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Urbanisation and Health Services: developing a New Model of Primary Health Care in Goma (DRC)

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Urbanisation and health: the DRC context

Urbanisation is a growing worldwide phenomenon and it represents a major health challenge for developing countries. The United Nations World Urbanisation Prospects study (UN-Habitat, 2018) shows that the world's urban population reached 50% of the global population, and that this phenomenon is expected to increase over the next thirty years. According to the projections of UN-Habitat study, Africa will be the continent that will experience the largest urban population growth in the coming decades. The Democratic Republic of Congo (DRC), like Tanzania and Nigeria, will be among the 10 countries with the highest rate of urban population by 2050 (Maiga and Bocquier, 2016).

Urbanisation is associated with major health challenges, particularly in the African region and the DRC. These health challenges are worsened by many factors such as: the lack of urban governance, high levels of population precarity, the deficiency of the sanitation systems, and the inadequacy of health services to meet the specific needs of the urban context (Grodos and Tonglet, 2002). In addition to infectious diseases, the urban environment is characterized by a significant proportion of non-communicable diseases related to health transition and globalization (Mahler et al., 2010). Many studies across several regions have demonstrated the links between urbanisation and health issues such as obesity, diabetes and cardiovascular disease (Mahler et al., 2010; WHO, 2017).

In the DRC, the protracted crisis context[1] (FAO, 2010) contributes to a disruption of the health system, characterized by a lack of governance and by a high concentration of training centres and lucrative health services poorly regulated and with low quality standards (Chenge, 2013). In addition, the widening social inequalities, the high cost of care, the distance to hospitals and the development of a lucrative approach in healthcare institutions make it difficult for vulnerable populations to access quality care, including access to a doctor. Besides, the actual health system in DRC is still based on the old rural model of the health district (WHO, 1987), where nurses must provide primary health care because of a shortage of doctors in the rural areas. Evidence showed that this model is inadequate due to the growing urban population and the proliferation of doctors in urban areas (Grodos et Tonglet, 2002; Chenge, 2013). Primary healthcare in DRC is also facing a new challenge: the rise of non-communicable diseases (NCDs). Nurses are not trained for NCD management.

[1] Protracted crises are contexts in which a significant proportion of the population is acutely vulnerable to hunger, disease and disruptions to livelihoods over prolonged periods. Almost all countries with a protracted crisis have experienced violent conflict over prolonged periods of time. (FAO, 2010)

In the framework of the PADISS[2] (*Projet d'appui au développement intégré du système de santé*) project, a new model of primary health care services[3] in an urban area was tested. This model is based on i) a global approach to care (medical, social and mental) allowing patient's expectations to be better considered; ii) a multidisciplinary team composed of a doctor, nurses, a physiotherapist, a psychologist and a social worker. It should be noted that currently in the DRC the national health care guidelines foresee a team of five people per 10,000 inhabitants (two nurses, one laboratory technician, one reception clerk and one clerk). Our ambition is therefore to contribute to the reorganisation of health care services in the DRC by proposing a new model able to meet the needs and expectations of urban population. This article focuses on the brainstorming process that led us to develop this model and on the perspectives for future research around this test phase.

Understanding the adequacy between demand and supply of health care in the city of Goma.

The province of North Kivu, in the east of the DRC, has a population of nearly 10 million, which represents more than 10% of the country's total population. For more than two decades, this province has been confronted with permanent insecurity due to the presence of local and foreign armed groups, resulting in the migration of many inhabitants of the region to the main urban areas, in particular to the cities of Goma and Butembo[4].

Based on these considerations, the PADISS project conducted three preliminary studies in 2017 and 2018 to better understand the population's health concerns and to establish a realistic and effective action plan.

The first quantitative study on the therapeutic path of patients in the city of Goma showed a morbidity profile characterized by: infectious diseases (72%), chronic communicable diseases (11%) and trauma (2%). In addition, it was found that for the population the first resort in times of sickness is the pharmacy (51%) and that only 26% of the population attend health facilities with a doctor (ULB-Cooperation, 2017).

A subsequent qualitative study focused on patients' perceptions of the therapeutic itinerary[5]. It should be noted that the author of the study described this therapeutic itinerary as a "warrior's journey" because of the many difficulties encountered by patients before being cared for by a doctor (Oleffe, 2018). The study identified the motivations behind the choice of health care services: the presence of trained and competent health personnel, hygiene, the availability of medicines and equipment necessary for a proper diagnosis and treatment.

A third study, focusing on the profile of the healthcare services in Goma, revealed a clear predominance of private for-profit structures (65%) over non-profit structures (25%). In more than 70% of cases, these private health facilities do not have the authorisation to operate[6]. The study showed that the offer of healthcare services in Goma is extremely high with a ratio of 2,987 inhabitants per health facility. Private health facilities similar to the first-line of care (less than eight beds

[2] The PADISS project (2017-2021) is financed by the European Union et the Belgian cooperation, and it is coordinated by ULB-Cooperation, the NGO of the *Université Libre de Bruxelles*. https://ulb-cooperation.org/fr/actualites/projet-dappui-au-developpement-integre-du-systeme-de-sante-du-nord-kivu-padiss-nk.

[3] The first line of care is the first level of interaction between the health system and the population (Mercenier, 1988). It acts as the first place where complaints, symptoms, health problems, in short, the demand for care by users, are expressed (Michel Roland, 2006). It is considered as the first level of care, whose main functions summarized by Belche (2017) are: first contact with the patient, the community, the comprehensiveness and continuity of care and the coordination of care. The first line of care operates in conjunction with the second line, which performs support functions (technical, scientific, logistical) vis-à-vis the first line (ibidem). These health centres, with less than eight beds, provide a limited range of care and do not provide hospitalization for patients. However, they are allowed to keep patients under observation for a maximum of 48 hours (MSP, 2006).

[4] Goma and Butembo are the two main cities in the North Kivu province with a population of about one million each.

[5] Therapeutic itinerary refers to the journey patients experience in the search for treatment in which individuals or social groups choose, evaluate and adhere (or not) to certain forms of assistance.

[6] This authorization should be issued by the provincial health administration.

assembled) represented 34% of all services examined (n=318). These health facilities are medicalized in 31% of cases[7].

Drugstores are following the same trend as health facilities in terms of proliferation (1,303 inhabitants per pharmacy) and lack of license to operate. Only 9% of them are run by a pharmacist or pharmacy-assistant and more than 80% by nurses.

The results of these three studies showed a deregulation of care supply in terms of demand and a very low use of primary health care services by patients in the city of Goma. Indeed, it has been observed that this population makes greater use of drugstores than all the other health facilities (ULB-Cooperation, 2017). From these observations it was possible to better understand the issues related to the organisation of a first referral level of care in Goma: these studies informed the research team on how best to combine urban population expectations (geographical and financial accessibility to basic health care) with the quality of care delivered (qualified staff, quality equipment, availability of medicines, etc.). The need emerged, in particular from the chaotic experience of the patients, to bring together different type of health professionals in the same health centre, and thus guarantee accessibility, quality of care as well as continuity of the relationship between patients and their caregivers.

Building a new model of primary health care in an urban setting: the pilot test in Goma

To reach consensus on a new model for primary care in an urban setting, a joint process of analysis involving all the stakeholders in Goma[8], was conducted. The data analyzed came from three sources: the results of three studies conducted in the city of Goma, as mentioned above, the observation of primary health care services in other countries and provinces, and the data from the scientific literature on the organisation of primary level of care.

Two field visits were organized to analyze other experiences in the organisation of the primary health care in urban areas in Mali[9] and in Belgium. Observation in very different geographical and socio-economic contexts allowed the team to better define the characteristic of the new model of the first level of care to be tested in Goma. In addition, the comparison of these experiences highlighted strengths and challenges to be faced when introducing a new urban health approach such as: resistance to change, financial accessibility and the adequacy of staff training to the new tasks assigned. The early consideration of all these types of difficulties stimulated a dialogue and analysis that proved useful in the different phases of the project. In addition, the participation of different stakeholders in this phase of the model's definition enriched the process with diverse but complementary points of view.

Literature review enabled a deeper understanding of the organisational models of primary health care in a dozen African countries and elsewhere. Some models have integrated comprehensive patient care approaches[10] (WHO, 2008; WHO, 2000; Federation MM, 2013) and some others have further developed the medicalisation of the first line of care with a family practice approach (Balique et al., 2001; Codja et al., 2010; Desplats D, 2011).

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[7] In DRC, primary health care facilities attended by doctors are called 'medicalized' (MSP, 2006).

[8] A focus group chaired by the head of the provincial health administration and set up in 2017 in Goma, served as a framework for collaborative analysis of the results of studies conducted in Goma and experiences developed in other countries. The main stakeholders where people from: the provincial health administration, district coordination teams of two urban health districts operating in the city of Goma, providers and organizers from the private health sector, and partners supporting the health sector in the province. A total of 5 meetings were held in 2017 and 4 meetings in 2018, complemented by a workshop extended to delegates from the central level of the Ministry of Health, providers and civil society delegates.

[9] Mali was selected because it is a developing country structured in health districts as it is the case in DRC. In addition to that, an evaluation of the WHO showed that primary healthcare facilities with a doctor in Mali increased quality of care and the range of health problems addressed. See reference 2,4 and 5.

[10] Comprehensive patient care ensures an accurate response to patient's needs, by integrating not only the medical dimension, but also the mental, family and social dimensions and patient well-being over their lifetime.

The new model proposed:

As a result of this preparatory work, a new model of primary care to pilot in Goma was built: an urban medicalised health centre. The initial care package includes: therapeutic and preventive care, health promotional activities, and rehabilitation care (physical, mental, and social). Within this medicalised health centre, a multidisciplinary team combine medical and nursing skills, physical medicine and physiotherapy skills, mental health care and social assistance. The health centre will develop privileged relationships with the reference hospital (provincial) and other health structures, depending on the complementary services, in line with the logic of a health network, continuity, effectiveness and efficiency of patient care.

This team will provide comprehensive community-based care to a population that will be registered through a (possibly computerized) family file. This file allows the team to have a broad knowledge of the family, the socio-economic environment of the household and to centralise most of the information on the health care of household members. The multidisciplinary team will work in a spirit of equality, cooperation and mutual appreciation. From an organisational point of view, the person in charge of the structure will be chosen among the staff by their peers.

The social worker will be the interface between the health centre and the patients, and between the health centre and the community. He/She will manage appointments, so that the user does not have to spend hours waiting to be attended and will facilitate the referral of patients to other team members. They will work with community leaders, schools, churches and civil society organisations to make sure that the health center meets the needs of the population, especially in terms of health promotion and health prevention activities.

Patient will be encouraged to participate in the decision-making process to improve their health and to organise the urban health centre. The humanistic approach to care will be at the center of our approach. Patient is considered as a partner in care contributing to find adapted and individualised solutions to a given problem.

The health centre will be financed mainly by: (i) the Ministry of Health through staff salaries and the health insurance system; (ii) external subsidies; (iii) user fees (*ticket moderateur*).

Risks, limitations and sustainability

By introducing a new model of primary care, the existing health care centers might feel threatened. From previous experiences we acknowledge the risk of facing a reluctance to change among health care providers. To avoid these potential risks, the research team has been working since the beginning with local authorities and caregiver's representatives in the definition of this model.

One of the limitations of this study is the lack of choice about the geographical location of the two medicalised health centers. The neighborhoods where the two pilot centers were established have a similar profile in terms of population (mostly middle-class). This means that this study will not provide a comparative analysis of the same approach in two different contexts (e.g. poor and middle-class neighborhood).

In terms of sustainability, the model proposed has the ambition to be financially embedded in the future health insurance system and structurally supported by the DRC Ministry of Health.

Future research perspectives

An action-research approach is planned during the first year of activity of the two medicalised urban health centres. The main aim is to understand what this model can bring in terms of quality of care, both from a technical point of view and from a caregiver-patient relationship perspective. Our starting

research question is the following: "What are the conditions that make it possible for two pilot health centres to provide better quality care to the urban population of the city of Goma?". Three objectives are assigned to this action-research: i) to question the relevance of the model chosen to meet the population's expectations and increase access to care; ii) to identify the aspects of our approach that contribute the most to the quality of care for patients; and iii) to determine the efficiency and sustainability of the proposed model. The research will be conducted by a multidisciplinary research team (anthropologist, sociologist, public health physician, clinicians, and managers) in the two-pilot urban health centres. Data collection will measure: the evolution in patient frequency, the accessibility and geographic reach of the two-urban health centres, the changes in the caregiver-patient relationship, and the therapeutic compliance of chronic patients (diabetic and hypertensive). These data will be collected using quantitative and qualitative methods. More specifically the research team will run targeted and quarterly surveys, bi-annual focus groups and one-to-one interviews. Qualitative data will also provide insights regarding the community participation in the whole process. Following this study, recommendations will be formulated and submitted to the Ministry of Health to offer insight and promote the reorganisation of primary health care in urban areas. Other initiatives are being developed in South Kivu and Kinshasa. Based on lessons learned from these different experiences, the MSP will design its new policy.

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