TACKLING MEDICAL DESERTS IN FRANCE

THE ADVANTAGES OF MANDATORY POLICIES

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November 2025

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INTRODUCTION

'In a 2023 report, the Académie Nationale de Médecine estimates that 30% of the French population lives in a medical desert[1].'

The high geographical concentration of private practice doctors in France poses major challenges for the healthcare system, particularly because it creates so-called 'medical deserts'. This phenomenon has been worsening over the past several years. France Inter reported that sixty-nine *départements* have seen their medical (physician) density decline between 2010 and 2024[2]. This multiplication of medical deserts is leading to increased difficulties in accessing healthcare and reinforcing inequalities between areas that are well-served and those that are not.

Given the scale of the problem, government initiatives have been introduced to address the issue of medical desertification. Two main approaches are under discussion: mandatorypolicies on practice locations and voluntary, incentive-based policies. The first approach would require young doctors to work in underserved areas for a set period of time. This could ensure a more equitable geographical distribution of healthcare access and help meet public service needs. Regulating practice locations may reduce inequalities in healthcare access and provide a rapid solution to meet the needs of the population. However, by restricting the freedom to choose where to practise, this type of policy can negatively affect both the availability and the quality of care, as a doctor forced to work in a specific area may become demotivated, reduce their working time and become less committed to their work. The second approach, based on volunteering, uses financial and non-financial incentives to encourage doctors to settle in underserved areas, while respecting their freedom to choose their practice location. The incentives include practice set-up grants, tax exemptions and improvements to working conditions, all of which help make these areas more attractive. This second option is generally easier to implement, because a non-coercive approach is more acceptable to doctors in private practice. It is worth noting that in France, doctors currently enjoy full freedom to choose their practice location. Few other countries allow such an approach.

The geographical distribution of doctors, particularly those in private practice, is a major challenge for the French healthcare system. The aim of this study is therefore to shed light on the following issues: What explains the emergence and growth of 'medical deserts' in France? Which policy approach is the most effective in tackling 'medical deserts': regulation or incentives?

In the first part of this study, we examine the current organisation of private medical practice in France. In the second part, we discuss the relative effectiveness of mandatory vs. incentive-based policies in tackling 'medical deserts'. In the final part, we present a comparative analysis of the public policies implemented in other countries.

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[1] *Rapport, n° 476*. (2024). XVII[e] Législature - Assemblée Nationale. https://www.assemblee-nationale.fr/dyn/17/rapports/cion_fin/l17b0476_rapport-fond.

[2] France Inter, (2025, February 28). Les déserts médicaux : quelles conséquences pour notre santé ? *France Inter*. https://www.radiofrance.fr/franceinter/podcasts/une-semaine-en-france/le-18-20-une-semaine-en-france-du-vendredi-28-fevrier-2025-5795838

I. THE ORGANISATION OF PRIVATE MEDICAL PRACTICE IN FRANCE

A. FEE-SETTING AND GEOGRAPHICAL DISTRIBUTION POLICY

In France, there are two statuses for healthcare professionals: private practice or salaried. For the purposes of this study, our focus is on the first. Private practice doctors are self-employed. They receive no direct remuneration from public authorities and are paid on a fee-for-service basis. According to data from the Conseil National de l'Ordre des Médecins[3] (France's General Medical Council), in 2024, 53% of doctors in France worked entirely or partly in private practice (around 10% worked under a mixed self-employed/salaried status[4]).

The fees charged by private practice doctors depend on the agreement (*convention médicale*) reached with the French national health insurance system, Assurance Maladie, which allows physicians to work under three different fee-setting sectors. Doctors with a 'sector 1' agreement are contracted to apply the reference fee, set by Assurance Maladie, for all medical services. Assurance Maladie reimburses 70% of the reference fee to patients, with the remaining 30% usually covered by optional private supplementary (top-up) insurance. Except in rare cases, doctors in sector 1 are not permitted to charge above the reference fee. The second sector, 'sector 2', is a scheme under which the doctor is contracted with Assurance Maladie but can freely set their own fees for each service they provide, while respecting a principle of 'tact and moderation'. Patients of these doctors are reimbursed 70% of the reference fee by Assurance Maladie, with some or all of the remaining cost covered by their private top-up insurance. Sector 2 doctors can thus systematically charge above the standard fee, a practice known as balance billing. The difference is often only partially reimbursed by private top-up insurance. Patients who see a sector 2 doctor therefore often face out-of-pocket costs. It is worth noting that the highest-charging sector 2 doctors bill more than 500% above the reference fee set by Assurance Maladie. The third sector, 'sector 3', refers to doctors who are not contracted with Assurance Maladie and can freely set their fees. Assurance Maladie reimburses only a tiny fraction of the cost (for example, €0.61 for a consultation with a general practitioner), and most private insurance providers rarely cover healthcare costs incurred with non-contracted doctors. Patients who consult sector 3 doctors can therefore face very high out-of-pocket costs. It is important to note that this sector accounts for less than 0.9% of private practice doctors[5].

The status of private practice doctors highlights a contradictory logic in France, at the intersection of two distinct spheres. On the one hand, there is a logic of public funding, as demand (patients) is largely covered by the state through Assurance Maladie. As a result, patients consider it their right to have access to high-quality, local healthcare, since the majority of private practice doctors derive their income from Assurance Maladie reimbursements. On the other hand, doctors operate within a market logic, based on profitability

[3] Atlas de la démographie médicale en France. (2024). https://www.conseil-national.medecin.fr/sites/default/files/external-package/analyse_etude/nn4fmo/cnom_atlas_demographie_2024_-_tome_1.pdf

[4] Drees. Démographie des professionnels de santé. https://drees.solidarites-sante.gouv.fr/sites/default/files/2020-08/dossier_presse_demographie.pdf

[5] Assurance Maladie. (2025). Effectif de professionnels de santé libéraux par secteur conventionnel et par département - 2016 à 2023. https://www.assurance-maladie.ameli.fr/etudes-et-donnees/secteur-professionnels-sante-liberaux-departement

and independence, as they run small businesses and have an interest in maximising their income, particularly through the fees they charge.

An article by Benjamin Montmartin and Marcos Herrera[6] on the fees charged by private practice doctors starts with an alarming observation: extra billing in France has tripled over the past 20 years. In the article, the authors use a geolocalized dataset including more than 4,000 sector 2 doctors with specialisations in ophthalmology, gynaecology and paediatrics. Their aim is to understand the mechanisms behind fee-setting behaviour among doctors who engage in balance billing. The results show a strong interdependence between doctors' fees and those of their direct competitors, a pattern known as strategic price complementarity. In other words, if their closest competitors charge a high fee, they will do the same, and vice versa. This reflects potentially non-competitive behaviour: as competition intensifies and the share of sector 2 doctors among competitors increases, price complementarity also rises. The authors also observe disparities depending on the doctor's gender and patients' median income. Female doctors charge significantly lower fees than their male counterparts (a difference of 5 to 10%). The income level of patients also influences fee setting, with fees increasing by €0.40 to €0.75 for every additional €1,000 in median income. In short, there is a self-reinforcing dynamic of rising extra billing, driven both by the growing spatial concentration of doctors in metropolitan areas and by the increasing proportion of doctors establishing themselves in sector 2.

The consumer association UFC - Que Choisir has also examined balance billing in eight medical specialties at the *département* level. Their findings reveal significant fee inequalities between *départements*, which in turn create geographical inequalities in healthcare access. According to the study, consultation fees can vary by a factor of up to 2.5 between *départements*. According to the figures provided, the *départements* with the highest fees are located in the Île-de-France region and in southern coastal areas. These are geographical areas where medical density is relatively high. This situation illustrates a two-pronged problem in access to healthcare: on the one hand, patients living in medically underserved 'geographical deserts'; on the other, patients living in 'financial deserts', where medical provision is sufficient but fees are very high[7]. This concentration of doctors charging high prices is problematic, because it deprives the most vulnerable patients, who cannot afford the higher fees, of access to care. Consequently, allowing doctors to freely choose where to practise and set their own fees reinforces geographical and financial inequalities in access to healthcare.

Moreover, acknowledging the limitations of freedom in setting fees and choosing practice location also highlights another dysfunction in the French healthcare system: the so-called 'mercenary doctors' who are paid up to €3,000 for a 24-hour shift in a public hospital. Due to staff shortages, hospitals are forced to rely on locum doctors working at very high rates. By comparison, a hospital doctor on staff earns €500 to €600 for a day's work. As a result, some doctors have chosen to take advantage of the system by working only a few days per month as locums. This flexibility allows them to work less than a doctor employed by a hospital, yet earn three to four times more. In an interview on France Inter, Frédéric Adnet, head of the emergency department at Hôpital Avicenne in Bobigny, said: 'We must immediately regulate this temporary work by

[6] Montmartin B. & Herrera M. (2023), "Spatial dependence in physicians' prices and additional fees: Evidence from France", Journal of Health Economics, Volume 88, 102724.

[7] Dépassements d'honoraires - Stop à la médecine spécialisée à deux vitesses - Action UFC-Que Choisir. (2024, February 22). *UFC-Que Choisir*. https://www.quechoisir.org/action-ufc-que-choisir-depassements-d-honoraires-stop-a-la-medecine-specialisee-a-deux-vitesses-n117134/

putting an end to these exorbitant salaries. We also need to increase pay for hospital on-call duties. The on-call allowance of €250 for hospital doctors has not been raised in over 20 years. €250 is €20 an hour[8].'

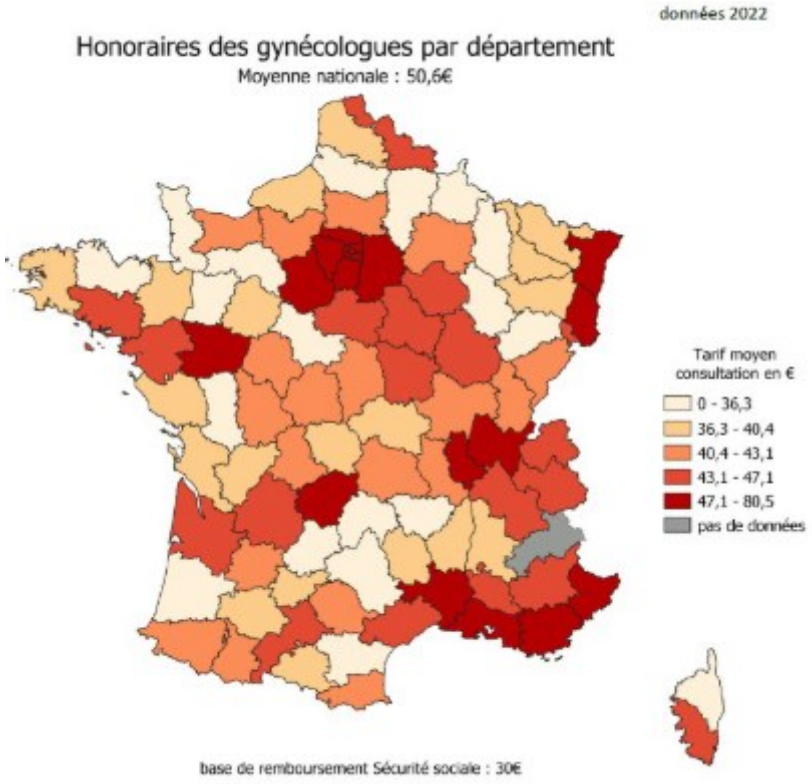

Figure 1. Differences in gynaecologists' fees by département.[9]

[8] Dhollande, V. (2022, June 1). Des médecins « mercenaires » payés jusqu'à 3000 euros pour une garde de 24h. *France Inter*. https://www.radiofrance.fr/franceinter/des-medecins-mercenaires-payes-jusqu-a-3000-euros-pour-une-garde-de-24h-6089315

[9] Data from Assurance Maladie.

B. THE IMPACT OF MEDICAL DESERTS ON THE FRENCH HEALTHCARE SYSTEM

The Conseil National de l'Ordre des Médecins estimates that between 2010 and 2024 medical density increased in 31 *départements* and declined in the other 69[10]. Government figures reveal an alarming situation, with around 87% of the country classified as a medical desert in 2024, a reality that is putting the entire French healthcare system under increasing strain, with one problem leading to another[11]. In its study entitled *Accès aux soins - La médecine hospitalière et de ville en état d'urgence vitale* (Access to care - Hospital and ambulatory medicine in a state of critical emergency), UFC - Que Choisir highlights the interdependence between ambulatory care and hospital care. The study examines the link between emergency department attendance and the density of GPs and paediatricians. It shows that the availability of ambulatory care has a direct impact on the level of pressure experienced by emergency departments. More specifically, a 1% decrease in the density of private practice doctors in a *département* increases demand on emergency departments by up to 0.6% in the short term and up to 0.9% in the long term[12].

Faced with growing pressure on the entire French healthcare system, the government has decided to take action. A cross-party bill (*Loi Garot*) aims to regulate the right of self-employed doctors to choose the location of their practice, by restricting new practice openings in already medically well-served areas. The bill has been under first review in the French Senate since 12 May 2025. Its main provision would make authorisation for doctors to set up in medically well-served areas dependent on the retirement or departure of another doctor in the same speciality. In addition, the bill seeks to encourage doctors already practising in well-served areas to carry out a certain number of consultations in underserved communities[13].

The Bayrou government also took this issue seriously. On 25 April 2025, the former Prime Minister announced measures to curb the medical desertification phenomenon. These include widening access to medical studies from 2026 and requiring medical students to complete a mandatory internship outside teaching hospitals (French CHUs) and in an underserved area. The idea that doctors should dedicate two days a month to consultations in medical deserts has been reiterated. More recently, Prime Minister Sébastien Lecornu stated his intention to tackle medical deserts by setting up a network of 5,000 "France Santé" centres offering healthcare within a 30-minute radius[14].

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[10] Vie Publique. (2025). Proposition de loi visant à lutter contre les déserts médicaux, d'initiative transpartisane. https://www.vie-publique.fr/loi/298457-deserts-medicaux-regulation-installation-medecins-proposition-loi-garot

[11] Info.gouv.fr. (2025). Le pacte du Gouvernement pour lutter contre les déserts médicaux. https://www.info.gouv.fr/actualite/former-plus-principe-de-solidarite-le-plan-du-gouvernement-face-aux-deserts-medicaux

[12] Dépassements d'honoraires - Stop à la médecine spécialisée à deux vitesses - Action UFC - Que Choisir. (2024, February 22). *UFC-Que Choisir*. https://www.quechoisir.org/action-ufc-que-choisir-depassements-d-honoraires-stop-a-la-medecine-specialisee-a-deux-vitesses-n117134/

[13] David, R. (2025, May 13). Déserts médicaux : le Sénat conditionne la liberté d'installation des médecins dans certains territoires, avec l'aval du gouvernement. *Public Sénat*. https://www.publicsenat.fr/actualites/sante/deserts-medicaux-le-senat-conditionne-la-liberte-dinstallation-des-medecins-dans-certains-territoires-avec-laval-du-gouvernement

[14] Afp, L. F. A. (2025, September 13). Déserts médicaux : Sébastien Lecornu veut un réseau « France Santé » avec une offre soins à moins de 30 minutes. *Le Figaro*. https://www.lefigaro.fr/conjoncture/deserts-medicaux-sebastien-lecornu-veut-un-reseau-france-sante-avec-une-offre-soins-a-moins-de-30-minutes-20250913

II. SOLUTIONS TO ADDRESS MEDICAL DESERTS

A. POLICIES REGULATING PRACTICE LOCATION

One possible measure to mitigate medical desertification is to regulate where doctors can establish their private practice. In France, for certain healthcare professions (midwives and dentists), measures of this kind already exist under the '*conventionnement sélectif*' system (a form of selective contracting with the health authorities). For these professions, the authorisation granted by the Regional Health Agency (Agence Régionale de Santé, ARS) takes regional needs into account and can make contracting conditional on establishing a practice in an underserved area. These professionals can only be contracted if another professional in the same specialty leaves a well-served area. This is also the rationale behind *Loi Garot*, whose selective contracting mechanism aims to mandate practice set-up in underserved areas[15]. There are also '*contrats d'engagement de service public*' (public service commitment contracts) that enable medical students to work in underserved areas in exchange for a grant. Existing measures therefore already support a more regulated approach to practice location for doctors, an idea that has broad political support, as the cross-party nature of *Loi Garot* demonstrates. The main argument in favour of this approach is reducing geographical inequalities in access to healthcare.

Regulating where doctors can establish their practice has long been debated in France, but this approach is heavily criticised as it challenges the principle of doctors' freedom to choose their location. Moreover, measures requiring doctors to establish their practice in certain geographical areas could be challenged before the Conseil Constitutionnel on the grounds of economic freedom. This freedom is recognised as a constitutional principle under the French Constitution[16]. In addition, a doctor who is compelled to practise in a given location may be less motivated, which could affect both the quantity and quality of healthcare provision. The bar graph below illustrates the main motivations behind doctors' decisions on where to establish their practice. The two least cited criteria are logistical and financial support and setting up in an area with a shortage of general practitioners. In contrast, proximity and family fulfilment are considered highly important.

[15] Trabi, S. (2025, June 28). *Déserts médicaux : que peut vraiment la loi Garot ?* La Fabrique des Soignants. https://lafabriquedessoignants.org/article/deserts-medicaux-que-peut-vraiment-la-loi-garot/

[16] Vie publique. (2023). Qu'est-ce que la liberté d'entreprendre ?. https://www.vie-publique.fr/fiches/291563-quest-ce-que-la-liberte-dentreprendre

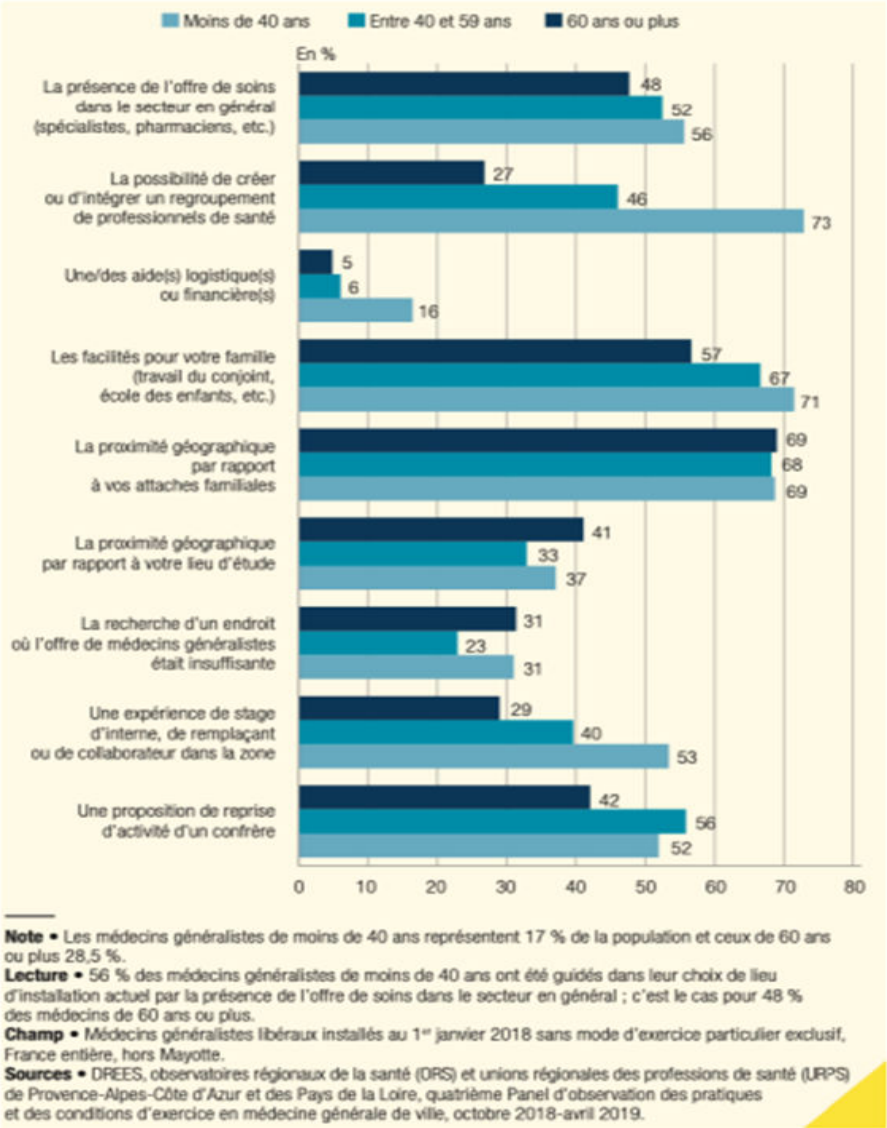

Figure 2. Motivations for choosing current practice location, by age of doctor. [17]

B. INCENTIVE-BASED VOLUNTARY POLICIES

Regulating where doctors can establish their practice is not the only solution to tackling medical desertification; incentive mechanisms offer another avenue. This type of policy aims to attract doctors to medically underserved areas by offering them financial, professional or personal benefits. The strength of this approach lies in preserving doctors' freedom of choice (voluntary policy).

There are two types of incentives: financial and non-financial (professional and personal benefits). Financial incentives take the form of direct support, such as practice set-up grants or enhanced remuneration. They can also take the form of tax or social security exemptions, housing assistance or student loan repayments. Non-financial incentives include improved working conditions (opportunity to practise in multiprofessional

[17] Dress (2021). Remédier aux pénuries de médecins dans certaines zones géographiques - Les leçons de la littérature internationale. https://drees.solidarites-sante.gouv.fr/sites/default/files/2021-12/DD89.pdf

health centres, access to cutting-edge equipment), support for continuing education, reduced administrative workload (secretarial support), access to telehealth services, and family support measures (access to schools, cultural and sports activities).

The main weakness of incentive-based policies lies in the core of the concept: their voluntary nature. This type of policy assumes that doctors' choices are highly influenced by incentives and not by other mechanisms, such as a preference for conformity to professional norms. Scientific studies (mainly from the US) measuring the effectiveness of incentive-based policies indicate that the latter are relatively ineffective. In France, a recent article by Lambotte and Montmartin[18] analyses the voluntary adoption of a new fee structure ('*contrat d'accès aux soins*' or contract for access to care) designed to freeze extra billing in exchange for financial incentives. The authors show that the decision as to whether or not to adopt the new contract is driven primarily by conformity to local norms and only very marginally by a response to the economic incentives on offer. In other words, a doctor's decision to adopt the new fee structure depends more on whether their peers in the *département* have opted into the contract than on the financial incentives offered. Thus, even though many doctors would have benefited economically from adopting the new fee structure, they did not do so because the local norm was not to opt in to the contract.

When it comes to medical deserts, the strong adherence of private practice doctors to the social norms of their profession makes a significant response to incentives to practise in underserved areas unlikely. New doctors setting up in well-served areas tend to match their sector 2 fees to local rates, which are often high, allowing them to secure comfortable incomes even with a reduced workload. However, the local low-income population does not benefit from this increased supply of care, because they are unable to pay the high out-of-pocket costs. This, in turn, increases pressure on hospital services. In fact, the worsening of medical desertification in recent years has occurred alongside a proliferation of incentive-based measures to encourage doctors to set up practice in underserved areas. This suggests that the effectiveness of these mechanisms is limited. By contrast, the regulatory measures imposed on certain healthcare professions, such as midwives and dentists (the 'selective contracting' measure discussed earlier), appear to have been far more effective.

C. A NEED FOR TARGETED PUBLIC POLICIES

As discussed, mandatory and incentive-based approaches each have their advantages and drawbacks. A pragmatic strategy would be to use each of these policy types depending on the situation and objectives. In the short term, regulatory policies seem to be more effective at addressing targeted shortages. Conversely, the effectiveness of voluntary policies depends on the types of incentives offered and how doctors respond to them. Regulatory measures are often found to be less acceptable, because they infringe on doctors' freedom to choose their practice location. Incentive-based policies, on the other hand, are more widely accepted, as they do not restrict this freedom. It is worth noting that mandatory policies carry higher administrative costs than incentive-based ones. In the long term, incentive-based policies may prove more effective, as the decision of doctors to practise in underserved areas would be entirely voluntary, thus reducing the risk of subsequent moves to already well-served areas. Conversely, mandatory policies based on a minimum mandatory period of practice in underserved areas may prove less effective over time: a

[18] Lambotte M. & Montmartin B. (2025). "Competition, Conformism and the Voluntary Adoption of Policies Designed to Freeze Prices". GREDEG WP No. 2025-17.

doctor dissatisfied with their assigned location could simply choose to return to a better-served area at the end of the mandatory period. The burden placed on doctors and its impact on their motivation remains a central issue. A frequently cited risk by doctors' unions is that practitioners forced to work in these areas may reduce their activity or opt out of the public insurance scheme. If a significant wave of doctors were to opt out of the public insurance scheme following the introduction of practice location regulations, the consequences could be severe. Out-of-pocket costs for patients would rise significantly, undermining efforts to reduce inequalities in access to care nationwide, as part of the population would be unable to afford healthcare. The scale of the risk of doctors opting out of the public insurance scheme is difficult to quantify, as these professionals are well aware that such a move would significantly reduce their patient base.

At present, policymakers appear to be leaning more towards regulatory measures to curb medical deserts. On 27 June 2025, then Prime Minister François Bayrou presented a map of 151 'red zones' as part of the '*mission de solidarité obligatoire*' (mandatory solidarity mission) for doctors. From September 2025, general practitioners will be required to spend up to two days per month supporting their colleagues working in medical deserts[19]. UFC - Que Choisir proposes going further with complementary measures aimed at improving coordination between hospital and ambulatory care and targeting training priorities to address specialities and medically underserved regions[20]. Other proposals call for the introduction of territorial contracting for doctors, which would prevent them from setting up practice in over-served areas unless they are sector 1 practitioners replacing a retiring doctor or responding to an urgent need. In addition, closing access to sector 2 would limit balance billing, as new doctors would be required to practise in sector 1. However, these measures do not enjoy unanimous political support and are provoking strong resistance among private practice doctors.

The positive and negative effects of the solutions under consideration in France prompt us to examine how healthcare systems function in other countries: do they face the same challenge of medical desertification? If so, how are they seeking to address it?

[19] Stromboni, C. (2025, June 27). Déserts médicaux : le gouvernement définit 151 zones rouges pour la « mission de solidarité obligatoire » des médecins. *Le Monde.fr*. https://www.lemonde.fr/societe/article/2025/06/27/deserts-medicaux-le-gouvernement-definit-151-zones-rouges-pour-la-mission-de-solidarite-obligatoire-des-medecins_6616081_3224.html

[20] Accès aux soins - La médecine hospitalière et de ville en état d'urgence vitale - Action UFC - Que Choisir. (2023, April 3). *UFC-Que Choisir*. https://www.quechoisir.org/action-ufc-que-choisir-acces-aux-soins-la-medecine-hospitaliere-et-de-ville-en-etat-d-urgence-vitale-n106898/

III. FOREIGN MODELS: A SOURCE OF INSPIRATION?

A. IN EUROPE

Although international comparisons must be approached with caution, it is nonetheless useful to examine how healthcare systems in other countries are organised and to understand their approaches to addressing medical deserts.

In Germany, private medical practice is organised on the basis of regional planning through the '*Kassenärztliche Vereinigungen (KV)*', literally 'associations of contracted doctors'. These associations play a key role in planning healthcare provision and determining where practices can be established. To this end, they make use of a range of financial measures, including practice set-up grants of up to €60,000–70,000, rent subsidies, and income guarantees during the first years of practice. They also use non-financial measures, such as encouraging the establishment of health centres to reduce the isolation and workload of private practitioners.

In the United Kingdom, private practice is structured around primary care networks (PCNs), which encourage doctors to work collaboratively in order to share resources and staff more effectively, and to make rural practice more attractive. In addition to funding, the British authorities have introduced specific training programmes for doctors working in rural primary care networks.

In Sweden, the authorities have opted to organise medical provision primarily on the basis of salaried employment. A large proportion of general practitioners work as salaried employees in public health centres, a status that offers job security, regular working hours, and a lighter administrative burden, thereby making rural posts more attractive. Like Germany and the United Kingdom, Sweden also offers higher salaries for positions in rural and underserved areas[21].

B. OUTSIDE EUROPE

In Canada and Australia, financial incentives play a major role in combating medical deserts. For example, medical student loan repayment schemes in exchange for years of service in rural areas are widespread. Special scholarships are also awarded to students who commit to practising in rural areas. Some institutions require medical students to complete compulsory internships in rural areas during their training, for exposure to this working environment. In addition, the health authorities offer relocation and employment support for spouses, to encourage doctors to practice in underserved areas. According to a report by the DREES (French Directorate for Research, Studies, Evaluation and Statistics) on international approaches to overcoming doctor shortages in specific geographical areas, Australia, Canada and Japan have adopted strategies to select some medical students from the outset based on their likelihood of practising in medical deserts once

[21] Ström, M. (2020, September 4).“*På landsbygden arbetar man på ett mer idealiskt sätt i primärvården”*. Läkartidningen. https://lakartidningen.se/aktuellt/nyheter/2020/08/pa-landsbygden-arbetar-man-pa-ett-mer-idealiskt-satt-i-primarvarden/

qualified[22]. The report shows that doctors from rural backgrounds are more likely to practise in such areas. Australia has gone further by creating rural universities such as James Cook University in 1999[23].

Unlike France, which provides universal public health coverage, the United States relies primarily on private insurance. The US healthcare system operates on a mixed model dominated by private coverage, typically financed by employers or purchased individually, and supplemented by public programmes such as Medicare (for seniors) and Medicaid (for low-income populations), funded by the federal and state governments. It is a market-oriented system in which patients purchase healthcare services from providers regulated at the state or federal level[24]. France and the United States have implemented markedly different systems for organising private medical practice. In the United States, private medical practice is largely structured into integrated networks of physicians forming oligopolistic groups[25]. In other words, physicians join organisations such as Health Maintenance Organizations (HMOs), Accountable Care Organizations (ACOs) or Kaiser Permanente, to optimise costs and coordinate care. The advantage of this model lies in its strong sense of professional solidarity, which enables a more integrated and coordinated approach to healthcare delivery. In contrast, private medical practice in France is largely organised around solo practices, making information sharing and collaboration more difficult[26]. In the United States, doctors are theoretically free to set up wherever they choose, but each state requires its own licence to practise. In reality, both their location and the way they practise are largely determined by economic and organisational factors: the presence of large healthcare networks (HMOs, ACOs) or integrated systems (Kaiser Permanente) strongly influences where doctors work, and many are employed by or partnered with these organisations. Because decisions on where to practise are strongly shaped by economic factors such as hospital opportunities, local healthcare demand, and patient insurance coverage, underprivileged areas are less attractive.

The United States is also confronted with the issue of medical deserts. In 2021, it was estimated that '80% of counties across the U.S. lack proper access to the services needed to maintain health'[27]. A variety of measures have been implemented to address these medical deserts. One is the introduction of subsidies and targeted financial assistance. For example, between 2012 and 2014, the US Department of Health and Human Services and the US Department of Agriculture allocated approximately one billion dollars to support rural healthcare in thirteen of the country's states[28]. Another approach tested is training doctors from rural backgrounds. In 2024, the Health Resources and Services Administration, an agency of the US Department of Health and Human Services, allocated 11 million dollars to rural residency programmes designed to train doctors locally

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(for example, in family medicine or rural obstetrics and gynaecology)[29]. Another example is the Physician Shortage Area Program (PSAP) in Pennsylvania, which recruits and trains doctors to work in rural areas of the United States[30]. In an effort to address medical deserts, the US has also introduced loan repayment programmes for doctors who commit to practising in medically underserved areas for a minimum of two years[31]. Finally, a more short-term measure has been to expand access to telehealth[32].

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RECOMMENDATIONS

1. PRIORITISE REGULATION OF DOCTORS' PRACTICE LOCATIONS

Extend the practice of 'selective contracting' to private medical practice. A doctor would only be authorised to contract if another doctor in the same specialty leaves or retires. This is in line with *Loi Garot,* whose selective contracting mechanism aims to mandate practice set-up in underserved areas.

Increase the number of public service commitment contracts enabling medical students to practise in underserved areas in exchange for a grant.

These regulatory measures could then be reinforced by:

2. INCENTIVE-BASED VOLUNTARY POLICIES

Attract doctors to medically underserved areas by offering them financial benefits. This solution preserves doctors' freedom to choose where they practise (voluntary policy), while encouraging them to establish their practice in an area with low medical density. Incentives include direct financial assistance in the form of grants or subsidies to cover the doctor's set-up costs, enhanced remuneration through higher consultation fees, and additional payments for services provided in underserved areas. Tax exemptions, relief on social security contributions, housing assistance and student loan repayments are other financial incentives designed to attract doctors to these underserved areas.

Attract doctors to medically underserved areas by offering them professional or personal benefits. These non-financial incentives include improved working conditions (opportunity to practise in multiprofessional health centres, access to cutting-edge equipment), support for continuing education, reduced administrative workload (secretarial support), access to telehealth services, and family support measures (access to schools, cultural and sports activities).

Encourage the establishment of health centres to reduce the isolation and workload of private practitioners.

3. REORGANISE MEDICAL TRAINING

Develop targeted training programmes and recruit medical students from areas with low medical density who wish to work in rural settings.

Strengthen multidisciplinary approaches during training and create **an 'advanced rural practice' pathway** enabling paramedical professionals to help ease the pressure on doctors in underserved areas. This could include immersive internships in rural areas.

CONCLUSION

Comparing international policies on private practice locations reveals a clear preference for incentive-based voluntary approaches. While regulating practice locations may seem an effective and rapid solution to the problem of medical deserts, this approach faces major obstacles, as the freedom to choose where to practise is a founding principle of the French system. Measures requiring doctors to set up practice in specific geographical areas could be challenged on the grounds of economic freedom. Imposed regulation could also result in disengagement or even doctors opting out of the public insurance scheme. Taking an authorisation-based regulatory approach could help to overcome this obstacle. Similar regulatory measures imposed on other healthcare professions, such as midwives and dentists, appear to work.

Healthcare professionals generally respond better to incentive-based policies, whether financial (grants, enhanced remuneration, loan repayment programmes) or non-financial (improved working conditions, reduced administrative workload, access to training, family support measures). Unlike regulatory measures, the aim is to create an attractive environment that encourages doctors to establish their practice voluntarily in underserved areas. However, in France in particular, the incentive measures introduced in recent years have struggled to show real effectiveness, as medical desertification continues to spread.

The specific French context, characterised by a heterogeneous contracting system, the significant influence of doctors' unions in negotiations with Assurance Maladie, and demand largely funded by the state, creates conditions that foster strong local behavioural norms which limit the impact of financial and non-financial incentives on decision-making.

We conclude that there is no single, definitive solution to the problem of medical deserts, and that public authorities must first take into account the specific features of the French context in order to use the most appropriate tools. While incentive measures may be effective elsewhere, they have proved less so in the French context. At the very least, past experience does not rule out the possibility that regulatory measures for private practice doctors could help to tackle medical deserts more effectively.

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Benjamin Montmartin, Professor of Econometrics and Data Science at SKEMA Business School and Director of the Chair for Prevention and Access to Healthcare (SKEMA – Université Côte d'Azur). His research focuses primarily on the economic behaviour of self-employed healthcare professionals (fee setting and location) and on evaluating the effectiveness of public health policies. He has conducted numerous studies on access to healthcare and medical desertification for UFC Que-Choisir. He is also behind the creation of a unique health data platform and, in 2026, will launch the first Observatory on Access to Healthcare in France. This initiative will enable all stakeholders (patients, healthcare professionals, local authorities, businesses and the government) to monitor trends in medical desertification at sub-municipal level.

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Publication date: November 2025

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