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Digital markets and the commercialisation of healthcare in Africa: the case of Kenya

by Marine Al Dahdah (CNRS; CEMS-IFP)

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Abstract : With the widespread use of mobile phones, digital technology is gaining renewed interest in Africa. A growing number of international actors are proposing to use mobile phones as central tools for addressing health issues on the continent, specifically to ensure 'health for all'. Based on the analysis of the "health wallet" of the world most famous mobile money platform, MPESA in Kenya, this article questions the tenants and tribulations of implementing market- and digitally-based universal health coverage. It explores the way in which digital devices reconfigure the politico-economic modalities of governing health coverage in Africa. It shows how this platform model involves diverting funds formerly given to public structures to private operators in charge of deploying digital health infrastructures. The same private operators managing these infrastructures now have access to public and private health data and monetize them, thereby further aiding the expansion of corporate provisioning of health services.

Introduction: health coverage in your mobile phone

In spite of multiple denunciations in the early 2000s of the North-South digital divide, digital technology has been the subject of renewed interest over the last decade with the widespread use of mobile phones and mobile Internet on the African continent. Today, Africa is hosting the largest number of mobile phone-based development programmes, or mDevelopment, and is thus becoming a "huge digital market" thanks to the mobile revolution that characterizes it (Cheneau-Loquay, 2009; De Bruijn et al., 2009). This article examines the social and political dimension of programmes that use mobile phones as a central instrument to address health issues, also known as mHealth. Indeed, since the early 2010s, many international actors have praised the potential benefits of mobile phone use for health in Africa and launched a number of mHealth projects on the continent.¹ According to its promoters, mHealth would be a cost-effective technology, capable of ensuring the quality of care, rationalizing and reducing health expenditures while improving the caregiver-patient relationship.² In African countries with lower levels of banking, mHealth is combined with mobile banking services, also known as mMoney, which allow individuals to pay or cover their health expenses with their mobile money. This article focuses more specifically on this type of service, which is supposed to

1. See, among others, the following reports, which provide an initial list : mHealth Alliance, 2010, « Barriers and Gaps Affecting mHealth in Low and Middle Income Countries » <https://www.mhealthknowledge.org/resources/barriers-and-gaps-affecting-mhealth-low-and-middle-income-countries> consulted on 13/12/2015 & AFD 2013 « L'utilisation des nouvelles technologies de l'information et des communications (tic) dans le domaine de la sante maternelle et infantile en Afrique subsaharienne ». http://www.afd.fr/webdav/site/afd/shared/PUBLICATIONS/RECHERCHE/Scientifiques/Serie-grise/NTIC_sante.pdf consulted on 13/10/2016.

2. Between 2013 and 2018, I conducted several qualitative surveys in Ghana, Kenya and India on mHealth programmes. During these five years of research, I met more than 150 actors directly involved in the management and implementation of mHealth programmes in these three countries, whether they were project managers, financiers, technical operators or regulators. I also interviewed around 100 health professionals (community health workers, nurses, midwives, doctors) in charge of deploying these programmes on their territory. Finally, I met nearly 300 patients-users of these programmes. My research looked at the strategies, achievements, failures and detours that characterize these new types of programs. See my PhD Thesis in Sociology, " Mobile (for) development : mobile phones for maternal health in Ghana and India. "(Paris Descartes, 2017).

facilitate the financial accessibility of health systems. Indeed, the stated goal of these mobile services is to offer a first health coverage to Africans, the majority of whom use health facilities without insurance and go into debt to cover their health expenses (Ridde, 2014; Sen and Östlin, 2010). However, these mobile health insurance services are closely linked to the effort to construct a “sustainable” and profitable mobile economy in Africa where 90% of customers buy credit as they go along and change operator regularly.³ Health coverage here becomes a loyalty program, a way to keep customers in a competitive and unstable economic context.

This article analyzes a program initiated in Kenya - the mMoney champion of Africa (with 75% of adult Kenyans using mMoney services) - often taken as a worldwide example of the success of mobile banking. Called "M-TIBA"⁴, this program is a mobile wallet dedicated to healthcare expenses, backed by the world's most famous mobile money platform (M-PESA⁵) and the Kenyan health insurance system. Kenya is one of the few African countries to have had a national hospital insurance scheme since the 1960s: the National Hospital Insurance Fund (NHIF). Membership of NHIF is compulsory and chargeable for all Kenyans engaged in activities in the formal sector and voluntary for those in the informal sector. The NHIF has been criticized for the poor quality of care, the cumbersome complaints procedures and the distribution of structures and care services, which in reality cover a minority of the health needs of Kenyans.⁶ To respond to some of these concerns and as part of an international drive for the implementation of universal health coverage in Africa, the country has initiated since 2012 a transformation of the NHIF, whose objective is to cover all Kenyans for ambulatory and hospital care, regardless of their ability to pay.⁷ This reform struggles to be implemented and takes multiple paths including the one that this article analyzes: M-TIBA.

Launched nationally in 2016 by the main mobile operator in Kenya - Safaricom - the M-TIBA wallet brings together more than 2.3 million subscribers and aims to facilitate financial accessibility to healthcare in Kenya. Having conducted research on health issues in Kenya since 2011, I was able to observe the arrival and the evolution of M-Tiba from shortly after its conception through its implementation. This paper is based on ethnographic research of the uses of M-TIBA. In 2018 I conducted two periods of fieldwork focused on M-TIBA in Nairobi, which included qualitative interviews with approximately thirty stakeholders in charge of developing and implementing the program in Kenya, a dozen health professionals affiliated with the system, and fifteen M-TIBA users. All individuals interviewed for the study volunteered and agreed to be recorded for the sole purpose of the study and measures were taken to protect the confidentiality of study participants and the data collected from them.

This article examines how M-Tiba's mobile money-based health coverage system is operating in Kenya, asking: how is this for-profit digital platform coined as a development program, one that relies heavily on philanthropic and donors' money? How are digital players constructing new markets and new ways of accessing healthcare through mobile money? Structured in four parts, the article first describes M-TIBA service and its platform model. The following three parts analyse the main functions of the platform: channeling people's money, harvesting donors' funds, and building markets with government support. Drawing on digital studies (Beuscart et al., 2016) and economic sociology (Chiapello, 2017), I explore the way in which digital devices reconfigure the politico-economic modalities of governing health coverage in Africa. In line with recent articles proposing a critical perspective on mHealth deployments in the Global South (Erikson, 2021; Sawadogo et al., 2021), the paper also engages the critical literature on digital infrastructures in Africa (Breckenridge, 2014; Erikson, 2018), on privatization and Global Health (Adams, 2013; Biehl and Petryna, 2013), and on philanthrocapitalism (Birn, 2014; McGoey, 2015).

5. See GSMA. « The Mobile Economy - Sub-Saharan Africa 2018 ». Consulté le 6 août 2018. <https://www.gsma.com/mobileeconomy/sub-saharan-africa/>.

4. Tiba means treatment in Swahili.

5. Pesa means money in several languages, especially in Swahili and Hindi, so that the service has kept this name in its African and South Asian deployments.

6. See for instance the analysis of Timothy Abuya, Thomas Maina, et Jane Chuma, « Historical Account of the National Health Insurance Formulation in Kenya: Experiences from the Past Decade », *BMC Health Services Research* 15 (12 février 2015): 56.

9. Government of Kenya. Sessional Paper No. 7 of 2012 on the Policy on Universal Health Care Coverage in Kenya. Nairobi, Kenya: Ministry of Medical Services; 2012.

1 Digital markets and the commercialisation of healthcare in Africa

Sub-Saharan Africa is the epicentre of mobile money and a testing ground for many players in the digital economy.⁸ The international association representing the telecommunications sector (GSMA) defines mobile money or mMoney as "a service in which the mobile phone is used to access financial services".⁹ In 2017, the GSMA registered 690 million mobile money accounts, half of them in sub-Saharan Africa¹⁰ where one in three mobile connections is linked to a mobile money account. East Africa has the highest mobile money penetration rate (55%)¹¹, with Kenya leading the way with 75% of adults using mMoney (the vast majority through Safaricom's M-PESA platform). In 2015, 18 countries in the world, almost all in sub-Saharan Africa, had more mobile money accounts than bank accounts.¹² In the health sector, the promoters of mobile money propose to improve access to health care through the financial services it offers but also through the new public-private partnerships (PPPs) it encourages, for example between mobile operators, private micro-insurers and national health insurance funds such as the Kenyan NHIF. The combination of mMoney and mHealth is thus giving rise to new forms of health coverage that are booming in sub-Saharan Africa.¹³

The majority of Kenyans regularly use M-PESA to store and transfer their money. They also pay for their health care out of their own pockets. The M-TIBA mobile health wallet was created with this dual purpose in mind, allowing users to receive, send, or save money to pay for health services. As one project employee explained: "In the wallet, you have different pockets. So you have a pocket with your money or the money your aunty gave you, there is also a pocket that contains your insurance cards and it could be any insurance card".¹⁴ The mobile platform allows users to centralize and save money from multiple sources such as family, friends, the government, or donors, and to pay for health care expenses through a range of financial products, such as a service to pay directly for care with virtually stored cash, a service to pay for health insurance, or a service to access the health coverage offered by the NHIF. Tested in Nairobi in 2015, M-TIBA was officially extended to the entire country in September 2016. According to its founders, M-TIBA will have a positive impact for donors (who will have greater financial transparency of the health services paid for with their funds), patients (who will be able to choose better quality care) and health providers (who will be assured that they will be paid promptly for their services).¹⁵

The model proposed by M-TIBA is based on that of digital platforms such as AirBnB or Uber. According to its designers, M-TIBA promotes trust and can be considered the "Uber" of healthcare: "While Uber or AirBnB link the supply and demand of transport and housing, M-TIBA can play a central role in linking international supply and demand for health payments".¹⁶ The platform manages healthcare payments between donors, patients and health providers, directing donor funding to providers based on evidence of health services provided to patients. M-TIBA is also part of the growing wave of partnerships involving philanthropic foundations (Cassier, 2016; Guilbaud, 2015) that are investing in digital technologies to address critical health

16. See GSMA et DFID, « Developing Mobile Money Ecosystems », 2008, http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/06/report_30_mobilemoney.pdf, consulté le 10/10/2016.

17. GSMA, « State of the Industry: Mobile Money », 2017, https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/05/GSMA_2017_State_of_the_Industry_Report_on_Mobile_Money_Full_Report.pdf, consulté le 03/03/2018.

10. GSMA 2017, *ibid*.

11. GSMA 2017, *ibid*.

12. Burundi, Cameroun, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Ouganda, Paraguay, République Démocratique du Congo, Rwanda, Swaziland, Tanzanie, Tchad, Zambie et Zimbabwe. Source : GSMA 2017, *ibid*.

13. See mHealth Alliance, « Advancing the Dialogue on Mobile Finance and Mobile Health: Country Case Studies », march 2012. Consulted on 28/03/2013 https://www.mhealthknowledge.org/sites/default/files/23_advancing_the_dialogue.mhealth_alliance.pdf

14. ITW with the Founders of M-TIBA, Pharmaccess, Nairobi, february 2018.

15. ITW with the Founders of M-TIBA, Pharmaccess, Nairobi, february 2018.

16. See: <http://quivertree.org/?project=healthconnect-peer-2-peer-healthcare-financing>, consulted on 05/05/2018

needs. M-TIBA was developed with philanthropic money administered by the PharmAccess¹⁷ and Safaricom foundations. To carry out their mHealth programs, these foundations launched a for-profit company, CarePay Limited in 2016, which houses the commercial activities that they cannot accommodate due to their non-profit status. CarePay administers M-TIBA, collects medical data, manages transactions between donors, beneficiaries and providers, and reports to donors on how their contributions are spent.

Increasingly, the digital industry considers its business to be social and, as a Safaricom agent explained, "if you solve a social problem, the money will follow".¹⁸ Through projects such as M-TIBA, they are applying a new business model to social sectors such as health or education: platforming or uberization. Mobile phone is presented by many digital players as an essential lever for development, a means of solving social problems while generating income in developing countries. In line with social science research on microfinance (Guérin, 2014) or direct money transfers (Sardan and Piccoli, 2018), this article questions this assertion and the model on which it is based. The "Uber" or "uberization" model is nothing more than an expression, no doubt transitory, of what digital technology is beginning to do or to make people do today - transforming work, transportation or circulation of money, among many things. Uberization reflects the idea that this global phenomenon has its own forms and identity. The digital platform is at the heart of this process, which is changing structures and frameworks of thought. In the Global North, uberization is massively affecting the transport and hotel sectors (Beauvisage et al., 2018); in Africa, it affects essential services such as health and education, but is still little studied (Al Dahdah, 2022; Neumark and Prince, 2021). While most mHealth programmes are launched thanks to philanthropic donations or participations from digital companies,¹⁹ they are embedded from the outset in commercial logics; they aim at financial profitability and quick return on investment. The article then looks at the economic model and the commercial dimension of this healthcare platform in Africa.

2 Making virtual cash flows converge

My research suggests that services like M-TIBA are first and foremost financial services and that their main objective is to channel money flows from different sources. As its designers explained, health is primarily about money: "If you want to give low-income people access to healthcare, someone has to pay: there is no such thing as free healthcare"²⁰. Basically, a service such as M-TIBA is used to bring together individual money, philanthropic money, public money and corporate money via the same mobile platform to pay for particular health services in partner structures.²¹

M-TIBA was developed with money from Safaricom's Corporate Social Responsibility (CSR) department and its two philanthropic foundations²², so it is part of the operator's profits reinvested in social projects. Its profits are generated by products and commercial strategies that seek to reach the "poorest", targeting what the management scholar CK Prahalad's termed the "fortune is at the bottom of the pyramid" (Prahalad, 2016). For Safaricom, selling mobile services to the poorest is a central strategy and the recipe for its success, since

17. Founded in 2001, Pharmaccess is a dutch group of non-profit organisations, which defines itself as "a company with a digital strategy to connect more people to better healthcare in Africa". Its activities are funded by donors such as the World Bank, USAID, Pfizer, the Rockefeller and Bill and Melinda Gates Foundations. Arrived in Kenya in 2010 to sell insurance to dairy farmers, PharmaAccess initiated in 2011 the Medical Credit Fund, which offers loans to private clinics. See: <https://www.pharmaccess.org/about-us/> consulted on 01/05/2018.

18. Interview with a Safaricom officer, Nairobi, March 2018. For reasons of confidentiality, I do not cite the position of the interviewee who could otherwise be easily identified.

19. The vast majority of mHealth projects referenced by the GSMA mHealth tracker tool are propelled by private players wether telcos, digital firms, or private foundations, see: <https://www.gsma.com/mobilefordevelopment/m4d-tracker/mhealth-deployment-tracker/>

20. Interview with a Pharmaccess officer, Nairobi, February 2018

21. This is a very restrictive definition of health, as the provision of health services and not as a state of well-being of a society or an individual as defined by the WHO.

22. The Safaricom Foundation and the M-PESA Foundation.

in Kenya 60% of the population lives at the bottom of the pyramid.²³ The Kenyan operator - owned at 40% by the British group Vodafone - is one of the richest companies in Kenya. Safaricom's success is due firstly to its quasi-monopolistic position on the Kenyan mobile market²⁴, but also to the worldwide success of its M-PESA mobile portfolio, the best known and most widely used mobile payment service in the world. Used by 75% of Kenyans adults, M-PESA now provides Safaricom with a fortune from its sales at the bottom of the pyramid.

M-TIBA illustrates a new trend in the development sector, sometimes referred to as social business or philanthrocapitalism; a way of deploying new markets to serve a good cause.²⁵ The term has since been used by several authors to explain a new way of giving that has become prevalent in many privately funded development partnerships (Aneja, 2016; Global Health Watch, 2011; Martens and Seitz, 2015). Thus, mHealth can be used as a philanthropic strategy to develop new profitable markets. Thanks to the activities of the Safaricom and M-PESA foundations and its CSR programmes, the operator is blurring the already fine line between philanthropy, development, the market and capitalism. The money injected into the Safaricom foundations is not supposed to serve the operator's economic interests. As one of its employees explained: "The Safaricom Foundation, as it operates, can never do anything that directly benefits Safaricom, it is forbidden. It's a thin line, but what I mean by that is that they can never develop a product that can be sold and start generating revenue for Safaricom".²⁶ However, the company does use its CSR policy to develop lucrative new products in areas considered "good for society". According to a Carepay officer: "Safaricom cannot do anything with the interest earned on the M- PESA funds. So they put that into the M-PESA foundation. Because for the Kenyan government, it is people's money, so it should go back to the society, and this money was used to launch M-TIBA".²⁷ As the Technology for Development team that developed M-TIBA at Safaricom explained, their unit within the CSR department works to turn social problems into marketable solutions: "People would think that we are not a business unit, but the products we develop end up in the business unit. We make commercially viable innovations".²⁸ Their role is to develop products, make sure they are appreciated in the market, and then transfer them to the business units, thus making societal issues a core business activity of the mobile operator. Using money from foundations to develop M-TIBA is therefore an "indirect" way of channelling money from individuals. But, as I will highlight below, M-TIBA captures people's money even more directly through its savings service dedicated to medical expenses.

In order to encourage Kenyans to save money in their M-TIBA wallet, Safaricom has deployed various strategies to become a key tool for paying healthcare bills. At the launch of M-TIBA, a bonus system was put in place which was one of the main reasons the M-TIBA users I met subscribed to the service. As one user explained: "You know that if you put money into M-TIBA, for example, if you put 100 shillings, they will give you a bonus of 50 shillings per month, but if you don't deposit anything, they won't give you anything".²⁹ Indeed, the first 100,000 M-TIBA users who registered and deposited 100 KSh (0.8€) or more into their M-TIBA account received a bonus of 50 KSh (0.4€). Thereafter, users received KSh50 each month when they deposited KSh100 or more into M-TIBA during the following 11 months. This bonus program has resulted in a huge uptake of Kenyans joining the service with one million subscribers in its first year of operation. However, even though M-TIBA announced one million users at the end of this first year, only

23. Business Call to Action, « Advancing Bottom of the Pyramid (BoP) Access to Healthcare: A Case Study on Mobile Money Platforms », 2016, https://www.businesscalltoaction.org/sites/default/files/resources/BCtA_MobileMoneyPlatformCaseStudy_Web.pdf, consulted on 07/08/2018.

24. Safaricom at the beginning of 2018 had a 72% share of the Kenyan mobile market. See article by Emma Park and Kevin Donovan, "Between the Nation and the State", *Limn*, 9 August 2016.

25. At the micro level, philanthrocapitalists want to change philanthropy by applying the rules of Big Business to the charitable sector. At the macro level, they promote capitalism as naturally philanthropic, bringing social innovation through new products that benefit everyone. See Matthew Bishop and Michael Green, *Philanthrocapitalism: How the Rich Can Save the World*. (New York: Bloomsbury, 2008).

26. Interview with a Safaricom officer, Nairobi, February 2018

27. Interview with a Carepay officer, Nairobi, February 2018.

28. Interview with a Safaricom officer, Nairobi, February 2018.

29. Interview with M-TIBA user, Nairobi, May 2018.

100,000 saved via M-TIBA, reaching the maximum number of savers for the bonus scheme only in Spring 2018.³⁰ In May 2018, I found that the end of the bonus program led to a collapse in the wallet usage, as explained by users and professionals working in M-TIBA-affiliated clinics: "When M-TIBA was still new, there were a lot of clients using M-TIBA, but this is no longer the case now. But, I wouldn't say that we have lost our clients, we haven't lost our clients, those who had registered on M-TIBA are still there, the problem is that now the earnings related to this service are low and the bonuses that the clients could benefit from at that time have decreased a lot, so they don't use it anymore".³¹ Thus, while most M-TIBA savers benefited from the incentive system in M-TIBA's first year of operation, increasing their savings by one-third each month, once the incentives were discontinued, they no longer participated in direct savings.

A second M-TIBA strategy for capturing individual money is based on the principle of the pool fund. Because families and friends contribute massively to health spending in Kenya, Safaricom is trying to promote the idea of a mobile payment targeted specially to health through M-TIBA. This allows customers to have confidence that money they transfer to a friend or relative will actually go to health expenses and not to something else.³² However, when M-TIBA users I spoke with transferred/received money to/from a relative, they did so through M-PESA and not M-TIBA. Those who receive money from their relatives will transfer the funds from M-PESA to M-TIBA themselves, if they wish, rather than having relatives transferring money directly to M-TIBA. While digital entrepreneurs are betting that people's mistrust will push them towards closed wallets like M-TIBA, my study suggests that it is because there is already a relationship of trust that they use virtual money systems, otherwise they would settle for very tangible notes and coins.

In addition to individual mobile money services, a platform like M-TIBA also provides development actors and donors with a tool to channel funds directly to beneficiaries' mobile accounts, which, according to the designers of M-TIBA, would reduce leakage and fraud attributable to the old chains of traditional intermediaries.³³ In line with the recent emphasis on direct cash transfers to the poor (Ferguson, 2015), donors can use M-TIBA to allocate a certain amount of money to individuals for use only with their M-TIBA wallet in health facilities. This is a fundamental shift in funding patterns, as donors have an incentive not to spend on physical health infrastructure but only on digital infrastructure, as the designers of M-TIBA explained: "Traditionally, large donor organisations gave money to hospitals and hoped that this would reach patients. But in our system, basically, if a donor wants to pay for maternity care for 50,000 mothers, they just give the money on M-TIBA and get a receipt for everything those mothers bought with it. They will also transparently pay us a small management fee".³⁴ Thus, according to this account, donors, whether private foundations, bilateral cooperation agencies, or even UN agencies, no longer have to worry about the complex logistical problems on the supply side of the healthcare system and the money is allocated precisely for health expenditure, without any intermediary (other than the platform of course, which takes 3 to 5% of the sums for this linkage). M-TIBA, like many other products of the digital economy, relies for its growth on the cross-financing of services that attract more and more users to its network; the very condition of its existence and success is to connect buyers and providers of care.

As the following section illustrates, faithful to its "Uber" ideal, the M-TIBA platform fully outsources to third parties the healthcare offer as well as the insurance products it hosts. The platform thus enables an unprecedented convergence of funds towards digital healthcare infrastructures, to the detriment of physical healthcare infrastructures which tend to be entirely outsourced to third parties.

3 Connecting providers and purchasers of care while outsourcing costs

30. Interview with a Carepay officer, Nairobi, February 2018.

31. Interview with an officer of a M-TIBA affiliated clinic, Nairobi, May 2018.

32. Interview with a Pharmaccess officer, Nairobi, January 2018.

33. Interview with a Pharmaccess officer, Nairobi, January 2018.

34. Interview with a Carepay officer, Nairobi, January 2018.

As explained by its creators, M-TIBA is based on the Uber or Airbnb model, described as a "lean platform" by Internet analysts (Srniczek, 2017). Indeed Uber, the world's largest taxi company, has no vehicles and Airbnb, the largest hosting provider, has no property. Both are "lean" because, unlike other platforms such as Amazon, they do not handle the logistics associated with the products or services they sell and outsource as much of their costs as possible. M-TIBA operates on a hyper-outsourcing model, in which health workers, fixed capital, maintenance costs and training are all outsourced to third parties.

The money stored or health insurance offered by M-TIBA can only be used in M-TIBA-affiliated health facilities. In the summer of 2018, I counted only 500, of which the majority were small private clinics in Nairobi and its suburbs, and a few in eastern Kenya. As M-TIBA officials explained: "At the moment, all of them are private clinics, as it is very difficult to work with government facilities".³⁵ In these clinics, M-TIBA can be used as a credit advance on health expenses. Healthcare providers will later claim the amount of the services covered by M-TIBA via the digital platform (Munge et al., 2017). According to my research findings, contrary to what its developers promote, M-TIBA does not appear to be a 'trust enabler'. Rather, it is because there is already trust between patient and health professionals that M-TIBA can be used, as this health worker described: "These clients will tell me that I just have to give them the drugs, bill everything on their M-TIBA and when they get home they will top up the M-TIBA account and I agree, because these are clients that I see every day. But there are customers that I don't see every day, so these are the customers that are now paying cash".³⁶

All the users in the study had been going to the clinics prior to their affiliation with M-TIBA. As one user explained: "I came here a long time ago, I gave birth here and my children have been treated here for years".³⁷ But the presence of M-TIBA enhanced the desirability of the clinics as they no longer had to pay in advance for health services. As one user said: "The reason I use it here is because they have the M-TIBA system and I don't need to advance the money, not because it's a better health structure".³⁸ As this testimony suggests, M-TIBA affiliation is not a guarantee of improved service or quality. On the other hand, many M-TIBA users have left the system because of the low number of affiliated facilities. One woman claimed that: "In the village where I come from, in western Kenya, the nearest M-TIBA clinic is 300 shillings away. So you just go to another clinic instead of using M-TIBA"³⁹ while another said: "I told my parents about it and they signed up, but there are no M-TIBA clinics where they live".⁴⁰ Hence, while health "inclusivity" implies financial and geographical accessibility to quality health facilities, the platform does not guarantee either price or quality control of the medical services it offers and the geographical coverage of the healthcare offer is far too limited. Thus, the subcontracting of M-TIBA's healthcare offer to small private clinics does not yet have a marked effect in terms of diverting patient flows from public healthcare structures to private structures.

Indeed, the M-TIBA model involves diverting funds formerly given to public structures to private operators. The platform, in addition to taking a share of these sums for its own operations, only transfers this money to private health facilities, as its designers explain: "In the framework of a public-private partnership, we are working with Kakamega and Nairobi counties, we want to prove that we must stop paying for people's health through the public hospital, as they are currently doing. I'm not saying they shouldn't work with public hospitals, but right now they're funding hospitals instead of funding patients. So there is no performance incentive for public hospitals".⁴¹ This means that the money raised by people and donors alike through M-TIBA only contributes to the development of private clinics and not to the strengthening of public health

35. Interview with a Carepay officer, Nairobi, January 2018.

36. Interview with a healthworker of a M-TIBA affiliated clinic, Nairobi, May 2018.

37. Interview with M-TIBA user, Nairobi, May 2018.

38. Interview with M-TIBA user, Nairobi, May 2018.

39. Interview with M-TIBA user, Nairobi, May 2018.

40. Interview with M-TIBA user, Nairobi, May 2018.

41. Interview with a Pharmaccess officer, Nairobi, January 2018.

structures which are the only ones that provide affordable access to healthcare for Kenyans.⁴² But this disavowal of public services on the part of the designers of M-TIBA evaporates when it comes to offering health insurance coverage. The State is apparently the right partner when it comes to covering the health risks of the Kenyan population.

While private stakeholders are the main actors in mHealth services, the participation of governments is nevertheless indispensable, for obvious reasons of knowledge of the field. Indeed, while private foundations and international telecom companies oversee and manage these projects, local ownership is essential for effective deployment of the service. Recognizing the limitations of the M-TIBA system in terms of enrolment and quality control, M-TIBA began looking for a way to delegate this process to a third party, so it approached the government and the National Health Insurance Fund (NHIF). In the spring of 2018, M-TIBA launched a formal partnership with the NHIF by offering to subsidize NHIF coverage for 20,000 women in Nairobi for one year with \$10 million from several donors, including the pharmaceutical company Pfizer. At the same time, all Kenyans would now be able to use M-TIBA to access their NHIF entitlements and pay their monthly premiums through the mobile application. For M-TIBA, local public actors facilitate the deployment of the programme at virtually zero cost, as the project does not have to pay NHIF agents who ensure the quality control of affiliated health facilities.

This partnership is a first step toward opening up many avenues of development for M-TIBA, notably the one to sell the use of the platform to the Kenyan government. Thus, if the State is included in the partnership as a logistics partner, as an expert in local problems, as an insurer and regulator of the healthcare offer, it can also be considered as a long-term sponsor of the platform and the latter would then secure a monopoly position. While private donors currently pay for the coverage of 20,000 women through M-TIBA, the idea is to transfer this funding to the government as part of the implementation of a national programme of free health coverage for pregnant women. As Safaricom explains: "We have spent a lot of time with the Minister of Health and he is very keen for us to use M-TIBA to help them with the free maternity initiative. So I can see a very big opportunity for M-TIBA, and the possibility of earning a lot of money for CarePay and Safaricom".⁴³ The role of the State in programmes such as M-TIBA is therefore far from negligible, but contrary to what is constantly put forward, this partnership is not a win-win situation. Governments help deploy the devices and may be willing to support and pay extra for some of them, but digital companies still own the most essential elements: the software and data analysis platform. As we will see in the next section, data management is a central but little publicized goal of the platform.

4 Extracting and selling health data

The increasing use of new digital health technologies has accelerated and intensified the production, circulation and use of health data. Several academic studies show that the digitisation of personal data in the Global North is producing new forms of quantification and monitoring of life (Haggerty and Ericson, 2000) and that the uses of these data meet commercial imperatives that are often unknown to users (Gitelman, 2013; Lyon, 2011). There is little research on these issues in the Global South (Taylor and Schroeder, 2015), and the mechanisms for creating value from these data and the benefits generated by this extraction are still poorly documented (Isaac, 2018). Far from the initial imaginary of the free Internet, digital objects are today products that (even in the absence of a price) have a market value and (even in the absence of a patent) refer to property rights; the control of digital platforms thus makes it possible to collect monopoly rents, as described below. This data capital is the backbone of the 'platform capitalism' (Srnicek, 2017) represented by Uber and M-TIBA. The core business of M-TIBA developers is therefore not only to manage money transfers, but also to

42. This discourse on "performance", borrowed from the private sector, reflects the application of a management trend, "new public management", which has imposed a culture of results and a cost-benefit approach on many health systems. In France, the implementation of this type of entrepreneurial management in public hospitals has led to a deterioration in access to care for patients, see Pierre-André Juven's book, *Une santé qui compte*. PUF. 2016.

43. Interview with a Safaricom officer, Nairobi, January 2018.

acquire data, on which they have a firm grip.

As explained in M-TIBA Terms and Conditions, Carepay and Safaricom are authorized "to record data relating to the use of the service and to share or disclose such information on a strictly anonymous basis with relevant stakeholders, including, but not limited to, the Government of Kenya and service partners. Data shared includes, but is not limited to, health care services that have been paid for using funds from your M-TIBA account".⁴⁴ The main purpose of M-TIBA is not only to channel money transfers that M-PESA was already making, but to collect and share data with different partners,⁴⁵ as explained here by one founder of M-TIBA: "The main reason why we spend so much time and energy building M-TIBA is because money is converted into data in real time. And this real-time patient information in the clinic is valuable to all stakeholders involved".⁴⁶

Take the example of the 20,000 women covered free of charge by the NHIF under M-TIBA. These women cannot go to any of the facilities covered by the NHIF, but only to one of the 100 selected facilities, as one of its designers explained: "Look, we're going to subsidize your insurance, but please go to this facility, because that's where I collect the data".⁴⁷ Another designer elaborated: "we put 20,000 women on the NHIF coverage, to monitor the information, to understand who these women are, where they go, what kind of services they use, the costs, and to give this feedback to other partners".⁴⁸ The pharmaceutical giant Pfizer is one of the funders and therefore a "partner" of this free health coverage and as the designers of M-TIBA explained to me in detail: "You get a lot of interest in this data from different stakeholders, whether it is the government, development actors, social partners, donors, but also pharmaceutical companies because it is information on their potential clients, for them it is a tool to facilitate their market penetration".⁴⁹ Thus, the rationale for the emergence and of proliferation of digital health platforms in the Global South right now is mainly a commercial one. Digital health data represent a new manna and extracting value out of it is a central goal of digital firms creating new 'bottom of the pyramid' health markets in the Global South. Health data is therefore the new hot button issue regarding health markets, and digital devices are the means of collecting and marketing it in the Global South.

Conclusion: On the road to market-based Universal Health Coverage

In a global context where the boundaries between health as a fundamental right and as a consumer product are entirely redefined, this article questions the way in which the use of digital technology shifts the question of health coverage from a logic of public service to a logic of market in Kenya. It explains the role of private digital companies in national health insurance policies and examines the hypothesis of a redeployment of health funding from healthcare infrastructures to digital infrastructures. It analyzes the tensions between developmental, philanthropic and commercial issues that carry these types of programs, propel them, make them shine or collapse in a day.

Far from being a marginal model in the field of global health, M-TIBA was invited by the World Bank to the Forum on Universal Health Coverage (UHC) in Tokyo in December 2017 whose central objective was to stimulate progress to UHC. This invitation is not surprising given that Kenya regularly serves as a pilot country to test international programs quickly targeting East Africa and then the entire continent. M-TIBA was presented as a solution to set up UHC in Africa and has attracted the attention of world leaders, as its designers

44. See M-TIBA Service Terms and Conditions: http://M-TIBA.co.ke/M-TIBA_Terms_and_Conditions.pdf consulted on 05/05/2018.

45. In addition to donations from the two Safaricom foundations, M-TIBA also received "a very generous donation from the Pfizer Foundation", the amount of which my various interlocutors did not wish to disclose.

46. Interview with a Pharmaccess officer, Nairobi, January 2018.

47. Interview with a Pharmaccess officer, Nairobi, January 2018.

48. Interview with a Pharmaccess officer, Nairobi, January 2018.

49. Interview with a Pharmaccess officer, Nairobi, January 2018.

explained: “Jim Yong Kim and the Director General of WHO, have devoted considerable time at the M-TIBA stand to discuss the potential of this platform to transform the functioning of health markets, starting with Africa. The concept of mobile health wallets was also repeatedly mentioned in the plenary speeches of the Forum, presented as an affordable way to strengthen access to health for all”⁵⁰.

This paper suggests the need to pay close attention to the fundamental rights of patients and to verify that these new mobile services make it possible to ensure their protection and access to care. The platform constitutes a new organizational model specific to the digital age and appears to be a new means of controlling increasingly varied activities by providing the technological foundation on which they are based. In a multitude of sectors, platforms have allowed the transition from the production of goods to the provision of services, giving the illusion that the age of ownership is over. On the contrary, we are witnessing a concentration of it. Far from being only owners of information, digital companies are gradually becoming owners of the very infrastructure of society. Their increasingly strong presence in essential sectors such as health, invites us to question the turn towards "universal market-based health coverage", which is supported by States and international organizations and being tested on a full scale in Africa.

M-TIBA illustrates a very particular interpretation of what it means to be “on the road to Universal Health Coverage,”⁵¹ one that is founded on privatisation and digitalisation and far from the definition of UHC promoted by WHO. Since 2018, when I completed my research, M-TIBA and Carepay have become central to the implementation of UHC in Kenya with recent research confirming the popularity of such digital platforms in healthcare provision in East Africa (Prince, 2020). While mobile platforms leave no material traces, no physical infrastructure, no specialized skills or knowledge in the countries where they are deployed, they nevertheless offer a new mercantile approach to care and health administration that leaves traces. They contribute indeed to the commercialisation of health in the Global South and to the creation of new private health markets geared toward the poor.

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50. See <https://www.pharmaccess.org/update/M-TIBA-showcased-uhc-conference-tokyo/> consulted on 05/05/2018.

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