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# Vulnerability and ageing in Ouagadougou: The crucial role of gender and migration status in older people's support

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## Résumé – Abstract

***Abstract***

*The issue of care for older people brings up a number of concerns in African cities, which are characterized by rapid urban growth, economic crisis, transformation in social relationships, and the near absence of institutional support for older people. Based on quantitative and qualitative data collected through the Ouagadougou Health and Demographic Surveillance System (Ouagadougou HDSS, 2010-2017), this article examines the situation of older men and women living in the capital of Burkina Faso, whether they have always lived there or moved there from elsewhere. It aims to better understand the vulnerabilities of these older people, what becomes of them over time, and the issues and family dynamics that surround them. The results highlight important differences according to the sex and migration status of older people as determinants of vulnerabilities and emphasize the role in their care played by the sociocultural context.*

***Keywords:*** *Older men and women, vulnerabilities, gender inequalities, migrants, Burkina Faso*

***Résumé***

*La problématique de la prise en charge des personnes âgées suscite de nombreuses inquiétudes dans les villes africaines, caractérisées par une urbanisation rapide, la crise économique, la transformation des rapports sociaux, et la quasi inexistence de l'assistance institutionnelle aux personnes âgées. A partir de données quantitatives et qualitatives collectées dans l'Observatoire de Population de Ouagadougou, cet article s'intéresse à la situation et au devenir des hommes et femmes âgées vivant dans la capitale du Burkina Faso, qu'ils y vivent depuis toujours ou qu'ils y soient arrivés plus ou moins récemment. Il vise à mieux connaître leurs vulnérabilités, ce qu'elles deviennent au fil du temps, ainsi que les enjeux et les dynamiques familiales qui se mettent en place autour d'elles. Les résultats soulignent des différences importantes selon le sexe et le statut migratoire des personnes âgées, et mettent en évidence le rôle du contexte socio-culturel dans leur prise en charge.*

***Mots-clés :*** *Personnes âgées, vulnérabilités, inégalités de genre, migrants, Burkina Faso*

## 1. Introduction

Africa is projected to undergo a major demographic metamorphosis over the coming decades as its population ages. In 2020, the ageing population was numbered at 39.9 million. It is estimated that this number will increase significantly and reach 101.4 million by 2050 (United Nations, 2019, 2020). In African countries many issues are being raised around older people's care (Berthé, Berthé-Sanou, Konaté, Hien, Tou, Drabo, et al., 2013; Ouedraogo et al., 2019; Pennec & Gaymu, 2019; Sajoux et al., 2015; Schoumaker, 2000; Seid & Fentahun, 2022). Especially in the cities, which are characterized by rapid expansion and transformation in social relationships (Roth, 2007), older people must contend with eroding traditional support systems and almost no institutional assistance to alleviate individual or family difficulties (Braimah & Rosenberg, 2021; Schoumaker, 2000). Indeed, the urban areas in Burkina Faso, much like elsewhere in Africa, are currently experiencing economic challenges. This has resulted in changes in traditional family living arrangements, leading to transformation in the way familial and intergenerational forms of solidarity are expressed (Berthé, Berthé-Sanou, Konaté, Hien, Tou, Drabo, et al., 2013; Berthé, Berthé-Sanou, Konaté, Hien, Tou, Somda, et al., 2013; Ilboudo, 2011; Maïga & Baya, 2014; Roth, 2010; Rouamba, 2015). These changes affect the capacity of families to respond to their older members' state of dependency and need for care. In this context, where the social security system is in its infancy and the family unit remains the primary guarantor of an individual's well-being (Golaz & Sajoux, 2018), it is important to better understand not only the situation of older people in their households and how they fare over time but also the family issues and dynamics that affect them.

The migration status of older people in African cities has received relatively little scholarly attention. While many studies have looked at the effects of migration on mortality and health, few have focused on older people. Specifically, there is a need to better understand how and why migration status influences older people's vulnerability. We define vulnerable older people as persons aged 60 or older who are at increased risk of physical, social, mental or economic decline (Golaz, 2011). There may be a link between the age at which they arrive in the city and their vulnerability and the care they receive. Those who migrate at an advanced age often seem to be taken in by their children already established in the city (Sawadogo et al., 2019). Their health problems may worsen and their death may be hastened. Their risk of dependency is also higher as in the city they have relatively less autonomy.

Differences in vulnerabilities of older men and women have also been poorly explored in Burkina Faso. Nonetheless, recent research has revealed that older people are subject to gender inequality, as their sex can be a factor in their vulnerability, the care they receive and their mobility (Onadja et al., 2019; Sawadogo et al., 2019). Generally, the life expectancy of women is higher than that of men, but their disability-free life expectancy is lower (Bennett et al., 2016; Cambois et al., 2019; Payne et al., 2013). Women may accept support or benefit more easily, and once in the city, they may be more isolated than men due to being under male authority (Sawadogo et al., 2019). Additionally, family structures can also have an impact on the vulnerability of older individuals, providing an advantage to those who cohabit as a couple (Niamba et al., 2019). In sum, to what extent are older people physically, mentally, socially and economically vulnerable in Ouagadougou nowadays? Do these vulnerabilities vary according to their sex and migration status? What care do they receive, and on what does this depend? And finally, what happens to these people over time, in terms of residential mobility and mortality in relation to vulnerabilities and care received?

In analysing old age vulnerabilities through the lens of residential and familial arrangements, this study aims to contribute to a more complete reading of the challenges families face in terms of their older members, especially those who are more

dependent, and of their perceptions and the issues around their physical, mental and social well-being.

This study examines the residential and familial arrangements of older people living in formal and informal settlements in the northern outskirts of Ouagadougou, the capital of Burkina Faso. On the one hand, it takes a cross-sectional approach to the physical, mental, social and economic vulnerabilities of people aged 60 years or more in Ouagadougou and the degree to which they are provided with accommodation and support. On the other hand, it aims to analyse, taking a longitudinal approach, what becomes of older people over time in terms of their residential mobility and their survival, with a particular emphasis on the role played by gender and migration status. The role of their health status as well as the effects of the support they receive on their residential mobility and their survival will be examined.

This article first describes the quantitative and qualitative data used in the study, which were collected through the Ouagadougou Health and Demographic Surveillance System (Ouagadougou HDSS). The analysis techniques are also described in this first section. Second, it provides an overview of the concepts used in the paper and how they are defined. Then, in the third section, it presents and discusses the results of the research, and ends with a conclusion and suggestions for future research.

## 2. Data and methods

This article is based on a mixed-methods approach combining the analysis of quantitative and qualitative data. The aims of the quantitative analysis are twofold. Firstly, it seeks to examine, using a cross-sectional approach, the vulnerabilities experienced by older people and assess the extent to which this population is provided with adequate accommodation and support. Secondly, the it aims to analyse, through a longitudinal approach, the changes experienced by older individuals over time. This includes examining their patterns of residential mobility and survival rates. The qualitative analysis helps us understand the configurations observed in the sample households and grasp the issues the families face when it comes to providing care for older people.

All the data used in the study were collected through the Ouagadougou HDSS. Set up in 2008, this research and policy platform aims to provide a scientific basis for urban health policies. It is a longitudinal demographic and health monitoring system that is crucial for measuring demographic changes and their effects on population health in a context where population dynamics are poorly documented. The observation zone is located on the northern outskirts of Ouagadougou and cover an area of 15.32 $km^2$. It was selected to reflect the diversity of living conditions in the urban population in terms of standard of living, living environment, housing conditions and other factors. It consists of two formal neighbourhoods (Kilwin and Tanghin) and three informal ones (Nonghin, Polesgo and Niokho II). The formal areas are administratively recognized by the state and as such have access to basic social services (water, electricity, educational infrastructure, roads, etc.) while the informal areas have poor access to these services (Rossier et al., 2012). The Ouagadougou HDSS does not constitute a representative urban sample of the city but rather a "laboratory" that allows for in-depth observation of the specificities of urban populations, which can form the basis of policies designed to reduce health inequalities in the city (Rossier et al., 2014).

In addition to routine quantitative data collection, other studies and collection mechanisms have been added on to the Ouagadougou HDSS platform. This is the case, for example, of the health survey and the "Moving Targets" qualitative survey, both of which the data has also been used in this study.

### *2.1. Quantitative methods and data*

The quantitative data used are made up of the routine data collected by the Ouagadougou HDSS and the health survey. The routine data have been collected since the establishment of the Ouagadougou HDSS platform and are regularly updated by field workers. Since an initial census done between October 2008 and March 2009, field staff have carried out repeated rounds of data collection, visiting each household on average about every 10 months (Soura et al., 2018) to register and update life events such as deaths, births, migration (emigration and immigration), reasons for migration, migration trajectory, pregnancies, pregnancy outcomes, school attendance, level of education, household assets, etc. A household is defined as a group of individuals who live together and provide for their shared food habits while recognizing the authority of the same person as the head of the household.

In 2010, the platform included 77,242 residents distributed through 17,406 households. In 2017 there were 94,743 residents in 20,390 households, with 60% living in formal neighbourhoods and 40% in informal neighbourhoods. A resident is defined as a person who has lived for more than 6 months in the HDSS area. The demographic and socioeconomic characteristics (birth date, marital status, religion, ethnic group, migration, death, work status, etc.) of all these residents are regularly updated during household visits. However, this routine data collection does not provide information about the general health status or health problems experienced by the individuals residing in the area. The health survey was launched in 2010 to address this lack of health information.

The health survey was carried out between February and August 2010 with the objective of delving into specific health issues associated with children, adults and older people. The issues examined included health status, access to care, chronic illnesses, accidents and violence. The sampling frame was the totality of households from the Ouagadougou HDSS's second routine data collection round. Even if the goal was to survey individuals belonging to specific age groups (children less than 5 years old, adults 15–49 years old and adults aged 50 years or more), the sampling unit was the household. For each selected household, the survey targeted all individual residents falling within these age groups. The household head was asked questions about the household, and questions about adults aged 15 and over were asked directly to the household members falling in that category. In exceptional situations, if an older person was unable to answer questions due to their health condition or functional limitations, the questions were put to the person responsible for their care.

This survey contributed significantly to addressing the gap in data on the health of older people in particular. It allowed for the collection of data on physical vulnerabilities (difficulty with feeding, getting up, getting around, etc.), social vulnerabilities (capacity to maintain social ties in terms of autonomy, cognitive health, depression, level of support for daily tasks, loss of memory, etc.), economic vulnerabilities (household living conditions, pension) and issues of care for people aged 50 years or more.

For the study of older people, we worked with a sub-sample to include those individuals aged 60 years or more in 2010. The sample size consists of 506 individuals, with 46% being men and 54% women (Table 1). Of these individuals, 58% are 60–69 years old, 32% are 70–79 years old, and 10% are 80 years or more. With regard to migration status, 16% of the sample are native to Ouagadougou, while 66% migrated to Ouagadougou before age 60 and 16% after age 60; data on the remaining 2% is unknown. Interestingly, it is worth noting that 7 out of 10 individuals who migrated after age 60 were women.

***Table 1: Description of the sample by sex, age group and migration status (%)***

| | | All | Men | Women | Non-migrants | Migrants arrived before age 60 | Migrants arrived age 60+ |
|---|---|---|---|---|---|---|---|
| Sex | Men | 46 | | | 52 | 49 | 30 |
| | Women | 54 | | | 48 | 51 | 70 |
| Age group in 2010 | 60–69 years | 58 | 58 | 59 | 62 | 66 | 27 |
| | 70–79 years | 32 | 32 | 31 | 30 | 27 | 51 |
| | 80+ years | 10 | 10 | 10 | 8 | 7 | 23 |
| Migration status | Non-migrants | 16 | 18 | 14 | | | |
| | Migrants arrived before age 60 | 66 | 70 | 62 | | | |
| | Migrants arrived age 60+ | 16 | 11 | 21 | | | |
| | Unknown | 2 | 1 | 2 | | | |
| | N | 437 | 202 | 235 | 71 | 288 | 71 |

Vulnerabilities and family arrangements have been analysed transversally through logistic regressions on accommodation and support provided to older people as indicators of their care in 2010. In addition, given the longitudinal nature of the routine data on life events collected on all residents, Cox regressions (Cox, 1972) were used to examine the outcomes of the older people according to their mortality and emigration. Cox's semi-parametric model makes it possible to estimate the influence of covariables on the occurrence of an event. It is a survival model that allows for measurement of the difference in the hazard rate of experiencing an event (mortality and emigration, in this case) that exists between two individuals belonging to different groups. These are relative risks that are used to determine the level of risk of a group of individuals in the same category for a given variable of experiencing an event, compared to a reference group sharing another category of the same variable. Unlike parametric models, which often produce strong hypotheses on the distribution of survival times, with the Cox model no hypothesis on this distribution is generated[1].

## *2.2. Qualitative data and analyses*

The qualitative data was sourced from two surveys conducted by the Ouagadougou HDSS platform in 2011 and 2015, respectively.

The first, the Poverty Survey, done as part of the 2011 Health Inequalities Under Rapid Urbanization Study, allowed us to examine the experiences of households categorized as poor or very poor in terms of various aspects of their poverty, in particular focusing on perceptions of poverty, the urban or rural origins of the inhabitants, and type of residential neighbourhood (Rossier & Peytrignet, 2019). Among the semi-structured interviews carried out that we used in this research, six (five with men and one with a woman) took place with heads of households that either accommodated a person who was at least 60 years old or contributed to their care.

[1] The Cox model is based on the hypothesis of proportional hazards. This hypothesis stipulates that the hazard ratio between two individuals remains constant over time. We verified this hypothesis through a graphical representation of the log minus log transformations of the survival functions for each variable analysed (curves not provided here). These curves led us to conclude that they are proportional (they can be superimposed through simple translation) and that the hypothesis of proportionality is thus respected.

The second qualitative survey took place in 2015 as part of the first phase of the research project Moving Targets, which aimed to identify and understand health-related migration within and around the city of Ouagadougou so as to identify the particular health risks of migrant populations between formal and informal city neighbourhoods and their neighbourhoods of origin or destination (Bocquier et al., 2019). Semi-structured interviews and focus groups were conducted with adult men and women to describe the subjective relationship between health and migration (Bocquier et al., 2019; Sawadogo et al., 2019). We used the data collected in relation to individuals who came to Ouagadougou at the age of at least 60 for health reasons and who had been living there for at least 6 months or intended to stay for at least 6 months. In the interviews, five respondents, two women and three men, met these criteria. The subjective point of view expressed by the participants in the 18 focus groups was also analysed.

For both of these datasets, the analysis involved a thorough examination of the interviews to gain a deeper understanding of residential arrangements and their connection to the care provided for dependent older individuals within the households visited. As part of a descriptive analysis, portraits and verbatim excerpts were extracted from the relevant individual interview transcripts to enrich interpretation and illustrate the mechanisms revealed by the quantitative results.

### *2.3. Definition of the study's core concepts*

We employ the concepts of migrant, vulnerability, support and accommodation, defined as follows:

We define migrants as the persons born outside of the capital (whether in a rural area, an urban area or outside the country) and having lived in Ouagadougou for a period of at least six months.

In terms of the vulnerability of older people, we identify four aspects: physical vulnerability, mental vulnerability, social vulnerability and economic vulnerability. An older person is considered:
• *physically vulnerable* if they are not able to see, hear, walk, remember or speak;
• *mentally vulnerable* if, over the previous two weeks, they experienced feelings of depression, sadness or emptiness that lasted most of the day or a persistent loss of interest or pleasure in the things they usually find enjoyable;
• *social vulnerable* if they are not in a union, whether widowed, divorced/separated or single;
• *economically vulnerable* if they live in a poor household. Due to the lack of data on household income, the standard of living indicator was created through a principal component analysis (PCA) of household goods (the presence of a refrigerator and a television and the most expensive means of transportation available in the household) (Lankoande et al. 2016; Soura et al. 2015).

Finally, we consider that an older person is *accommodated* if the head of the household in which they live is someone other than themselves or their spouse, and that they are *supported* if, at some point in the year preceding the survey, they were dependent on the help of others (who were living in the same household or not) to be able to live their life and have their everyday needs met, be it in terms of time, work, goods or money[2].

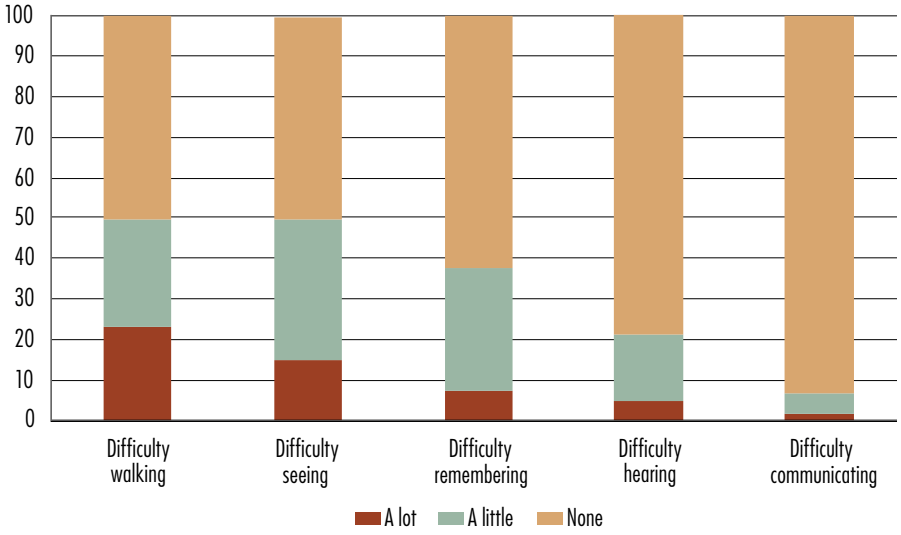
[2] The question was formulated as follows: "In the past year, did you depend on the help of others to lead your life and meet your usual needs?" The questionnaire specifies that "the help received could be:
- Either accompaniment in different steps [I don't understand what this means. Please let me know and I will reword] (help in time) [I also don't understand "help in time".]
- Or direct assistance with daily activities such as preparing meals or washing (help with work)
- Or help in the form of goods or money"

## 3. Results

### *3.1. Older people in Ouagadougou: Vulnerable individuals?*

Nearly a third of those aged 60 years or more were **physically vulnerable** (meaning that they were not able to see, hear, walk, remember or speak) in 2010 (31%), as shown in Table 2. This proportion does not vary by sex or migration status. Figure 1 shows that nearly half of these vulnerable people reported difficulties with walking, with 23% qualifying these difficulties as significant. In second place are significant difficulties with vision, followed by memory, hearing and speaking. What is more, nearly half of the physically vulnerable older people were vulnerable in more than one of these areas.

***Figure 1: Types of difficulties experienced by the physically vulnerable (%)***




**Mental vulnerability** affects 5% of older people. It seems to affect non-migrants more (8%) and those who migrated at 60 years old or more (Table 2). This may be due to migrants having been socialized outside the capital, where depression is less common than in the city. Furthermore, it may also be explained by the selective nature of migration: the individual or contextual characteristics that drive adult migration may have protective effects on their health (Ginsburg et al., 2016).

Descriptive analyses also highlight the fact that 55% of older people are **social vulnerable** in the sense that they are not or are no longer in a union, whether because of the death of their spouse (90%), separation or divorce (6%) or never being married (4%). As also shown by Onadja, Randall and Léger (2019), most of those in this category are women: 71% of women are not or are no longer in a union, compared to only 11% of men (Table 2). Migrants are also more often without a spouse than non-migrants. This is the case for 75% of late migrants to Ouagadougou (arrived at age 60 or more), compared to 40% for migrants who arrived at a younger age and 25% for natives to Ouagadougou. This result, viewed alongside that for physical vulnerability, suggests that migrants who arrive in Ouagadougou at a later age are more likely to be widowed or single/separated than individuals with health problems. The qualitative interviews confirm that later migrants to Ouagadougou tend to be women, often coming to Ouagadougou to live with one of their children after becoming widowed or developing a health problem for which they need care.

Finally, 42% of older people are **economically vulnerable**. The proportion of those living in poor households is high. In addition, more than half of those who migrated

to Ouagadougou after turning 60 live in poor households (51%), which indicates that households with older members who recently arrived in the capital are on average poorer than other households with older members.

***Table 2: Status of people aged 60 years or more in terms of the different types of vulnerabilities (%)***

| | | All | Men | Women | Non-migrants | Migrants arrived before age 60 | Migrants arrived age 60+ |
|---|---|---|---|---|---|---|---|
| Physically vulnerable | No / Has no physical difficulties | 69 | 71 | 67 | 65 | 69 | 69 |
| | Yes / Has physical difficulties | 31 | 29 | 33 | 35 | 31 | 31 |
| Mentally vulnerable | No / Is not depressed | 95 | 95 | 94 | 92 | 95 | 99 |
| | Yes / Is depressed | 5 | 5 | 6 | 8 | 5 | 1 |
| Socially vulnerable | No / Is in a union | 56 | 89 | 29 | 75 | 60 | 25 |
| | Yes / Is not or is no longer in a union | 44 | 11 | 71 | 25 | 40 | 75 |
| Economically vulnerable | No / Lives in a household that is not poor | 58 | 55 | 60 | 54 | 60 | 49 |
| | Yes / Lives in a household that is poor | 42 | 45 | 40 | 46 | 40 | 51 |
| N | | 437 | 202 | 235 | 71 | 288 | 71 |

## *3.2. Older people's care in Ouagadougou*

In this section we analyse the extent to which older people are cared for and their ties to care providers, and then study the factors that drive this care. We focus on the two aspects of care (accommodation and support).

### *3.2.1. To what extent are older people receiving care, and who are the primary caregivers?*

According to Table 3, 26% of older people reside in households where neither they nor their spouse are the household head. It is noteworthy that the majority of these older people are women. Indeed, it appears that 46% of women are accommodated compared to only 3% of men. This is explained by the sociocultural context, in which residence is almost always virilocal. This is the case, for example, for Rémy's elderly mother (who is around 60 years old). Rémy, 35 years old, the eldest son, has taken the responsibility of his mother since the death of his father. She resides with him, his wife and his younger brothers in an informal neighbourhood of Ouagadougou. Table 3 also shows that migrants who arrived in Ouagadougou at a late age are most likely to be accommodated (46%), a proportion that is halved for migrants who arrived before the age of 60 (23%) and reduced by two-thirds for those native to the capital (15%). As the qualitative interviews demonstrate, migrants who arrived in Ouagadougou at a late age often come at the request of one of their children, who takes them into their care.

As an example, Nadine, 93 years old, who was interviewed for the Moving Targets survey, was a widow. She lived in a rural area until coming to Ouagadougou four years earlier, having just lost her husband. She had vision problems, and one of her sons decided to bring her to Ouagadougou so that he could see to her care. As she had other health issues as well (hypertension, reduced mobility), her two sons convinced her to stay in Ouagadougou permanently so that her children could take

care of her. Her sons worked together to provide her with that care. She lived with one of them, along with her daughter-in-law and grandchildren.

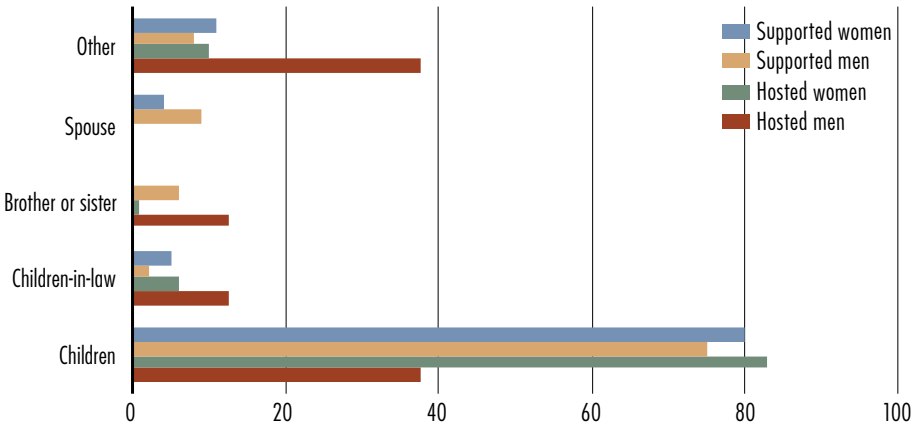
Figure 2 confirms that most older people who are accommodated live, like Rémy and Nadine, with one of their children, particularly for the older women (83%). Further analysis shows that in most cases, it is a son who accommodates them (with accommodation provided by a daughter in 5% of cases).

Care for older people can also be provided in the form of **support** in terms of time, work, property or money for day-to-day living and the meeting of their basic needs. As shown in Figure 2, in three-quarters of cases (75% for older men and 80% for older women), this support is provided by their children. Further analysis shows that it is usually their sons (in 78% of cases, compared to 22% for daughters). Table 3 shows that half of older people are reliant on support, especially older women (60%, compared to 36% for men). Migrants who arrived at age 60 or older are those who receive the most support (68%, compared to 41% for those native to Ouagadougou and 46% for those who migrated before the age of 60). This is likely because their migration was prompted by a particular vulnerability that accounts for why they are accommodated and supported by their family.

***Table 3: Older people receiving care (%)***

| | | All | Men | Women | Non-migrants | Migrants arrived before age 60 | Migrants arrived age 60+ |
|---|---|---|---|---|---|---|---|
| Is accommodated | No | 74 | 97 | 54 | 85 | 77 | 54 |
| | Yes | 26 | 3 | 46 | 15 | 23 | 46 |
| Is supported | No | 51 | 64 | 40 | 59 | 54 | 32 |
| | Yes | 49 | 36 | 60 | 41 | 46 | 68 |
| N | | 437 | 202 | 235 | 71 | 288 | 71 |

***Figure 2: Relationship between older people and those who provide their care, by type of care and sex of older people (%)***




The qualitative analyses allowed for a better understanding of the residential arrangements of dependent older men, who are rarely accommodated, even if they are migrants. When these individuals arrive in Ouagadougou at a later age to seek adequate medical care, they may at first be taken in by a child or a brother before being moved by their family into a new household as their stay grows longer. Family support is organized around this new household. For example, Bachir, 73 years old,

born in a village in northern Burkina Faso, had settled as a young adult in Côte d'Ivoire, where quite a lot of his family was living (uncles, cousins and brothers) and where he had plantations in a forest. Over time he had made investments there, and the children he had there continued to live there. He returned to Burkina Faso about 15 years before the interview to seek treatment for his eye problems at the behest of one his sons, a successful businessperson. His family in his village (brothers and sisters) helped him for several months while he was treated at a hospital in the northern city of Ouahigouya. He then returned to live in Côte d'Ivoire. He had come back to Burkina Faso for the second time four years before the interview. This time it was to seek treatment for mental problems. He explained that he had tried to slit his throat, which prompted his family members (sons and brothers) to send him back to Burkina Faso. For the first year he lived with a brother in another neighbourhood while his son built him a house in an informal neighbourhood of Ouagadougou, where he had been living for three years, all the while receiving care. He had been joined by his close family members, including his wife. He was strongly supported by his brothers and children and could also draw on his investments in Côte d'Ivoire for his sustenance. Bachir said that he was happy with the care he was receiving and with his settlement in Ouagadougou and that he did not intend to move back to Côte d'Ivoire. It must be stressed that the ability to build a house implies a certain level of financial capacity on the part of the family or the older person themselves, even if buying land in an informal area is cheaper than in a formal area (Delaunay & Boyer, 2017).

Some men may be particularly destitute, due to long illness and limited financial resources. This can be the case for migrants returning from Côte d'Ivoire who need support. For example, Mohamed, 70 years old, married and a father to seven children, was born in a village in Burkina Faso. He lived with his wife in Côte d'Ivoire for 40 years and still has plantations there. The whole family returned to Burkina Faso eight months prior to the interview due to Mohamed's health: he had been suffering from debilitating pain in his legs for 20 years. As his condition was worsening despite medical treatment in Côte d'Ivoire, they had decided to return. They first tried traditional treatment in the village, without success, before coming to Ouagadougou. His younger brother, an imam, took them under his wing and provided them with sustenance. Mohamed's physical health was in decline and his savings had been spent on his medical treatment. He and his wife were completely dependent on his brother and on neighbourhood goodwill. They did not intend to return to Côte d'Ivoire and were thinking they would pass their farms on to their children who, in return, would provide for their substance from a distance.

The case of Moctar, born in a Burkinabè village and having lived for many years in Côte d'Ivoire and then Mali, provides an illustration of the settlement of an older and suffering migrant within the family compound. As he had access to some capital through his children and had a family compound in Ouagadougou, Moctar preferred to resettle in Ouagadougou among his family members to be able to get the day-to-day support that he needed. He had chronic health problems (hypertension, diabetes, heart conditions), and his condition was deteriorating. The doctors in Mali had suggested he be hospitalized in Bamako, but he refused, fearing there would be no one to take care of him. Together with his family in Ouagadougou he decided to return to Burkina Faso for care. He said that the care he was receiving was doing him good. He continued his convalescence in his family compound, of which he was the household head. He reckoned he was better off among his family, who could take care of him and support him, then he would be abroad, where he would suffer alone.

As these many examples demonstrate, residential arrangements for the care of older people can take many forms, whether they have come from other localities or have been residents of Ouagadougou since a young age. If older migrant women are most often taken in by one of their children (especially sons), for the men this is less often the case, even though they still receive family support.

### *3.2.2. What are the factors in older people's care?*

First, our analysis focuses on examining the determinants of accommodation by considering various vulnerabilities that older people may face (Table 4). We find that vulnerability plays a significant role in determining whether older individuals are accommodated. Specifically, physical vulnerability and social vulnerability increase the likelihood of being accommodated.

We observe that older individuals who are not in a union, particularly those who are widowed, like Rémy's mother, are more likely to reside in a household headed by someone else. This finding suggests that the absence of a spouse increases the likelihood of seeking alternative accommodation arrangements. However, we do not find a significant association between mental vulnerability and accommodation. Surprisingly, mentally vulnerable older individuals are not more likely to be accommodated.

Furthermore, our analysis reveals that the economic status of the household in which older individuals reside plays a crucial role in their accommodation outcomes. Older people living in economically vulnerable households have a significantly lower chance of being accommodated compared to those who live in non-poor household. This discrepancy can be attributed to the similar living conditions experienced by older individuals and their social network in Ouagadougou. Additionally, poor households often lack the resources necessary to provide adequate care for older individuals.

Moreover, our study confirms that gender differences exist in accommodation outcomes, with women being more likely to be accommodated than men. This gender disparity can be attributed to sociocultural factors and the prevalent virilocal residence pattern observed in Ouagadougou. Women often transition from being under their husband's care to that of their sons. This societal norm stems from the duty to provide care to parents, which is more pronounced for sons and daughters-in-law compared to daughters. The case of Nadine exemplifies this trend, as she adheres to the cultural expectation of children taking their parents into their own households upon certain events. This also came through in prior analysis of this data as well as in other research on Ouagadougou (Onadja, Randall, and Léger 2019; Sawadogo, Randall, and Bazié 2019).

In terms of the role of migration status, when the variables age and sex are considered, the results show that migrants (especially those who arrived after 60 years of age) are more likely to be accommodated than are Ouagadougou natives. However, when controlling for vulnerabilities, this result becomes negligible, suggesting that it is the physically and socially vulnerable who are accommodated. These situations are explained by a participant in a focus group: "If it's to seek healthcare, and you are young and have left the village to reside here, and your elderly parents are still back there with no one taking care of them, if one falls ill, you have an obligation to bring them here. Nowadays, Ouagadougou is full because of such cases. In most instances, all the children are here, and there is no one to take care of their parents in the village. So, when there is a minor illness on the mother's side, the child, as a precautionary measure, might say, 'Oh, I should bring my mother to the city so she can receive treatment'" (participant in a male focus group, Kilwin). Similarly, another participant in a focus group explains: "Some people come to Ouagadougou due to illness, for example, elderly individuals whose husbands have passed away, leaving them alone in the village. Due to their illness, their children who live in Ouagadougou bring them here for treatment (…). The mother can stay, and her daughters-in-law will take care of her" (participant in a female focus group, Kilwin). A participant in a focus group also describes the obligation for sons to accommodate their parents coming from the village for medical treatment: "If one of my parents comes to Ouaga for medical treatment, they will stay at my place and be under my care. If I don't have money, how will I manage? I just have to find a way to help them regain their health" (participant in a focus group of young men, Nonghin).

Second, we seek to reveal the factors in the care provided to older people (Table 4). Support is more diverse than accommodation, and as such is less selective: neither physical, mental or economic vulnerability nor migration status are influential in whether older people receive support. Sex, age and social vulnerability, on the other hand, do play a role. Women are more likely to receive support than men; the older a person is, the higher their probability of being dependent on support; and finally, older people who do not or no longer have a spouse are also more likely to receive support than those with a living spouse.

***Table 4: Factors in older people's care in 2010 (cross-sectional logit model)***

| | | Accommodated | | | Supported | | |
|---|---|---|---|---|---|---|---|
| | | Gross effects | Net effects | Net effects (complete model) | Gross effects | Net effects | Net effects (complete model) |
| Sex | Men | 1 | 1 | 1 | 1 | 1 | 1 |
| | Women | 26.505 | 34.103*** | 7.746*** | 2.655*** | 2.775*** | 2.044*** |
| Age | 60–69 years | 1 | 1 | 1 | 1 | 1 | 1 |
| | 70–79 years | 1.773** | 2.075** | 1.589 | 2.141*** | 2.147*** | 1.992*** |
| | 80+ years | 3.585*** | 6.977*** | 1.635 | 3.901*** | 4.023*** | 3.491*** |
| Migration status | Non-migrants | 1 | 1 | 1 | 1 | 1 | 1 |
| | Arrived before age 60 | 1.792 | 2.201* | 1.184 | 1.221 | 1.237 | 1.115 |
| | Arrived age 60+ | 5.351*** | 3.504** | 2.029 | 2.889*** | 1.767 | 1.475 |
| Physically vulnerable | No / Has no physical difficulties | 1 | | 1 | 1 | | 1 |
| | Yes / Has physical difficulties | 1.838*** | | 2.058** | 1.477* | | 1.277 |
| Mentally vulnerable | No / Is not depressed | 1 | | 1 | 1 | | 1 |
| | Yes / Is depressed | 0.445 | | 1.442 | 0.469 | | 0.503 |
| Socially vulnerable | No / Is in a union | 1 | | 1 | 1 | | 1 |
| | Yes / Is not in a union | 41.937*** | | 23.835*** | 3.112*** | | 1.686* |
| Economically vulnerable | No / Lives in a household that is not poor | 1 | | 1 | 1 | | 1 |
| | Yes / Lives in a household that is poor | 0.23*** | | 0.102*** | 0.839 | | 0.877 |
| | | 427 | 427 | 427 | 427 | 427 | 427 |

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

## *3.3. The fate of older people in Ouagadougou?*

### *3.3.1. Mortality of older people*

The descriptive analyses reveal that, seven years after the 2010 survey, slightly less than a quarter of the recorded older individuals had passed away. The findings presented in Table 6 provide insights into the factors influencing the mortality of older people in Ouagadougou, based on their circumstances in 2010. While women exhibit a seemingly lower mortality rate than men, this difference does not reach statistical significance. However, age emerges as a significant determinant, with higher age associated with increased mortality risk, as expected. Conversely,

***Table 5: Factors of residential mobility of older people (Cox models)***

| | | Gross effects | Net effects (model 1) | Net effects (model 2) | Net effects (model 3) |
|---|---|---|---|---|---|
| Sex | Men | 1 | 1 | 1 | 1 |
| | Women | 1.045 | 0.921 | 0.495* | 0.579 |
| Age group in 2010 | 60–69 years | 1 | 1 | 1 | 1 |
| | 70–79 years | 1.409 | 1.21 | 1.073 | 1.129 |
| | 80+ years | 1.691 | 1.332 | 1.36 | 1.459 |
| Migration status | Non-migrants | 1 | 1 | 1 | 1 |
| | Arrived before age 60 | 2.167 | 2.188 | 1.948 | 1.942 |
| | Arrived age 60+ | 4.262** | 4.023** | 2.708* | 2.870* |
| Physically vulnerable in 2010 | No / Has no physical difficulties | 1 | | 1 | 1 |
| | Yes / Has physical difficulties | 1.134 | | 1.22 | 1.303 |
| Mentally vulnerable in 2010 | No / Is not depressed | 1 | | 1 | 1 |
| | Yes / Is depressed | 0.36 | | 0.384 | 0.346 |
| Socially vulnerable in 2010 | No / Is in a union | 1 | | 1 | 1 |
| | Yes / Is not or is no longer in a union | 2.321*** | | 2.966*** | 3.442*** |
| Economically vulnerable in 2010 | No / Lives in a household that is not poor | 1 | | 1 | 1 |
| | Yes / Lives in a household that is poor | 2.577*** | | 2.598*** | 2.218** |
| Was accommodated in 2010 | No | 1 | | | 1 |
| | Yes | 0.889 | | | 0.685 |
| Was supported in 2010 | No | 1 | | | 1 |
| | Yes | 0.87 | | | 0.647 |
| | N | 2,023 | 2,023 | 2,023 | 2,023 |

* p<0.10, ** p<0.05, *** p<0.01

migration status does not appear to explain variations in mortality rates among older individuals.

Furthermore, older people who were physically vulnerable in 2010 exhibited lower chances of survival compared to their non-vulnerable counterparts, even when receiving care. However, mental, social and economic vulnerabilities do not exert an effect on the survival or death of older people. Interestingly, older individuals who received support in 2010 were more likely to have died compared to those who did not. This observation suggests the presence of post-selection among older individuals receiving support, favoring those who are experiencing greater levels of suffering and, consequently, are more likely to face an earlier demise. In essence, it implies a preference to initially provide support to elderly individuals who are severely ill and at high risk of imminent death.

In this vein, Sanou's thesis (Sanou, 2023), which examines end-of-life care for older people in Bobo Dioulasso, reveals complex dynamics and familial dependence in caregiving, influenced by family situations, the degree of vulnerability of the elderly person, and social norms governing parental care by children.

***Table 6: Factors in the mortality of older people (Cox models)***

| | | Gross effects | Net effects (model 1) | Net effects (model 2) | Net effects (model 3) |
|---|---|---|---|---|---|
| Sex | Men | 1 | 1 | 1 | 1 |
| | Women | 0.783 | 0.801 | 0.944 | 0.069 |
| Age group in 2010 | 60–69 years | 1 | 1 | 1 | 1 |
| | 70–79 years | 1.929*** | 1.950*** | 1.698** | 1.594* |
| | 80+ years | 3.072*** | 3.123*** | 2.282** | 2.056** |
| Migration status | Non-migrants | 1 | 1 | 1 | 1 |
| | Arrived before age 60 | 1.273 | 1.307 | 1.473 | 1.489 |
| | Arrived age 60+ | 1.483 | 1.162 | 1.562 | 1.553 |
| Physically vulnerable | No / Has no physical difficulties | 1 | | 1 | 1 |
| | Yes / Has physical difficulties | 2.883*** | | 2.488*** | 2.401*** |
| Mentally vulnerable | No / Is not depressed | 1 | | 1 | 1 |
| | Yes / Is depressed | 2.178** | | 1.436 | 1.539 |
| Socially vulnerable | No / Is in a union | 1 | | 1 | 1 |
| | Yes / Is not or is no longer in a union | 0.823 | | 0.741 | 0.626 |
| Economically vulnerable | No / Lives in a household that is not poor | 1 | | 1 | 1 |
| | Yes / Lives in a household that is poor | 1.178 | | 1.202 | 1.289 |
| Is accommodated | No | 1 | | | 1 |
| | Yes | 1.075 | | | 1.23 |
| Is supported | No | 1 | | | 1 |
| | Yes | 1.560** | | | 1.512* |
| | N | 3,048 | 3,048 | 3,048 | 3,048 |

* p<0.10, ** p<0.05, *** p<0.01

## 4. Discussion and conclusion

The specific urban context within the West African subregion, characterized by the virtual absence of care facilities for older people (Berthé, Berthé-Sanou, Konaté, Hien, Tou, Somda, et al., 2013; Ilboudo, 2011) and by transformations in family configurations and social relationships and norms (Attané, 2011; Golaz & Sajoux, 2018; Konaté et al., 2019; Niamba et al., 2019; Pennec & Gaymu, 2019; Roth, 2007, 2010; Rouamba, 2015), increases the vulnerabilities of older people facing already precarious living conditions. Within the context of Ouagadougou, this study's findings highlight that women, upon reaching their sixties, experience higher levels of lack of spouse compared to men. Conversely, women tend to receive more assistance from immediate family members and are typically provided with accommodations.

Regarding migration status, older individuals who migrated to Ouagadougou later in life, compared to those who are native to the city, exhibit higher levels of lack

of spouse They are often accommodated and are more likely to resettle elsewhere. Care for vulnerable older people predominantly relies on support from within the family circle. Male children and their household members play a significant role in providing accommodation and care for their parents. In certain cases, widowed daughters-in-law assume full responsibility for their husband's parent's care when another son is unable to do so. Adult daughters, depending on their marital status and residential autonomy, also contribute and sometimes step in to shelter and support their elderly parents in the absence of sons who can fulfill this role.

The socio-cultural context therefore strongly influences the care of older people, with gender analyses playing a crucial role, particularly in the case of older migrant women.

This article contributes to existing knowledge on the residential arrangements of older people in urban areas of West Africa, with a particular focus on Burkina Faso. It also sheds light on various aspects of the care they receive. However, several questions arise from this study, calling for further investigation. Firstly, to what extent do residential arrangements with a child or independently contribute to the well-being of older men and women? Secondly, what challenges do the arrangements pose for family members, especially extended family, sons and daughters who care for dependent older individuals? Additionally, how do older people themselves navigate the need to provide family support to mitigate the socioeconomic difficulties faced by their descendants?

Another important question is whether the survival rate of older people in need of support can be improved. How can their family members be adequately supported to enhance family care? Addressing these questions is crucial for informing policies and support programs tailored to the needs of older people.

Lastly, to guide policy formulation in this domain, it is essential that more primary data (both quantitative and qualitative) be gathered in the future regarding the care of dependent older people in societies in Africa, in order to contribute to evidence-based policy-making and program development.

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