



EXPLORING SELF-REGULATION AND TRADE FACILITATORS OF ITINERANT MEDICINE SELLERS IN GHANA

Joy Ato Nyarko^{1*}, Joana Kwabena-Adade², Raphael Alex Selorm Kwame Akpah³,
and Mercy Adzo Klugah⁴.

¹⁻⁴Department of General and Liberal Studies, School of Basic and Biomedical Science,
University of Health and Allied Sciences, Ho.

*Corresponding Author's Email: janyarko@uhas.edu.gh

Cite this article:

J. A., Nyarko, J., Kwabena-Adade, R. A. S. K., Akpah, M. A., Klugah (2026), Exploring Self-Regulation and Trade Facilitators of Itinerant Medicine Sellers in Ghana. African Journal of Social Sciences and Humanities Research 9(3), 169-180. DOI: 10.52589/AJSSHR-SPW1XPSE

Manuscript History

Received: 16 Apr 2026

Accepted: 18 May 2026

Published: 18 Jun 2026

Copyright © 2026 The Author(s).

This is an Open Access article distributed under the terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0), which permits anyone to share, use, reproduce and redistribute in any medium, provided the original author and source are credited.

ABSTRACT: *Itinerant Medicine Sellers (IMS) are individuals who move from one location to another exchanging medicines for money. This study explored self-regulation among these IMS and the facilitators of their trade within the Kumasi Metropolis in Ghana. Exploratory qualitative research design was adopted. Using in-depth interviews, data was collected from the 18 IMS and thematically analyzed. It was found that the IMS self-regulated their activities and were not licensed by the government. Thematic factors such as the personal qualities of the IMS, culture, availability, and health care accessibility challenges of clients facilitated their activities. The study concludes that the activities of the IMS thrive because there are self-regulatory, social, and cultural factors that facilitate the activities. As an activity of public health concern, it is recommended that the state engage in public health education on the implications of accessing medicines from these IMS.*

KEYWORDS: Itinerant medicine sellers, Self-regulation, Medicine, Bus terminals.



INTRODUCTION

Itinerant traders or street hawkers are a subgroup operating within the informal economy, and their participants are difficult to estimate due to their mobile nature (Roever & Skinner, 2016). Poverty, unemployment, low education, rural-urban migration, and the need for survival have forced the economically disadvantaged into itinerancy (Monjur, 2020). Among them are the Itinerant Medicine Sellers (IMS), who peddle approved and/or unapproved medicines to make a living (Bekoe et al., 2020). IMS are individuals who have not been licensed by the state to sell medicines/drugs but do so by hawking in open markets such as bus terminals, streets, and communities, exchanging medicines for money (Nyarko et al., 2023; Oppong & Williamson, 2001).

In Sub-Saharan Africa and Asia, there is a growing concern about the rise of IMS (Bekoe et al., 2020). These sellers are, in most cases, not affiliated with any professional body and operate without formal recognition and regulation (Sudhinaraset et al., 2013). They peddle medicines, that are patronized by their customers, usually at affordable prices (Liow et al., 2017). In Ghana, these itinerants are very common in the rural communities and urban bus terminals (Hamill et al., 2019; Nyarko et al., 2023). Research has shown that there is selling of medicines inside buses in Nigeria, where sellers operate outside state regulations and employ different strategies to entice passengers to patronize their medicines (Yusuff & Wassi, 2011). IMS are exposed to thousands of potential customers within months, with close to 50% of the potential customers purchasing medicines from these sellers (Yusuff & Wassi, 2011). These IMS prefer informal sources to formal sources of medicines due to perceived affordability of medicines from the informal sources, enabling them to mark up the price for profit (Jatau et al., 2021).

Pharmaceuticals and their sources are fast-growing due partly to new diseases and the desire for good health (Mousnad et al., 2018). There are, therefore, different structures and mechanisms put in place by different nations to regulate the production, sale, and dispensing of medicines due to public health concerns (Afari-Asiedu et al., 2018). In Ghana, there is the Food and Drugs Authority (FDA), the Ghana Pharmacy Council (GPC), and the Ghana Traditional Medicines Practice Council (TMPC) that oversee medicine production, registration, and regulation of medicine producers and sellers. Regulators are tasked to ensure that they regulate who manufactures what medicines and how they are distributed throughout the health system (Embrey et al., 2016). Despite these provisions, there has been the gradual creeping in of these IMS with the sole aim of making money from the sale of medicines (Liow et al., 2016). They are generally considered a nuisance in the cities by policymakers and the media with constant attempts to extirpate their activities (Jaishankar & Sujatha, 2016).

As an illegal activity operating on the fringes of the health system, studies have found that these sellers employ agency, highlighting the strategies of resistance and negotiation employed in managing themselves in the public space (Boonjubun, 2017). The services of IMS are patronized for various reasons (Azila-gbettor et al., 2014; Todri et al., 2020; Yusuff & Wassi, 2011). Cultural reasons and the personal qualities of the sellers, such as being approachable and courteous, appeal to the potential customers to buy from them (Yusuff & Wassi, 2011). Also, these sellers offer medicines in the immediate proximity of the potential customers at affordable prices that the potential customers can afford (Azila-gbettor et al., 2014; Jaishankar & Sujatha, 2016). Individual factors like education and income have been found to influence their patronage (Agyei-Baffour et al., 2017). Macro health system factors such as distance to health facilities and disrespectful formal health care workers have also been shown as



contributing to people's patronage of IMS (Bamberger & Bamberger, 2022; Singh et al., 2020). It has been asserted that there are three principal reasons for using these informal medicine sellers: convenience, affordability, and social and cultural effects (Sudhinaraset et al., 2013).

In Ghana, extant literature on itinerancy has focused mostly on itinerant street food selling and the sale of other merchandise in slow-moving traffic for survival, with literature on medicine hawking in dearth (Forkuor et al., 2017). For example, a study has examined the retailing strategies of West African itinerant immigrant traders in Ghana and how street hawking was used as their main retail strategy to make ends meet (Yendaw et al., 2021). Livelihood activities among itinerant traders within Accra, Ghana's capital, and how different merchandise are sold to make a living have also been explored (Yendaw et al., 2019). Again, the activities of IMS as meeting health-related demands not served by the government approved means and the perspectives of Ghanaian consumers regarding the activities of IMS have been reported (Azilagbette et al., 2014; Oppong & Williamson, 2001). However, how these IMS regulate their activities and the facilitators of their trade are in dearth in the Ghanaian literature. Therefore, this paper sought to contribute to the existing literature by exploring how IMS self-regulate their activities and the factors that facilitate their trade.

METHODS

Research design and study area

This study adopted an exploratory qualitative survey design. This design was chosen because research into IMS in Ghana is limited. This study was conducted in the Kumasi metropolis, Ghana's second-largest city located in the Ashanti region. Anecdotal evidence shows that IMS are very active within the informal sector in Kumasi (Nyarko et al., 2023; Sieverding & Beyeler, 2016). Geographically, Kumasi is located at coordinates 6.700071° N latitude and -1.630783° W longitude. The metropolis has five sub-metropolitan areas. Each sub-metropolitan area has a major bus terminal with several loading bays where IMS operate, moving from one bus to another selling their medicines (Oppong & Williamson, 2001). The loading bays are stewarded by station managers. The IMS target passengers in busses yet to take off and the general public within the terminals (Nyarko et al., 2023). It has been reported that activities of IMS and other hawker activities are rife within buses and bus terminals in West African countries, making the choice of the bus terminals within the metropolis ideal for this study (Oppong & Williamson, 2001; Steel et al., 2014; Yusuff & Wassi, 2011).

Population and sampling

The population for this study was all IMS who operated within the Kumasi metropolis. Despite IMS being an easily identifiable population, ascertaining their total number is challenging due to their informal and mobile nature. To be considered an IMS in this study, the individual should be an itinerant, sell medicine (traditional, Asiatic, or orthodox) within any of the bus terminals in the metropolis, and be 18 years old or above. Hawkers who sold other merchandise apart from medicines and those who sold other products together with medicines were excluded. The convenience sampling technique was used to recruit 18 (based on the principle of data saturation) IMS. The sampling was done across the five sub-metropolitan areas. This study forms part of a larger research project that was conducted from June 2021 to November 2022 in Ghana, examining the activities of IMS and their patrons.



Data collection

With the help of a semi-structured interview guide, in-depth face-to-face interviews were conducted with the IMS from November 10, 2021, to January 21, 2022. IMS who met the inclusion criteria were approached after they had attended to passengers inside buses at the loading bays of the bus terminals. After approaching each IMS, the study was explained to the IMS, and their consent was sought. Those who consented were given a signed copy of the consent forms and interviewed by the researchers inside empty buses or inside the ticketing rooms of the station managers in order to reduce interference from the noise in the bus terminals. Each interview took an average of 40 minutes and was audio-recorded with permission. However, four IMS declined the audio recording. Permission was sought from the station managers and the drivers before their spaces were used. Some of the IMS mistook the research team for government officials and so declined to partake in the study. No research assistant were employed in this study. The semi-structured interview guide was constructed by the researchers after extensive review of literature on itinerancy within public space. Initial drafts of questions were produced, and expert review of the questions was made. The instrument was later pilot tested with five IMS. Few modifications regarding question wording were done. Some of the questions asked were: i) How are your activities regulated?

ii) Kindly explain some factors that facilitate your trade.

Data management and analysis

The audio recordings for the IMS were transcribed verbatim and imported into QSR NVivo (version 12) software. All the authors read the transcripts at least twice to familiarize with the data. The inductive coding approach by Saldana was followed, where responses with similar ideas were coded and grouped into themes by the first author (Saldana, 2016). The corresponding author examined the codes and themes for consistency and accuracy.

Ethical clearance and considerations

Ethical clearance for this study was sought from the Humanities and Social Sciences Research Ethics Committee, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana (HuSSREC/AP/1/VOL.1), and the Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana (UHAS-REC A.2[6]21-22). Ethical considerations of written informed consent, anonymity, and confidentiality were adhered to.

RESULTS

Eighteen IMS were interviewed. The majority of them were males (15), Christians (16), and married (14). Seven had no formal education, two had primary school education, and nine had completed Junior High School. Regarding the type of medicines sold by the IMS, 11 out of the 18 sold traditional medicines only, four sold orthodox medicines only, two sold both traditional medicines and Asiatic medicines, and one sold orthodox and Asiatic medicines. The mean age of the IMS was 50.6 years with a standard deviation of 7.4 years. The minimum and maximum ages were 33 and 65 years, respectively. Table 1 shows the themes and subthemes gathered from the IMS on their self-regulation and facilitating factors for their trade.

**Table 1: Themes**

Themes	Subthemes
Regulation	Self-regulation
Facilitating factors	Personal qualities of the IMS
	Availability of clients
	Informal nature of IMS' business
	Culture
	Clients' challenges with formal health care

Source: *Authors' creation*

The IMS were not regulated by any state agency (GPC, TMPC, and FDA) and had no mandate to operate. A common theme of self-regulation was apparent from their responses regarding how they regulated and managed their activities. Responses such as “We are in a group,” “We know one another,” and “We are not under the government” resonated in their responses. Regarding this, IMS_6 said:

“Like I said earlier, we operate on our own. We are not under the government, so we manage our activities as an association (group).” IMS_6

IMS_1, who revealed that he was the chosen leader of the IMS' group in one of the bus terminals, said:

“I am the leader in this terminal. Here, we are well organized. If there are problems, we sit down and resolve them peacefully. We even have ID (identity) cards to identify our members, and we show the cards to the passengers.” IMS_1

Some of the IMS indicated why they self-regulated themselves and had not registered to receive any license from the state agencies. These sellers mentioned requirements such as education and licensing fees, which they could not meet and so could not be licensed. IMS who prepared their own herbal medicines and sold them without approval from the FDA also mentioned fees charged by the FDA.

“If I am able to get FDA approval, my medicine will sell more than the ones you see in the media with FDA approval. I have the real aphrodisiac on the market. I just do not have enough money to regularize with the government (referring to GPC and TMPC).” IMS_3

“I do not have money to register. How much money [showing her palm, indicating she has no money] do I make to be able to save and go and register? I cannot; where is the money?” IMS_18

“I have not been to school before, so they will not accept me [...] When you go to the government, you will pay a huge amount of money, and they will tell you to rent a shop to sell the medicines from there. But the passengers are in the station. They will not come to the shop to buy.” IMS_12

The TMPC does not allow open market selling of medicines. According to the Traditional Medicine Practice Act (2000), Act 575, Section 9, subsection 1, “A person shall not operate or own premises as a practitioner or produce herbal medicine for sale unless that person is registered in accordance with this Act.” Section 18, Subsection 2 mandates that anyone seeking



to operate as a traditional medicine practitioner shall present the block plan of the premises for the practice. The Health Professions Regulatory Bodies Act, 2013, Act 857, Section 87 Subsection 2 also mandates that a pharmacist or pharmaceutical support staff should operate from premises approved by the GPC. These provisions underscore the fact that the IMS were operating outside statutory regulatory guidelines and on their own terms.

The IMS perceived various factors as facilitating their activities. There were five main thematic factors. These were cultural facilitators, sellers' personal qualities, customers' availability, the informal nature of the business, and patients' challenges with the formal health care system. Regarding the cultural facilitators, the IMS opined that their activities were possible and thrived because of the socio-cultural milieu within which they operated. The cultural setup enabled them to appeal to their fellow Ghanaians through prayers, adages, and other cultural sayings, which made exacting their business easy. The use of herbs, a cultural identity of Ghanaians, was also found. Of notable mention is the use of the Twi language, a nonmaterial culture, in addressing potential customers and people within the bus terminals.

"[...] I pray with them and use proverbs too. Because the Bible says we should eat the fruits of plants and use the herbs for medicine. Our ancestors used it before hospitals came. Do you know that our medicines do not contain chemicals? They are all-natural, so they do not affect you in a bad way." IMS_10

"I use the Twi language when I am talking to the passengers on the bus. Everyone understands Twi within this bus terminal, and it is our own language." IMS_4

Another facilitator was the personal qualities of the sellers as polite, honest, and patient with their customers. These personal qualities created trust, which helped facilitate the activities of the IMS. IMS_7, who sold pharmaceutically produced dewormer, said the following contributes to making his activities thrive:

"Ohhh... [chuckles] If the people thought it was bad, they would have stopped buying from us, and I would not be here today talking to you. I am very patient, and I take my time to explain to the passengers that the medicine is Whiteman's medicine (orthodox medicine). I smile with them and tell jokes, which make them happy so that they buy. Which nurse will do that?" IMS_7

The presence of people, especially passengers who go to the bus terminals, also facilitates IMS' activities. The bus terminals, therefore, serve as meeting points for the IMS and their clients to engage. IMS_12, who sold herbal medicine for the treatment of hemorrhoids, said:

"[...] the passengers are in the terminals, and they will not come to the shop to buy." IMS_12

IMS_3 even went further to talk about the presence of customers who gave testimonies about the efficacy of his aphrodisiac, which made his engagement with clients easier. He said:

"I sometimes get some passengers who testify about the efficacy of the medicine for others to buy. I do not even talk. People have accepted my medicine, and they buy. If I do not come here for a day, people will come looking for me to buy the medicine. Females are my main customers [smiling]." IMS_3

The fact that these IMS operated informally also facilitated their activities. During their access negotiations into the loading bays to sell, informal means of gaining access were used. Non-



professional friendships with the station managers and the drivers enabled the activities of IMS within the bus terminals to thrive.

“Everyone is my friend around here. We work with the station managers and the drivers.” IMS_17

“There are no formal regulations here. What I do is to ask permission from the station managers and then find my way around and sell my medicine.” IMS_14

IMS’ perceived patients’ challenges with the formal health care system as enablers of their activities. Some of these challenges, such as disrespectful formal health care staff and the high cost of accessing formal health care services, make the public turn to the IMS for their services. IMS_1 said:

“There are things that happen in the hospitals that our customers do not like, so they buy from us instead. Some of the nurses are disrespectful, and the time people spent at the hospital is too much.” IMS_1

“They are costly; people even go for surgery for the hemorrhoids to be removed. Those who do not have money will use some of my herbal medicine. It is not expensive; it is just 10 Ghana Cedis (about \$0.64). This medicine will make the hemorrhoids disappear, and you will not feel the pain again when you visit the toilet.” IMS_12.

DISCUSSION

As a group not formally recognized by the state, IMS’ activities exist outside the government’s regulatory framework, operating on their own accord with some established self-regulation within the bus terminals. This finding has been corroborated by other researchers (Liow et al., 2016). Due to the crucial nature of medicines, various countries have put in place mechanisms to train and license people to manufacture and/or sell medicines under the oversight of government regulatory agencies (Beyeler et al., 2015). These agencies demand registration and licensing fees as well as other requirements for the licenses, which these IMS cannot afford (GoG, 2013). This study found that lack of adequate funds and low levels of education were the main reasons for the sellers shunning the need to regularize with the government. Regarding this, it has been reported that even if the IMS wanted to go through the processes and regularize with the government, financial requirements would be a challenge for them (Sudhinaraset et al., 2013). Also, regularizing with the government and its agencies would stop them from open market selling of their medicines and compel them to go for FDA testing of the medicines for those who prepared their herbal medicines for sale.

The IMS in this study formed groups they called “associations” within the bus terminals. These associations were informal, and through the principle of *primus inter pares*, they had leaders whom they reported to and who addressed any concerns in their operations within the bus terminals. Through ingenuity and need, the sellers had their ID cards to help them identify those who were members of the group from those who were not. These sellers sometimes showed the ID cards to the passengers with the latent function of eliciting trust from the passengers that the sellers were selling quality medicines and were somewhat recognized and regulated. The use of ID cards by the IMS has been found by another study in Nigeria (Yusuff



& Wassi, 2011). In their study they found that the sellers showed laminated ID cards, which they claimed were issued by the local association of marketers of medicines inside buses, markets, and bus terminals. However, this local association was not approved by the government, as has been shown in this current study too.

The use of adages, the local language, and culturally identifying with the clients facilitated the activities of the medicine hawkers. The prayers said by the IMS when they engaged with the passengers were cultural elements that facilitated the sellers' activities and have been found elsewhere in West Africa (Yusuff & Wassi, 2011). The local language, which is a cultural identity, served to facilitate the activities of the sellers, as their clients could easily understand them and make enquiries about the medicines from them. The use of greetings, which is a nonmaterial cultural element, could enable the sellers to establish rapport, gain the trust of the passengers in the buses, and help facilitate their trade. Research shows that herbal medicine use is culturally diffused in the global south, including Ghana (Boadu & Asase, 2017). The sellers of herbal medicines in this study appropriated the idea of how herbal medicines were part of their culture to engage the passengers in the buses.

The informal nature of medicine hawking also facilitated the activities of the IMS. Since these sellers are not formally recognized and regulated, they improvise, which makes their operations easier (Singh et al., 2020). For example, their informal relationship with the station managers at the loading bays can be alluded to. Since they operated informally, there was no paperwork and no bureaucratic red tapes, which could have challenged their activities since some had no formal education. Others have argued that this informal practice is partly marked by the lack of rigidity in executive, administrative, or other measures, including penalties against sellers and distributors (Apetoh et al., 2018). Contrary to this, the informal nature of their activities outside government regulatory frameworks also serves as a challenge since they are always at the mercy of government attempts to clamp down on their activities.

The personal qualities of the IMS, such as being polite and perceived as honest by the passengers and other clients, also facilitated the activities of these IMS. It has been found that these informal sellers of medicines are courteous and polite in attending to their customers (Oppong & Williamson, 2001). It can be asserted that personal attributes of being polite and courteous, as found in this study, made the IMS approachable. The IMS' need to survive has made them cultivate these pleasant personal attributes in attending to their clients. Bus terminals are fertile grounds where passengers come to seek transportation to places far and near (Amponsah & Adams, 2016; Aydın et al., 2016). The availability of clients and prospective clients has been averred as a significant factor in attracting the activities of hawkers, including the IMS (Turner & Oswin, 2015). The assertion here is that the IMS operating within the bus terminals is made easier because they do not need to move out of the terminals to fetch prospective customers to convince them to buy. There is a rich mix of clients, which enables their activities within the bus terminals (Turner & Oswin, 2015). The assertion here is that the IMS operating within the bus terminals is made easier because they do not need to move out of the terminals to fetch prospective customers to convince them to buy. There is a rich mix of clients, which enables their activities within the bus terminals.

The challenges faced by patients who access health care services from the formal health care facilities tend to make the patients turn to the IMS for medicines. Research shows that the challenge of distance to formal health care facilities makes people patronize the services of IMS (Singh et al., 2020). These IMS reduce access costs for the patients by bringing the



medicines to the patients where the patients are. The challenge of geographical access, among others such as disrespectful hospital staff and the high cost of accessing services from formal health facilities, makes the activities of the IMS thrive despite attempts by the government to stop the phenomenon (Bamberger & Bamberger, 2022). They are providing services at a cost that the ordinary citizen can afford at the convenience of the citizens, reducing the cost of distance and time. This form of interstitial function to augment the formal health care services to achieve stability within the health care system has been referred to by other researchers through a systematic review of other studies (Sudhinaraset et al., 2013). Despite this argument, the latent function of making money through every means possible, such as selling expired medicines and giving wrong medical advice, cannot be overlooked (Azila-gbettor et al., 2014).

CONCLUSION AND IMPLICATIONS

This study demonstrates how IMS self-regulate their activities and the facilitators of their trade in the face of government attempts to extirpate the activities of IMS. This study concludes that IMS operating within the informal economy are without government regulations. These IMS operate on their own accord, self-regulating their activities through the formation of informal associations and making their own regulations, and choosing leaders for their survival. Also, these IMS envisaged that factors such as their personal qualities, availability of clients, and the informal nature of their business facilitate their activities. Cultural elements and the challenges faced by clients in accessing formal health care facilities also contribute to facilitating the activities of the IMS. It is therefore recommended that government agencies such as the FDA, GPC, TMPC, and other civil society organizations engage in public education on the implications of accessing medicines from these unlicensed sellers. The FDA could roll out a policy to engage the sellers who prepare their medicines to send their medicines for testing. This can enable the FDA to approve medicines found to be efficacious and not harmful to health to be sold.

LIMITATIONS

Despite this study's contribution to informal sector employment and IMS, there are some limitations in this study. First, this study was exploratory in its approach, making generalization beyond the participants a challenge. This is because other study areas may have different economic and cultural environments, influencing how the IMS self-regulate their activities and the factors that facilitate their trade. Despite this limitation, this study contributes to the existing literature by highlighting how IMS, a subgroup of itinerant traders, self-regulate their activities and the facilitators of their trade in an urban setup.

REFERENCES

- Afari-Asiedu, S., Kinsman, J., Boamah-Kaali, E., Abdulai, M. A., Gyapong, M., Sankoh, O., Hulscher, M., Asante, K. P., & Wertheim, H. (2018). To sell or not to sell; The differences between regulatory and community demands regarding access to antibiotics in rural Ghana. *Journal of Pharmaceutical Policy and Practice*, 11(1), 1–10.



- <https://doi.org/10.1186/s40545-018-0158-6>
- Agyei-Baffour, P., Kudolo, A., Quansah, D. Y., & Boateng, D. (2017). Integrating herbal medicine into mainstream healthcare in Ghana: Clients' acceptability, perceptions and disclosure of use. *BMC Complementary and Alternative Medicine*, 17(1). <https://doi.org/10.1186/s12906-017-2025-4>
- Amponsah, C. T., & Adams, S. (2016). Service quality and customer satisfaction in public transport operations. *International Journal of Services and Operations Management*, 25(4), 531–549. <https://doi.org/10.1504/IJSOM.2016.080279>
- Apetoh, E., Tilly, M., Baxerres, C., & Le Hesran, J. Y. (2018). Home treatment and use of informal market of pharmaceutical drugs for the management of paediatric malaria in Cotonou, Benin. *Malaria Journal*, 17(1), 1–14. <https://doi.org/10.1186/s12936-018-2504-1>
- Aydin, M. M., Yıldırım, M. S., Aydin, R., & Arslan, Y. (2016). Effect of different passenger characteristics and bus types on boarding times at bus-stops. *Journal of Engineering Research and Applied Science*, 5(2), 499–509.
- Azila-gbette, E. M., Atatsi, E. A., & Adigbo, E. D. (2014). Hawking of Medicinal Drugs : The Perspective of the Ghanaian Consumer. *Research on Humanities and Social Sciences*, 4(11), 37–44.
- Bamberger, E., & Bamberger, P. (2022). Unacceptable behaviours between healthcare workers: Just the tip of the patient safety iceberg. *BMJ Quality and Safety*, 1–4. <https://doi.org/10.1136/bmjqs-2021-014157>
- Bekoe, S. O., Ahiabu, M., Orman, E., Tersbøl, B. P., Adosraku, R. K., Hansen, M., Frimodt-Møller, N., & Styriahave, B. (2020). Exposure of consumers to substandard antibiotics from selected authorized and unauthorized medicine sales outlets in Ghana. *Tropical Medicine & International Health*, May, 1–18. <https://doi.org/10.1111/tmi.13442>
- Beyeler, N., Liu, J., & Sieverding, M. (2015). A systematic review of the role of proprietary and patent medicine vendors in healthcare provision in Nigeria. *PLoS ONE*, 10(1), 1–21. <https://doi.org/10.1371/journal.pone.0117165>
- Boadu, A. A., & Asase, A. (2017). Documentation of herbal medicines used for the treatment and management of human diseases by some communities in southern Ghana. *Evidence-Based Complementary and Alternative Medicine*, 2017. <https://doi.org/10.1155/2017/3043061>
- Boonjubun, C. (2017). *Conflicts over streets: The eviction of Bangkok street vendors*. 70(September 2016), 22–31. <https://doi.org/10.1016/j.cities.2017.06.007>
- Embrey, M., Vialle-Valentin, C., Dillip, A., Kihyo, B., Mbwasi, R., Semali, I. A., Chalker, J. C., Liana, J., Lieber, R., Johnson, K., Rutta, E., Kimatta, S., Shekalaghe, E., Valimba, R., & Ross-Degnan, D. (2016). Understanding the role of accredited drug dispensing outlets in Tanzania's health system. *PLoS ONE*, 11(11), e0164332. <https://doi.org/10.1371/journal.pone.0164332>
- Forkuor, J. B., Akuoko, K. O., & Yeboah, E. H. (2017). Negotiation and management strategies of street vendors in developing countries: A narrative review. *SAGE Open*, 7(1), 1–13. <https://doi.org/10.1177/2158244017691563>
- GoG. (2013). *Health Professions Regulatory Bodies Act (Act 857)*. Ghana Publishing Company (Assembly Press). <https://www.judiciary.legal/legislation/akn/gh/act/2013/857>
- Hamill, H., Hampshire, K., Mariwah, S., Amoako-Sakyi, D., Kyei, A., & Castelli, M. (2019). Managing uncertainty in medicine quality in Ghana: The cognitive and affective basis of trust in a high-risk, low-regulation context. *Social Science and Medicine*, 234(June), 112369. <https://doi.org/10.1016/j.socscimed.2019.112369>



- Jaishankar, V., & Sujatha, L. (2016). A Study on Problems Faced by the Street Vendors in Tiruchirappalli City. *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, 3(9), 42–45.
- Jatau, A. I., Sha'aban, A., Gulma, K. A., Shitu, Z., Khalid, G. M., Isa, A., Wada, A. S., & Mustapha, M. (2021). The Burden of Drug Abuse in Nigeria: A Scoping Review of Epidemiological Studies and Drug Laws. *Public Health Reviews*, 42(January), 1–11. <https://doi.org/10.3389/phrs.2021.1603960>
- Liow, E., Kassam, R., & Sekiwunga, R. (2016). How unlicensed drug vendors in rural Uganda perceive their role in the management of childhood malaria. *Acta Tropica*, 164(3), 455–462. <https://doi.org/10.1016/j.actatropica.2016.10.012>
- Liow, E., Kassam, R., & Sekiwunga, R. (2017). Investigating unlicensed retail drug vendors' preparedness and knowledge about malaria: An exploratory study in rural Uganda. *Acta Tropica*, 174, 9–18. <https://doi.org/10.1016/j.actatropica.2017.06.008>
- Monjur, M. M. (2020). A Study on Street Hawkers and Their Willing Towards Continuation of Hawking Business in Bangladesh: A Statistical Analysis. *International Journal of Sciences: Basic and Applied Research*, 52(2), 93–103. <http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>
- Mousnad, A. M., Palaian, S., Shafie, A. S., & Ibrahim, I. M. (2018). Medicine Expenditure and Trends in National Health Insurance Funds Sudan. *Journal of Pharmacy Practice and Community Medicine*, 4(3), 144–149. <https://doi.org/10.5530/jppcm.2018.3.34>
- Nyarko, J. A., Akuoko, K. O., Dapaah, J. M., & Gyapong, M. (2023). Exploring the operations of itinerant medicine sellers within urban bus terminals in Kumasi, Ghana. *Health Policy OPEN*, 5(April), 1–6. <https://doi.org/10.1016/j.hpopen.2023.100108>
- Oppong, J., & Williamson, D. (2001). Locating Itinerant Drug Vendors in Ghana's Health Care System. *African Geographical Review*, 21(1), 43–58. <https://doi.org/10.1080/19376812.2001.9756160>
- Roever, S., & Skinner, C. (2016). Street vendors and cities. *Environment and Urbanization*, 28(2), 359–374. <https://doi.org/10.1177/0956247816653898>
- Saldana, J. (2016). The Coding Manual for Qualitative Researcher. In *Syria Studies*. Sage.
- Sieverding, M., & Beyeler, N. (2016). Integrating informal providers into a people-centered health systems approach: qualitative evidence from local health systems in rural Nigeria. *BMC Health Services Research*, 16(1), 1–12. <https://doi.org/10.1186/s12913-016-1780-0>
- Singh, M. P., Chand, S. K., Saha, K. B., Singh, N., Dhiman, R. C., & Sabin, L. L. (2020). Unlicensed medical practitioners in tribal dominated rural areas of central India: bottleneck in malaria elimination. *Malaria Journal*, 19(1), 18. <https://doi.org/10.1186/s12936-020-3109-z>
- Steel, W., Ujoranyi, T., & Owusu, G. (2014). Why Evictions Do Not Deter Street Traders: Case Study in Accra, Ghana. *Ghana Social Science Journal*, 11(2), 1–17.
- Sudhinaraset, M., Ingram, M., Lofthouse, H. K., & Montagu, D. (2013). What Is the Role of Informal Healthcare Providers in Developing Countries? A Systematic Review. *PLoS ONE*, 8(2), e54978. <https://doi.org/10.1371/journal.pone.0054978>
- Todri, V., Ghose, A., & Singh, P. V. (2020). Trade-Offs in Online Advertising: Advertising Effectiveness and Annoyance Dynamics across the Purchase Funnel. *Information Systems Research*, 31(1), 102–125. <https://doi.org/10.1287/ISRE.2019.0877>
- Turner, S., & Oswin, N. (2015). Itinerant livelihoods: Street vending-scapes and the politics of mobility in upland socialist Vietnam. *Singapore Journal of Tropical Geography*, 36(3), 394–410. <https://doi.org/10.1111/sjtg.12114>



- Yendaw, E., Asitik, A. J., & Dary, S. K. (2021). *Retailing Strategies of West African Itinerant Immigrant Traders in Ghana Journal of Planning and Land Management*. (September). <https://doi.org/10.36005/jplm.v2i1.42>
- Yendaw, E., Tanle, A., & Kumi-Kyereme, A. (2019). Analysis of livelihood activity amongst itinerant west African migrant traders in the Accra metropolitan area. *Journal of Global Entrepreneurship Research*, 9(1), 1–21. <https://doi.org/10.1186/s40497-018-0126-2>
- Yusuff, K. B., & Wassi, A. S. (2011). Itinerant vending of medicines inside buses in Nigeria: vending strategies, dominant themes and medicine-related information provided. *Pharmacy Practice*, 9(3), 128–135. <http://www.ncbi.nlm.nih.gov/pubmed/24367466>