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► To cite this version:

Anne Gosselin, Annabel Desgrées du Loû, Eva Lelièvre, France Lert, Rosemary Dray-Spira, et al.. Understanding Sub-Saharan migrant settlement in France through a capability approach: evidence from a life-event history survey. [Research Report] Working Paper du Ceped #33, Centre Population et Développement. 2016, 29 p. hal-04154875

HAL Id: hal-04154875

<https://hal.science/hal-04154875>

Submitted on 7 Jul 2023

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PARCOURS #3

Understanding Sub-Saharan migrant settlement
in France through a capability approach:
evidence from a life-event history survey

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Citation recommandée • Recommended citation

Gosselin A., Desgrées du Loû A., Lelièvre É., Lert F., Dray-Spira R., Lydié N. for the PARCOURS Study Group, « Understanding Sub-Saharan migrant settlement in France through a capability approach: evidence from a life-event history survey », *Working Paper du Ceped*, numéro 33, Ceped (UMR 196 Paris Descartes IRD), Paris, décembre 2015.
Available at <http://www.ceped.org/wp>

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PARCOURS

L'étude PARCOURS : une étude sur le VIH et l'hépatite B et la santé dans les parcours de vie de migrants subsahariens vivant en Ile de France.

Les personnes nées en Afrique Sub-saharienne constituent en France une des populations les plus touchées par l'hépatite B et par l'infection VIH. Il est donc nécessaire d'ajuster les stratégies de santé publique aux besoins propres de ces migrants, et pour cela de mieux comprendre ce qui accroît leur vulnérabilité face à ces infections ou au contraire contribue à un bénéfice optimal de la prévention et des soins.

L'objectif de l'étude PARCOURS est donc de comprendre comment les facteurs sociaux et individuels se conjuguent au cours du parcours de migration et d'installation en France pour augmenter ou diminuer les risques d'infection par le VIH ou le virus de l'hépatite B, favoriser l'accès à la prévention et aux soins ou y faire obstacle, optimiser ou limiter l'efficacité de la prise en charge.

Cette recherche a été conduite en Ile de France où résident 60% des personnes originaires d'Afrique sub-saharienne. Elle repose sur une enquête observationnelle transversale représentative menée entre février 2012 et mai 2013 dans 74 structures de santé en Ile-de-France, auprès de trois groupes de migrants originaires d'Afrique Sub-Saharienne : un groupe vivant avec le VIH, un groupe de porteurs d'une hépatite B chronique et un groupe n'ayant aucune de ces deux pathologies.

Les histoires de vie des 2468 personnes enquêtées ont été collectées avec une approche biographique quantitative qui permet de restituer l'enchaînement des différents événements des parcours de vie et de santé et d'éclairer la situation présente (type de prise en charge de la maladie, qualité de vie du patient) à la lumière de l'ensemble des éléments de la trajectoire passée (administratifs, familiaux, socio-économiques, professionnels) et des projets du patient.

L'enquête a reçu l'autorisation de la CNIL. Elle est enregistrée sur le site www.clinicaltrials.gov (NCT02566148). Le protocole complet est disponible sur <http://ceped.org/parcours/protocole-fr.pdf>.

Le groupe PARCOURS est composé de A Desgrées du Loû, F Lert, R Dray Spira, N Bajos, N Lydié (responsables scientifiques), J Pannetier, A Ravalihasy, A Gosselin, E Rodary, D Pourette, J Situ, P Revault, P Sogni, J Gelly, Y Le Strat, N Razafindratsima.

Les auteurs remercient toutes les personnes qui ont accepté de participer à l'enquête ANRS-PARCOURS. Nous remercions également les associations qui ont apporté leur soutien à l'étude, notamment SOS Hépatites (Michelle Cizorne), le Comede (Pascal Revault, Arnaud Veïsse, Laurence Wolmark), le RAAC-SIDA (réseau des associations africaines et caribéennes de lutte contre le sida) et le FORIM (Jean-Charles Ahomadegbe, Khady Sakho). Nos remerciements vont par ailleurs à Géraldine Vivier, Eva Lelièvre (INED) et Anne Gervais (AP-HP) pour leur contribution à la préparation des questionnaires, à H Panjo pour son aide sur la méthodologie statistique, ainsi qu'à Agnès Guillaume (IRD) pour la communication sur l'enquête. Le recueil des données a été assuré par les sociétés ClinSearch et Ipsos.

L'enquête PARCOURS a été financée par l'Agence nationale de recherche sur le sida et les hépatites virales (ANRS), avec le soutien de la Direction générale de la Santé.

Pour plus d'information sur l'étude : <http://www.parcours-sante-migration.com>



The PARCOURS study: a study on HIV, Hepatitis B and health in the life trajectories of Sub-Saharan migrants living in Paris region

People born in Sub-Saharan Africa constitute one of the groups most affected by Hepatitis B and HIV infection in France. It is thus necessary to adjust public health strategies to the specific needs of these migrants and therefore to better understand what increases their vulnerability to these infections or on the contrary, what contributes to better results in terms of prevention and care.

The aim of the the PARCOURS study is therefore to understand how social and individual factors interact throughout the migration and settlement paths in France to increase or decrease the risk of infection by HIV or Hepatitis B viruses, to favour or hinder the access to prevention and care, to maximise or limit the efficacy of healthcare.

This research was led in Paris region where up to 60% of Sub-Saharan migrants live. It consists in an observational and cross-sectional survey led between February 2012 and May 2013 in 74 healthcare structures in Paris region, with three groups of migrants coming from Sub-Saharan Africa: one group living with HIV, one group living with chronic Hepatitis B and one group who had neither of these two infections.

The life trajectories of the 2468 surveyed persons were collected through a quantitative biographical design which allows to render the sequence of different events in life and health pathways and to explain the present situation (type of care, patients' quality of life) in the light of the of past trajectories (administrative, family-related, socio-economic, professional dimensions) and of the patient' projects.

The survey was authorised by the CNIL. It is registered on the website www.clinicaltrials.gov (NCT02566148). The complete protocol is available on <http://ceped.org/parcours/protocole-en.pdf>.

The PARCOURS Study Group included A Desgrées du Loû, F Lert, R Dray Spira, N Bajos, N Lydié (scientific coordinators), J Pannetier, A Ravalihasy, A Gosselin, E Rodary, D Pourette, J Situ, P Revault, P Sogni, J Gelly, Y Le Strat, N Razafindratsima.

The authors would like to thank all the persons who participated in the study, the RAAC-Sida, COMEDE, FORIM and SOS hepatitis associations for their support in preparing and conducting the survey, G Vivier, E Lelièvre (INED) and A Gervais (AP-HP) for their support in preparing the questionnaire, H. Panjo for statistical support, A Guillaume for communication tools, the ClinSearch and Ipsos societies for data collection, and staff at all participating centres.

This study was supported by the French National Agency for research on AIDS and Viral hepatitis (ANRS) and the General Direction of Health (DGS, French Ministry of Health). The sponsor of the study had no role in study design, data collection, data analysis, data interpretation or writing of the paper.

More information available at <http://www.parcours-sante-migration.com>

Understanding Sub-Saharan migrant settlement in France through a capability approach: evidence from a life-event history survey

Anne Gosselin^{a,b}, Annabel Desgrées du Loû^{a,c}, Éva Lelièvre^b, France Lert^d, Rosemary Dray-Spira^e, Nathalie Lydié^f for the PARCOURS Study Group

Abstract

Settlement is a key moment in migrant trajectories in a new country. Although the field of migration studies has placed great emphasis on the causes of migration and its consequences, relatively much less is known about the moment of settlement. One of the reasons for this lies in the scarcity of longitudinal data that allow for an analysis of the settlement process.

Drawing on Amartya Sen's concept of capabilities, this study aims at understanding Sub-Saharan migrant settlement in France and its potential interaction with HIV/AIDS and chronic hepatitis B which particularly affect this population. Using the PARCOURS life-event history survey led in 2012-2013 in Paris area which collected 2468 trajectories of migrants affected or not by HIV/AIDS or hepatitis B, we analyse the dynamics and factors of obtaining a personal dwelling, a residence permit and financial autonomy.

We show that Sub-Saharan migrants take 6 to 9 years in median to obtain a minimal stability (dwelling, papers, resource) whatever their HIV or hepatitis B statuses are. They are then exposed to social difficulties during a long period. The sequence of settlement is gendered: men first access an activity whereas women first access personal dwelling. Being educated for men, and having a stable partner in France upon arrival both for men and women accelerate settlement.

Introduction

Arriving in a new country is a key moment in a person's life that can influence her subsequent trajectory in the host country. Although the field of migration studies has placed great emphasis on the causes of migration and its consequences, relatively much less is known about the moment of settlement. One of the reasons for this lies in the scarcity of longitudinal data that allow for an analysis of the migrant settlement process. In particular, there are very few studies about this process in the European context. Yet this is a crucial question for public policy to better understand how much time it takes to settle down and what factors can explain settlement trajectories. The capability approach is a relevant conceptual model for understanding migrant settlement: drawing from Sen's analysis of poverty as a 'deprivation of basic capabilities', settlement is understood as the attainment of minimal necessities (Sen 1999).

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The objective of this study is threefold. First, we aim to capture the dynamics of the settlement process by considering separately and together the residential, legal and occupational aspects. This will give a clear picture of how long it takes for migrants to access a certain degree of security, and it will also shed some light on possible differences according to gender. Second, we wish to better understand the factors that can favour or hinder the settlement process. Eventually, we propose to also examine to what extent this process of settlement is affected by illness, considering that an illness can lead to specific settlement pathways. There is a strong assumption that illness can both hinder the settlement process (because of poorer health status or discrimination against HIV-positive people, for example); or, on the contrary, it can facilitate access to certain elements of stabilisation (legal permits for healthcare, charity networks, etc.). How do migrant illness and settlement interact when they arrive in France?

Sub-Saharan African migrants in France appear to be particularly affected by HIV and chronic hepatitis B. To explore this situation, a quantitative survey was led in order to better understand the interaction between migration and health in this population. The ANRS PARCOURS life event history survey collected 2468 life histories from migrants affected by HIV or hepatitis B, as well as from among a sample of primary healthcare patients. The survey was first designed to answer public health questions related to HIV/AIDS and hepatitis B among Sub-Saharan migrants. However, it also constitutes one of the richest datasets on Sub-Saharan migrants in France, providing a great wealth of information about migration. It therefore offers a unique opportunity to investigate the settlement process in a European country and identify its shape and underlying factors.

The structure of the article is as follows. The next section provides a literature review on the migrant settlement process and draws on Amartya Sen's conceptual model of capabilities. Next, we present the ANRS PARCOURS data and describe in detail how we designed our indicators for settlement, along with the methods used in our analysis. We then present and discuss our results in the fourth section and finally summarise the main conclusions.

Literature and background

What does settlement mean? A review of the literature

The settlement process remains a grey area in our knowledge about migration. For one, it is difficult to give a satisfactory definition of this process. *'One difficulty in defining settlement is the open-endedness and variability of the process. Definitions range from 'securing a permanent footing in a new country' (...) to 'full participation in the economic and social opportunity structure of the society' (...). Current concepts of settlement therefore recognise that it is a multi-dimensional process involving all aspects of the migrant's (and migrant family's) life. Typically, some element of a time-based concept is retained, with 'settlement' usually being defined as the early parts of the longer integration process'* (Fletcher 1999, 8). The settlement process is defined here as a dynamic and multi-dimensional process. Fletcher also insists on the time-rooted aspect of settlement. Interestingly, the life course approach has been initially introduced in the field of migration (Thomas et Znaniecki 1918) and developed by researchers whose field was spatial mobility (GRAB 1999), a process best understood placing emphasis on the dynamic aspect of migrant settlement and on its multi-dimensional aspect. Nevertheless, it is striking that, despite the fact that the life course approach has developed rapidly in recent years, few empirical studies on international migration use a life-course perspective (Latcheva and Herzog-Punzenberger 2011; de Valk et al. 2011). Moreover, most of the literature on settlement and integration has focused on the situation in the United States. As a matter of fact, the scarcity of European longitudinal data that allow for such an analysis of the settlement

process has hindered research in that particular field and prevented standard definitions of settlement from being widely acknowledged.

In the lack of international evidence on what settlement actually is, we have to rely on a clear conceptual model of this multi-dimensional process. To this effect, we build on the economist Amartya Sen's freedom-based definition of development and propose a capability-based definition of settlement. In his work on measuring inequality, Sen promotes a shift in the evaluation of development: development can be considered not only as 'better income', but as the expansion of people's capabilities, i.e., the expansion of a person's ability to promote her own ends. '*A person's "capability" refers to the alternative combinations of functionings that are feasible for her to achieve*' (Sen 1999, 75; Sen 1983). From this perspective, settlement can be considered the attainment of minimal stability and minimal capabilities in diverse domains. This attainment constitutes the first necessary step for migrants arriving in a host country, as it allows them to live their life according to their own wishes¹. Using this capability-approach, we propose focusing the literature review on three major dimensions that strongly determine the ability of a person to lead the type of life she wants: dwelling, legal status and occupation.

Many studies have pinpointed the urban segregation issue in France and elsewhere, and they have studied the mechanisms underlying migrants' residential choices in terms of housing. There is evidence in the United States that increases in human and financial capital along with increases in English-language use lead to greater Latino residential mobility into neighbourhoods inhabited by greater percentages of non-Hispanic whites. Yet the authors identify a segmented assimilation perspective, as there are ethnic differences in the mobility that are not explained by other factors (South et al. 2005). The immigrants' access to ownership has also been documented, often in a comparative perspective between ethnic groups, for example in the United States between Asian immigrants and Hispanic immigrants (Myers and Lee 1998). In France, the data is rather scarce. Based upon French census data, a study showed that immigrants in France live more frequently in social housing than French natives, all things being equal (Fougère et al. 2011). This literature brings solid evidence of both the impact of human capital on migrants' residential choices and a persistence of ethnic discrimination in the housing market. What is lacking, however, is individual longitudinal data that could account for individuals' trajectories and strategies. More globally, although the life-course sociological framework has been mobilised to study residential trajectories (Bonvalet and Bringé 2010; Stovel and Bolan 2004), to the best of our knowledge no study has investigated the specificity of individual migrants' residential trajectories in France.

Legal status histories constitute another gap in our knowledge about the settlement process, although the mere acquisition of a residence permit can be a crucial turning point in the trajectory of a migrant in the host country. Indeed these legal status histories are quite difficult to collect, for obvious reasons: undocumented migrants are less likely to participate in any survey and are even less likely to declare that they are undocumented for fear of being reported to the administration. However, a recent empirical survey has overcome this barrier and shown how Senegalese migrants in France, Spain and Italy can face different pathways to irregularity: no-visa entry, overstaying, befallen irregularity (Vickstrom 2014). The main finding of this study is that these different irregular statuses have different

¹ Sen himself distinguishes between studying capabilities through what he calls "capability set of alternatives" and through "realised functionings". The latter is what we are able to examine in this study, i.e., the actual capabilities people have attained. Then he proposes three different approaches. Our study falls in the so-called "direct approach", which "[involves] the comparison of some particular capabilities chosen as the focus, without looking for completeness of coverage" (Sen 1999, 82). To illustrate this approach, Sen proposes a study of unemployment in European countries.

correlates: the country of destination and period of arrival play a strong role in no-visa entry and overstay; this form of irregularity is also sensitive to migrants' various forms of capital.

One aspect of migrant settlement has been in the spotlight for decades; i.e., migrant occupational trajectories. The most common conceptual framework applied to the process of labour market adjustment is the migrant assimilation model. According to this hypothesis, immigrants will experience occupational downgrading upon their arrival because of the lack of transferability of migrant human capital and the lack of language proficiency. This theory predicts that their situation will improve after some time in the destination country. This is also known as the U-shaped trajectory of occupational adjustment (Akresh 2008). This hypothesis has been verified in several empirical studies in the United States and in Spain (Simón et al. 2014). However, this particular hypothesis has been challenged by the 'limited or segmented assimilation theory' which states that the labour market in developed countries is divided into two segments: the primary segment offers jobs with high wages, better working conditions and the possibility of promotion; whereas the secondary segment is characterised by low-paid, unstable and unskilled jobs. This alternative theory predicts that these structural characteristics of the labour market could hinder migrant occupational mobility, and that the initial downgrading of their situation would be more permanent (Simón et al. 2014). A recent study on Senegalese migrant occupational trajectories in Europe exhibited the U-shaped pattern of occupational mobility. When looking at the correlates of migrant mobility, the authors find that education and language skills play an important role in subsequent upward mobility (Obucina 2013). Previous research underscores a series of factors which determine migrants' subsequent upward mobility: proficiency in the destination country's language, the reason for migrating (it is expected that people who migrate for family-related reasons are less likely to experience upward mobility), gender, and also administrative status at arrival (Obucina 2013; Castagnone et al. 2014). This initial downgrading was found to also affect highly-qualified migrants. Thus, the concept of 'brain waste' was then proposed to account for the fact that many migrants underused their qualifications in the host country, although the authors also pinpoint the scarcity of available data (Vause 2011; Mattoo et al. 2008). Previous research on occupational trajectory thus brings evidence on the downgrading and potential recovery in the type of migrant activity. To the best of our knowledge, there is no study making the link between activity and financial resources. Also, most of the available literature comes from the United States, whereas the migrant population in Europe – and France in particular – is quite different.

Sub-Saharan migrants in France: living conditions and health

Although the first waves of emigration from Sub-Saharan Africa to France can be traced back to the 19th century, the upsurge in this emigration started in the seventies². Sub-Saharan African migrants were only 20,000 in France in 1962, and they were 570,000 in 2004 (Lessault and Beauchemin 2009). According to the 2011 French census, migrants from Sub-Saharan Africa³ represented 13% of immigrants in 2011 versus 2% in 1975, which corresponded to 747,344 people⁴, mainly from Western Africa but not only. Whereas it started as a work-motivated and masculine emigration, since 2008 women have represented a majority of immigrants from both Sahelian Africa and Central and Guinean Gulf Africa (Beauchemin

² For a complete history of Sub-Saharan African migration to France, see Ndiaye 2008.

³ To preserve people's privacy, the French National Institute of Statistics and Economic Studies (INSEE) does not provide numbers or characteristics for very small populations: the aggregated data exists for 'Other African countries', i.e., Africa without Algeria, Morocco and Tunisia. It is then a good proxy for Sub-Saharan Africa.

⁴ The last official figures indicate that there are between 200,000 and 400,000 undocumented migrants in France, all nationalities included; and although the estimations of entry flows are controversial, the estimation of the stock seems rather consensual (Commission d'enquête sur l'immigration clandestine 2006).

et al. 2013). In 2011, women represented 51% of migrants of Sub-Saharan African origin in France, according to the French census (INSEE 2012). Thus, the Sub-Saharan migration to France spreads across several decades and has seen a significant feminisation in recent years.

Sub-Saharan migrants in France are particularly affected by unemployment (16% for men, 20% for women) (INSEE 2012). However, official statistics cannot take into account the possibility that many Sub-Saharan migrants are earning their lives with undeclared jobs or through an accumulation of very short-term contracts. In these latter cases, migrants would be classified as 'inactive' or 'unemployed' despite the fact that they actually work. However, these figures give an idea of the difficult position in the labour market that Sub-Saharan migrants must face. In many other aspects, the social situation of Sub-Saharan migrants in France is difficult. For example, 42% of the people living in a Sub-Saharan African household in France find themselves beneath the poverty line (INSEE 2012, 217).

Sub-Saharan migrants account for a large proportion of people affected by HIV infection and chronic hepatitis B in France⁵ (Desgrées du Loû 2014). In France, they represented 31% of new HIV diagnoses in 2012 (Cazein et al. 2014). Furthermore, there is a prevalence of hepatitis B among them at 5.6%, versus 0.7% in the general population (Institut national de veille sanitaire 2009). These two diseases may have very different social consequences on the settlement process in France. Since its outbreak, HIV/AIDS has been a stigmatising illness and can put an end to a situation where someone is hosted by his or her family. On the other hand, HIV infection often provides access to a legal permit for health reasons.

The evolving context of immigration policies in France

The closing of the borders in France in 1974 represents the starting point of an immigration policy aimed at limiting the flow of migrant arrivals. In 1980, the Bonnet law hardened the conditions for entry into France and facilitated the expulsion of undocumented migrants (Tardieu 2006). The family-unification policies led to an increase of 177% in the proportion of Sub-Saharan women migrants between 1975 and 1982 (Couillet 2010). After its election in 1981, the socialist government put in place the 10-year resident card, gave migrants the right to fund associations, and regularised 127,000 people. However, from 1986 onwards, the immigration policies have become stricter with the Pasqua laws in 1993, which added conditions for family unification and accelerated the expulsions of undocumented migrants. A new set of laws ratified in 2006-2007 further limited the right to family unification.

Another key element for consideration is the parallel evolution of the specific legislation regarding foreigners who are entitled to legal residence permit for healthcare reasons. In France, persons affected by a life-threatening disease and for whom a treatment is not available in the country of origin are entitled to a legal permit, which often is a renewable one-year permit. HIV infection is considered as a life-threatening disease without effective treatment accessible in Sub-Saharan migrant' countries of origin, whereas as long as the state of the patient does not require immediate treatment, a legal permit for healthcare reasons is denied to migrants who have chronic hepatitis B. In 2011 the general conditions of access to the legal permit for healthcare reasons were hardened by establishing that problems of access to treatments in the migrant's country of origin were no longer sufficient condition, but rather its total absence. The flows of first access to such a permit are stable: from 7422 in 2004 to 6549 in 2012 (Chièze et al. 2013, 28). However, this figure does not say what the 'agreement rate' is: it is possible that many more people sent an application and were denied the permit (Michelon 2013).

⁵ HIV/AIDS and hepatitis B are two chronic infections that have the same transmission paths (blood, mother-to-child, sexual transmission) and are both characterised by an asymptomatic period.

Research question and objectives

This study intends to answer questions on the dynamics and determinants of the Sub-Saharan migrants' settlement process in France by adopting a capability-approach on settlement that allows us to link three domains: residential, legal and occupational aspects. How much time does the settlement process take? Can we identify gender differences? What impact results from the circumstances of their arrival? What factors can favour or hinder such a multi-dimensional process? Does illness interact with settlement?

Data and methods

The ANRS PARCOURS study

The PARCOURS survey was conducted to study how health trajectories, social and administrative paths of people originating from Sub-Saharan Africa and living in France are intertwined all along the migratory and life pathway. It is a retrospective life-event history survey conducted from February 2012 to May 2013 in healthcare facilities in the greater Paris area (Ile-de-France region) among three groups of migrants born in Sub-Saharan Africa: one group receiving HIV care, one group with chronic hepatitis B and a third group visiting general practitioners, not diagnosed with HIV nor hepatitis B. The subjects were selected for each group as a random stratified sample representative of the active files of HIV hospital units (N=926, HIV group), of hepatitis B hospital units (N=779, hepatitis B group) and of primary care centres (N=763, "primary-care group"). All data have been weighted to take the sample design into account. The study was approved by the French National Commission for Data Protection and Liberties (CNIL). The full protocol of the study is available online⁶.

The interview was conducted face-to-face by professional, trained interviewers with a CAPI (Computer Assisted Personal Interview) questionnaire and a paper Life History Calendar. The time-unit for observation is the year. The questionnaire covers the period from the interviewee's birth until the day of the interview, and it deals with very diverse areas: residential as well as professional, administrative, family and health trajectories, etc.⁷

Although the study was conducted only in the Paris area, it is worth noting that 60% of Sub-Saharan migrants in France live in this area. It is not a perfect representation of the migrants living in the Paris area since the recruitment took place in health structures, which we did in order to have a comparable recruitment design of the three groups. However, any person in France who has arrived within at least the previous three months can have free-of-charge access to healthcare, whatever their legal status is. All Sub-Saharan migrants have access to primary healthcare centres, and we were able to verify that the age and sex distributions of the primary care group do not differ from the Sub-Saharan migrant population living in the Paris area. Thus, the results we obtained from the primary care group are valid for most Sub-Saharan migrants living in the Paris area. The people recruited in the HIV and hepatitis B groups are representative of the migrants followed up for these infections, since the follow-up for these pathologies takes place mainly at the hospital in France.

⁶ <http://ceped.org/parcours/protocol-en.pdf>

⁷ It is noteworthy that we were able to collect detailed legal status histories for each interviewee, perhaps due to the healthcare structure context and patients' faith in the confidentiality.

Table 1. Sociodemographic characteristics of ANRS PARCOURS interviewees at time of survey, per sex and study group

Scope: people having arrived at 18 or more, N= 1966

	MEN						WOMEN									
	<i>Primary care group</i>		<i>HIV group</i>		<i>HBV group</i>		<i>p-value HIV vs. PY-CARE</i>	<i>p-value HBV vs. PY-CARE</i>	<i>Primary care group</i>		<i>HIV group</i>		<i>HBV group</i>		<i>p-value HIV vs. PY-CARE</i>	<i>p-value HBV vs. PY-CARE</i>
	<i>N=247</i>	<i>N=313</i>	<i>N=481</i>			<i>N=266</i>			<i>N=497</i>	<i>N=162</i>						
%pond	n	%pond	n	%pond	n	%pond	n	%pond	n	%pond	n	%pond	n			
Age																
18-34	17	49	11	32	26	134	0,229	<0,000	25	71	19	95	31	53	<0,000	<0,000
35-44	30	77	30	96	41	195			23	72	48	239	45	71		
45-60	54	121	59	185	33	152			53	123	33	163	24	38		
Median (IQR)	46 [37-52]		47 [40-53]		41 [34-47]				45 [35-52]		41 [36-47]		39 [33-44]			
Age at arrival, median (IQR)	27 [23-32]		30 25-37]		28 [24-33]				26 [22-32]		29 [24-34]		27 [23-34]			
Region of birth																
Western Africa	67	168	56	175	81	392	0,121	0,001	52	141	50	255	76	123	0,688	0,003
Central Africa	30	70	41	130	17	83			43	115	47	231	23	36		
Eastern/Southern Africa	3	9	2	8	1	6			5	10	3	11	2	3		
Period of arrival																
Before 1996	41	81	37	113	24	107	0,350	0,000	38	82	20	107	15	26	0,013	0,000
1996-2004	33	85	39	124	40	194			37	97	52	244	37	63		
2005-2011	26	81	24	76	36	180			25	87	28	146	48	73		
Conjugal status at arrival																
Alone	56	138	55	174	61	305	0,285	0,134	36	95	51	247	46	73	0,006	0,107
Stable relationship in France	25	60	31	91	17	80			59	148	41	215	49	80		
Stable transnational relationship	19	49	14	48	21	96			8	23	8	35	5	9		

	MEN						WOMEN									
	<i>Primary care group</i>		<i>HIV group</i>		<i>HBV group</i>		<i>p-value HIV vs. PY-CARE</i>	<i>p-value HBV vs. PY-CARE</i>	<i>Primary care group</i>		<i>HIV group</i>		<i>HBV group</i>		<i>p-value HIV vs. PY-CARE</i>	<i>p-value HBV vs. PY-CARE</i>
	<i>N=247</i>	<i>N=313</i>	<i>N=481</i>			<i>N=266</i>			<i>N=497</i>	<i>N=162</i>						
	%pond	n	%pond	n	%pond	n			%pond	n	%pond	n	%pond	n		
Migration motive																
Find a job/take a chance	45	119	44	151	52	248	0,130	0,269	23	75	37	189	29	46	0,013	0,190
Family reasons	12	29	14	38	9	41			45	110	35	170	44	74		
Threatened in his/her country	22	50	18	50	17	83			16	43	10	53	12	20		
Study	19	42	16	47	17	83			13	27	8	36	7	10		
Medical reasons	1	6	8	24	5	26			3	10	9	47	8	11		
Educational level at arrival																
None/Primary	34	83	25	83	39	184	0,253	0,394	23	63	24	126	28	44	0,965	0,254
Secondary	42	106	48	148	36	179			61	161	60	289	53	88		
Superior	24	58	27	82	25	118			16	42	16	82	20	30		
Residential situation at arrival																
Personal dwelling	30	82	29	88	32	144	0,624	0,278	43	100	21	99	28	46	0,000	0,014
Hosted by relatives/relations	45	105	42	130	45	225			44	119	53	254	46	76		
Collective structures	2	7	2	8	1	3			1	5	1	6	2	4		
Residential instability	22	52	27	85	22	106			12	42	25	137	23	36		
Legal status at arrival*																
No legal permit	46	120	50	151	59	274	0,038	0,015	33	97	48	248	47	77	0,030	0,048
Legal permit for less than a year	33	69	36	109	28	145			40	100	33	162	36	57		
Legal permit of at least one year	20	51	10	41	11	54			25	62	18	76	13	21		
French nationality	2	7	4	12	2	88			2	6	1	5	4	5		

* Legal status at arrival is determined by the first episode of legal trajectory, independently of having a travel document or not.

Since our study focuses on the settlement process, and given the fact that the dynamics of arriving as a child can differ greatly, it was necessary to reduce the scope of the sample to people who arrived in France after 18 years of age. Also, we did not include in the analysis people who, at the time of the survey, had not spent over a year in France because (i) we could not examine the settlement process as such and (ii) migrants having arrived very recently can be in a more unsteady situation (Gosselin, Desgrées du Loû, and Lelièvre 2014). We eventually found that 5% of our remaining sample had complex migration trajectories, in that they had migrated to France several times. So, rather than letting the researcher subjectively decide which of the arrival dates should be used to establish their settlement date, the investigators asked the interviewees to say when they considered their settlement in France to have begun. In that way, we relied on the interviewee's own perception of settlement (Lelièvre et al. 2009).

Table 1 provides a description of the surveyed population per sex and study group, and of the diversity of Sub-Saharan African migrant situations in France (N=1966). This population is relatively old (median age above 39 years old in the three groups). Logically, the countries of origin that are more represented correspond to former French colonies or countries that were under French or Belgian influence until the 1960s; more than 80% of people come from seven countries: Cameroon, Democratic Republic of the Congo, Guinea, Ivory Coast, Mali, Republic of the Congo and Senegal. The migrant population coming from Sub-Saharan Africa is more educated than the other migrants in France (Couillet 2010): more than 60% in most subgroups attained a secondary or superior educational level.

The migrants arrived at different periods in France, and their reasons for coming all varied, as well as their circumstances. Among men, the profiles do not differ according to study groups. They mostly arrived without a stable partner in France, and nearly half of them came to find a job or take a chance. Among women, the profiles are slightly different: women arrived at a younger age (a median of 26 to 29 years old) and the proportion of women who arrived after 1996 is notable (between 62% and 85% arrived after 1995). Between 41% and 59% (according to the study group) had a stable partner in France when they arrived, which corresponds to a greater proportion coming for family reasons (35% to 45%).

The migrants' situation at arrival is characterised by certain instability: almost half of Sub-Saharan migrants do not have a legal permit upon their arrival, and 12% to 27% (according to the different subgroups) experience residential instability.

Indicators of settlement

Building on the capability-definition of settlement, we propose: (i) considering the three aforementioned dimensions, i.e., residential, legal status and occupational trajectory; and (ii) finding indicators that reflect minimal stability in each area, which constitute 'basic capabilities' for the migrants. In that sense, as previous research has shown that instability and social vulnerability are concentrated during the first years in France, we wish to consider the first access to minimal stability in each domain. Details of the Life History Calendar can be found in Appendix 1 regarding: residence, legal status, activities and financial resources.

Regarding the residential trajectory, minimal stability is attained when a person declares that she has a personal dwelling rather than being hosted by someone, being in an associative structure, or with no stable housing. When considering Sub-Saharan migrants in France, workers' hostels are a special topic (in French 'foyers de travailleurs'), as they have been a typical way of settling in France for decades, first for male workers coming from North Africa, and then for workers coming from Sub-Saharan Africa (Bernardot 2006; Bernardot 2008). Thus, it is relevant to consider this type of housing as a personal dwelling in our analysis.

Having obtained one's first personal dwelling is our settlement indicator in the residential trajectory.

The legal context of foreigners' residence in France has evolved over recent decades⁸: migrants can obtain refugee status or a legal residence permit for family, work or healthcare reasons. They can also obtain French nationality through naturalisation. To be undocumented is undoubtedly a difficult experience that hinders the migrant's daily life, and a short-term permit (of less than a year) means frequent visits to the administration and considerable uncertainty in the coming months and years. Furthermore, these shorter-term permits often do not grant migrants the right to work. We chose to consider being granted a one-year permit (or more) as constituting minimal stability.

Having obtained one's first legal permit of at least one year is our settlement indicator for legal-status history.

The occupational situation is also a necessary dimension to take into account when looking at the settlement process. However, considering the activity without any reference to an individual's financial situation is risky. Adopting a capability approach, we propose that our settlement indicator be represented by an activity that allows a person to have financial autonomy, regardless of whether that activity is or is not illicit or stable. Precarious work that provides subsistence is taken into account.

Studying is the primary activity for 14% of our population. We understand that access to a paid activity will not necessarily have the same dynamics for this population; and for this reason we do not include them in this particular analysis on occupational trajectories.

Having obtained an activity that provides financial autonomy is our settlement indicator for occupational trajectories.

Since the settlement process should be considered as a whole, we build a cumulative indicator that incorporates having obtained the three elements discussed above (personal dwelling, legal permit of at least one year, and an activity that provides financial autonomy). This is our final indicator for settlement.

Methods

In order to give a clear picture of the settlement dynamic for Sub-Saharan African migrants in France, we perform a Kaplan Meier analysis of the three settlement indicators of settlement, giving the medians per sex and study group. The medians represent the sojourn-in-France year ranking⁹. This analysis allows us to see the evolution of these indicators over time after migration and to take into account differences according both to gender and to being (or not) infected by HIV or hepatitis B. In order to have a global view on the settlement process among Sub-Saharan African migrants, the Kaplan Meier analysis is then made on the cumulative indicator, i.e., having obtained a personal dwelling, a legal permit of at least one year and an autonomy-generating activity.

In order to better understand the underlying factors of the settlement process, we use a discrete-time logistic regression testing the probability of having obtained a personal dwelling, a legal permit of at least 1 year, an autonomy-generating activity and then on the probability of 'being settled', i.e., the fact of having obtained the three elements of settlement.

⁸ For a thorough synthesis on these evolutions, please see Couillet 2010.

⁹ A median of 3 for personal dwelling means: for this category of persons, half of them have obtained a personal dwelling during their third year in France.

We also pay special attention to specific pathways toward settlement: accessing one's personal dwelling via workers' hostels and accessing an autonomy-generating activity through precarious work. For each of these indicators, we give the proportion of people concerned and we use a logistic regression testing the probability of having settled in this specific way versus having settled in a more classic way. For these two analyses, we considered the three study groups together to obtain a sufficient sample size.

The students are not included in the analysis of having obtained a first autonomy-generating activity; however we run separate Kaplan Meier estimates to see how many migrants came to France to study and how much time passed until they found an autonomy-generating activity.

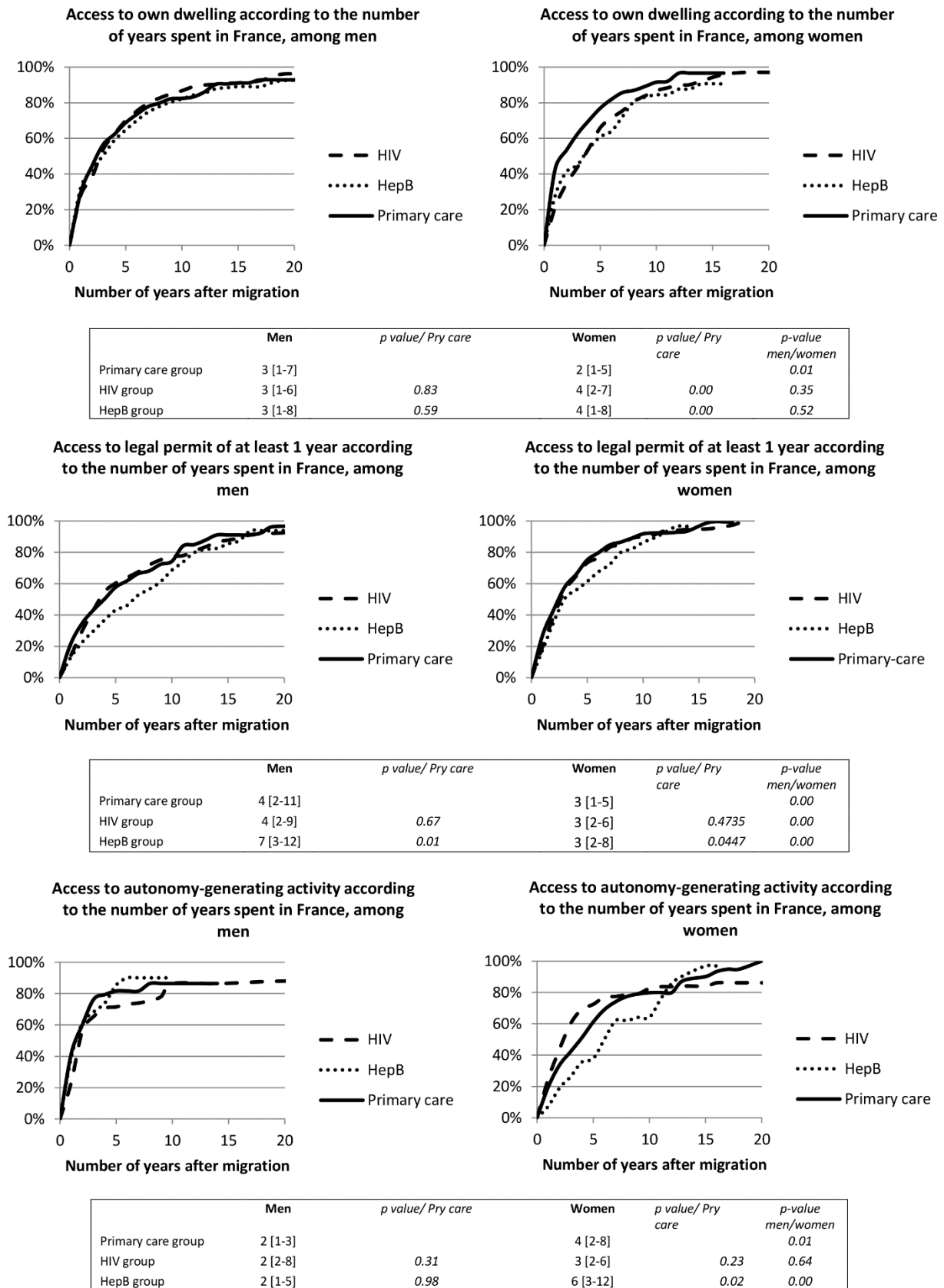
We wish to take into account both fixed demographic variables and time-dependent variables in our understanding of the settlement process. We then include fixed sociodemographic variables (study group and region of origin), arrival circumstances variables (period, age, educational level, marital status, migration motive, whether or not the person has already lived in France before, whether or not the person has had a child since her arrival in France) and time-dependent variables. The regressions are stratified per sex.

Results

Dynamics of settlement in France

Figure 1 shows Kaplan Meier estimates for obtaining a personal dwelling, a legal permit of at least one year and an autonomy-generating activity. What Fig. 1 reveals is the length of the settlement process and how the settlement sequence differs for men and women as well as for ill and non-ill migrants.

Figure 1. Access to the three elements of settlement, according to the number of years spent in France, per study group and sex (N=1966)



Kaplan-Meir smoothed survival curves

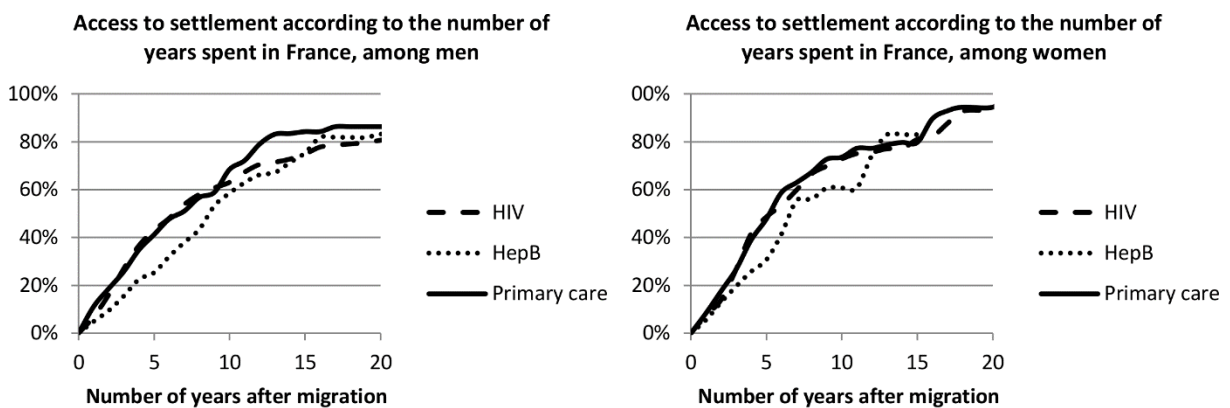
The median duration for Sub-Saharan migrants to obtain a personal dwelling falls between the 2nd and the 3rd year in the primary care group; women obtain a personal dwelling one year before men ($p=0.01$). This is to be understood in relation to the important proportion of women migrating to France for family reasons, as seen previously (35% to 45%, according to study group; see descriptive Table 1). Women migrate more often to join their partner, and this is reflected in their quicker access to a personal dwelling. HIV-positive and hepatitis B-infected women take longer to obtain their personal dwelling, which can reflect an illness-related difficulty: potential breaks in family relations and/or being hosted in an associative structure which is not considered a personal dwelling.

There is a much wider gender difference when looking at access to a legal permit of at least one year: in the primary care group, women obtain the permit during the 3rd year in median, whereas the median for men is the 4th year. Although the proportion of women coming for family reasons (“regroupement familial”) has been decreasing in recent years (Beauchemin, Borrel, and Régnard 2013), it is doubtless that the quicker access to a legal permit for women reflects the importance of this migration motive. The gender difference is even more sensitive in the other study groups. We also notice that, for both men and women, obtaining a legal permit of at least one year takes longer for hepatitis B-infected migrants. It is not surprising that HIV-positive people have the same access to a legal permit as the primary care group: the fact of being HIV-positive almost always gives the right to a legal permit for healthcare reasons in France. This is not the case for hepatitis B-infected migrants.

In the end, in the primary care group men obtain an autonomy-generating activity more quickly: during their 2nd year in France in median. There is no difference between the study groups. For women, obtaining the same activity takes a bit longer (in their 4th year).

Fig. 2 shows Kaplan Meier estimates on achieving settlement, i.e., the three indicators: personal dwelling, legal permit of at least one year, autonomy-generating activity.

Figure 2. Access to first settlement (cumulative indicator: own dwelling, legal permit ≥ 1 year, autonomy-generating activity) according to the number of years spent in France, per study group and sex (N=1675)



	Men	<i>p</i> value/ <i>Pry care</i>	Women	<i>p</i> value/ <i>Pry care</i>	<i>p</i> -value <i>men/women</i>
Primary care group	7 [3-12]		6 [3-11]		0.28
HIV group	7 [3-16]	0.54	6 [3-11]	0.6568	0.16
HepB group	9 [5-15]	0.01	7 [4-13]	0.0486	0.19

What is striking is the length of the settlement process, despite the fact that we voluntarily chose ‘basic capability indicators’: for the migrants to have access to minimal security, it takes a median of 6 to 7

years in the primary care group. We notice no difference between men and women. For both men and women, one remarkable difference remains between hepatitis-B infected migrants and the primary care group. Hepatitis-B infected migrants take longer to settle (medians between the 7th year for women and 9th year for men). Overall, we show that Sub-Saharan migrants experience a very long period of insecurity in France.

Looking subsequently at different dimensions of settlement also allows us to detect a gender difference regarding the settlement sequence. For men, the sequence seems to be (i) autonomy-generating activity, (ii) personal dwelling and (iii) legal permit of at least one year. This sequence corresponds to integration via the labour market. For women, the settlement process starts with (i) personal dwelling, then (ii) legal permit of at least one year and (iii) autonomy-generating activity. This sequence corresponds to a greater proportion of women coming for family unification in France. Although the duration of the settlement process is the same for both men and women, the settlement sequences are different according to one's gender.

What factors can explain settlement?

Table 2 gives the results for discrete-time regressions on the probability of having obtained a personal dwelling, a legal permit of at least one year, an autonomy-generating activity and finally the probability to have achieved settlement (i.e., to have obtained the three elements aforementioned).

First, we confirmed in the regressions that all the elements of settlement are intertwined (for example, getting a legal permit accelerates access to a personal dwelling, aOR=1.8** for men and 2.1** for women): every aspect of the settlement process is tied together with other aspects.

Among men, having arrived in recent years has a negative impact on both the first access to one's own dwelling and to an autonomy-generating activity, suggesting a more difficult socioeconomic situation from 2005 onwards.

Table 2. Factors for Sub-Saharan migrant settlement in France (N=1675)

Discrete-time logistic regressions, coefficients presented as Odds ratios

	MEN (N=892)				WOMEN (N=783)			
	First access to own dwelling	First access to legal permit of at least one year	First access to autonomy-generating activity	First access to settlement (cumulative indicator)	First access to own dwelling	First access to legal permit of at least one year	First access to autonomy-generating activity	First access to settlement (cumulative indicator)
	aOR	aOR	aOR	aOR	aOR	aOR	aOR	aOR
Period of arrival (ref. before 1996)								
1996-2004	0.8	0.9	1.0	1.0	0.9	1.1	1.0	1.0
2005-2011	0.6**	1.2	0.5**	1.0	0.5**	1.3	0.6**	0.8
Study group (ref. primary care)								
HIV	1.3	1.1	0.9	1.0	0.7*	1.2	1.3	1.1
HBV	1.1	0.7*	1.0	0.8*	0.8	0.9	0.7**	0.8
Region of birth (ref. West Africa)								
Central Africa	0.7**	0.8	0.9	0.7	1.0	1.0	0.7**	0.9
Eastern and Southern Africa	0.5	2.1	0.9	1.1	1.3	3.0**	1.0	1.9
Age at arrival (ref. 18-27)								
28+	1.0	1.0	1.0	1.0	1.2	1.2	0.9	1.0
Educational level at arrival (ref. None/Primary)								
Secondary	1.1	1.1	1.1	1.1	1.0	1.0	1.6**	1.2
Superior	1.4*	1.8**	1.0	1.9**	1.2	1.2	1.4	1.1
Marital status at arrival (ref. Alone)								
Long relationship in France	1.2	1.3*	1.2	1.3*	2.1**	1.3*	0.9	1.8**
Long transnational relationship	0.9	0.9	1.1	1.0	0.9	1.0	0.9	1.2

	MEN (N=892)				WOMEN (N=783)			
	First access to own dwelling	First access to legal permit of at least one year	First access to autonomy-generating activity	First access to settlement (cumulative indicator)	First access to own dwelling	First access to legal permit of at least one year	First access to autonomy-generating activity	First access to settlement (cumulative indicator)
	aOR	aOR	aOR	aOR	aOR	aOR	aOR	aOR
Migration motive (<i>ref. Family reasons</i>)								
Find a job/take a chance	1.2	0.9	0.9	1.1	0.8	0.8*	1.7**	1.1
Threatened in his/her country	1.3	1.1	0.6*	1.5	0.7*	0.6*	1.7**	1.1
Studies	1.3	0.7	0.9	1.0	0.9	0.9	2.1**	1.5
Medical reasons	1.0	1.4	0.4**	1.0	0.7	0.7	0.9	0.7
Already lived in France before (<i>ref.No</i>)	1.2	1.2	0.9	1.1	1.9	1.1	0.9	1.4
Has had a children since arrival in France (<i>ref.No</i>)	1.4**	1.4**	1.3	1.8**	1.3*	1.5**	0.8*	1.1
Has obtained own first dwelling (<i>ref.No</i>)		1.4**	1.5**			1.8**	1.1	
Has obtained first legal permit of at least 1 yr (<i>ref.No</i>)	1.8**		2.4**		2.1**		1.4**	
Has obtained first autonomy-generating activity (<i>ref.No</i>)	1.4*	1.6**			1.4**	1.3*		

*p<0.05, ** p<0.01

Also, it seems that Sub-Saharan migrant men infected with hepatitis B are in a particularly difficult social situation in France, all things being equal (aOR hepatitis B=0.7* for access to legal permit of at least one year and aOR hepatitis B=0.8* for cumulative indicator). This could be explained in several ways. First, the medical and social follow-up of hepatitis B is not very developed in France; as long as the pathology does not require heavy treatments, the patients get a check-up only every 6 months, and there is no social network that can help the Sub-Saharan migrants with social aspects, as it is the case for HIV (Pourette 2013). Second, there could be a selection bias in the hepatitis B study group. Even if the sampling of medical units was almost exhaustive, we cannot totally exclude the fact that people who are followed up in hospitals for chronic hepatitis B are in worse social situations and health conditions than people who are not followed up. This is for two reasons: first of all, the follow-up at a hospital could mean a more deteriorated health condition, which hampers a person's access to an occupation, a personal dwelling, etc. Second, it has been shown elsewhere that health services targeting the most vulnerable are more likely to offer hepatitis B testing to their patients (Enel 2012; Gigonzac et al. 2014). This could explain why the migrants from the hepatitis B group have lower indicators for settlement. A few factors also have an effect on settlement among men migrants: a higher level of education accelerates the settlement process and the fact of having a partner in France accelerates the process. Having had at least one child in France is also associated with a quicker settlement.

Among women, having arrived recently is also negatively associated with settlement, regarding the access to one's own dwelling and an autonomy-generating activity. HIV-positive women have slower access to their own first dwelling (aOR HIV=0.7*). However, their access to an autonomy-generating activity seems quicker than for other women. Women with chronic hepatitis B have a slower access to activity, all things being equal (aOR hepatitis B=0.7**). Having a partner in France upon arrival accelerates the settlement process. Contrary to what happens for men, the fact of having a child in France has a negative impact on women's access to an autonomy-generating activity.

When looking at the regressions on the cumulative indicator, the different dimensions tend to compensate one another and a major result is the absence of strong differentiation between migrants: settlement appears to be a seemingly long process for anyone coming to France from Sub-Saharan Africa, whatever their profile may be. For men, a higher education accelerates settlement, as well as having a stable partner in France upon arrival and having had a child in France. The negative effect of being infected by chronic hepatitis B still remains. For women, the only factor that remains significantly associated with settlement is the fact of having a stable partner upon arrival in France. Apart from that, no other factor has an effect on this long period of settlement; despite its diversity, Sub-Saharan migrants experience a similarly long process of settlement in France. The period where Sub-Saharan migrants lack basic capabilities is a long one; almost no social characteristic protects against this.

There is, however, a possibility that our analysis does not very well take into account more complex trajectories. Another limitation of our study is the fact that our analysis also considered people who arrived after 2010: despite the statistical methods used, would it have been possible that the analysis was biased because these people did not have time to settle down? To address this issue, we performed a sensitivity analysis by running the same regressions on the three settlement indicators, excluding the people who arrived less than 3 years before the time of the survey, and the results are similar.

Other variables would have been useful, such as whether the person spoke French at arrival. However, this piece of information was not in the survey and, as many Sub-Saharan migrants were taught French at school, it probably would not have added much to the variable 'educational level at arrival'. The network at arrival was analysed, as it was correlated to both the conjugal status at arrival and the migration motive, it was not included in the multivariate analysis.

In the end, we cannot exclude a certain selection bias: because the interviewees are recruited while living in France, the survey under-represents migrants who went back to their country of origin or left for another destination after their stay in France. Yet this selection bias could go in two directions, since two types of migrants are absent from our survey: those who were unable to settle down for social difficulties and those who went back to their country after a successful experience.

Specific pathways to settlement: workers' hostels and precarious jobs

To go further into the analysis, we propose studying different pathways to settlement. Table 3 and Appendix 2 contain information on the Sub-Saharan migrants who obtain a personal dwelling and compare those who went through workers' hostels with the others. One in four men find a personal dwelling through a workers' hostel versus 7% of women ($p < 0.01$). The duration of stay is quite different between men and women: half of the men left after 5 years, women do so during the 2nd year. We notice no difference between the study groups. Thus staying in a workers' hostel is a frequent trend for men as previously shown in the literature (Bernardot 2006; Bernardot 2008). For women, it seems to be more a temporary accommodation.

Table 3. Proportion of migrants accessing a personal dwelling through a workers' hostel & duration of stay in a workers' hostel (N=1523)

	Men		Women		p men/women
	%weighted	n	%weighted	n	
PRIMARY CARE	24	49	7	18	0.001
HIV	17	47	7	33	0.002
HepB	31	108	10	11	0.000
All	25	204	7	62	0.000
<i>p groups</i>	0.073		0.571		
KM* median duration 5 [2-11] of stay in workers' hostel			2 [1-3]		

*Kaplan Meier estimates

The logistic regression confirms that female and male workers' hostel residents do not have the same profile as people obtaining a personal dwelling in a more classic way (Appendix 2). Male workers' hostel residents are less often in a long relationship upon arrival (aOR stable partner in France= 0.5*), more often come from West Africa, and they also have a lower educational level upon arrival in France (aOR secondary level= 0.4**, aOR superior level= 0.2**). For women, the major determinant in accessing a personal dwelling through a workers' hostel is the motive for migration: staying in a worker's hostel is favoured by coming to look for a job, to take a chance, or because they are threatened in their country of origin (aOR threatened in her country= 3**). Also, arriving in the recent years and at an older age play a role (aOR arrived at 35 years old and more= 3.3*). We understand better the short duration of a female migrant's stay in a workers' hostel: it constitutes a temporary accommodation for women arriving in potentially difficult circumstances.

Table 4 and Appendix 3 contain information on the Sub-Saharan migrants who obtained an autonomy-generating activity through a precarious-work period. All precarious jobs were taken into account in

this analysis, be they declared or not. As a matter of fact, since the capability perspective focuses on the means of existence, someone having a precarious job that ensures his or her financial independence is relevant. What is striking is the high proportion of people concerned: 35% of men and 20% of women who obtained an autonomy-generating activity went through a period of precarious work. Although the median length of this period is 4 years for both men and women, the 75% interquartile range of men is at the 11th year: for a significant proportion of men, this period of precarious work lasts more than a decade. We notice no difference according to study groups.

Table 4. Proportion of migrants accessing an autonomy-generating activity through a small-job period & duration of the small-job period (N=1463)

	Men		Women		p men/women
	%weighted	n	%weighted	n	
PRIMARY CARE	38	68	20	35	0.06
HIV	28	73	19	82	0.11
HepB	38	147	25	23	0.01
All	35	288	20	140	0.00
<i>p groups</i>	0.20		0.67		
KM* median duration 4 [2-11] of small job period			4 [2-7]		

*Kaplan Meier estimates

The logistic regression on the probability of entering an autonomy-generating activity through a precarious-job period gives more indication of the factors that can explain why occupational settlement differs for these people (Appendix 3). Among men, we notice a strong effect of recent arrival, particularly for those having arrived between 2005 and 2013 (aOR 2005-2011=2.1**). The socio-economic situation since the last economic crisis (2007-2008) affected many economic sectors in which Sub-Saharan migrants are numerous (the construction industry for example), and it provides the best hypothesis for explaining this change towards more unsteady and short-term jobs. We do not find this effect among women, as the sectors that are traditionally more occupied by women (i.e., the domestic help sector) were not affected in the same way by the economic crisis. We also note a U-shaped effect regarding the educational level at arrival for men (aOR secondary level=0.7*, aOR superior level=1.0). This effect is easily understandable: the lack of educational level presents the usual negative effect on labour market integration, and migrants who attained only a primary education level or who have no education are more likely to experience a precarious-job period. What is interesting is that the same happens for migrants with a high educational level upon arrival: here our data indirectly reflect the ‘brain waste’ already identified in the literature. Well-educated migrants cannot find a job that corresponds to their qualifications, and they experience more precarious jobs than men with a secondary educational level. For both men and women, the fact of having a long relationship in France diminishes the probability of experiencing a precarious-work period. This could reflect the fact that developed ties in France protect against precarious-work periods. Among women, the reasons for migrating (take a chance / find a job aOR=2.2**, threatened in her country aOR=3.7** versus coming for family reasons) determine the fact that women go through a period of precarious work.

The tertiary students represent 15% of men and 18% of women arriving at 18 years-old or over, with no significant difference between the sexes (p=0.23) (see OAppendix 4 and 5). The proportion of students is a bit higher among women from the primary care group. Studies last until the 4th year in France for

both men and women. Although the students were not included in the analysis of having obtained an autonomy-generating activity (because the duration of studies would obviously bias the results), it is nevertheless interesting to find out how much time these people take to find such an activity once their studies have been completed. Among men, the Kaplan Meier medians for accessing an autonomy-generating activity are higher than in the rest of the population, but not much higher: it seems that students quickly find a job that allows them to be financially independent after they finish their studies. However, it is possible that this rapid access to an autonomy-generating activity is due to the same selection bias aforementioned: because only the persons who could stay after their studies were interviewed, persons who were forced to leave France are not taken into account. We notice no difference between groups or sexes.

Conclusions

The article examines the dynamics and factors of the Sub-Saharan migrant settlement process in France, using original data that allow for a multi-dimensional analysis of this process. The findings fill the gap concerning the settlement process and shed a new light on this particular moment in migrants' lives.

Adopting Sen's capability-approach to studying settlement, we were able to identify three key-elements that are necessary in achieving minimum stability in France. It takes between 6 and 9 years to obtain minimum stability, which means a long period in which migrants are very exposed to social difficulties. The sequence of settlement is quite different for men and women: men experience integration through the labour market, whereas the sequence starts with a personal dwelling for women. We also show certain heterogeneity in settlement pathways: sojourning in a workers' hostel is a typical means for Sub-Saharan men from West Africa to settle in France, whereas it seems to be more of a temporary solution for women who arrive in difficult circumstances. Sub-Saharan migrants find a job quite quickly but are frequently exposed to long periods (lasting a median of four years), during which they acquire precarious jobs to earn a living.

When compared to other people living with HIV in France, HIV-positive Sub-Saharan migrants are in the most difficult social situation (Lert et al. 2013). However, although they have their share in being deprived of the most basic capabilities, our study shows that they are in no better or worse position than their fellowmen who are not HIV-positive. Our analysis compares ill and non-ill people, yet it does not take into account the actual date of diagnosis. However, previous research has shown that very few people actually know about their illness before coming to France. Of the total sample, 13% of the HIV group and 6% of the hepatitis B group had been diagnosed before their arrival. For many people, the diagnosis occurs precisely during their first years in France, and Sub-Saharan migrants have to face their new illness and the settlement process simultaneously. However, we do not notice major differences in the settlement rhythms and factors between HIV-positive people and the primary care group. The HIV diagnosis does not seem to impact the settlement process as such. As a matter of fact, it is possible that the social support which exists in France for HIV-positive people has a catch-up effect, which brings HIV-positive Sub-Saharan migrants back to the same level as migrants from the primary care group. Persons affected by chronic hepatitis B are in a most difficult position because they do not have access to the same supporting social network.

The length of the settlement process is a reality shared by all Sub-Saharan migrants, whatever their profile may be. This moment of settlement constitutes a strikingly long period where migrants find themselves in great social insecurity, unable to fulfil basic needs. In an international context of economic

crisis and growing instability, this shared hardship undoubtedly questions the capacity of the French society to provide decent living conditions for migrants arriving in the country seeking better lives.

Acknowledgements

The authors would like to thank all the persons who participated in the study, the RAAC-Sida, COMEDE, FORIM and SOS hepatitis associations for their support in preparing and conducting the survey, G Vivier (INED) and A Gervais (AP-HP) for their support in preparing the questionnaire, H. Panjo for statistical support, A Guillaume for communication tools, the ClinSearch and Ipsos societies for data collection, and staff at all participating centres.

This study was supported by the French National Agency for research on AIDS and Viral hepatitis (ANRS) and the General Directorate of Health (DGS, French Ministry of Health). The sponsor of the study had no role in study design, data collection, data analysis, data interpretation or writing of the paper.

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Supplementary Material

Appendix 1. Questions used to fill the Life History Calendar

Residential grid

We are now going to review in detail all the different dwellings you lived in for more than a year IN FRANCE. Some of these dwellings may be in the same city.

- When you arrived in France, did you live more than a year in the same dwelling or have you frequently changed dwellings?

- When you arrived in France, the dwelling where you lived was in which administrative region/French "département"?

- When you settled in this dwelling:

1. It was your own home;
2. You were hosted by your family (with or without financial support);
3. You were hosted by another person (s) close to you (with or without financial support);
4. Other to specify.

- How long did you stay in this dwelling?

- And then, did you live more than a year in the same dwelling or have you frequently changed dwellings?

Legal-status history grid

The issue of papers can influence the possibilities that one has to live and work in a country. That is why I would like to try and trace with you the different types of papers residence permits, you may have had or not living in France. Can we try and trace all that together?

When you arrived in France, what administrative document did you have?

Visa / no visa / no visa requirement / Other

And then what kind of document did you get?

- Temporary residence authorisation or receipt: TS <1year
- Temporary residence permit: TS 1-3 years
- Residence permit: 10 years TS
- No residence permit: No TS
- No need for a residence permit: No need TS
- Other => Specify

And then did your situation change?

What year did it change? What type of document did you get then?

And then, did your situation change?

Activities & resources grid

We are now going to talk about the different periods of activities since your childhood: school, studies, vocational training, work, home or unemployment, etc. Let's talk about the activities that have lasted at least a year.

- What were you doing when you were 6 years old? What was your main activity? How long did you continue to [adapt] to go to school / help at home?

- And then what did you do? And until when?

- In this activity you were ...?

1. Manager (middle management)
2. Employee or worker
3. Boss, employer
4. Self-employed (without employees)
5. Apprentice, trainee
6. Caregiver

- What type of contract did you have?

1. CDI (Contract of Indeterminate Duration)
2. CDD (Contract of Determinate Duration)
- 3 - No contract

- And then, what did you do? And until when?

Can we see together where your financial resources have been coming from at different times of your life?

- At what age did you have other resources than those of your parents?
- Where did these resources come from?
 1. Your own activity;
 2. The activity of your spouse/partner
 3. Activities of other family members;
 4. State grants, specify (scholarship, family allowance, disability or invalidity allowance...);
 5. No resources.
- How long did you have this type of resource?
- And then what did you have as resources? And until when?

Appendix 2. Logistic regression on accessing personal dwelling through workers' hostel (N=1523)

	Men (N=793)			Women (N=730)		
	Univariate OR	Adjusted OR	p	Univariate OR	Adjusted OR	p
Period of arrival						
Before 1996	-ref-	-ref-		-ref-	-ref-	
1996-2004	0.7 [0.4;1.0]	0.5 [0.3;0.7]	0.001	2.7 [1.0;7.1]	1.3 [0.5;3.6]	0.557
2005-2011	1.0 [0.6;1.6]	0.8 [0.4;1.5]	0.511	5.2 [2.0;13.8]	3.1 [1.1;8.5]	0.031
Region of birth						
West Africa	-ref-	-ref-		-ref-	-ref-	
Central Africa	0.2 [0.1;0.4]	0.4 [0.2;0.8]	0.006	1.1 [0.6;2.1]	0.7 [0.3;1.5]	0.360
Eastern and Southern Africa	0.7 [0.2;3.2]	0.9 [0.2;4.9]	0.927	0.6 [0.1;3.8]	1.1 [0.1;7.6]	0.950
Age at arrival						
<25	-ref-	-ref-		-ref-	-ref-	
25-34	0.9 [0.6;1.3]	1.1 [0.6;1.7]	0.823	1.4 [0.7;2.9]	1.3 [0.6;2.8]	0.583
35+	0.9 [0.5;1.6]	1.2 [0.6;2.4]	0.666	3.9 [1.7;9.2]	3.3 [1.2;8.8]	0.018
Education level at arrival						
None/primary	-ref-	-ref-		-ref-	-ref-	
Secondary	0.3 [0.2;0.4]	0.4 [0.3;0.7]	0.000	1.0 [0.5;2.0]	0.8 [0.4;1.7]	0.546
Superior	0.1 [0.1;0.2]	0.2 [0.1;0.5]	0.000	2.3 [0.9;5.9]	1.6 [0.5;4.8]	0.387
Conjugal status at arrival						
Alone	-ref-	-ref-		-ref-	-ref-	
Stable partner in France	0.5 [0.3;0.8]	0.5 [0.3;0.9]	0.022	0.4 [0.2;0.9]	0.7 [0.3;1.4]	0.308
Stable partner in country of origin	1.1 [0.6;1.7]	1.0 [0.6;1.8]	0.978	1.2 [0.4;3.4]	1.1 [0.4;3.3]	0.797
Migration motive						
Find a job/take a chance	-ref-	-ref-		-ref-	-ref-	
Family reasons	0.2 [0.1;0.5]	0.4 [0.2;1.0]	0.053	0.2 [0.1;0.5]	0.2 [0.1;0.6]	0.005
Threatened in his/her country	0.6 [0.4;1.1]	1.0 [0.5;2.0]	0.895	2.5 [1.1;5.8]	3.0 [1.2;7.2]	0.014
Studies	0.1 [0.1;0.3]	0.3 [0.1;0.6]	0.002	0.6 [0.2;1.9]	0.6 [0.2;2.3]	0.497
Medical reasons	0.3 [0.1;1.0]	0.4 [0.1;1.2]	0.096	1.1 [0.4;3.4]	0.9 [0.3;3.0]	0.858
Has had children since arrival in Fr.						
Yes (ref.No)	0.8 [0.6;1.2]	0.8 [0.5;1.3]	0.314	0.7 [0.1;0.2]	1.8 [0.9;3.6]	0.094

Appendix 3. Logistic regression on accessing an autonomy-generating activity through a precarious-job period (N=1463)

	Men (N=809)			Women (N=654)		
	Univariate OR	Adjusted OR	p	Univariate OR	Adjusted OR	p
Period of arrival						
Before 1996	-ref-	-ref-		-ref-	-ref-	
1996-2004	1.7 [1.1;2.6]	1.9 [1.2;3.1]	0.006	1.9 [1.0;3.5]	1.2 [0.6;2.4]	0.602
2005-2011	1.8 [1.2;2.9]	2.1 [1.2;3.7]	0.009	2.0 [1.0;3.7]	1.2 [0.6;2.5]	0.661
Region of birth						
West Africa	-ref-	-ref-		-ref-	-ref-	
Central Africa	1.1 [0.8;1.7]	1.4 [0.9;2.2]	0.104	1.1 [0.7;1.7]	0.8 [0.5;1.4]	0.418
Eastern and Southern Africa	1.7 [0.5;5.4]	2.0 [0.6;6.7]	0.286	0.3 [0.1;1.6]	0.4 [0.1;2.0]	0.241
Age at arrival						
<25	-ref-	-ref-		-ref-	-ref-	
25-34	1.1 [0.7;1.6]	0.9 [0.6;1.5]	0.781	1.0 [0.6;1.6]	0.9 [0.5;1.5]	0.611
35+	0.9 [0.6;1.5]	0.7 [0.4;1.3]	0.298	1.3 [0.6;2.6]	1.0 [0.5;2.2]	0.996
Education level at arrival						
None/primary	-ref-	-ref-		-ref-	-ref-	
Secondary	0.7 [0.5;1.0]	0.7 [0.4;1.0]	0.052	1.4 [0.8;2.4]	1.2 [0.7;2.2]	0.534
Superior	1.1 [0.7;1.7]	1.0 [0.6;1.8]	0.972	2.0 [0.9;4.2]	2.0 [0.9;4.5]	0.107
Marital status at arrival						
Alone	-ref-	-ref-		-ref-	-ref-	
Long relationship in France	0.6 [0.4;0.9]	0.6 [0.4;1.0]	0.055	0.4 [0.2;0.7]	0.5 [0.3;0.9]	0.011
Long transnational relationship	0.9 [0.6;1.5]	0.9 [0.6;1.6]	0.817	1.1 [0.4;2.6]	0.9 [0.4;2.1]	0.753
Migration motive						
Find a job/take a chance	1.7 [0.9;3.0]	1.6 [0.9;2.9]	0.139	2.9 [1.7;5.2]	2.2 [1.2;4.1]	0.014
Family reasons	-ref-	-ref-		-ref-	-ref-	
Threatened in his/her country	1.5 [0.8;3.0]	1.4 [0.7;2.9]	0.316	4.9 [2.3;10.2]	3.7 [1.8;7.9]	0.001
Studies	1.8 [0.9;3.8]	1.6 [0.7;3.6]	0.252	1.9 [0.6;5.9]	1.2 [0.4;4.0]	0.714
Medical reasons	1.3 [0.5;3.5]	1.0 [0.3;2.6]	0.927	2.2 [0.9;5.2]	1.7 [0.7;4.3]	0.239
Has had children since arrival in Fr.						
Yes (ref.No)	0.7 [0.5;1.0]	0.8 [0.6;1.2]	0.378	0.9 [0.6;1.5]	1.5 [0.9;2.4]	0.132

Appendix 4. Proportion of Sub-Saharan migrants who are students and duration of studies

	Men		Women		<i>p-value men/women</i>
	%pond	n	%pond	n	
PRIMARY CARE	16	39	24	56	0,14
HIV	12	38	14	57	0,54
HepB	16	72	15	29	0,66
All	15	149	18	142	0,23
<i>p groups</i>	0.46		0.00		
KM* median duration of studies	4 [2-6]		4 [2-6]		

Appendix 5. Length of stay in France when students first obtain an autonomy-generating activity, medians (IQR) (N=291)

	Men	Women	<i>p-value men/women</i>
PRIMARY CARE	5 [3-7]	5 [3-7]	0.34
HIV	3 [2-5]	4 [3-7]	0.26
HepB	4 [2-6]	5 [4-7]	0.11
<i>p-value PRIMARY CARE/HIV</i>	0.34	0.64	
<i>p-value PRIMARY CARE/HepB</i>	0.54	0.72	