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Original article

## Family physicians and HIV infection

*Médecins généralistes et infection par le VIH*

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### Abstract

**Objective.** – We aimed to describe the current and desired involvement of family physicians (FPs) in the treatment of HIV patients (screening practices, potential training and patient follow-up) to reduce the duration and frequency of their hospital treatment.

**Material and methods.** – We conducted a descriptive cross-sectional survey between 2011 and 2012 with the support of COREVIH (Regional Coordinating Committee on HIV). We sent a self-assessment questionnaire to all FPs of the Pays de la Loire region to enquire about their HIV screening practices and expectations for the management of HIV patients.

**Results.** – A total of 871 FPs completed the questionnaire (response rate: 30.4%). A total of 54.2% said to provide care to HIV patients; the mean number of HIV patients per FP was estimated at 1.4. With regard to HIV screening, 12.2% systematically suggest an HIV serology to their patients and 72.7% always suggest it to pregnant women. About 45.4% of responding FPs said to be willing to manage HIV patients (clinical and biological monitoring, compliance checks and prescription renewal). FPs mainly reported the lack of training and the low number of HIV patients as a barrier to their further involvement in the management of HIV patients.

**Conclusion.** – The responding FPs provide care to very few HIV patients. They are, however, willing to be more involved in the routine care of these patients. Medical training provided by COREVIH would help improve HIV screening. The management of HIV patients could thus be handed over to willing FPs.

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**Keywords:** HIV screening; General practice; HIV/AIDS

### Résumé

**Objectifs.** – Dans la perspective d'une prise en charge moins hospitalière des patients vivant avec le VIH, nous avons réalisé un état des lieux des niveaux d'implication actuels et souhaités des médecins généralistes dans cette pathologie (pratiques de dépistage, souhait de formation, de suivi de patients).

**Matériels et méthodes.** – Enquête descriptive transversale réalisée entre 2011 et 2012 auprès de tous les médecins généralistes installés en Pays de la Loire par auto-questionnaires explorant leur pratique de dépistage et leurs souhaits de prise en charge, avec le soutien du COREVIH (comité de coordination régionale de la lutte contre l'infection par le VIH) des Pays de la Loire.

**Résultats.** – Parmi les 871 médecins qui ont renvoyé le questionnaire (30,4 % de réponses), 54,2 % déclarent avoir des patients VIH dans leur patientèle, avec un nombre moyen de 1,4 patient VIH par patientèle. Concernant le dépistage, 12,2 % proposent systématiquement une sérologie

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VIH à leurs patients, 72,7 % prescrivent toujours une sérologie aux femmes enceintes. Parmi les médecins interrogés, 45,4 % souhaitent prendre en charge des patients VIH (suivi clinico-biologique, soutien à l'observance, renouvellement de traitement). Les principaux freins évoqués sont une formation insuffisante et un investissement disproportionné compte tenu du faible nombre de patients VIH dans leur patientèle. **Conclusion**

Les médecins interrogés suivent très peu de patients VIH mais sont plutôt favorables au suivi de ces patients dans le cadre de soins courants. Des formations via le COREVIH permettraient d'améliorer l'offre de dépistage et d'envisager un relais du suivi en ville en ciblant ces médecins intéressés.

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*Mots clés* : Dépistage du VIH ; Médecine générale ; VIH/sida

## 1. Introduction

In 2011, the number of HIV-positive French individuals was estimated at 160,000 [1]. In 2012, 6400 French patients were newly diagnosed with HIV and 194 of them came from the Pays de la Loire (PdL) region [2]. Most of these patients were diagnosed at the hospital but the proportion of detection at the family physician's (FP) office is on the rise [3]. HIV patients are usually managed at the hospital but health authorities would like to reinforce the role of the FP in the management of these patients.

They are advocating for such a change as the central role of FPs would help improve HIV prevention and screening. The French National Authority for Health (French acronym HAS) issued a set of recommendations in 2009 advocating for HIV infection screening in the population [4] as, at diagnosis, 28% of HIV patients have a CD4 count  $< 200/\text{mm}^3$  and 69%  $< 500/\text{mm}^3$  [3]. These recommendations were also stipulated in the 2010–2014 National HIV/AIDS Plan which highlights the crucial role of FPs [5].

Major advances in antiretroviral treatments have been observed and HIV infection is now a well-controlled chronic disease in terms of immunology and virology. However, health authorities emphasize the need for a multidisciplinary and coordinated approach to managing HIV-related comorbidities.

The 2009 formal consensus on the management of HIV patients by FPs highlighted the same objectives [6] and described two types of tasks for FPs: primary care tasks (prevention and screening) and more specialized tasks (specific follow-up).

Building on those recommendations, we conducted a study in the Pays de la Loire region. Our main objective was to identify FPs' habits regarding those two types of tasks and to assess whether or not delegating HIV patients' follow-up was something wished for by FPs and whether or not it could be implemented. There is no longer any community/hospital network in the PdL region of France; we would therefore like to encourage hospitals and community-based partners to collaborate via the COREVIH network.

## 2. Material and methods

We conducted a descriptive cross-sectional study between May 2011 and September 2012 in the PdL region. We sent a self-assessment questionnaire to the 2862 FPs of the five departments of the PdL region (from May to July 2011 in the

Maine-et-Loire and Sarthe departments; from April to June 2012 in the Mayenne department; and from July to September 2012 in the Loire-Atlantique and Vendée departments). The questionnaire was designed by a working group whose members work in the Infectious Diseases Department of the University Hospital of Angers, the General Medicine Department of the University of Angers, and in the Pays de la Loire COREVIH. The questions focused on the FP's role in terms of primary care (training, HIV screening, attitudes when dealing with patients engaging in unsafe sex) and on whether or not FPs wanted to be more involved in the management of HIV patients (specialized tasks).

Data was collected on an anonymous basis and analyzed with the SAS software (Statistical Analysis System). We used Student's *t*-test to compare continuous quantitative variables between the various populations of FPs (age); the binomial test for sex; and Pearson's  $\chi^2$  test for the other characteristics. A *P*-value  $< 0.05$  was considered statistically significant.

## 3. Results

Overall, 871 out of 2862 FPs completed the questionnaire (response rate: 30.4%). It should be noted that we did not contact the FPs twice (Fig. 1):

- Loire-Atlantique: 313/1091 (28.7%);
- Maine-et-Loire: 236/616 (38.3%);
- Mayenne: 92/204 (45.1%);
- Sarthe: 104/435 (23.9%);
- Vendée: 126/516 (24.4%).

The respondents' demographic characteristics are detailed in Table 1. Our results indicate that 54.2% (469/866) of interviewed FPs provide care to HIV patients [ranging from 67.5% in Loire-Atlantique to 41% in Sarthe ( $P < 0.0001$ )], with a 3.6 variance and a mean number of HIV patients per FP estimated at 1.4 [from 0.8 HIV patients/FP in the Sarthe and Mayenne rural departments to 1.9 in the urbanized Loire-Atlantique department (Fig. 1)].

### 3.1. Resources

We observed that 34.7% of FPs had been trained on the management of HIV patients (297/857) and that 54% (453/839) would be willing to receive such training. We estimated at

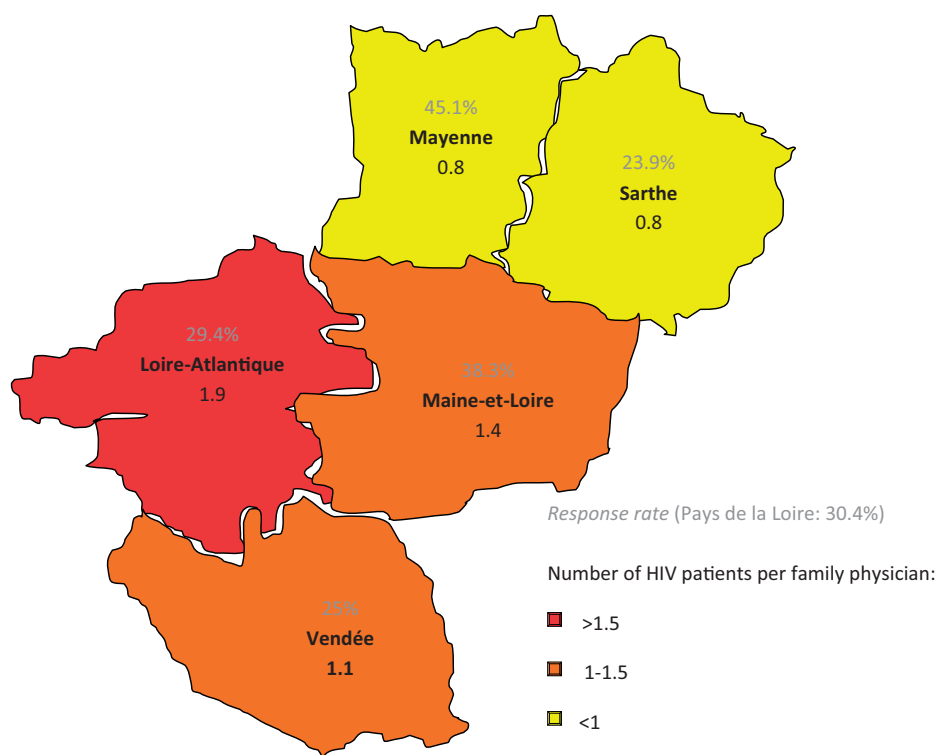


Fig. 1. Taux de réponse et nombre de patients VIH par médecin généraliste dans les Pays de la Loire.  
Response rate and number of HIV patients per family physician in the Pays de la Loire region.

20.2% (174/860) the proportion of FPs who had already heard about COREVIH. There was, however, a significant difference between the various departments ( $P < 0.0001$ ). We also observed that 11.4% (93/817) of FPs were familiar with the 2009 formal consensus (Table 1).

### 3.2. Screening

The FPs' HIV screening patterns are described in Fig. 2. On the basis of our results, 72.7% of interviewed FPs declared to always advise pregnant women to be screened for HIV and 70.2% said to always suggest it to patients engaging in unsafe sex. We also observed that 38.6% of FPs always suggest an HIV screening to men who have sex with men (MSM), 19.9% to patients presenting with symptoms of HIV infection, and 12.5% to patients of African origin. Population screening is systematically implemented by 12.2% of respondents. There was no significant difference between the departments, except for the

population screening ( $P = 0.0043$ ) and for patients engaging in unsafe sex ( $P < 0.0001$ ).

### 3.3. FPs' attitude with patients engaging in unsafe sex

About 83.5% of interviewed FPs (706/846) declared to have already been confronted to such situation. We observed that 25.5% (211/827) of them were not aware of the availability of a post-exposure prophylaxis (PEP).

### 3.4. Desired level of involvement

Overall, 45.4% (379/835) of FPs would be willing to take care of the management of HIV patients. However, we observed a significant difference between the departments ( $P < 0.0001$ ): Maine-et-Loire, 33.2%; Sarthe, 34%; Mayenne, 50%; Loire-Atlantique, 50.3%; Vendée, 61.5%. These FPs declared to be willing to take care of various aspects of the patient's

Table 1  
Caractéristiques des médecins répondeurs.  
Characteristics of the responding family physicians.

| Department  | Loire-Atlantique | Maine-et-Loire | Mayenne | Sarthe | Vendée | Pays de la Loire |
|---|------------------|----------------|---------|--------|--------|------------------|
| Sex ratio (M/F) ( $P < 0.0001$ )                            | 1.5              | 1              | 2.8     | 2.4    | 1.98   | 1.6              |
| Mean age (years) [min–max]                                  | 50.1             | 49.5           | 53.1    | 52.7   | 53.2   | 51 [29–4]        |
| Rural practice ( $P < 0.0001$ )                             | 40%              | 53%            | 60%     | 51.5%  | 75.7%  | 52%              |
| Have at least 1 HIV patient ( $P < 0.0001$ )                | 67.5%            | 44%            | 51%     | 41%    | 53%    | 54%              |
| Mean number of HIV patients per family physician            | 1.9              | 1.4            | 0.8     | 0.8    | 1.1    | 1.4              |
| Have heard about COREVIH ( $P < 0.0001$ )                   | 30%              | 23%            | 5.4%    | 5%     | 14%    | 20%              |
| Have heard about the 2009 formal consensus ( $P = 0.0016$ ) | 8%               | 18.5%          | 6.5%    | 10.5%  | 9.5%   | 11.5%            |

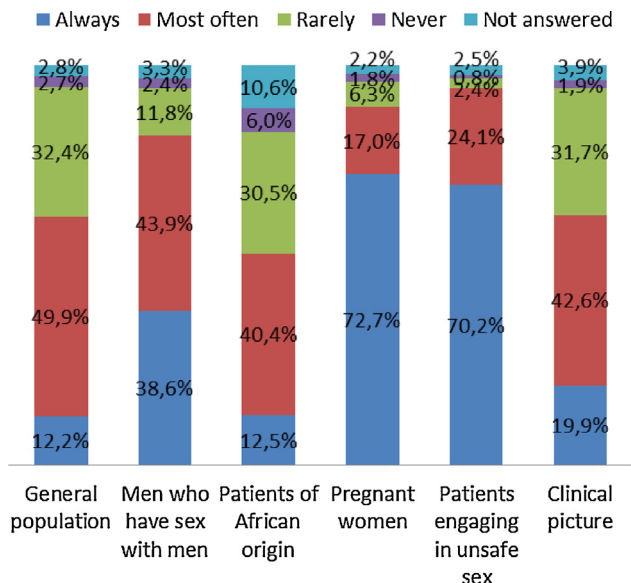


Fig. 2. Types de patients et situations pouvant conduire au dépistage de l'infection par le VIH.

*Patient types and situations that can lead to HIV screening.*

management (data available for the PdL region, with the exception of the Sarthe department): clinical follow-up (85.3%), prescription renewal (80.5%), compliance checks (72.1%), and biological follow-up (68.8%). However, very few of them said to be willing to be involved in the social aspect of the patient's management (46.2%).

A wider use of HIV screening in the population is made (either systematically or most often) by 67% (255/379) of FPs who said to be willing to take care of HIV patients' follow-up versus 59% (270/456) of unwilling FPs. Similarly, 62% (237/379) of willing FPs already manage at least one HIV patient versus 48% of unwilling FPs. Finally, 50% (237/469) of FPs with HIV patients said to be willing to take care of their follow-up.

### 3.5. Barriers to the FP follow-up

Results are presented in Fig. 3. FPs unwilling to take care of HIV patients' follow-up put forward the three following reasons:

- the required level of involvement would be disproportionate compared to the low number of HIV patients they actually see (reason stated by 81.9% of reluctant FPs);
- the lack of training received so far in that field (76.6%);
- the difficulty of an HIV follow-up (65.7%).

## 4. Discussion

We obtained a satisfactory response rate considering that we sent the questionnaires by the post. This rate highlights the interest of FPs for HIV-related topics. The limitations of the study are those usually encountered with self-assessment questionnaires: an information bias (items were declared but not checked) and a potential selection bias as respondents were probably already interested in the issue of HIV management. They are, therefore,

more likely to be better trained and informed. The sample of responding FPs is representative in terms of age [mean age of 51 years in our study versus 52 years in all FPs of the PdL region according to the figures observed by the Local Sickness Insurance Fund (French acronym CPAM) [7]]. However, a higher number of women took part in the study (male to female ratio of 1.6 in our study versus 2.46 in all FPs of the PdL region [7]).

Compared with national figures, FPs from the PdL region tend to manage slightly less HIV patients (54.2% versus 65.7% according to a 2009 barometer [8]), and when they do HIV patients account for very little of their overall number of patients (from 0.8 to 1.9). This might be why they do not comply with the various recommendations. Only one FP out of five had already heard about COREVIH. We observed regional differences that could be explained by a geographical factor: the further away from COREVIH the FP was, the least he had heard about it. Approximately one FP in three had been trained on the management of HIV patients, and 1 in 10 had already heard about the 2009 formal consensus. Reaching to FPs therefore seems to be difficult even though they play a primary role in HIV screening and prevention.

HIV screening is one of the main tasks of the FP but only 12% of interviewed FPs reported performing it in the population in spite of the HAS recommendations that applied during the study period. This may be explained by several factors but mainly because sex is not an easy topic to address (reserve, fear of stigmatizing patients, of losing the patient's trust). National screening policy is, however, well-accepted by the population (62.5%) as highlighted by the results of a study conducted in the emergency departments of the Île-de-France hospitals [9]. The results of the Inpes (National Institute for prevention and health education) national survey conducted with FPs also revealed that 76.1% of FPs "strongly agreed" or "rather agreed" with suggesting the patient to be screened for HIV without necessarily waiting for him to ask about it [8]. Reservations were, however, rapidly voiced when the HAS issued its recommendations. In 2012, the members of the National Society of Teachers of Family Medicine thought that the relevance of those recommendations at the FP level needed to be assessed. They advocated for better HIV screening strategies as soon as a risk was identified [10]. They suggested using the Elisa test instead of the rapid diagnostic test that is difficult to use in a FP's office. Similarly, the results of the study conducted by the National Agency for AIDS Research (ANRS) on missed opportunities indicated that HIV screening could be better targeted to specific patient populations and to patients presenting with symptoms of HIV infection [11]. However, the authors of two other studies conducted in emergency departments observed that such systematic screening actually diagnose very few patients beside those from high prevalence populations [12,13]. In 2013 and on the basis of these findings, the members of the expert committee on the management of HIV patients advised against a "systematic" screening but in favor of a "large" one for patients who have not recently been screened for HIV. The committee also suggested paying a closer attention to patients presenting with symptoms of HIV infection [14]. In 2015, the HAS asked for a reevaluation of the HIV screening strategies [15]. The results will be

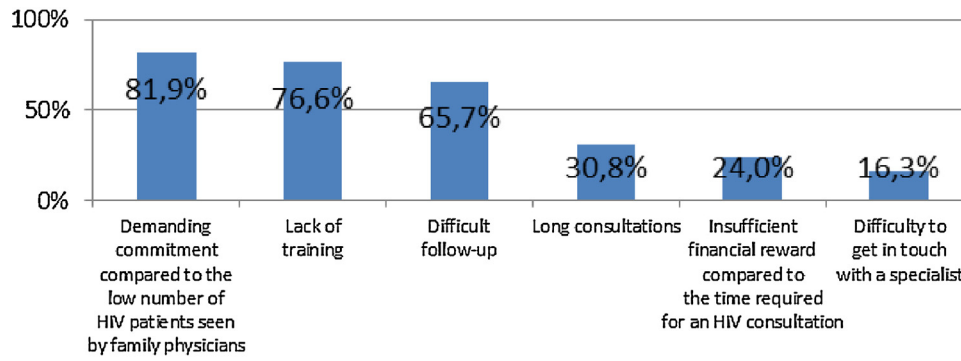


Fig. 3. Freins au suivi des patients VIH exprimés par les médecins généralistes des Pays de la Loire.  
*Barriers to the management of HIV patients as expressed by family physicians of the Pays de la Loire region.*

of a great interest, especially for the PdL region as the number of serological tests performed is one of the lowest in France (56/1000 inhabitants in 2012 versus 80/1000 at the national level [16]).

In 2012, the number of positive HIV screening in the PdL region was one of the highest of metropolitan France (with the exception of Île-de-France) with 1.6/1000 inhabitants [17]. Such findings suggest that a targeted HIV screening is indeed performed. However, some “target” populations may have been improperly defined in our study:

- MSM: it is the only group of patients with an increasing number of newly-diagnosed HIV case patients since 2003 [2,3,16]. Those patients are considered as an “at-risk” population as 82.5% of FPs declared to “always” or “most often” propose an HIV screening. However, FPs do not seem to be aware that this screening should be repeated on a regular basis as only 39% always suggest it. It is nevertheless difficult to identify high-risk patients as it is well-known that less than half of newly-diagnosed MSM patients inform their FP about engaging in unsafe sex before being diagnosed with HIV [11];
- patients presenting with symptoms of HIV infection: this population of patients is difficult to identify because symptoms are not well-known or rather because they are quite common or not specific which makes it difficult to suggest an HIV screening. In 2013, those patients however accounted for 38% of HIV screening prescriptions [18];
- patients coming from hyperendemic countries, especially from Sub-Saharan Africa. The interviewed FPs did not consider those patients as being “at risk” and declared to provide care to very few of them (3% of the PdL inhabitants do not hold the French nationality versus 9% at the national level according to the 2009 census).

The specifics of the targeted HIV screening must therefore be communicated on a wider scale as some “target populations” do not seem to be properly identified.

Best screened populations include:

- pregnant women;
- patients engaging in unsafe sex. This is a family practice issue as most FPs declared to have already provided care to such

patients. We should, however, highlight that a quarter of FPs did not know about the existence of PEP (25.5%).

With regard to more specialized tasks, 45.4% of FPs said to be willing to take care of some of the management of HIV patients (clinical and biological follow-up, compliance checks, and prescription). More than half of them declared to be willing to be trained for that, even though very few of them do provide care to HIV patients. Two-thirds of willing FPs already implement wide HIV screening methods, thus confirming their awareness of the HIV issue. However, only half of FPs who already provide care to HIV patients said to be willing to take care of the more specialized tasks. Providing care to HIV patients does not seem to be enough to be willing to take care of their follow-up.

FPs who are not willing to take care of the management of HIV patients mainly referred to the lack of training and a demanding commitment compared to their relatively low number of HIV patients as potential barriers to a further involvement. Needing to seek advice from a specialist was not described as a limiting factor. Those barriers seem legitimate as each FP provides care to a very low number of HIV patients.

HIV patients consult their FP on a regular basis. The results of a study conducted in 2012 indicated that 60% of interviewed HIV patients had consulted a FP in the past six months [19]. The cooperation between hospital and community-based follow-up should therefore be reinforced. FPs should take part in the tailored management of that growing and complex population of patients.

## 5. Conclusion

Family physicians play a crucial role in the management of HIV patients, even though very few of them are actually confronted to that population of patients.

With the sustained immune and virological control of the infection and with the simplification of antiretroviral treatments, HIV has now become a chronic infection. The infection dynamic is therefore likely to change over the next years, and so will the FP’s role. However, only 45% of the PdL FPs are willing to take on some of the tasks required for the management of

those patients. We will therefore need to define the types of patients that could be followed by FPs and take an inventory of the physicians that would be willing to engage in such care. As the lack of training in that field seems to be the greatest barrier to such follow-up, we think that COREVIH should help implement communication strategies as well as training sessions as part of the physicians' continuing vocational training (CVT). Those sessions should focus on identifying at-risk populations and clinical signs of HIV infection, HIV screening attitudes, and on a more specific follow-up to improve the screening offer and the FPs' role in the treatment of HIV patients. France is now on the brink of HIV self-testing kit commercialization [20]. These tests will deeply change HIV screening strategies and the medical community will have to get used to new situations requiring adequate training.

### Disclosure of interest

The authors declare that they have no competing interest.

*Authors' contribution:* Nolwenn Hall helped with the literature review, data collection and analysis, and interpretation of results from the Loire-Atlantique and Vendée departments. She also helped with regional data analysis and contributed to writing the article. Nicolas Crochette helped with the literature review, data collection and analysis, and interpretation of results from the Sarthe department. He also contributed to writing the article. Sophie Blanchi helped with the literature review, data collection and analysis, and interpretation of results from the Maine-et-Loire department. Alice Lavoix helped with the literature review, data collection and analysis, and interpretation of results from the Mayenne department. Eric Billaud is the chair of the Pays de la Loire Coordinating committee on HIV (COREVIH). He approved the project and reviewed the article. Céline Baron designed and approved the questionnaire. Pierre Abgueuen designed the study protocol and supervised the Maine-et-Loire data collection. Philippe Perre designed the study protocol and supervised the Loire-Atlantique, Vendée, and regional data collection. Valérie Rabier designed the study protocol and supervised the Sarthe and Mayenne data collection. She contributed to reviewing the article. All authors contributed to writing the article and approved its final version.

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