

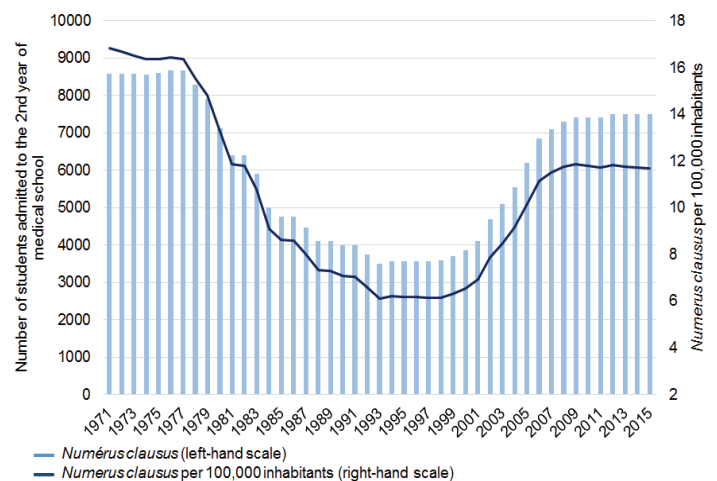
# Trésor-economics

No. 247 • October 2019

## Combating France's medical deserts

- Since the 2000s, certain under-served regions of France known as "medical deserts" have had varying degrees of difficulty (depending on the medical specialty) in maintaining a sufficient supply of physicians. This situation persists despite the rollout of incentives – the effectiveness of which has yet to be assessed – for physicians to set up practice in under-served areas.
- The "My Health 2022" plan includes long-term measures to address the shortage of physicians, which were enshrined in the Healthcare System Organisation and Transformation Act. These included eliminating the *numerus clausus* policy, which restricted the number of physicians at the end of the first year of medical school, and increasing the number of consultations per physician by creating the profession of medical assistant. However, supplementary solutions to regional imbalances could well prove useful, since an increase in the number of doctors may not itself improve the match between supply and demand for the benefit of under-served areas.
- Without questioning the principle of freedom of establishment, a temporary, short-term adaptation of the principle could be considered in certain particularly over-served areas. This would help prevent a glut of supply where it is already quite high and improve matching between medical density and physicians' initial practice settlement. This could only be implemented gradually and in close consultation with physicians, to prevent a negative impact on the appeal of private practice
- In addition, some measures could be taken during medical school:
  - Directing medical residency positions towards setting up practices in these areas or making additional positions available for the first students redirected during the first cycle, provided they settle in an under-served area.
  - Reallocating medical residency in attractive medical specialties to regions that have difficulty attracting new medical residents.
  - Raising awareness amongst medical students about general practice in under-served areas.

**The *numerus clausus* since 1971**



Source: DG Trésor based on data from INSEE and DREES (1971-2009) and the following Orders (2010-2015): Order of 21 January 2010, Order of 5 November 2010, Order of 9 March 2012, Order of 21 December 2012, Order of 31 December 2013, Order of 29 December 2014.

# 1. An unequal distribution of medical services within France

## 1.1 The elusive definition of medical deserts

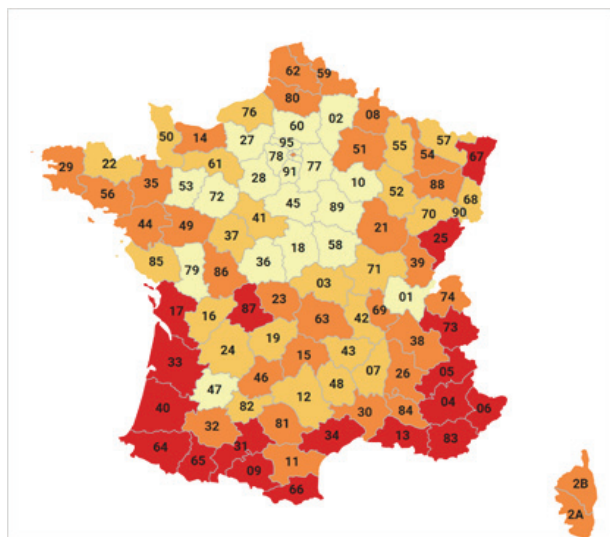
Some parts of France have difficulties in maintaining a sufficient medical supply in each specialty, a phenomenon often described as "medical deserts", although it is perhaps more accurate to speak of regions that are "under-served" in

terms of physicians, or medically vulnerable.<sup>1</sup> Two methods can be used to characterise these areas:

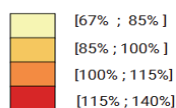
- Comparing the local medical density with the national medical density average: at the catchment area level,<sup>2</sup> these are generally areas in which the medical density was more than 30% less than the national average.

**Chart 1 : Medical density of France's départements in comparison with the national average,2016**

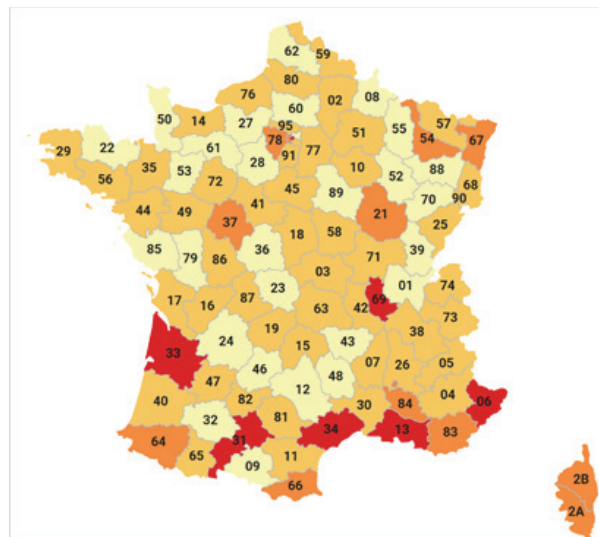
**General practitioners**



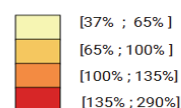
Physician density per 100,000 inhabitants compared with the national average



**Medical specialists**



Physician density per 100,000 inhabitants compared with the national average



Note: The density categories on the graph are delimited by the standard deviation between the various départements compared with the national average. Thus, the distribution of GPs is more uniform than that of medical specialists: the standard deviation of medical density per capita is twice as high amongst specialists (35% of the national average in 2016) as amongst general practitioners (17% of the national average in 2016).

Source: CNAM 2016 database, calculations and map by DG Trésor (Khartis).

- The degree of imbalance between healthcare supply and demand: in France, priority intervention areas and complementary action areas (in which practitioners who set up are eligible for specific financial incentives – see below) are based on this method. The localised potential accessibility indicator<sup>3</sup> measures the spatial match between supply and demand for primary care. It is expressed in terms of number of accessible consultations per year per standardised inhabitant, and factors in physicians' activity level and age<sup>4</sup> (supply), the consumption of care per age group (demand), as well as

the waiting time for consultations. If the indicator for general practitioners under 65 years of age is below a certain threshold (two thirds of the national average, or 2.5 consultations per year per inhabitant), then the area is automatically considered a priority. Between this threshold and the national average plus 5% (i.e. 4 consultations per year and per inhabitant), the Regional Healthcare Agency (ARS) decides whether or not to define the area's medical supply as insufficient, based on other indicators (percentage of the population in long-term care, proportion of Sector 1 doctors (those that

(1) Using the term "desert" can lead to confusion, because some areas that have a low density of physicians are sometimes very populated, but they do not have enough doctors to meet their needs.  
 (2) According to INSEE, a catchment area is the smallest area in which residents have access to the most basic facilities and services.  
 (3) The localised potential accessibility indicator was developed by the French Directorate of Research, Studies, Assessment and Statistics (DREES) and the French Institute for Research and Information in Health Economics (IRDES).  
 (4) Taking a forward-looking viewpoint in order to factor in retirements, for example.

charge the fixed rates set by the French social security system, avoidable hospitalisation rates, etc.).<sup>5</sup>

## 1.2 Medical demographics: balancing physician oversupply and shortage

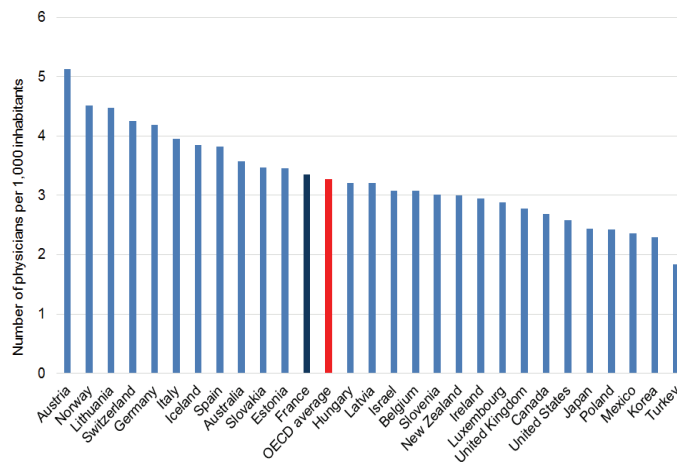
France has never had as many physicians as it does today (226,000 active as of January 1<sup>st</sup>, 2018)<sup>6</sup> and is in the middle ranks of OECD countries in terms of physicians per capita (see Chart 2). Amongst those in regular practice in January, 2017, 11.8% graduated outside France (almost half of whom were EU graduates), an increase of 7.8 points over 2007.<sup>7</sup> However, the lion's share of these (62%) have chosen to practice as salaried employees. Consequently, this pool, which constitutes an important resource for hospitals, only slightly offsets the effects of the *numerus clausus* on the number of doctors in private practice. More generally, based on the number of physicians trained each year, the number of hospital physicians is currently on the rise, to the detriment of the number of those with private practices. In addition, there is a twofold negative ageing effect: ageing physicians who announce their retirement, and an ageing population in general, which increases the demand for healthcare.

As a reminder, the situation in terms of the number of physicians reflects differentiated recruitment policies. The *numerus clausus* policy, which was introduced by the French government in 1971, determined the number of students admitted to medical studies beyond the first year, which is known as PACES. Initially, the goal was to regulate the number of positions to bring them into line with the capacity of the university hospitals that provided training. However, the *numerus clausus* was lowered during the 1970s, motivated by the fear of induced demand that would be associated with a large number of private practices. Between 1977 and 1993, it was lowered from 8,671 to 3,500, while the French population expanded by about 8%, i.e. a decrease in the *numerus clausus* from 16.3 to 6.1 physicians per 100,000 inhabitants. From 1994 onwards, the *numerus clausus* was gradually increased.

France is therefore facing a decline in the number of physicians in private practice, compounded by the problem of their unequal geographical distribution. For medical specialists, while at the end of the national ranking

examinations (ECN, which determines a doctor's specialty) the most popular specialties are attractive throughout the country, some less attractive ones – including occupational medicine, medical biology and public health – struggle to attract students even to such appealing cities as Lyon, Montpellier and Nantes.<sup>8</sup>

**Chart 2: Number of physicians per 1,000 inhabitants in OECD countries in 2016**



Source: OECD.

With the reforms underway, such as the elimination of the *numerus clausus*, the number of students admitted to the second cycle of medical studies (4th year) will be decided jointly by each medical university and the Regional Healthcare Agency with jurisdiction over the area.

## 1.3 Growing regional disparities

Disparities between regions have increased in recent years. In 2016, there were an average of 284 doctors in regular practice per 100,000 inhabitants in mainland France. In the *département* of Eure the average was 167, compared with 678 in Paris.<sup>9</sup> These disparities widened between 2007 and 2015, with a fall-off in the number of physicians in *départements* that were already relatively less well served (Nièvre, Creuse, Cher) and an increase in others where the medical density already exceeded the national average (Haute-Garonne, Hérault, Pyrénées-Atlantiques). Inter-*département* disparities continue to increase: the standard deviation of the density of general practitioners between *départements* recently rose as well (from 15.4% in 2013 to 16.6% in 2016). Waiting times vary according to the supply

(5) Order of 13 November 2017 relating to the methodology applicable to the profession of physician for determining the zones provided for in Article L.1434-4(1) of France's Public Health Code.

(6) DREES (2018), "10 000 médecins de plus depuis 2012", *Études & Résultats* no. 1061.

(7) CNOM (2017), "Études longitudinales (2007-2011) des médecins nés hors de France et des médecins diplômés hors de France".

(8) See Caby D., C. Deffin and J.D. Zafar (2017), "Comment se déterminent les choix de spécialité et de région de formation des étudiants en médecine", *DG Trésor Working Document* no. 2018/05.

(9) CNOM (2016), "Atlas de la démographie médicale en France – Situation au 1<sup>er</sup> janvier 2016". The physicians studied are in "regular practice", as specified above, a category that does not include physicians working in retirement and replacements.

of available physicians in the area. The median waiting time for an appointment with an ophthalmologist is 52 days, but this rises to 79 days for requests from a quarter of patients residing in municipalities where accessibility, measured by the localised potential accessibility indicator, is the lowest, while it is half that time (40 days) in municipalities where accessibility is the highest.<sup>10</sup>

Between 2011 and 2015, the number of registered general practitioners in regular practice<sup>11</sup> fell by 3.9%, while the number of specialists rose by 1.9%. Paris has two and a half times more specialists than GPs, and the Greater Paris

region now has the lowest density of GPs per 100,000 inhabitants.

This mismatch in terms of supply and demand is more pronounced for certain specialties than it is for general medicine: one out of two appointments with a general practitioner is obtained in under two days, whereas it takes 52 days for an ophthalmologist, 50 days for a dermatologist, 37 days for a cardiologist, 32 days for a gynaecologist and 31 days for a rheumatologist.<sup>12</sup> These are median waiting times, and we should add that the distribution of general practitioners is more uniform than that for specialists (see Chart 1).

## 2. Recent measures to combat medical deserts

The 2017 "Access to Care" initiative and, above all, the 2018 "My Health 2022" strategy to reform healthcare are recent examples of healthcare system reforms. They offer promising transformations to address the challenges of healthcare access. Prior to these reforms, incentives had mainly been introduced to encourage doctors to settle in vulnerable areas.

### 2.1 Measures prior to 2017 focused on financial incentives

Created in 2009,<sup>13</sup> the public service commitment agreement (*contrat d'engagement de service public* – CESP) is the primary measure aimed at young physicians in training. Under the terms of the agreement, medical students who have received approval to continue their medical studies<sup>14</sup> – either at the end of the PACES or later – are entitled to a monthly allowance of €1,200 until they complete their studies. In return, as soon as their training is over, they undertake to practice medicine in areas lacking healthcare continuity. The duration of the commitment corresponds to the duration of the allowance payment.

At the end of the 2016-2017 academic year, 386 agreements had been signed (248 medical students in the first and second cycles and 109 medical residents), out of a total of 452 agreements proposed (292 for medical students in the first and second cycles and 160 for medical residents).<sup>15</sup> These numbers should be compared with the

number of medical residents' positions available in 2017 (approximately 8,300). Although the number of agreements rose by 94% between 2011 and 2017,<sup>16</sup> given the time lag between when a student signs the agreement and his effective settlement, the system's effectiveness can only begin to be measured once enough information is available about the first physicians settled. Although the CESP is financially attractive in theory, its success has been modest. It may be that the constraints relating to the specialties accessible under the agreement may curtail interest (see page 11 below).

The primary goal of the Local Healthcare Pact (*Pacte territoire santé*), which has been in force since December 2012, is to make it easier for young physicians to set up in under-served areas so that healthcare professionals can adapt to regional needs. It contains measures that allow doctors to contractualise their presence in these areas in exchange for better social protection and additional compensation. Moreover, the 2016 negotiations between national health insurance funds and physicians (*convention médicale*) introduced four new types of agreements. These are detailed in Box 1.

There are, in addition, tax breaks that supplement these schemes: physicians working in rural regeneration zones are totally exempt from income tax for five years. The exemption is then gradually lowered over the subsequent

(10) DREES (2018), "La moitié des rendez-vous sont obtenus en 2 jours chez le généraliste, en 52 jours chez l'ophtalmologiste", *Études et Résultats* no. 1085.

(11) CNOM (2011), "Atlas de la démographie médicale en France – Situation au 1<sup>er</sup> janvier 2011" and CNOM (2015), "Atlas de la démographie médicale en France – Situation au 1<sup>er</sup> janvier 2015".

(12) DREES (2018), *op. cit.*

(13) Article 46 of Act 2009-879 of 21 July 2009 reforming hospitals, and on patients, health and the regions (the "HPST Act").

(14) The number of which is determined each year and allotted amongst universities by Order, with a separate list for medical students and interns.

(15) Centre national de gestion des Praticiens Hospitaliers et des Personnels de Direction de la Fonction Publique Hospitalière (2018), "Données sur les Contrats d'Engagement au Service Public conclus avec les étudiants et internes en médecine et Odontologie".

(16) Centre national de gestion des Praticiens Hospitaliers et des Personnels de Direction de la Fonction Publique Hospitalière (2018), *op. cit.*

three years.<sup>17</sup> There is also a tax exemption for physicians who provide out-of-hours ambulatory care (PDSA)<sup>18</sup> in under-served areas. The tax expenditure for this latter

measure was estimated by the DGFIP to be €19 million in 2015.<sup>19</sup>

### Box 1: Support agreements for physicians practicing in vulnerable areas

Regional Healthcare Agencies (ARS) can bestow the status of "Regional General Practitioner" (PTMG) on young general practitioners who have not yet set up their practice, or have been in practice for less than a year. Regional GPs receive additional compensation from the local National Health Insurance Fund office (CPAM) and additional social protection (sickness, maternity leave). In return, the doctor must provide at least 165 consultations per month and perform at least part of her or his activity in an area where the supply, access to or continuity of healthcare is fragile. Physicians must also charge fees without any extra billing (approved rates for Sector 1 physicians). Between its entry into force in August 2013 and March 2017, 795 PTMG agreements were signed and 389 were active as of March 2017. Subsidies paid as part of the PTMG scheme amounted to €1.8 million in 2016.

Similarly, since 2015, the status of "Regional Ambulatory Care Physician"<sup>a</sup> (PTMA) has been available to any doctor – GP or specialist – whether they charge the fixed rates set by Social Security (Sector 1 doctors) or whether they charge higher (and not fully reimbursable) rates (Sector 2). As of March 2017, only two PTMA agreements were active.

Since 2017, the "Regional Replacement Practitioner"<sup>b</sup> (PTMR) agreement has made it easier for ARSs to replace physicians in under-served areas. The measure is too recent to be properly assessed.

These schemes came in addition to earlier agreements put in place by the National Health Insurance Fund (CNAM), the cost of which amounted to €32.5 million in 2016 (this figure remained unchanged between 2013 and 2016, probably because of the constant number of members). In 2016, these schemes were recast as four incentive agreements:

- A standard agreement for helping physicians establish a practice (CAIM) offers a flat-rate amount (up to €50,000) on condition that the doctor settles in an under-served area. For five years, she or he must work in a group practice and help provide out-of-hours service.
- A practitioner stabilisation and coordination agreement (COSCOM) applies to all practitioners working in medical deserts, provided they work in a group practice. They receive €5,000 per year for a three- to six-year period, as well as €360 per month if the practice hosts an intern.
- A practitioner transitional agreement (COTRAM) is intended for practitioners over 60 who are considering retirement. For a three- to six-year period, they can receive up to €20,000 per year to supervise a colleague under 50 years of age who works in the practice in a vulnerable area (and who may also benefit from a COSCOM).
- A regional practitioner solidarity agreement (CSTM), the goal of which is to encourage physicians working in areas where there are sufficient numbers of practitioners to offer consultations in under-served areas. They receive a subsidy corresponding to 10% of the fees they receive in the under-served areas (up to a maximum of €20,000 per year).

The annual cost to France's health insurance fund for these four agreements came to €10 million in 2017.<sup>c</sup>

- The PTMA is for a period of 3 years and renewable only once. In exchange for enhanced social protection, the practitioner undertakes to practice medicine in a vulnerable area and to respect the applicable fees (Sector 1) or to adhere to the contract of access to care (Sector 2).
- The PTMR, which lasts from one to six years, makes it possible to guarantee a minimum compensation for a locum to cover periods of interruption between replacements. The doctor must be able to provide a minimum volume of consultations in under-served areas and can rely administratively on the ARSs to manage her or his replacements.
- French Senate (2017), "Rapport d'information sur les mesures incitatives au développement de l'offre de soins primaires dans les zones sous-dotées".

The effectiveness of these incentives is the subject of debate. Despite the earlier incentive schemes from 2013 (older agreements, and the PTMG in particular), recent statistics concerning physicians setting up practices in vulnerable areas do not show a significant increase. Installations rose by only 0.5 percentage points over the period: new practices in fragile areas stood at 246 in 2010

(or 9.6% of total practices), and reached 425 in 2016 (or 10.1% of total practices). These figures are not necessarily a sign of aid inefficiency: the proportion of new practices in vulnerable areas could well have decreased without them, and it will be important to assess whether the situation has changed with the recent overhaul of the incentive schemes. In any case, more structural reforms seem necessary to

(17) These areas, established on the basis of economic fragility, differ from medically under-served areas and the two only partially overlap.

(18) Out-of-office ambulatory care is a system for general practitioners to handle unscheduled requests for care during hours when private practices are closed (evenings, nights, weekends and public holidays).

(19) French Senate (2017), *op. cit.*

significantly boost the number of practices in under-served areas.

According to the French Senate,<sup>20</sup> a doctor who settles in an under-served area will benefit from a workload that will be higher than that of a colleague in an over-served area. An additional financial incentive would therefore only be justified to facilitate the installation of certain young doctors. However, the Government Audit Office<sup>21</sup> has stated that, overall, these measures are "ineffective or have excessive windfall effects in view of the very limited volume of new practices they have generated or supported".

More recently, a survey<sup>22</sup> of associations of young physicians, medical residents and medical students confirms the mixed effectiveness of these incentives. Financial assistance is not a decisive factor, since it is primarily issues of lifestyle, proximity to family, practice conditions and coordinated practice that determine a

physician's choice of location. However, the survey also suggests that – as a means for promoting medical practice in under-served areas – subsidies for replacements could be a more effective means than those that help physicians to set up shop, provided that this phenomenon does not reflect a windfall effect (see Box 1), since most respondents were locums before establishing practices (in 81% of cases, including 41% in the region where they settled). Anticipating the behaviour of future physicians requires identifying what determines their choice of specialty and region of studies for medical residency.

In this regard, Caby, Deffin and Zafar have modelled student choices at the time of the national ranking examinations (ECN) and tend to show large disparities in the choice of specialties, which appear to be predominant relative to that of the training location (see Box 2).<sup>23</sup>

## Box 2: How are medical students' choices determined?

### a) Modeling medical students' choices at the time of the national ranking examinations (ECNs)

The appeal of a specialty or a training location is measured by analysing students' choices. When positions in a specialty are quickly filled (i.e., it is chosen by the top-ranked students), it is considered appealing. As such, the French Directorate of Research, Studies, Assessment and Statistics (DREES)<sup>a</sup> has developed an appeal indicator based on the student ranking in the ECNs. To further examine determinants for students' choices, another indicator was defined by the Directorate General of the Treasury (DGT), which models the degree to which each student abandons other specialties or regions when choosing his or her position at the ECNs. The goal is to identify the elements that encourage students to make their choice, such as characteristics related to the chosen specialty or region.

The model, which was developed and estimated at individual level, allows us to identify the influence of factual, specific elements of each specialty and training location, as well as to compare the choices of different categories of students, for example by gender or age. However, it cannot be used to test the influence of other personal factors (family, marital status, internships during studies, etc.).

### b) Determinants of a specialty's appeal

For each specialty, it is possible to isolate characteristics that have a significant impact on student choice. Thus, the variables "average fees received" and "average age of practitioners" should have positive effects on this choice. In other words, the higher the amount of fees per physician in a specialty, the more valuable it will be in the choice of medical students. Similarly, the older the average age of practitioners in this specialty, the more students would like to practice it, probably due to the job opportunities it can offer with retirements or takeovers of practices.

Conversely, when a specialty requires a significant number of shifts to be performed, students tend to choose it less. General medicine does not appear amongst the most appealing specialities. Finally, students seem to favour specialities in which income disparities are limited.

a. DREES (2017), "En 2016, 7 700 étudiants affectés à l'issue des premières épreuves classantes nationales informatisées", *Études et Résultats* no. 1006.

(20) French Senate (2017), *op. cit.*

(21) Government Audit Office (2017), "La médecine libérale de spécialité : contenir la dynamique des dépenses, améliorer l'accès aux soins".

(22) Commission des jeunes médecins du CNOM (2019), "Enquête sur les déterminants de l'installation chez les internes, les remplaçants exclusifs et les installés".

(23) D. Caby, C. Deffin and J.D. Zafar, "Comment se déterminent les choix de spécialité et de région de formation des étudiants en médecine", *DG Trésor Working Document* no. 2018/05.

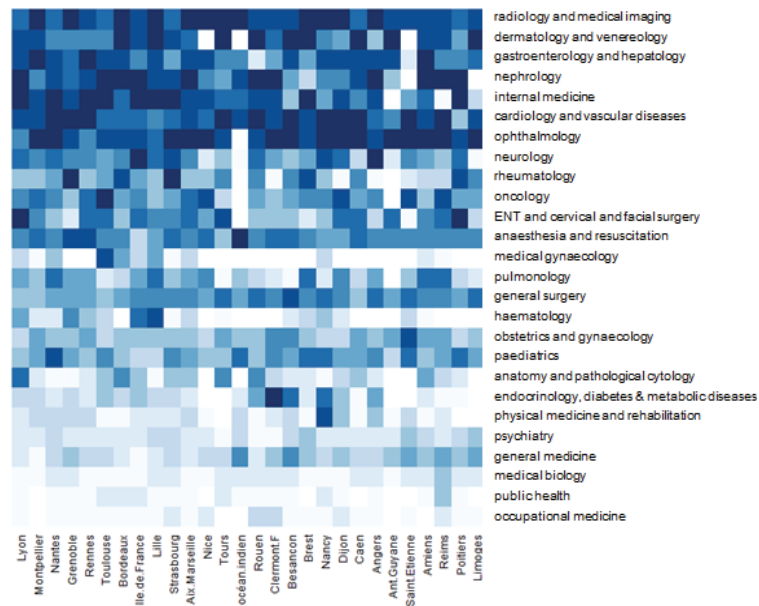
### c) Determinants of a training location's appeal

In the case of training locations, the variables "city size" and "chosen mobility"<sup>b</sup> have positive effects on a region's appeal. Students prefer the most populated regions to do their internships. Training locations that have drawn a large number of candidates in recent years will also be given greater priority in the selection of new interns.

Finally, students seem to take into account the reputation of the various training locations when making their choices. They are more attracted to regions whose hospitals are well-ranked nationally.

### d) Relative importance of the specialty and the training location in students' choices

**Chart 3 : Heat map of the average appeal of each specialty/region pair**



Source: DG Trésor.

Note: Specialties are sorted from top to bottom from the most to the least appealing according to the Specialty Appeal Indicator<sup>c</sup> (SRS) average in the specialty. Training locations are ranked from left to right in decreasing order of appeal according to the Regional Appeal Indicator (SRR).

The global choice (specialty, region) sometimes requires arbitration. For example, if a specialty is no longer available in the desired region, the student may decide to change location for a medical residency position in that specialty, in which case the choice of specialty will be considered predominant. On the other hand, she or he may prefer to stay in the desired location and choose another specialty. The region will then be considered the most influential in terms of choice.

The relative statistical importance of the specialty and region in the choice can be illustrated by a heat map, which combines the intensity of a magnitude with a colour chart on a two-dimensional matrix.

On the graph, each line corresponds to a chosen specialty at the end of the ECNs and each column to a training location. The average appeal of each pair (specialty/region) is calculated from the choices of all students who chose this pair in 2012, 2013 and 2014 to do their medical residency. The darker the colour associated with the pair, the greater the appeal. Lighter shades indicate decreasing appeal.

The predominance of rows over columns in this map indicates that the choice of specialty predominates over that of the region. In other words, the most popular specialties are appealing in every training location.

b. The chosen mobility concerns students who have opted for a specialty in a training location other than their region of origin, whereas they could have chosen the same specialty while remaining where they were.

c. The Specialty Appeal Indicator (and the Regional Appeal Indicator) represent the possibility for a student to choose a specialty (or region) in view of her or his ranking. Therefore, the more the chance to access a specialty (or region) will be reserved for the highest-ranked students, the more appealing it is.

## 2.2 The 2018 "My Health 2022" initiative: a more structural approach to physicians' demographics, productivity and geographic coverage

My Health 2022: a Collective Commitment" is the title of the healthcare transformation strategy that was presented by the French government on 18 September 2018. It is the successor of the 2107 "Improving Access to Healthcare" scheme, which included the rollout of the Health Action by Teams of Self-Employed Health Professionals initiative (*Action de Santé Libérale En Équipe*, or ASALEE), a measure to make it easier for physicians in under-served areas to continue working in retirement, assistance for the development of multi-professional health centres and measures to ensure access to unscheduled care in cities to relieve emergency rooms.

Demographics:

- The transformation of medical studies and the elimination of the *numerus clausus* will lead to more trained physicians. The Minister for Health and Solidarity has announced a 20% increase, which implies that training capacities will also need to be adapted.
- The strategy also calls for sending 400 GPs to medically under-served areas in 2019. These include 200 doctors who will combine hospital duties and private urban practice, and 200 other GPs who will be employed – either by a healthcare establishment or centre or another doctor – in certain zones that are especially poorly-served. The Regional Healthcare Agencies will provide financial support to employers while doctors build up their clientele.

Productivity:

- The new profession of medical assistant will free up time and allow doctors to focus on care-giving. Funding for medical assistants will come from the French health insurance fund<sup>24</sup> provided that the physicians have a group practice, that they practise medicine in a coordinated way or in a local professional healthcare community (CPTS, see below) and agree to provide a measurable benefit for the population in terms of access to healthcare (increase in the number of patients, shortening waiting times for appointments, etc.). The goal is to have 4,000 medical assistants operational by 2022, which will amount to 2,000 full-time equivalents of physicians.<sup>25</sup>

- The deputy physician scheme, whereby medical residents in their final year can assist doctors during seasonal influxes in tourist areas, will be extended to zones where there is a shortage of physicians.

Improved geographic coverage:

- Since coordinating the practice of medicine also improves access to healthcare, 1,000 local professional health communities (CPTS) will be set up to cover the national territory by 2022. A CPTS is an organisation bringing together health professionals in the same region. They include those who provide primary and secondary care (GPs, specialists, nurses, pharmacists, etc.), hospitals and stakeholders in the medico-social and social sectors. A CPTS would offer a local, non-binding agreement in addition to the national agreement. Although not mandatory, this agreement would condition physicians' access to certain parts of their current compensation. If the local incentive agreement is implemented, it could constitute significant leverage in terms of where physicians choose to set up shop, and the group's members could use the agreement to ensure that the medical supply is in line with local needs.
- Since the issue of healthcare access primarily concerns ambulatory care, the combined ambulatory/hospital scheme could also make it possible to bolster the number of doctors in private practice in under-served areas. The relatively dense hospital network could strengthen ambulatory care, the supply of which is more unevenly distributed. A unique status of hospital practitioner will be created, and the associated competition will be eliminated in order to facilitate career startup, diversify career paths and facilitate combined ambulatory/hospital practice. In addition, starting in 2020, the first "Local Hospitals" will be accredited, with the goal of accrediting 500 to 600 establishments. They will perform local hospital tasks connected with daily care (medicine, geriatrics, rehabilitation).
- Under the act, general practice medicine residents and other primary care specialties in the third cycle will complete a minimum six-month internship in ambulatory medicine, with priority given to under-served areas.

Finally, with regard to incentives, the public service commitment agreement (CESP) will be extended to physicians who have graduated in a country outside the European Union, as part of their knowledge consolidation process.

(24) This funding will be at a decreasing rate for the first three years, then sustainable after that (e.g., in under-served areas, €36,000 for the first year, €27,000 for the second and €21,000 thereafter).

(25) Ministry for Solidarity and Health (2018), "*Ma santé 2022 : un engagement collectif*", Press kit.



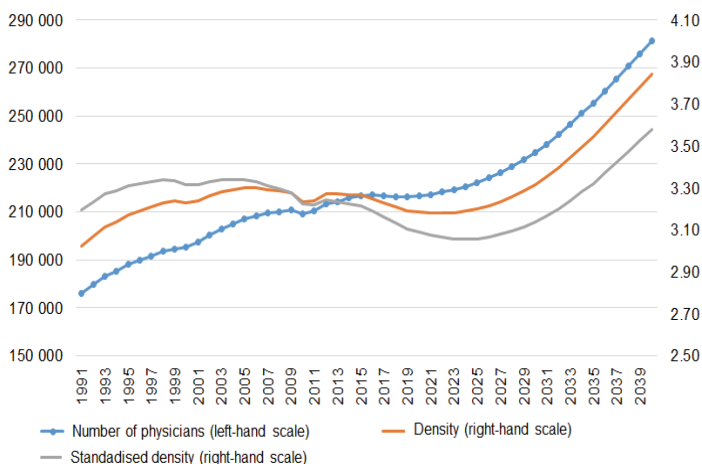
### 3. How can improvements in medical deserts be accelerated?

The policy carried out by the public authorities should eventually increase the number of trained physicians. However, it will have to adequately address an ageing population, which increases demand, the retirement of a large number of physicians and the increasing number of women physicians, both of which affect supply.

Medical demographics, which are regulated from the first year of medical school, are a key challenge. Matching the number of practitioners to local needs means factoring in the number of procedures performed per doctor, which varies depending on how the profession is practiced, but also on certain observable characteristics of students. For example, a decrease in the number of procedures can be expected from the rapid increase in the number of female physicians. Women represented 47% of doctors in 2017 compared to 38% in 2007<sup>26</sup> and are now in the majority among students.<sup>27</sup> However, women perform on average, all specialties taken together, fewer procedures than men (18% fewer, and 23% fewer after correction of structural effects due to the varying proportions of men and women in each specialty).<sup>28</sup>

In addition, the medical supply will have to adapt to the growing needs of the population, which will increase in both size and age. In its projections of the number of doctors in 2040,<sup>29</sup> DREES thus uses medical density and standardised medical density (i.e. in relation to the demand for care). These projections show that, despite the increase in the *numerus clausus* starting in the 1990s, the levels of standardised density in the early 2000s will not be achieved again until 2035 (grey curve, Chart 3).

**Chart 4: Projections of the number of doctors, their density and standardised density (taking into account the demand for care) by 2040**



Source: DREES (2017).

How to read this chart: Density corresponds to the number of doctors per 1,000 inhabitants. For standardised density, the calculation is as follows: the number of professionals is compared to a population in which each age group is weighted by its share of spending on ambulatory care physicians. When calculated in this way, standardised density makes it possible to measure, for each date, the match between the number of physicians and the healthcare needs of the population, based on the assumption that the latter are essentially related to the age of individuals and that healthcare needs by age group will remain the same proportionally from one group to another. The projections were made before it was decided to increase the number of trained physicians by 20%, which will improve the situation described here from the 2030s onwards.

In addition to the sheer number of physicians, two problems must also be addressed in terms of maintaining supply in areas where access to healthcare is too low.

- On one hand, the effects of the recent increase in the number of trained doctors will only become apparent after some ten years, and will therefore not make it possible to immediately address current regional imbalances.
- On the other, the long-term increase in the number of trained doctors will not necessarily guarantee new practices in under-served areas, as evidenced by the current over-served areas. In 2016, for each département in mainland France to have a GP density equal to 85%<sup>30</sup> of the national average, there was a shortfall of 1,213 GPs (or 2.4% of the number of GPs in France in 2016) compared with 933 in 2013.<sup>31</sup>

(26) CNOM (2017), "Atlas de la démographie médicale en France – Situation au 1<sup>er</sup> janvier 2017".

(27) Ministry for Higher Education, Research and Innovation (2019) "Vers l'égalité femmes-hommes ? Chiffres clés".

(28) Source: SNIIR-AM (AMOS database) for 2014.

(29) DREES (2017), "Les médecins d'ici à 2040 : une population plus jeune, plus féminisée et plus souvent salariée".

(30) 85% corresponds to a mid-range scenario of equalisation of physician distribution, a figure that is also close to the standard deviation of medical density between the various départements.

(31) Calculations by DG Trésor using CNAM databases.

### 3.1 Encouraging newly-minted physicians to set up in under-served areas

In order for the initial private practice settlement of upcoming generations of doctors to take greater account of the imbalance between supply and demand (which ending the *numerus clausus* will not solve in the short term), and to avoid an accumulation of supply where it is already quite high, a temporary, targeted adaptation of the principle of freedom of establishment could be imagined in particularly over-served areas. For example, access to certain geographic areas that are already heavily served by physicians could be made temporarily conditional on a doctor with the same specialty ceasing to practice. The temporary nature of this measure would be linked to the need to get past the period in which the elimination of the *numerus clausus* will not boost supply. This measure could only be implemented gradually and in close consultation with doctors, in order not to risk affecting the appeal of private practice.

In 2012,<sup>32</sup> the National Medical Council (CNOM) considered introducing an exemption to the principle of freedom of establishment, under which it would be compulsory for young doctors to practice for five years in their training location. More recently, the Government Audit Office<sup>33</sup> proposed setting up "selective convention" in areas with an oversupply of physicians, according to which new arrivals would only be allowed to practice as Sector 1 doctors, with capped fees. A temporary adaptation as discussed above would seem much less restrictive.

Spaces in under-served areas could be offered when students begin their medical residency. Currently, new medical residents choose their training location and specialty from a list based on their ranking. For some places on this list, practice in under-served areas could be added to the choice of specialty.<sup>34</sup> Students choosing these places would settle, once their medical residency is completed, in an area where the continuity of care is threatened within the region where they completed their medical residency. This would make it possible to provide a rapid response to the problems of access to healthcare in the relevant training location.

In another way, a certain portion of the top medical students who had been channelled into other studies during the first cycle – as part of the new selection process that will be proposed during the first years of medical school –

could thus be given a chance to continue their medical training, provided that, at the end of their studies, they commit themselves to practising for a pre-determined period (e.g. 10 years) in an under-served area. These students would select their position from the same list as the other students, but with a constraint as to the choice of training location. This system would be similar to a public service commitment agreement (CESP), but without a financial aspect, and would enable these students to practice medicine. The skills of these students would be ensured by the very tight competition that exists even for these places: in 2018, 60,000 students enrolled in the PACES competed for 13,500 places, including 8,200 in medicine.

### 3.2 Educational content should be adapted to encourage students to take under-served areas more into account

In the short term, supply in under-served areas could be bolstered by increasing the number of medical residency positions places in the most appealing specialties within regions experiencing particular difficulties in attracting medicine residents. Indeed, a majority of doctors trained in a region of mainland France subsequently decide to settle there to practice.

Figures show that students are willing to move to another training location to pursue their chosen specialty: on average, nearly half of them complete medical residency in a location that is not that the same as their medical school (for 60% of them, this was by choice). As some specialties and regions are more attractive than others, and as students generally lend more importance to the choice of specialty than to the region in which they will train, the number of places in the popular specialties could be redistributed to areas that are relatively less appealing. This would allow more students to do their medical residency in these areas so that they can settle there after graduating.

This should be based on the capacity of the training centres and the needs of the population in these territories. This would only work for the most popular specialties (e.g. ophthalmology, which represents both a top choice for students and a strong regional disparity in terms of access). The effect should be quite fast once the measure is implemented, as the students concerned would be at the end of their medical training period.

(32) CNOM (2012), "Accès aux soins : recommandations du Cnom".

(33) Cour des Comptes (2017), "La médecine libérale de spécialité : contenir la dynamique des dépenses, améliorer l'accès aux soins".

(34) These places would thus be chosen within the ranking, exactly like the other places, except that, in addition to those of specialty and training region, they would have an additional characteristic: "practice in an under-served area".

Raising awareness amongst medical students through internships with GPs and in vulnerable areas can foster vocations. Faced with the challenges of medical demographics and changing practices, internship locations must change with the times. Although it is mandatory, not all students complete the general medical internship in the second cycle of medical school (50% for the medical school in Marseille and only 20% for the one in Nice).<sup>35</sup> This is partly due to the difficulty in finding physicians who can accommodate students under proper conditions. However, according to a survey by the French Medical Association (*Ordre des médecins*), this internship encourages the choice of general practice: 68% of second-cycle respondents and 83% of those in the third cycle stated that the general practice internship made them want to become GPs. This internship could be made genuinely mandatory, while giving priority to working in a private practice (or as an ambulatory healthcare employee).

To make them more effective, systems to encourage students to choose an assignment in an under-served area could be made more flexible. Although the CESP scheme has experienced an upsurge since 2010, it will have to be assessed as soon as data on the career paths of those who signed the initial agreements (see above) becomes available. It is possible, however, that the lack of choice in terms of specialties may make the scheme less efficient and fair (so far, 82% of CESP students have chosen positions in general medicine).<sup>36</sup>

Subject to an assessment of the real impact of CESP on medical demographics – in particular ensuring that they do not produce a windfall effect and that the duration of the commitment is sufficient enough to encourage long-term medical practices in under-served areas, it could be proposed:

- To make more CESP available for all medical specialties, particularly the most appealing ones.

- To allow CESP students to choose their assignment from the same list as other students, but with a geographical constraint, and not from a different list.

### 3.3 As it will make demand to be made economically viable, the new "zero out-of-pocket costs" scheme for eyeglasses and dental prostheses will mean that healthcare professionals in these sectors will be increasingly called upon

The introduction of the "100% Health" initiative in 2020 and 2021 will result in zero out-of-pocket costs for eyeglasses and dental prostheses. This will potentially lead to an increase in demand (since people often forego these areas of care for financial reasons). Faced with this increase in demand, and to prevent it leading to longer queues and/or unregulated price increases, it would seem necessary to increase the supply of physicians working in these two healthcare segments fairly quickly.

The reform of the first cycle of medical school would undoubtedly provide an opportunity to eliminate quotas for dental students and thus match supply with demand. The advantage is that there are few risks of induced demand for this profession. Otherwise, this reform could be an opportunity to introduce measures to increase the number of students trained in dentistry.

Similarly, boosting the number of trained ophthalmologists seems necessary (especially as they are already understaffed) to prevent the "100% Health" reform from lengthening already very long waiting times. To rapidly meet patients' needs, an increase in places as from the medical residency positions should be carried out as early as the next intake of new students. This should be accompanied by a greater delegation of their duties. For example, it would be desirable for them to be able to further delegate eye tests without medical complications to related paramedical professions, to free up ophthalmologists' time and further reduce waiting times for appointments.

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\* The authors would like to thank the French Directorate of Research, Studies, Assessment and Statistics (DREES) from the Ministry of Health and Solidarity for their careful and valuable review of this paper.

(35) PACA region's Regional Healthcare Agency (ARS) (2013), "Accès aux soins de proximité : l'agence présente le pacte territoire santé en Paca".

(36) Centre national de gestion des Praticiens Hospitaliers et des Personnels de Direction de la Fonction Publique Hospitalière (2018), *op. cit.*

**Publisher:**

Ministère de l'Économie  
et des Finances  
Direction générale du Trésor  
139, rue de Bercy  
75575 Paris CEDEX 12

**Publication manager:**

Michel Houdebine

**Editor in chief:**

Jean-Luc Schneider  
(01 44 87 18 51)  
tresor-eco@dgtresor.gouv.fr

**English translation:**

Centre de traduction  
des ministères économique  
et financier

**Layout:**

Maryse Dos Santos  
ISSN 1962-400X  
eISSN 2417-9698

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*This study was prepared under the authority of the Directorate General of the Treasury (DG Trésor) and does not necessarily reflect the position of the Ministry of Economy and Finance.*