Drugstores, self-medication and public health delivery: assessing the role of a major health actor in Ghana.

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Abstract

In Ghana, to deal with the lack of pharmacists and the low presence of pharmacies outside big cities, in the post-independence era, health authorities authorized the opening of private businesses, specialized in the retailing of pharmaceuticals, by people who were not pharmacists. These licensed chemical sellers (LCS), commonly known as *drug stores*, are the lowest level of pharmaceutical care providers who are authorized to supply by retail only over-the-counter medicines. They are licensed by the Pharmacy Council and section 29 of the Pharmacy Act 489 of 1994 provides the legal backing for their licensure. They receive pre-licensing orientation and training before they begin their practice. LCS constitute major sources of basic medicines for most Ghanaians. Currently, 10, 324 of them are in operation in Ghana with a strong presence in rural areas and slums of cities.

What is the contribution of LCS to overall public health goals and what are the realities of *chemical shops* as the archetypical place for the provision of over the counter pharmaceuticals? Is the service they provide actually restricted only to the distribution of over the counter medicines? What is the extent of purchasing from clients through self-medication?

To answer these questions, we have since the middle of 2014 conducted ethnographies with *chemical shops* (approximately 100 hours of observations in seven businesses between a period of 4 to 6 months), located in urban (Metropolitan Accra and periphery) and rural areas in the Central region. We also conducted qualitative studies with 30 families living in the neighbourhood of the shops using semi-structured interviews and bi-monitoring of their medicine consumption for 8 months.

Chemical shops appear to have a special place in the distribution of pharmaceuticals in Ghana. Their role exceeds widely the one stipulated by law. The therapeutic classes which they are selling are more numerous than those registered in texts. A typical case in question relates to the sale of popular antibiotics. Sellers do not restrict their functions only to their designated roles of retailing pharmaceuticals. Some are involved in wholesale activities. They provide important health advice to clients. Some owners of *chemical shops* have a very positive reputation and are seen in their neighbourhood as preferred advisors regarding health. Some operators with or without health backgrounds even combine effectively their pharmaceutical dispenser's activity with medical care such as giving

infusions and injections.

LCS in Ghana thus crystallizes many informal practices and several categories of actors described elsewhere, such as unregistered pharmaceutical sellers and neighbourhood nurses in French-speaking countries of Western Africa. But at the same time, they appear to be the first port of call for health for many people.

Key words: Drugstores, distribution, public health care, self-medication, Ghana

Résumé

Au Ghana, pour faire face au manque de pharmaciens et à la faible présence d'officines de pharmacie hors des grands centres urbains, dès les débuts de l'indépendance les autorités autorisent l'ouverture de commerces privés, spécialisés dans le médicament, par des personnes ne disposant pas du diplôme de pharmacien. Communément appelés *drug stores*, ces commerces constituent le 1er niveau d'accès au médicament. Ils ne sont censés distribuer que des médicaments *over the counter* (OTC), disponibles sans prescription. Ils sont régulés par la Pharmacy Council et la section 29 du Pharmacy Act 489 of 1994 encadre leur pratique. Leurs dirigeants doivent suivre une formation avant de démarrer leurs activités. Ils représentent la source principale à laquelle la plupart des ghanéens accède aux médicaments de base. On compte aujourd'hui 10 324 *chemical shops* au Ghana, très fortement présents sur toute l'étendue du territoire, y compris dans les petits villages et les quartiers très précaires des villes.

Quelle est la contribution de cescommerce aux objectifs globaux de la santé publique et quelles réalités recouvrent-ils aujourd'hui, alors qu'ils sont censés être le lieu d'achat par excellence des médicaments pour pratiquer l'automédication ? Le rôle effectif qu'ils remplissent se borne-t-il uniquement à la distribution de ces médicaments ? Comment caractériser l'automédication réalisée par leur entremise ?

Pour répondre à ces questions, nous réalisons depuis le milieu de l'année 2014 des ethnographies auprès de *chemical shops* (7 commerces ont été observés durant 4 à 6 mois, soit environ 100 h d'observation par endroit), situés en milieu urbain (Accra et périphérie) et rural (Central region). Nous conduisons également des études qualitatives auprès de 30 familles habitant ces mêmes lieux (entretiens semi-directifs, suivi de leur consommation durant 8 mois).

Les *chemical shops* apparaissent comme ayant effectivement une place de choix dans la distribution pharmaceutique au Ghana. Leur rôle dépasse même largement celui qui est prévu par la législation. Les classes thérapeutiques qui y sont vendues sont bien plus nombreuses que celles inscrites dans les textes. C'est le cas notamment des fameux antibiotiques. La distribution détaillante des médicaments n'est pas la seule tâche dont les vendeurs en leur sein s'acquittent. Certains s'investissent dans des activités grossistes. Ils donnent également de nombreux conseils à leurs clients en matière de santé. Certains propriétaires d'un *chemical shop* ont une réputation très positive et sont considérés par les habitants de leur voisinage comme des conseillers privilégiés en matière de santé. Quelques-uns mêlent même complètement leur activité de dispensateur de médicaments à celle de consultant qu'il s'octroie ainsi, allant jusqu'à proposer des soins courants (perfusion, injection). Ils cristallisent ainsi à eux seuls beaucoup de pratiques informelles décrites ailleurs, comme celles des vendeurs de médicaments et des infirmiers informels des pays francophones d'Afrique de l'Ouest. Néanmoins, ils s'avèrent aussi être des acteurs incontournables de l'offre de soins pour de nombreuses personnes.

Medicines are very important in the health care delivery system of every country. In fact, apart from the basic necessities of life which includes food, shelter and clothing, pharmaceuticals also feature on the list of physical necessities for the maintenance of life (Olatunji, 2014).

Several studies have been conducted over the years in low developing countries focusing on the subject of self-medication which include how pharmacies and pharmaceutical practices foster self-medication, clinical rationality of prescription practices, self-medication inclusive of over-the-counter (OTC) drug use for acute and chronic illnesses, abuse of antibiotics, the purchase of nutritional supplements (tonics and vitamins) and the self-regulation of prescribed medicine dosage (Donkor et al, 2002; Hardon, 1991; Igun, 1987; Kamat & Nichter 1998; Okumura et al, 2002; Van den Boom and Nsowah-Nuamah, 2004). Some studies have also been conducted into informal drug circuits and how they aid in self- medication (Van der Geest 1987; Hughes et al, 2012; Baxerres, 2013).

However, chemical shops or over the counter retail shops and the role they play in self-medication have not been focused on in detail in most of these papers. When they are discussed, they are usually lumped together with pharmacies which sell as well prescription drugs. This might also be because in some countries, like French speaking countries of West-Africa, retail shops that sell only over-the-counter medicines are not mandated by law as the case in Ghana.

In Ghana, to ensure easy access to pharmaceuticals and to deal with the lack of pharmacists and the low presence of pharmacies outside big cities, private businesses were authorized by health authorities in the post-independence era as specialized in the retailing of pharmaceuticals, by people who are not pharmacists. These retail shops are called licensed chemical sellers (LCS), popularly known in Ghana as *drug stores*, they are the lowest level of pharmaceutical care providers who are authorized to supply by retail only over-the-counter medicines (Class C) and those included in the national public health programs (antimalarial, contraceptives, etc.) [1]

These shops are licensed by the Ghana Pharmacy Council, Section 29 of the Pharmacy Act 489 of 1994 provides the legal backing for the licensure of these chemical shops[2]. Owners of these shops receive pre-licensing orientation and training before they begin their practice and must have a minimum General Certificate Examination, Ordinary Level (GCE 'O' Level), Senior Secondary School (SSS) certificate or its equivalent[3]. In addition, "the owner or the operator of the chemical shop must be a citizen of Ghana, be of good character, be medically and mentally fit, must not be a registered Pharmacist as defined by the Pharmacy Act, 1994 (Act 489)" (www.pharmacycouncilghana.org).

LCS constitute a major source of basic medicines for most Ghanaians. Currently, 10,324 are in operation in Ghana with a strong presence in rural areas as against 2175 pharmacies (Nyaogbe, 2015). In Upper socio– economic class residential areas however, chemical shops are almost non-existent whilst in more densely populated low income areas, chemical shops are in abundance with pharmacies interspersed. LCS are thus very popular in Ghana however their operations has not received a lot of attention.

The apparent popularity of LCS must be because of their availability and proximity to people who need medicines or health care. Chernichovsky & Meesok (1986) indicated that

[1] Information was accessed online at www.pharmacycouncilghana.org, March 2016.
[2] The Ghana Pharmacy Council is a statutory regulatory body established by an Act of Parliament, The Pharmacy Act, 1994 (Act 489). The major function of the council is to secure in the public interest, the highest standard in the practice of P0harmacy.
[3] This is pre-tertiary education. Students complete this level of education at around 18 years.

price, income, and distance are important determinants of the choice of health care provider.

The paper therefore seeks to understand the realities surrounding the operations of chemical shops in Ghana, their contribution to overall public health goals, the services that are rendered through these shops and the extent of purchasing from clients through self-medication.

Data was collected from July 2014 to January 2016[4]. Ethnographies were conducted with seven *chemical shops* (approximately 100 hours of observations in seven businesses between a period of 4 to 6 months), located in urban (Metropolitan Accra and periphery) and rural areas around Breman Asikuma in the Central region. Observation guides were used to collect data during ethnographies at purposively selected shops during the period. Qualitative studies with 30 families (15 in Accra, 15 in Breman Asikuma) living in the neighbourhood of these shops were also carried out using semi-structured interviews and bimonthly monitoring of their medicine consumption for 8 months. All families were chosen purposively to represent the 3 main socio economic classes (Upper, Middle and Low class). In depth interviews were then conducted with 21 chemical shops owners and their assistants. These chemical shops were places where families being studied purchased medicines and/or accessed healthcare. The interviews bordered on history of the shop, management of the shop, how medicines are stocked in the chemical shops, categories of medicines sold, relationship with customers.

Licensed Chemical shops in the lives of families

Chemical shops though on the lowest rung of health care options offer very important services to members of a community. They are usually the first port of call for most members of the community as it is the closet point of accessing medicines and health care at relatively affordable prices in comparison to pharmacies. Chemical shops are also the preferred places for most families in populous areas of Accra. In the central region which is more rural, they were the closest facilities that could be visited for healthcare. Pharmacies are as well not present everywhere especially in the rural areas.

Drug retail shops are popularly called “drugstores”. These “drugstores” may either be Pharmacies or chemical shops. Most mothers of families did not make a cleardistinction between pharmacies and licensed chemical shops although chemical shops are restricted to only the sale of over the counter medicines. Proximity and cost of medicines was the strongest indicator of where people purchased medicines. Most mothers cited long queues and awful customer service especially by nurses at hospitals and clinics as being a major deterrent to accessing health care as such places. A chemical shop is thus seen as more convenient as it is close and offers better services in their opinion.

> “ …When malaria affects them, I normally send them to the hospital, but looking at what we experienced that night, going to the hospital to sit and wait for the doctor

[4] This study is part of the Globalmed Research project, " Artemisinin-based Combination Therapy: an illustration of the global drug market, from Asia to Africa" (2014-2018), funded by the European Research Council. It combines IRD teams (UMR M0erit), CNRS (Cermes3), the University of Abomey Benin, Noguchi Memorial Institute for Medical Research of the University of Ghana, Legon and the University of Health Science, Cambodia, in which are involved researchers and students. For data collected here, thanks to Eunice Ayimbono Ayimbilla, Grace Kumi Kyeremeh, William Sackey and Sandra Serwaa Bredu.

> to come, and examine you, and to write out test for you to go carry out… sometimes after carrying out the tests, you don't get the results that day. You can be told to go and come the next day meanwhile, the child isn't feeling well. So I feel that it's a waste of time. If I know the drug I can buy for the child or know someone who can give me drugs to give to the child, it's not necessary for me to go and waste that much time at the hospital…" *(Ophelia[5], Kotobabi, Accra, Middle Socio Economic Class)*

Most families in the low socio-economic class category preferred to buy medicines from chemical shops because they offered relatively cheaper price alternatives. Not only is the medicine prices more affordable as compared to those in pharmacies, there are other "services" that clients receive from chemical shop attendants. It includes readiness to give medicines in smaller quantities according to customers' demand even if it falls short of the complete dosage. For example some chemical shop attendants were prepared and sold out 2 or 3 capsules of antibiotics or single blister of antibiotics based on patient demand. The chemical shops owners "understood" their clients and their "pockets" and were willing to give them medicines to suit how much they could afford.

> "…The reason why we all like medicines from Uncle T's place (chemical shop) is that, when you go to the Children's hospital and they prescribe Paracetamol for you, they can sell it to you around 10 cedis[6]. If you come to Uncle T's place the same medicine would be 5 cedis. So you see the big difference? So when they give it to me (prescription), I don't even venture trying to get it from there at all. That is the fact!…" *(Susanna, Accra Newtown, Accra, Middle Socio- Economic Class)*

Some customers also had very strong allegiance to places where they buy their medicines because their owners gave medicines out on credit so they can pay later.

Observations from the LCS's and bi-monthly monitoring indicated that direct demand is the commonest way or means by which clients obtain medicines[7]. This is followed by request for advice from the chemical seller and then very rarely prescriptions from doctors. In this case, a scenario like the one observed below may unfold:

> A lady entered and said her sister got up this morning with "red and itchy eyes". Aunty B went straight to an enclosed glass shelf and took an eye drop. She asked the lady which one she wanted as there was one for ¢9 and ¢3, the lady laughed and said let me see the ¢3 first and decided to buy that one. (Urban drugstore, Accra: October, 2014)

Others seek advice by presenting the symptoms and expect the chemical seller of pharmacist to help with a medication.

[5] All names used are pseudonyms
[6] The approximate equivalent of one Euro to a cedi is 4 cedis.
[7] Some customers mentioned the colours of medicine to indicate what they wanted. Red and yellow for instance meant Amoxicillin capsule. Direct request include names of medicines written on papers, showing old medicines package or empty boxes to indicate what they want.

Table 1: Modes of purchase in Urban and Rural Chemical shops.

Modes of Purchase	Urban Chemical Shops	Rural Chemical Shops
Direct Demand	82.5%	78%
Request of Advice	17.5 %	20.5%
Prescription	0%	1.5 %

Realities of Services offered by Licensed Chemical shops

It was observed at the various chemical shops that the services provided by LCS's exceed widely what is stipulated by law i.e. retail of only over-the-counter medicines (Class C) and those included in the national public health programs (antimalarial, contraceptives, etc).

The sale of antibiotics, which is a prescription only medicine with the exception of Cotrimaxazole was sold in all 21 shops. Most LCS sold other prescription drugs such as antihypertensives, antidiabetics, anxiolytics, anti-asthmatic drugs and injections. The reason given by some of the owners of these chemical shops especially those in the rural areas was that they are the nearest places people can access medicines and as such they must have medicines that their customers want in order to retain their customers. Others explained that they stocked based on demand.

In addition to the above, some LCS's did not restrict themselves to just retailing medicines. Chemical shops sometimes served as wholesale points. In the rural areas, this must have been a result of a dearth of wholesalers in the neighbouring villages where medicines could be bought in large quantities for retailing. One chemical shop in Breman Asikuma in addition to serving as wholesale point for most of the LCS nearby also served a nearby health centre and a Community-Based Health Planning and Services (CHPS)[8] compound. A chemical shop in Accra presents a unique case and although did not sell on wholesale basis at the shop, the owner however had a van that he used for distribution in Accra and some rural areas beyond the city.

The law stipulates that the holder of the license must be the one to operate the shop. This was however not the case in some places. Two out of the 21 LCS studied were using certificates of others to operate. These LCS operators paid to buy the license to operate as they had had difficulty obtaining a license from the Pharmacy Council. Some male operators used the name of their wives or female family members to obtain the license as there is the belief that it was easier for females to get the licenses as opposed to males. Owners of two chemical shops had pharmacy shops at Okaishie[9] and opened chemical shops in crowded areas. They hired medicines counter assistants to manage the shop who they paid at the end of the month whilst they went about their other businesses. In some cases, chemical shops sellers were using licenses of relatives who had passed on to operate.

[8]The CHPS concept under Ghana's health service delivery structure is supposed to be the first point of call for patients, especially, in rural areas. It was started in Ghana in 2005 after a pilot programme.

[9]Okaishie is a huge central pharmaceutical wholesale point in Accra which houses several pharmaceutical wholesale and retail shops.

According to the regulation of the Pharmacy council, operators are taken through some form of training and orientation after they had been granted the license. Most of the owners had taken the training but invariably they do not stay at the shops; most of the time the shops are manned by attendants without formal training but happen to be children and other relatives of the owners and learn the "retail" on the job. Some attendants were also medicines counter assistants and had had 6 months training from a medicines counter training school. Their training usually spanned about a year within which the students were attached to hospitals and pharmacies. They later took a test and were licensed by the Pharmacy Council as medicines counter assistant. This phenomenon, whilst common in Accra was not evident in the LCS's observed at Breman Asikuma in the central region.

Providing essential health care

Owners of chemical shops are held in high repute by members of the community. They are seen to be vessels of knowledge who have had a long illustrious career and the community members repose a lot of trust in them.

Some owners of chemical shops have a very positive reputation and are seen in their neighbourhood as preferred advisors regarding health. Indeed some community members indicated that they have a lot more confidence in attendants of licensed chemical sellers than doctors.

> "... I remember, there was a time I sent Princess (daughter) to the hospital, I gave her the medicines which were given me, but still, she did not feel better... at the end of it all, I went with her again to the drugstore to buy medicine for her before she got better, so I don't depend on hospitals most of the time... he (the owner of chemical shop) is really knowledgeable about medicines" *(Ophelia, Kotobabi, Accra – Middle Socio- Economic Class*

Not all attendants have health backgrounds but they combine effectively their pharmaceutical dispensers' activity with medical care such as giving infusions and injections. At a chemical shop in Accra, the owner had a small room behind the chemical shop where injections were given and microscopic tests were carried out for Malaria, Typhoid and pregnancy. There were beds were patients could be detained for a while. The owner compared the quality of health care to that received at the hospital.

"...Because of the treatment here, having time for you, talking to you and doing all these things for you. People come from far. It is just like you have gone to the hospital but they don't pay for consultation..." (Chemical shop, Dansoman, Accra).

Some chemical sellers believed they are doing a great service to the community forgetting that their activities were lucrative as well. Apart from giving advice to customers on a myriad of issues, they also gave medicines on credit to loyal customers when necessary.
Most chemical shop owners said they maintained excellent customer relationships and offered the best of care to their clients.

"... We are nice to them. In some shops, they are not friendly, social, they just give out medicines when you go there but here we are very nice, sociable, we communicate. If it is spiritual, my mom is a pastor, we encourage, we would pray for you, wish you speedy recovery, sometimes we take their number and call out to find out how they are feeling..." (Chemical shop, Dansoman, Accra)

Conclusion

There are numerous drugs and drug combinations available for general use and are sold directly to the public as over the counter (OTC) drugs. These medicines do not require medical prescription although many essential medicines are currently available in chemical shops that require prescription but are sold without the authorization by existing regulation. The proximity of LCS makes it an obvious choice for customers as they spend less time in seeking prompt healthcare.

It is apparent that a lot of people utilize licensed chemical shops in seeking health care. Members of the community through the bi-monthly monitoring are seen to appreciate the existence of chemical shops and the care they offer. For families that seemed to know the restrictions of chemical shops, it did not bother them that they were operating beyond their mandate. These chemical shops owners have transcended their roles as medicines outlets.

LCS in Ghana crystallize many informal practices and several categories of actors described elsewhere, such as unregistered pharmaceutical sellers and neighbourhood nurses in French-speaking countries of Western Africa(Baxerres, 2013; Hughes et al 2012) but at the same time, they appear to be the first port of call for health for many people. In spite of this apparent opposition, authorities have to take advantage of the 'unstated' role of this very important health care provider with regard to regulations guiding pharmaceutical use and over all public health.

References

Arhinful Daniel K, 2003, *The solidarity of self-interest. Social and cultural feasibility of rural health insurance in Ghana*, Leiden, African Studies Centre.

Baxerres Carine, 2015, Contrefaçon pharmaceutique : la construction sociale d'un problème de santé publique. In: Egrot M., Desclaux A. (eds). *Anthropologie du médicament au Sud. La pharmaceuticalisation à ses marges*, Paris, L'Harmattan - Editions de l'IRD, Collections Anthropologies et Médecines, 129-146.

Baxerres Carine, 2013. *Du médicament informel au médicament libéralisé : Une anthropologie du médicament pharmaceutique au Bénin,* Paris, Les Editions des Archives Contemporaines.

Baxerres Carine and Jean-Yves Le Hesran, 2011. Where do pharmaceuticals on the market originate? An analysis of the informal drug supply in Cotonou, Benin. *Social Science and Medicine*, 73 (8): 1249-1256.

Chernichovsky Dov, and Oey Astra Meesook. 1886. "Utilization of health services in Indonesia." *Social Science & Medicine* 23 (6): 11-620.

Donkor Eric S, Patience B. Tetteh-Quarcoo, Patrick Nartey and Isaac O. Agyeman, 2012. Self-medication practices with antibiotics among tertiary level students in Accra, Ghana: a cross-sectional study. *International Journal of Environmental Research and Public Health*, *9* (10): 3519-3529.

Fenenga Christine, Kwasi Boahene, Daniel Arhinful, Tobias Rinke de Wit and Inge Hutter,

2014. Do prevailing theories sufficiently explain perceptions and health-seeking behavior of Ghanaians? *The International Journal of Health Planning and Management*, *29*(1): 26-42. Doi: 10.1002/hpm.2159.

Hardon Anita, 1991. *Confronting ill health: medicines, self-care and the poor in Manila*. Quezon-City, Health Action Information Network.

Hughes Robert, Clare R. Chandler, Lindsey G. Mangham-Jefferies and Wilfed Mbacham,

2012. Medicine sellers' perspectives on their role in providing health care in North-West Cameroon: a qualitative study. *Health policy and planning*, czs 103.

Igun Uvietobore A, 1987. Why we seek treatment here: retail pharmacy and clinical practice in Maiduguri, Nigeria. *Social science & medicine*, *24*(8): 689-695.

Kamat Vinay R. and Mark Nichter, 1998. Pharmacies, self-medication and pharmaceutical marketing in Bombay, India. *Social Science & Medicine* 47(6): 779-794.

Nichter Mark and Nancy Vuckovic, 1994. Agenda for an anthropology of pharmaceutical practice. *Social Science & Medicine*, *39*(11), 1509-1525.

Nyaogbe Joseph, 2015. "Pharmacy Practice Development in Ghana: Tracing the evolution through education, practice and regulation". *A presentation given at the Globalmed Annual Meeting*. September, 21st.

Okumura Junko, Susumu Wakai and Takusei Umenai, 2002. Drug utilisation and self-medication in rural communities in Vietnam. *Social Science & Medicine*, *54*(12): 1875-1886.

Olatunji Olugbenga E, 2014. The Political Economy of Pharmaceutical Healthcare in Third World Countries: A Case Study of Malaria in Sub-Saharan Africa. *Projournal of Humanities and Social Science 2*(1): 23-45.

Boom, Bart van den, Nicholas N.N. Nsowah-Nuamah and Geert B. Overbosch. 2008. Health care provision and self-medication in Ghana. Pp 392-416 in *The Economy of Ghana: Analytical Perspectives on Stability, Growth and Poverty*, edited by Ernest Aryeetey and Ravi Kanbur. Oxford: James Currey.

Van der Geest Sjaak, Susan Reynolds Whyte and Anita Hardon, 1996. The anthropology of pharmaceuticals: a biographical approach. *Annual review of anthropology*, 153-178.

Van der Geest Sjaak, 1987. Self-care and informal sale of drugs in South Cameroon. *Social Science and Medicine* 25: 293-306.

Van der Geest Sjaak, Susuan Reynolds Whyte and Anita Hardon, 2002. *Social lives of medicines*. Cambridge University Press.