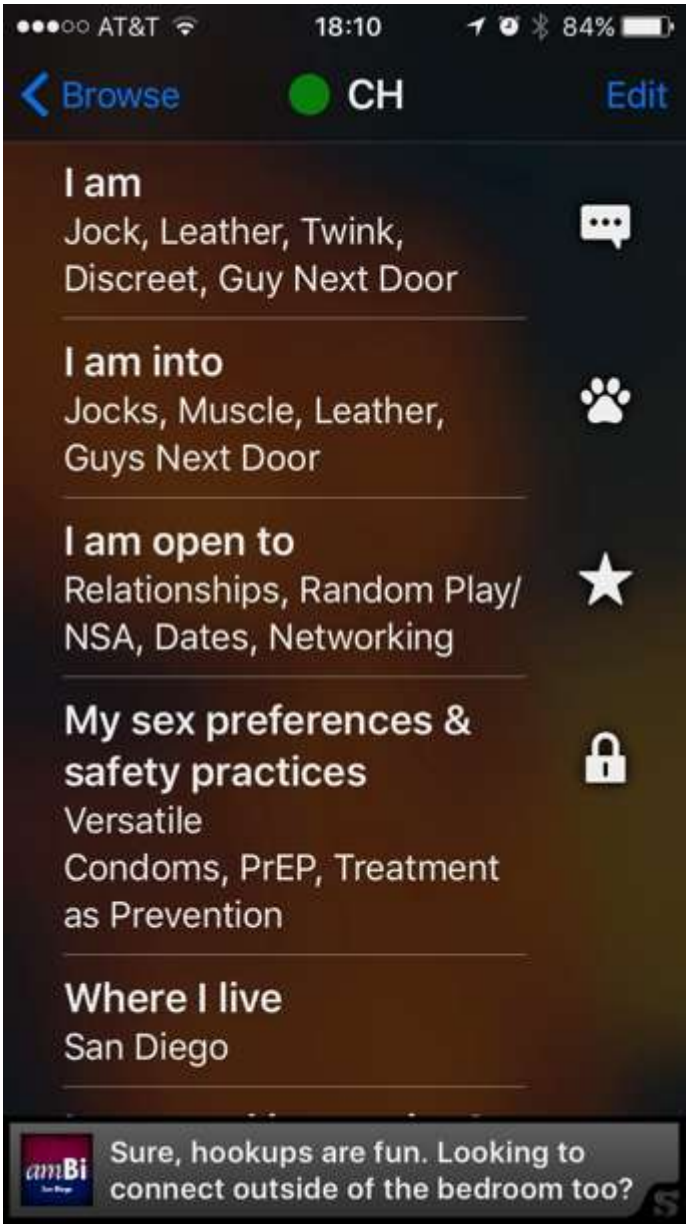


Figure 6. 6 The visual design of Scruff and the options for community.

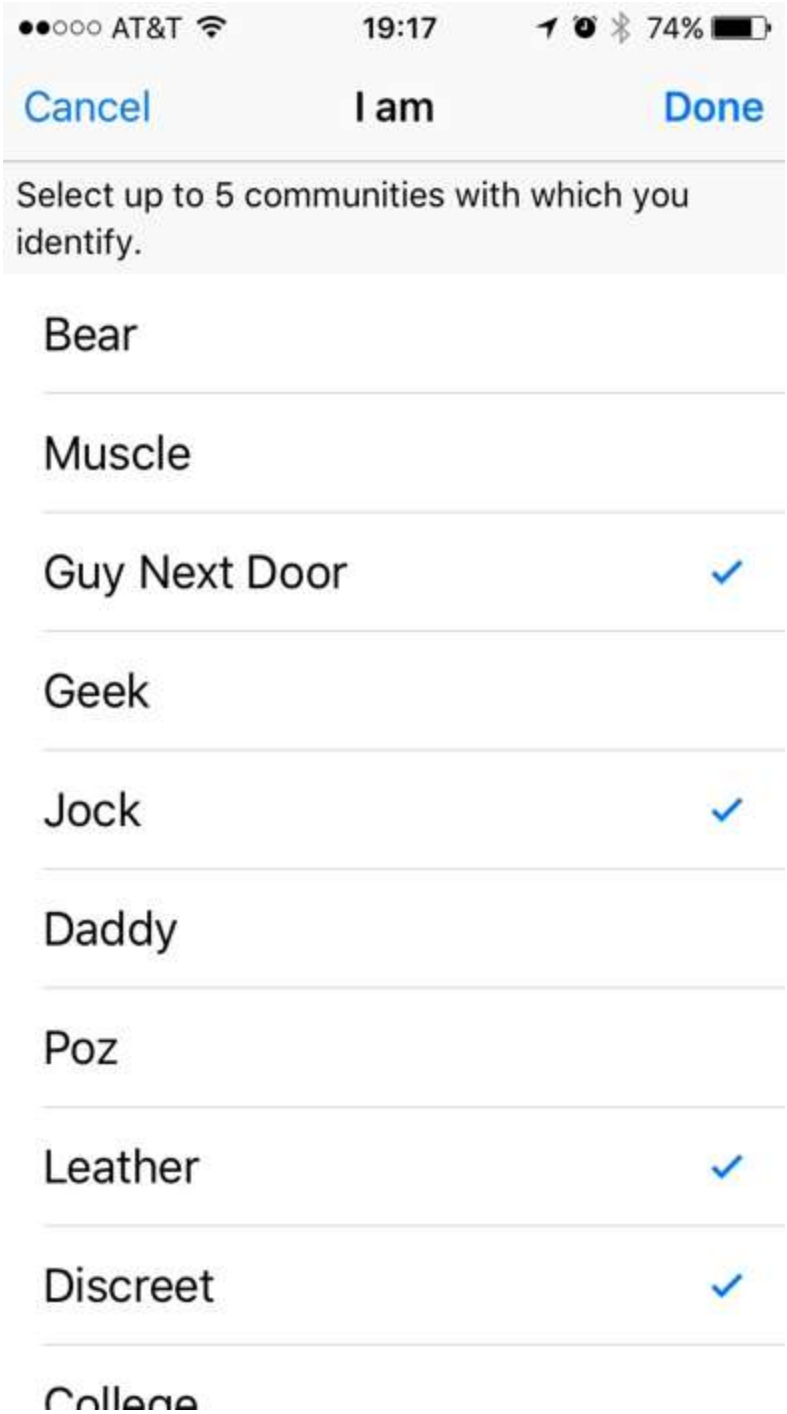


Figure 6. 7 The visual design of Scruff and the options for community.

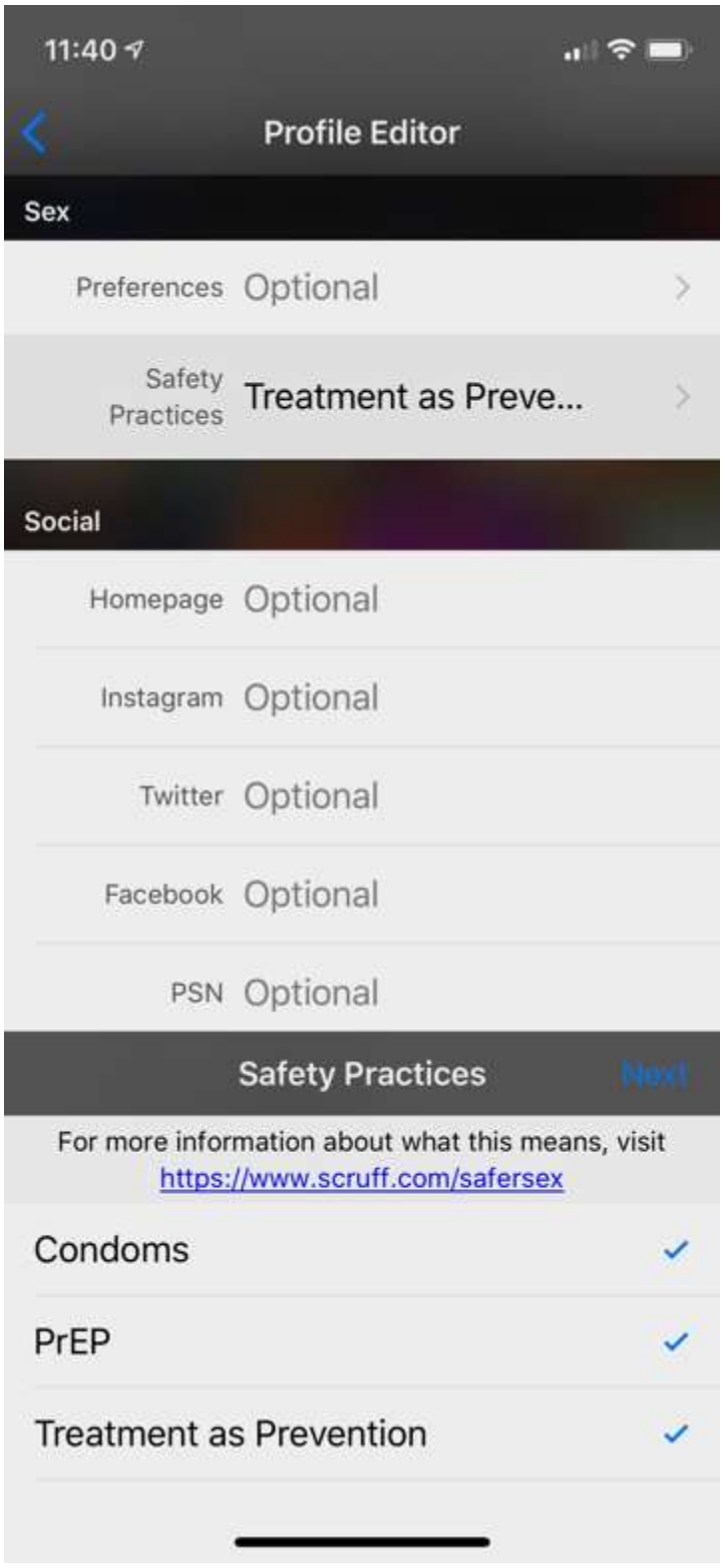


Figure 6. 8 The Layout of Scruff's Safety Practices.

A user can specify his safety practices and by clicking the Scruff Safer sex link, users will be directed to the health education resources.

All-You-Can-See Body

Through the discussion of Hornet and Scruff, my argument is that the scientific and social gaze of HIV/AIDS now sees through the exterior, visible bodily parts of human skin, pumped muscle, and genitals, to engender a pornographic form of embodiment. The categories that social apps create and continue to create contribute to the ultimate version of pornography, one in which gay men establish their online beings and reaffirm their socio-sexual relationship by engaging in novel forms of bodily performance, namely, sero-disclosure and sexual communication. Revealing one's serostatus constitutes an ultimate form of body expression and surveillance insofar as the medical, social, and social gaze of HIV/AIDS migrate to a molecular level of seeing living matter such as human blood, serostatuses, and viral loads

For one, Hornet's KYS not only put one's serostatus under public scrutiny, but more importantly, normalizes the culture of HIV disclosure by juxtaposing serostatus and other categories (e.g., weight, height, race, age, etc.) on the same platform. the tension of surveillance comes into play when individuals (are invited to) submit their personal information, and when the quarterly "friendly reminder" of KYS hits them when they fail to update the latest text results. While Scruff adopts another approach to delinking one's safety measure from one's serostatus, it arguably creates more categories that inevitably turn one into an online data-set. Second, In both cases, communication technologies mobilize new techniques to operate panopticon and self-surveillance.

In the 2010s, a biopolitical tension constantly inhabits on gay men's smartphone social apps, always already on the go. Such transformation involves an irony of biopolitcs: safety does not mean being a free subject online but being a subject with limited freedom. That irony is often, if not always, coated with corporates' forward-thinking narratives that highlight the utilities of

technology such as "eliminating stigma," "contributing to a safer environment," and "allowing users to spend less time thinking about viruses." To achieve sexual health demands an individual to have a viable profile online so that he can be locked within the surveillance of social apps.

The importance of such transformation highlights the material complexities of sexual health in the fourth decade of HIV/AIDS. By this point in time, sexual safety has become a technologically configured and temporarily contingent status. Sexual health, in light of Barad' "intra-action," exists, and only exists, at the moment when the corporeality and matter of life are held together. In following Barad's intra-activity, I contend that being sexually safe or healthy means that an individual has now become a set of visual data—something to be seen and to be algorithmically arranged. The ontological shift that both Mowlabocus and Barad gesture toward allows us to examine the body in its making at the molecular and visualized levels, opening up new ways of thinking about *safe sex*, *health*, *risk assessment*, and other commonly used concepts in public health and HIV/AIDS. The next two sections continue developing this analysis by situating the account of materialization of sexual health in the broader sociocultural environment. I address how the market principle manifests the panopticon and surveillance and how individuals work to escape from that power relationship.

A Good Business?

At the time of writing, gay Taiwanese men were identified as one of the most vulnerable populations of HIV/AIDS who comprised more than 80% newly infected people in Taiwan (TW CDC, 2016 & 2018). In reference to that drastic statistic about gay men's vulnerability, one might assume that sexual health and AIDS prevention should have formed a profitable market for app developers. However, my ethnographic data and interviews suggest otherwise. Situated in the market practice, it remains unclear regarding how the visualization of safe sex has changed the

norms of HIV disclosure and sexual health in Taiwan? Has the local gay community arrived at a consensus about how to utilize novel biomedical and technological innovations to enhance sexual communication? If not, why not? What has happened to prevent such an environment from coming into place?

The operation of social apps is regulated by complex market principles, including "the pursuit of economic profit, the facilitation of sexual and social networking, reducing harms associated with sexual networking such as HIV transmission, and social and political advocacy on behalf of their [i.e., gay men] user base" (Race, 2018: 169). Regardless of the concept safe sex being highly relevant to personal health-management, it is by no means independent from those market principles. By "market principles," I do not mean to comprehensively cover every aspect that Race has outlined. Here, I use this very term in a holistic fashion to illustrate the inseparability between the visual categories about safe sex and the social condition in which the stakeholders respond and negotiate the meaning of health while taking care of their market profit. I discuss the complication between the principles of design and market practices by showing how the digital form of the sexual liberation movement inevitably encountered its most noticeable barrier—the market. The greater irony I want to point out is that while sexual liberation movement depends on social app company's endeavors to normalize every aspect of queer life, the market expansion of social app might accidentally constrain the diversity of queer life. Using Hornet's expansion in Taiwan as my primary case, this section elucidates how safe sex and *AIDS* become conceived as hindrances in the Taiwanese market and, in turn, are strategically excluded from social apps' local market practices.

Following a global trend in which social app developers have gradually evolved from sexual sites to the social sites that cover lifestyle-related information, Hornet's transition in Taiwan

showcases how a gay-app company wants to be seen as a social platform. For instance, since 2017, Hornet Taiwan has identified three market directions—cultural events, sports events, and human rights—to increase the market share and visibility of their brand. During our interviews in May 2018, Hornet Taiwan's president Jack Xiao and his sales team detailed Hornet's business ambition, such as supporting Taiwan Gay Pride Parade, hosting the commercials of the Taiwanese Centers for Disease Control (TW CDC) on their site, collaborating with local NGOs on research projects, and sponsoring local sexual-health focused campaigns and conferences, to name just a few.[5]

But, how about safe sex? While Hornet's global missions along with Howell's remarks indicate the progressiveness of the social app, how has Hornet Taiwan promoted the idea of biomedical prevention and KYS? Is there a gap between the social app's global mission and its local market practice? In response to those questions. Xiao elaborated:

> Other competitors or the gay community might consider us a profitable company because they can see Hornet-sponsored events everywhere. But, remember, we do not always invest a lot of money. The reason that those partners work with us is because of our positive image and reputation. Purchasing commercials from us can also increase their exposure. Our company needs to stand behind our [gay and LGBTQ] community. We are neither specialized in law nor operating as a NGO. We couldn't make the kind of [progressive] statements that the HotLine [one of the most well-organized and famous LGBTQ NGOs in Taiwan] makes. We are still a company. We trust those partners. We maximize our role as a media platform to sponsor them or to increase their visibility.[6]

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[5] Apps developers more often than not attribute the data maintenance and collection as a mechanical glitch without having involved the social and cultural concerns. For example, in 2018, Grindr was accused of sharing users' data including serostatus with the third parties for a "standard industry practice for rolling out and debugging software" (Domonoske, 2018). The implication of this case is a biopolitcial one because users' GPS data, photo ID, email, and HIV status were embedded in the panoptic relationship through which users' online presences and health were to be seen. But, by collecting users' data, social apps could also contribute to the greater sexual health to the LGBTQ community. For example, in 2012, Hornet teamed up with a nonprofit organization in the Philippines to send messages about its testing services to its 94,000 users in the country. By providing links to online registration, Hornet quickly received more than 4,300 responses from Filipinos, 539 (12%) of which were from reportedly HIV-positive individuals, the efficiency outnumbered what many other health campaigns can achieve (Staley, 2015; Race; 2018). In a Roman Catholic country such as the Philippines, coming out as a gay man and revealing one's HIV-positive status can jeopardize personal safety. With social apps facilitating gay men's coming-out process, health practitioners could access people in need of healthcare and link those data to the market and the health network.

[6]大家覺得我們很有錢，到處去贊助，但是我們贊助的錢很少，是大家跟我們合作原因主要是相信我們，只要給一點錢我們可以給他們一些宣傳，他們也覺得跟我們平台結合不錯，（對你們形象是好的）我們一定要站在我們Community背後，我們不是法律專家，我們講不出像同志熱線組織HotLine，研究這方面的人的言論，

Here, Hornet's expansion not only entails a conflict regarding what should be seen or ignored in the marketplace, but more importantly, it manifests a tension between neoliberal subject and queer subject. Recall the previous section where I used the words of the founder of Hornet Sean Howell to illustrate how the social apps had the universalizing and utopian effect to shape the world through their products. Here, Xiao and his team's words implicitly embodied the global mission's very realistic, sometimes dreadful, practice, such that the market obstructed the social app's progressive impacts. His words "we are still a company" resonate with the key feature of the social app described by scholar Sam Miles in that "the assumption that these platforms are not queer in the theoretical sense (i.e., anti-heteronormative and radical) because of their neoliberal economic context is complicated by their subversive potential as devices to assist male–male intimacies in socially illiberal contexts" (2018: 5). Per Miles' assessment, the operation and popularity of social apps in the global north have moved public awareness from niche interests among small groups to the mainstream. The operation of the social app, on the one hand, is subversive as it nurtures the development of the once unseen and intangible queer kinship. However, by following a neoliberal market ethos, it also eliminates the differences within the queer community. As a result, the social app has become a platform that disciplines gay men's sexual desires in ways to both liberate and constrain an individual's sexuality.

Xiao's went further to articulate that tension when he and his team expressed that, in need of the commercial income, Hornet could neither emphasize too much on HIV/AIDS (e.g., safe sex, and information related to HIV biomedicine), nor address the taboo issues such as chemsex.

因為我們是上班的人。我們就是相信他們，這是台灣最大的幾個NGO，我們用媒體版位，或是用實質現金去贊助他們。

> You might think, for example, "how to enjoy anal sex" is a perfect and useful topic that we should feature on our site. *That is because we are we* [gay men]. Our sales team needs to consider how to maximize our commercial income. If, after persuading our new clients [assumingly straight] that Hornet will be an ideal site to host their commercials, they come to our site and see tons of sex-related information. …Say, if the sale representative of Cartier is interested in buying our commercial to sell their engagement rings, and if he comes to our site and read tons of anal-sex related news. How would you want him to persuade his boss to spend money on us? *These sorts of things* [ways of thinking about commercial logics] *happen in Taiwan.* We have discussed these issues and have not yet had a clear guideline.[7] (The italics are mine.)

From Xiao's words, we can identify a structural and moral conundrum of Taiwan's sexual modernity and the current stake of the pink economics. Despite Taiwan's vibrant and relatively progressive queer rights movement and the achievement in the same-sex marriage rights (compared to other Asian countries), the cultural environment in Taiwan remains relatively conservative when it comes to disclosing one's serostatus. The discussion of marriage rights is a legitimate topic in the public sphere (See Chapter 2). However, for the Taiwanese society, it remains unclear if sex and AIDS—or sexual liberation and sexual rights, something occurring in the bedroom and at the personal and interpersonal levels—are also subject to that logic. Gay sex and sexual pleasure, if not represented in the domain of popular culture or art, normally are regarded as an issue of personal health-management that is outside the public sphere. Medicine and health are the means to govern and normalize queer sexuality. As a result, coming out as a queer man as well as publicly discussing gay sex and even disclosing one's serostatus referred to two distinct socio-sexual orders. Whereas a person's coming-out symbolizes the identity politics, the discussion about gay sex nevertheless evokes moral concerns and sometimes panics.

[7] 比如說，如何愉悅地享受肛交，你覺得這個ok,因為我們是我們。因為業務部要拉廣告，我一直怕，客戶來我們的Facebook上面的時候，看到太多的性。假設今天我們是...Cartier我看到同婚我要來推鑽戒，我看到你們在教....我要怎麼跟我老闆說我要試試看Hornet?　這是台灣的事情。我們內部有討論過，尺度的拿捏，我們目前還沒有一個明確的guideline。

By juxtaposing social app's global mission and its local market practice in Taiwan, we can first identify that the similarity between the global north and Taiwan lies in how a neoliberal ethos of personal responsibility became actualized through the pink-washing of homosexual economics. The local sponsorship and contribution to the Taiwanese LGBTQ movement from Hornet as well as other similar social apps were of course indelible. The social app's local expansion nevertheless led to an unexpected consequence. Here, the market principle sanitized queer sexual desires and diversity in order to accord with public perceptions of gay sex. By extension, the differences between both the social apps' global mission and their local practice in East Asia were their distinct paths toward sexual modernity. When Xiao stated "if our potential advertisers and investors see too many sex-related articles and discussions on our site, I am concerned that they won't invest in us," the hidden message revealed that social apps *should* only host moderate, not excessive, number of sex-related topics. It showed how an invisible hand—the market principle in Taiwan—manifested a sense of homophobia in that the potential investors and the app company jointly turned the queer digital environment into a new *closet* of gay men's sexual beings.

Here, the cybercarnality of social apps operates not so much through a form of state-governed surveillance, as through a market-driven principle, an invisible hand through which the market determined the contents of the social site. There is no way whatsoever to verify if Cartier or other famous commercial opportunities could be against excessively sex-loaded contents on social apps. In Taiwan, the form of surveillance has preempted the sex from being seen and discussed. That is, the visualization of safe sex, while seeking to improve sexual health in general, inadvertently eliminated the diversity of queer sex.

Gauging from Xiao's words, especially from his remarks *"We are still a company"* to "*That is because we are we,*" the operation of the Taiwanese marketplace resonates with a sense of

homonormativity. Homonormativity, to borrow Lisa Duggan's (2002: 179) words, "upholds and sustains heteronormative assumptions while promises the possibility of a demobilized gay constituency and a privatized, depoliticized gay culture anchored in domesticity and consumption." Homonormativity, as I have noted in the case of same-sex marriage rights (See Chapter 2), illustrates how the Taiwanese gay community suppressed their (sometimes alternative) sexual desire in order for fitting into the broader heterosexual norms and expectation—to be able to get married. Here, in the story of visualizing safe sex, homonormativity takes up another form. That is, despite the social apps' mission of wanting to assist people to maintain their sexual health and avoid the stigmas associated with HIV/AIDS, the operation of social apps might have mistakenly fostered an invisible rule that delays such kind of self-disclosure from happening. The social app developer both intentionally and implicitly produced an environment for fostering neoliberal-queer subjects.

In this section, my argument has been that the design itself is not outside the logic of market operation, not in a vacuum where corporate's mission of eliminating social oppressions and stigmas can be understood on the surface level. I located my analysis of visualization of safe sex in the Taiwanese market practice, unearthing a conundrum between the design and the operation of market principles. I showed that design and the market logics intra-act to inform ways of negotiating safe sex among queer people. The next section turns to the third aspect of visualizing safe sex, inquiring how gay Taiwanese men incorporate "HIV negative, on PrEP" or other biomed- and sero-related information in their communications with sexual partners.

Unspeakable PrEP and U=U

Recent research in public health has identified *biomed-matching behaviors*, including that gay men or men who have sex with men (MSM) combine PrEP and social apps to appraise the risk

of condomless anal sex and the likelihood of HIV infection (e.g., Grov et al., 2018; Newcomb, Mongrella, Weis, McMillen, & Mustanski, 2016; Storholm, Volk, Marcus, Silverberg, & Satre, 2017). In "Unspeakable PrEP: a qualitative study of sexual communication, problematic integration, and uncertainty management among men who have sex with men in Taiwan," I drew on the interviews with 31 MSM who participated in the Taiwanese demonstration project to illustrate gay Taiwanese men's biomed-matching behaviors (Huang et al., 2019). I pointed out that revealing 'HIV negative, on PrEP' status on social apps increased one's perceived uncertainty in communicating about safe sex with others. In other words, despite requiring one to equip more knowledge in order to properly follow PrEP's regimen, "being on PrEP" disrupted how gay Taiwanese men talked about safe sex. The reason, based on our empirical data, was due to the social stigmas associated with HIV/AIDS in Taiwan.

Scrutinizing the inquiry of "Unspeakable PrEP," I want to suggest a different approach to account for when and how the biomedical category might become a form of social oppression. Here, I tell a story of how gay Taiwanese men create an impossible category—HIV positive, on PrEP—to negotiate their struggle against stigma of HIV/AIDS and navigate their sexual beings in the context of chemsex. By default, "HIV positive, on PrEP" is a medically impossible and confusing category. This category is neither listed in any academic journal nor supported by social apps as an indicator with a straightforward rationale: only HIV-negative individuals take PrEP. If you are HIV-positive, you need to take HAART to suppress viral loads, and hence "Poz, undetectable" would be the correct category. Recognizing that "HIV positive, on PrEP" is a medically nonexistent category, I argue that this concept emphasizes how the materialization of sexual health neglected and marginalized the life of HIV-positive individuals.

From June 2016 to November 2018, part of my research routine involved recruiting MSM for my study. Using the label "PrEP Talk" or the "#PrEP" on my personal social app profiles, I was able to contact "on-PrEP" Taiwanese men who were willing to share their stories with me. I treated the process of recruiting gay men on PrEP as an ethnographic experiment, a project of digital nomads that occurred both online in the digital realm and in physical locations where geo-locative GPS revealed different groups of gay men as I moved within and cross Taiwanese cities. The nomadic nature regarding how I conducted this research reflected upon the layered, flexible features of my data. I traveled from Taiwan's capital, Taipei, to Taoyuan (where I lived), to Tainan (where I collaborated on a research project with local hospitals and a university), and ultimately to Kaohsiung (the largest city in south Taiwan). During this process, I was able to observe different kinds of queer aggregations and bodily performances not only on social apps but also in Taiwan's four cities with the highest HIV infection rates, during the time of data collection.

I recruited the interviewees and collected data by mapping out the virtual and spatial configuration of gay Taiwanese men's lives. On the social apps, gay men in some areas were obviously more muscular and good-looking (at least in my opinion), than those in other areas, whereas the sheer number of gay men in certain cities clearly outnumbered that in others. By the same token, gay men in some areas more often tended to engage in chemsex than gay men in others. For example, although I received numerous chemsex invitations via the apps while in Ximengting (i.e., a district in western Taipei famous for its gay scene and night clubs), I never received any invitations while at home in Taoyuan. By weaving experiences in the digital and actual spaces, I was able to sketch a lived, multifaceted map about gay men's habitus through which their social, cultural, and bodily forms of capital have manifested in the digital realm. Although I was often able to recruit enthusiastic PrEP users, I also received immediate rejections from gay men who

realized that my recruitment-oriented messages were not soliciting hookups. The sampling method was therefore limited by its non-inclusive nature. However, for the same reason, my approach was meaningful, for it helped me tease out the multilayered relationship between the actual and the digital. On that note, I have relied on various gay men's Grindr and Hornet profiles to illustrate my analyses of the materialization of sexual health. My inquiry into the visualization of safe sex remained grounded in the materiality and spatial configuration of gay lives.

I first found Mr. P, one of my informants, on Grindr after his profile piqued my interest. His profile description represented him as an increasingly common type of figure in Taiwan: a person who engages in chemsex. Since crystal meth was sometimes referred to as "ice," given its cubic shape, or "smoke," given the method of consuming it, Mr. P's use of "Wanna nICE fun now" in his profile description revealed his sexual preferences. Directly relevant to my dissertation, his profile detailed that he was "Negative, on PrEP," making me to firmly believed not only that his candidacy would serve as an excellent participant in my research but also that his opinion would make a good case for me to elaborate on the neoliberal aspect of self-health management and gay men's strategies for harm reduction (Chapter 2 and Chapter 3).

Having been unable to set a date for our interview in Taiwan, Mr. P and I reconnected in Bangkok during Songkran festival, on the same weekend when I visited Pulse Clinic (See Chapter 3). According to our social apps, our hotels were only a few hundred feet away. We later decided to meet up at his hotel room to chat about his experiences with being on PrEP. Before our interview, Mr. P had used various recreational drugs during his season of risk, a weekend fueled with chemicals and sex in Bangkok, and he was looking for more.

Mr. P told me that he used recreational drugs to stimulate his sexual satisfaction and had thus been an addict for years. Mr. P was in fact a person living with HIV. He was not HIV-negative.

In fact, he reported taking Truvada that was also prescribed as HIV treatment for years. Instead of labeling himself as "Poz, Undetectable" or "TasP" he indicated that he was HIV negative online. In a scientific and medical sense, his behavior was counterintuitive and hard to grapple, something that public health research or psychology might label as deviant because of the mismatch between one's true health condition and the way he/she acknowledges it.

"I'm taking Truvada for treating HIV, not Truvada for PrEP, but because they're the same medicine [antiretroviral medicine], the consequence [of having sex with me] is the same," Mr. P explained. Here, the science behind Mr. P's behaviors is that Truvada is a type of antiretroviral medicine that has been used as the backbone drug in the treatment regimen since 2004. Truvada, yet, is an antiretroviral drug used in HIV prevention (PrEP) since 2012. Even though taking one pill to prevent sexually contracting HIV was a relatively new idea, Truvada has been a common and familiar brand-name drug among people living with HIV. In this case, the ontological differences between being sick and being healthy—that is, between taking Truvada to manage his viral loads and taking the same medicine to manage his serostatus of "HIV negative, on PrEP"—is very small.

To elaborate his strategies of disclosing serostatus, Mr. P turned to the social stigmas and moral panic in Taiwan. "Using 'poz undetectable' means that you won't be able to find sex on Grindr [or other social apps] . . .. People will judge you even if they say they won't." Here, Mr. P moved away from how the same medicine might result in the same effect in the human body to articulating the hazard of being a HIV-positive individual in Taiwan. I shall situate his words in the broader sociocultural environment in Taiwan. At the time of writing, stigma and discrimination against HIV/AIDS remained rampant. To navigate their sexual desires in the digital realm through social apps, gay men encountered with various uncertainty and challenge. HIV-positive gay men

who fail to disclose their HIV-positive status to sexual partners were facing 5 to 12-year prison sentences—that is, even in the case of U=U, in which the undetectable viral loads have been empirically proved to be unable to transmit HIV. While social apps have offered "Poz, Undetectable" as an option, this very design sometimes offers nothing but a solid, written evidence for some gay men to press the legal charge against HIV-positive men. Moreover, social apps have become the state's phishing tool for cooking up charges for gay men in the drug scene. For example, the police adopted coded languages created by the gay community, such as "Hi Fun," in their profile descriptions in ways to identify those who are looking for "getting high and getting fun." Innocent gay men often were charged with possessing illegal substances due to this route. For that and other reasons, while the app developers offered a platform for more transparently revealing serostatus, being honest online about HIV status might not always be the best policy. Many gay Taiwanese men, during my fieldwork from 2016 to 2019, remained taking a "don't-ask-don't-tell" method to avoid sero-disclosure at all.

As A HIV-positive person, Mr. P thought that he was not entirely lying about his serostatus chiefly because his viral loads were at the undetectable level. He used science to back him up: "You won't get infected with HIV by fucking me, or getting fucked by me, because I'm very aware of my viral load counts. And I have been undetectable for years." Compared to the interviewees in the article "Unspeakable PrEP" (Huang et al., 2019), Mr. P had perhaps the least amount of uncertainty precisely because he knew the drill—not only how science and medicine worked but also how medicine's social meanings and social stigmas evolved over time. Most importantly, P paid attention to how the social apps operate in relation to self-representation as well as change the meaning of the illness.

I have related Mr. P's experiences with the social apps not with an attempt to condemn gay men for lying or being unclear about their serostatus on social apps. I have no evidence in suggesting that discrepancies in gay men's on-app representations and actual well-being would pose real threat to their and others' health. On the contrary, what I have intended to describe in this subsection is the changing meaning of sexual health in relation to the persistent stigmatization and criminalization of people with HIV/AIDS. Gay men's profile categories on social apps, as noted by Race (2018: 162), have biopolitical implications, for they "operate as structuring devices that situate members within the sexual marketplace, provide a basis for ranking and evaluating other members, and ultimately determine the spheres of exchange to which users gain access and in which their profile-identity will circulate." In reference to Race's words, Hornet's KYS and Scruff's safety practices also structure gay men's sexual practices and understanding among each other. What the story of Mr. P has shown does not resonate with the social apps' primes of facilitating sexual communication among gay men. My data indicated an example about how technological innovation led to an unexpected, but more meaningful, outcome. Visualization safe sex through social apps mobilized an implicit bias and social stigma against the lives and bodies disqualified from the social norms.

In studying how gay men engaged digital cruising through Grindr in the city of Chicago, Jody Ahlm (2017) reported that gay men on social apps developed a strategy of "respectable promiscuity." That is, a hetero- and homonormative understanding of social and sexual conducts implicitly structured gay men's reputation management practices and their perceptions of the purpose and potential uses of technology. In a sense, queer technology was sometimes not entirely favorable to queer people chiefly because its operation sometimes constrained queer people's sexuality. The encounters of Mr. P and many others who live with HIV resonated with "respectable

promiscuity" in ways that some people were being silent or strategically utilizing other social categories to perform their online beings. The respectable promiscuity revealed by Mr. P was biomedically, legally, and sexually entangled as his identities and struggles moved from different social registers.

From 2016 to 2019, gay Taiwanese men not only entered into a new HIV biomedical prevention regimen of PrEP but also became involved with the complicated ways of representing themselves and identifying others in the digital world. The initiation of the biomedical prevention regime led to a dichotomy. On the one hand, PrEP should be treated as a biomedical object that diminished gay men's sense of uncertainty and help them to achieve "HIV negative, on PrEP" status. Social apps have also engaged in new design to facilitate communication about thorny topics related to safety, viruses, and illness. On the other hand, the narratives presented above told a different story, one in which, the combination of PrEP and app designs seemed not to eliminate but create a great deal of uncertainty.

"HIV negative, on PrEP" and "Poz undetectable" denote medical truth and social reality. My analysis of Mr. P's story further indicates the internal conflicts of those sero-related concepts. If viral and sersotatus can talk, to borrow Adrian Guta's remarks, then

> Who speaks here? And from what subject-position? Is 'undetectable' voiced as a clinical marker or in the mode of confession, where one expresses an 'inner truth' about oneself, a truth that, on the surface of the body, must paradoxically be detected as undetectable? Or is this utterance not in some sense performative, spoken from elsewhere, relying on the kind of subjectivation that is produced through biomedical, pharmaceutical and epidemiological discourses? (Guta, 2016: 95)

Concerning the ideas of agency and agential realism, sexual health can be conceived as a generative process through which the vitality of life sustains one's sexual beings. What I have demonstrated here is that such kind of energy and human condition become always already materially configured with objects. From my analyses of KYS, safety practices, market practice,

and finally to unspeakable PrEP, we can conclude that, although objects were designed to ease the burden of becoming HIV negative, how they were structured and used have both manifested and prolonged the social stigmas, anxieties, and fears about HIV/AIDS. During that shift, uncertainty has become distributed *onto*, *around*, and *within* the objects, and, because of this particular reason, teasing out that biopolitical conundrum illuminates contemporary gay men's sexual health.

Conclusion: On Pornographic Bodies and Virus Talks

In this chapter, I have described the process through which the invisible viruses and personal use of medicine migrate onto digital platforms. I have discussed what happened when serostatus becomes a set of visual data for gay men to use in appraising safe sex. Two distinct approaches to visualizing safe sex—the embodied biomarker of KYS and the disembodied method of Safety Practices—have emerged since 2011. In Taiwan, a neoliberal ethos has implicitly dominated the market practice in ways to sanitize the diversity of queer sex. Gay Taiwanese men utilized "HIV negative, on PrEP" as an unspeakable tool to navigate their sexual desires, legal discriminations, and struggles for establishing intimacy and sociality. The account of visualization of safe sex opens up a materialist inquiry into sexual health, one that allows us to see queer embodiment in light of agential realism and cybercarnality.

Notably, a gap in sexual modernity—that is, an inconsistency between the social app's global mission and its local market practices—operates here as an agential cut to determine what kinds of bodies and sexualities are viable while others are disqualified. By destabilizing the ontological stance of bodies, my analysis enabled a re-conceptualization of *safety*, *risk*, and other conventional notions in public health through a relational and materialist perspective. I conclude with a note of Mowlabocus's cybercarnality, articulating to what extent that visualization of safe sex reveals the politics of the surveillance of bodies and what we can do with such transformation.

As I addressed in the second section, cybercarnality is concerned with how cyberspace promotes commodification and sexualized lifestyles of the male body as well as how a panopticon of surveillance and self-surveillance shape one's body and sexuality. If anything, my analysis has pointed out that social apps have contributed to an alternative, ultimate form of pornographic expression of bodies—that is, from the exterior bodily parts of human skin and genitals to the molecular level of living matter and from erotic and sexual performance to a medical and social gaze at living human tissues. Regardless of their distinct social implications, both the pornographic bodies and the HIV disclosure on social apps involved a condition of violence, one that biopolitically regulates and redefine the boundaries of bodies and sex.

Based on Hornet's KYS and Scruff's Safety Practices, we can verify that gay men's safe health generally and HIV disclosure specifically are now under surveillance of the design of the platforms as well as one's self-participation and voluntary of disclosing his serostatus. In the case of KYS, for instance, the categories offered for gay men and gay men's participation constitute a condition of knowing both yours and others' serostatuses. The operation of sero-surveillance worked in the name of normalizing the culture of HIV disclosure and the collective goal of making the social app a *better* space for gay men. To navigate their sexual desires, either as mundane as random hookups or as extreme as chemsex, gay men negotiated with those categorical regulations, state surveillance, and market practices in order to live their queer lives. The materialist account of social apps enables us to conceptualize contemporary gay men's bodies and sexualities in which queer life is an ongoing process of negotiating viral visibility, material configurations, visual data, and power relations.

Epilogue: Gay Sex and Gay Science in The *Post* Post-AIDS Era

> "But optimism might not feel optimistic. Because optimism is ambitious, at any moment it might feel like anything, including nothing: dread, anxiety, hunger, curiosity, the whole gamut from the sly neutrality of browsing the aisles to excitement at the prospect of "the change that's gonna come." Or, the change that is not going to come: one of optimism's ordinary pleasures is to induce conventionality, that place where appetites find a shape in the predictable comforts of the good-life genres that a person or a world has seen fit to formulate" (Berlant, 2011: 2).

I began this dissertation by connecting PrEP to a hope of ending AIDS by 2030. Since 2012, PrEP has gradually become a shared agreement among AIDS scientific communities, LGBTQ people, and local governments—the breakthrough of HIV biomedical prevention regime can push forward the post-AIDS era, to the end of AIDS. While this dissertation is an attempt to capture the changes in medicine, serostatuses, and gay Taiwan men's sexual beings, my analyses have complicated the forward-looking bio-hope. The distribution, circulation, and consumption of PrEP altered not only how both HIV-negative and HIV-positive individuals enacted their sexual beings but also how governments, pharmaceutical companies, AIDS advocates, evangelical conservative Christians mobilized their political and social resources to change the narratives and the legitimacies of sexual health. If anything, this dissertation is an account of how the desired bio-hope of ending AIDS became mediated and embodied, publicized and commodified, actualized and complicated in the recent historical transformation of HIV/AIDS.

I wrote this dissertation at various locations: the flights back and forth Taipei, Bangkok, and San Diego, the cheap hotel rooms in Taiwan and Thailand, the graduate housing at UCSD, and various local cafes in North Park and Hillcrest, San Diego. Sometimes I wrote with excitement of me being able to trace the social process of ending AIDS while reflecting a lot on Lauren

Berlant's reminder of cruel optimism—a hope is not always straightforward. A hope is something with counterforce. The final stage of this writing took place in my room during the time of COVID-19, which was a new and extremely contagious coronavirus that originated from Wuhan China in 2019 and then swiped the whole world, including the United States. At the time of this writing, the federal and state officials issued the measures "shelter-in-place" and "stay-at-home" to demand "social distancing" as a means to curb the outbreak of the virus. While wrapping up this project, I can't help thinking about the similarities of COVID-19 and AIDS—in terms of the contested meanings of defining viruses, the political and scientific conspiracy of labeling "patient zero," the manifestation of stigmas, as well as the gendered and racialized oppressions against social minorities in the name of social justice and public health.

The history of HIV/AIDS teaches us many things. It informs us about the politics of medicine and knowledge, the hegemony of social justices and structural inequalities, as well as the humanities of suffering and comradeship. In *How to Have a Theory in An Epidemic: Cultural Chronicles of AIDS*, Paula Treichler (1999) notes that AIDS is an epidemic of signification, a disease with dual life—the material and linguistic reality—in ways to construct social reality. Having suffered from the social stigmas of HIV/AIDS (initially named "gay-related immune deficiency," GRID), gay communities invented safe-sex practice in the first few years of the pandemic (Patton, 1996). Douglas Crimp (1987: 253) writes:

> "Gay men's promiscuity taught us many things, not only about the pleasures of sex, but about the great multiplicity of those pleasures. It is that psychic preparation, that experimentation, that conscious work on our own sexualities that has allowed many of us to change our sexual behaviors. It is for this reason that Shilts's and Kramer's attitudes about the formulation of gay politics on the basis of our sexuality is so perversely distorted, why they insist that our promiscuity will destroy us when in fact it is our promiscuity that will save us" (Crimp, 1987: 253).

In Crimp's critique on Randy Shits's "And The Band Played On," gay sex and desire sustained a positive model insofar as sexual pleasure served as the survival tactic in response to the uncertainty

of health crisis. Crimp's works opened up an expansive way of examining gay sex. In *Impure Science: AIDS, Activism, and the Politics of Knowledge*, Steven Epstein (1996) tells the story of how social forces from the community ignited the progress of scientific studies and challenged the notion of credibility and uncertainty. Cathey Cohen (1999), from the perspective of racial politics, addresses how social and political resourses were short in supply, and how, as a result, black communities became marginalized and underrepresented in the AIDS research. Taking from a view of performativity, Jeffery Bennett's (2009) *Banning Queer Blood: Rhetorics of Citizenship* speaks to the issues of citizenship and democratic practices about how gay men were banned from donating their blood as a deprivation of civil rights. The list continues.

How to Become HIV "Negative, on PrEP" in the Post-AIDS Era builds on the historical projects that have documented the implementation of science and sexual minorities of sexual practices and ways of living. This dissertation contributes to the history of HIV/AIDS by offering an object-oriented analysis to reflect on the transformation of HIV biomedical prevention regime in the fourth decade of the AIDS epidemic. Like many other projects, this dissertation is an account of how gay men cope with the viruses, disease, uncertainty, risk, how the structural inequalities become manifested, and how science redraws the invisible boundaries between populations in the name of health. This dissertation complicates the idea of "Post -AIDS."

As mentioned in Chapter 1, the term *Post-AIDS* has gradually become a consensus among the scientific community after the sixth AIDS Conference in 1996. Echoing the conference's theme "One World One Hope," the term Post-AIDS entails a forward-looking optimism that urges to scale up HAART (cocktail treatment) in ways to turn AIDS a chronic, manageable illness. However, the term Post-AIDS is also misleading in suggesting a universal, global pathway of the end of AIDS. My dissertation joins many others' critiques about Post-AIDS, moving away from

the medicalized features of disease toward the ever-changing governmentality of HIV/AIDS and contemporary gay men's sexual practices. If anything, I have shown that the struggles and suffering of queer life have not yet come to an end in the time of biomedical prevention regime. We are now in a post "post-AIDS era."

AIDS arrived in Asia late. In *Globalizing AIDS,* Cindy Patton (2002) traces the global travel of the AIDS epidemic in the late 1980s and early 1990s. Patton notes that, due to the delayed discovery of the cases of AIDS in the area, Asia (especially East Asia) was positioned as feminized, passive, vulnerable, and, as a result, in need of being saved. Patton frames this racialized and gendered medical discourse as a "tropical thinking," explaining as thought style such that: "if you don't use condoms, you'll turn into Africa; if you don't have sex, you can be Asia. Africa is always infectious, Asia is always infectable, and a white body is precariously suspended between them" (2002: 99). My dissertation offers an up-to-date medical ethnography on the political stake of AIDS and gay socio-sexual practices in the region in ways to de-mythize the gendered and post-colonial discourse of disease's global path.

This dissertation is an endeavor to capture the time after post-AIDS era, when the scientific communities, local governments, and LGBTQ communities began to believe this very illness can come to an end. My dissertation used Taiwan's as a case to detail how the biomedical attention evolved from treatment to prevention, and how medical emphasis changed from top-down government-led governance to bottom-up, community-driven approach of becoming "HIV negative, on PrEP." To historicize the significance of my project, I did not try to restore the value of how Taiwan served as the first East Asian country that approached the destination of AIDS. Neither did I attempt to restore the role that East Asia has played in this process. Instead, I addressed the transformative role that Taiwan has played in shaping the geopolitics of health.

Significantly, Taiwan's rich cultural background of sexual modernity offered a one-of-the-kind case study, shedding light on the debate between family rights and health rights. Meanwhile, the uniqueness of Taiwan's case is both local and global. I used Taiwan and Bangkok as the reference points to examine queer medical tourism. I showed that PrEP in particular and sexual health at large became commodified. Based on the ethnographic data, I also pointed out that the rollout of PrEP has redefined risk, safety, and health, and other taken-for-granted notions in public health.

This project also contributes to the study of HIV/AIDS by engaging chemo-ethnography. Like other chemical ethnographers, my project offered an analysis of the economic, personal, political, and sexual relationship that emerged from modern chemistry. I did so by using PrEP's chemical names, patten name, and generic names as the linking devices to consider the politico-economic and sexual controversies that PrEP evoked. I explored the meaning of sexual health, bodies, and identities, while tracing biomedical objects' social trajectory to various locations. To be clear, regardless of its object-oriented focus, the ultimate concerns of chemo-ethnography is in fact the old philosophical questions: "what is life," "what is not life," what is the matter of life," "how life becomes life," how/why life become matter." Turning to the serostatus management, my project opens up a blood/virus/medicine- centered approach of how gay Taiwanese men embarked on a journey of becoming HIV negative, on PrEP. Given that Taiwan has been excluded from the WHO and other health organizations due to the long existing political factors and oppression from China, case study of Taiwan's health, sociocultural, and sexual politics offers an additional, imperative understanding of the transformation of sex, health, and bodies in the fourth decade of the AIDS epidemic.

By theorizing gay men's management of serostatus, this research is able to intervene in mobile communication. Rather than addressing the behavioral changes, my focuses on sexual

health were the pornographic bodies and viral talks. I argued that smartphone apps revealed an ultimate form of embodiment insofar as to see through the exterior body, flesh, and/or genitals, toward a molecular level of living matter and serostatus. I contend that gay men's sero-disclosure should be seen as ways of staging virus and medicines. Barad's agential realism provided the imperative theoretical anchoring point to thinking about the intra-action among objects, medicine, device, the temporal and precarious features of viruses, etc. More relevantly, it helps us to better comprehend the agential-cut and the social reality that the operation of social apps informed.

This dissertation provides a critical assessment of contemporary gay men's sexual health, adding to the study of HIV/AIDS by address the broader issues of the marketization of medicine, the malfunction of health infrastructure, the politics of self-medication, the digital transformation of queer intimacy and embodiment. Things have changed a lot since I first began this project. Most obviously, the pharmaceutical company has been working in various manners to secure its profit. Gilead Sciences has been filing multiple patent extension in the United States. Gilead Science also manufactured another PrEP called "Descovy" in order to distinguish/expand the market of HIV prevention and treatment. At the same time, that pharma company has been seeking to collaborate with local NGOs by sponsoring research and social movement. The generic pharmaceutical companies in Taiwan have been eager and waiting to file the indication for manufacturing generic PrEP. Thailand included that PrEP in the national health regimen, making PrEP free for the citizens. Pulse Clinic opened a new clinic in metropolitan Hong Kong. While the history of HIV/AIDS is not moving closer to a destination that is set up by WHO. Gay men's sexual life and the study of sexual health are entering into more hybrid, dynamic integration of personal consumption, marketization, and the digitalization of personal intimacy. This final point leads to the final words of this project— the chemical practices of gay sex.

Future Directions

This dissertation is informed by Kane Race's series of writing, from his initial project *Pleasure Consuming Medicine: The Queer Politics of Drugs* (2009) to his recent intervention *The Gay Science: Intimate Experiments with the Problem of HIV* (2017), and in his many other works in between. In *The Gay Science*, Race (2017) outlines three areas of transformation of contemporary gay men's sexual practices: digital infrastructures, chemical infrastructures, and communal infrastructures.[1] Throughout this dissertation, I explored the shifting regime of HIV medicines and the changing climate of global public health. My project took a similar perspective of *The Gay Science* to investigate the different domains of gay Taiwanese men's health and the rollout of HIV biomedicine. My work explores the generative, transformative, and dynamic process of *gay sex* and *health*, challenging the common, normative approach of regulating gay men's sexualities and bodies during the process in which gay men become *toward* or *against* "HIV negative, on PrEP."

In this dissertation, I have furthered Race's categorizations of three infrastructures, reorienting the public health's attention of behavioral changes to the materialization of sexual health and the ways in which serostatus was managed by experts and laypersons in Taiwan and Thailand. I have addressed the trend of consumer culture in the party scenes and the neoliberal ethos of self-health management. I discussed the similarities of gay Taiwanese men's experiences with HIV biomedical prevention regimen and struggles in the face of social stigmas and state surveillance. Like Race, I also analyzed the social science of HIV/AIDS and public health

[1] Digital infrastructures refer to how the Internet and digital devices have rearranged sex between gay men. Chemical infrastructures indicate how the biomedical and pharmaceutical developments and the consumption of drugs have shaped the corporeality and bioactivity of bodies in gay sex scenes. Finally, communal infrastructures concern the change of the cultural geography of gay life, suggesting a decline in the frequency of presences and face-to-face encounters at bars, clubs, and dance parties, etc... in favor of digital infrastructures.

scholarship from a more expansive and generative position. I attempted to offer a counterexample of how gay men disrupt the normative aspect of public health in ways to *queer* public health. Based on the six chapters of this dissertation, I outline three future directions.

First, I propose to continue documenting the implementation of PrEP in Taiwan and other East Asian region. This direction would require both the expansion of my ethnographic efforts and to historicize HIV/AIDS, not only in Taiwan but also in East and Southeast Asia. In the first chapter, I pointed out the usefulness of taking a perspective of *global-closeness.* Gradually moving from Taiwan to Thailand, from Chapters 2 to 4, I demonstrated how sexual health of PrEP and serostatus management took place at both a digital environment and geographic proximate countries. My analysis offered an opportunity to venture beyond the West-East distinction and can foreground the post-colonial history of how Thailand has become both the world and regional health hub and how the close-by countries such as Taiwan interact with the Thai medical industry. What are the cultural, economic, and political backgrounds and driving forces that make this underestimated history come into being? How do we identify the politics of knowledge production in this region? And how do we put sexual modernity and queer theory in conversation with STS scholarship in the context of East and Southeast Asia? Moving forward, I propose to continue observing the expansion of PrEP while historicizing those questions in light of Taiwan's condition and other proximate countries.

Second, I propose to explore the chemical practices of gay sex in ways to critically examine risk, safety, and health, and the social scientific studies of HIV/AIDS. Throughout my dissertation, I have addressed the uniqueness of chemsex in various chapters but have not yet systematically theorized this phenomenon. Since 2019, I have begun a second project by collaborating with a team of Taiwanese and Australian researchers on a *Chemsex project*, to evaluate urban gay men's

use of chemicals (e.g., crystal meth, ecstasy, Viagra, PrEP, and other forms of legal or recreational drugs) during prolonged sexual activity. My dissertation serves as the basis for opening up a crucial inquiry of chemsex. Recognizing that Race has offered a full book-length account of *Pleasure Consuming Medicine: The Queer Politics of Drugs* in 2009, I propose to explore how gay men engage chemicals in their sexual behaviors. I envision a project "viral talk" to explore the drugged bodies and the ontological changes of gay men's sexual practices in response to the emerging chemsex phenomenon in Taiwan. I propose to draw on feminist STS and objecthood in conversation with the public health literature. My goal is to advance the logics of sero-management to examine the entanglement of blood, semen, blood fluid, and drugs. Ultimately, I will develop a study of how biomedical and lay knowledge about safety, risk management, and harm reduction become (de)stabilized.

Finally, this dissertation serves as a starting point of examining queer medical tourism in Asia. Future inquiry brings chemo-ethnography and STS one step closer to the study of tourism. I propose to explore the shift in the industry in detail. Using Taiwan as an anchor point, I will explore the queer medical tourism in other proximate countries such as South Korea, China, Hong Kong, and Singapore. I advocate the analysis of labor—in particular, affective labor— to unearth the often ignored, gendered, and racialized bodies and lives in the neoliberal time of mobility. In doing so, my work on the history of AIDS in Taiwan, gay men's chemical practices, and medical tourism will make a critical contribution to sexuality studies, transnational STS, medical anthropology, and Asian studies

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