

IV SECTORS, ENTERPRISES AND ENTREPRENEURSHIP

How do Medical Professionals get Jobs in Algeria? The Professional Integration of General Practitioners, Dentists and Pharmacists in Oran-Algeria

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Introduction

The concept of professional integration (French: *l'intégration professionnelle*) is not often used in anglophone African countries, but it is ubiquitous in francophone countries such as Tunisia and Algeria. This useful concept describes the process by which an individual secures a permanent job after education and becomes socialised within their professional environment. It may be characterised through three themes: stability, the link between education and employment, and the construction of a professional identity (Trottier et al., 1997). Professional integration encompasses several stages, including that of education and training, internships, and trial periods. The transition to obtaining a stable job is linked to an individual's level of qualifications and training (Bidart, 2006).

In Algeria, as in many other countries, the higher education system faces a paradox: despite the substantial expansion of this sector, resulting in a high number of graduates, the country experiences a high unemployment rate among its qualified population. This is in particular the case for young graduates in biomedical sciences. According to data from the Office National des Statistiques, higher education graduates represent 18 percent of the unemployed population in Algeria, with a gender disparity of 23.9 percent unemployment among women and 11 percent among men (ONS, 2019). This has often been interpreted as evidence for a mismatch between university training and the job market (Crozet & Morgand, 2021; Ghaouti, 2016, 2019, 2022; Bouzid, 2009).

Among these graduates, general practitioners, dentists, and pharmacists face persistent difficulties in getting jobs, despite the growing demand for healthcare services. Faced with these challenges, many young graduates in biomedical sciences opt to take the specialisation competition (residency) to enhance their chances of professional integration. However, the oversaturated job market and the lack of attractive public sector positions for young healthcare professionals, often due to precarity and unsatisfactory working conditions, present significant barriers to their professional aspirations.

This chapter reports on a case study conducted in the province of Oran. It presents an analysis of factors influencing the professional integration of general practitioners, dentists and pharmacists, examining the specific obstacles they encounter in their job search.

Medical training in Algeria: modernisation, challenges and paradoxes

Algeria has been experiencing continuous growth in the number of university graduates. By 2024, the total number of students reached 1,554,047, of whom 60.32 percent are female (MESRS, 2024). This growth is driven by various factors, including population growth, increased demand for higher education, the expansion of Algerian universities with new subjects and specialisations, and state policies promoting access to higher education. However, this expansion comes with a paradox: unemployment among graduates. Each year, over 250,000 students graduate in various scientific disciplines (MESRS, 2024). The increase in graduates is accompanied by significant government investment in higher education. The budget allocated to this sector in 2024 was 647 billion dinars, an increase of almost 60 percent compared to 2020 (Ministère des Finances, 2023). Concerns persist about the alignment between educational offerings and labour market needs. The rising number of unemployed graduates raises questions about the effectiveness of reforms and the labour market's capacity to absorb the influx of new graduates (Bouatrous & Boukarb, 2015).

At the start of the 2024 academic year, medical students mobilised to demand improvements in their academic and professional pathways, including diploma authentication and the provision of permanent jobs upon graduation. In the same year, three new medical schools opened, increasing the total number of faculties to fifteen nationwide, resulting in a significant rise in enrolment, with nearly 35,000 new bachelor students having chosen to study medical subjects (Aouadi, 2024). This increase suggests a significant surge in the number of new medical graduates entering the job market in the coming years, potentially leading to an imbalance between the supply and demand for healthcare professionals.

This trend has been observed for several years. Data from the Faculty of Medicine at Oran University 1 Ahmed Ben Bella show the enrolment of medical students and the number of graduates between the academic years 2017-2018 and 2024-2025, as detailed in the tables below.

Table 16.1. *Distribution of students enrolled in biomedical sciences at the faculty of medicine, Oran university 1, for the academic year 2017-2018 and 2024-2025*

Specialism		Academic year 2017-2018		Academic year 2024-2025	
		N	%	N	%
Graduate studies	Medicine	4924	37.9	6951	53.5
	Dentistry	992	7.6	1779	13.7
	Pharmacy	1719	13.2	2149	16.5
Postgraduate studies (Residency) Medicine, dentistry & pharmacy		2034	15.6	2488	19.1
Total		9670	100	13016	100

Source: Statistics department of the faculty of medicine of the university of Oran 1

The data presented in Table 16.1 reveal a significant increase in the number of students enrolled in the Faculty of Biomedical Sciences of Oran, from 9670 students in the 2017-2018 academic year to 13,016 in 2024-2025. While the appeal of medical careers continues to grow, studies by (Hammouda & Medjoub, 2021) highlight the persistence of a high unemployment rate among higher education graduates in Algeria. This situation is corroborated by the (ILO, 2013) which indicates that unemployment among young graduates is a recurring problem in the MENA region.

The profound transformations of the Algerian labour market, described by Musette (2013), partly explain this paradoxical situation. The transition from a planned economy to a market economy has generated imbalances between supply and demand for employment, particularly in the health sector. In addition, many studies have examined the phenomenon of unemployment among physicians in Algeria. Already in the early 1980s, Baszanger analysed the professional socialisation of doctors and the challenges they experienced when they entered the world of work (Baszanger, 1981, 1983). Further research has underlined the difficulties related with access to further training, specialisation, and a stable job. These studies underline the need for a better match between medical training and the needs of the labour market, as well as greater support for young doctors to facilitate their professional integration.

The design of our case study in the province of Oran

Our study is based on interviews conducted between 25 May and 30 August, 2024, with 202 healthcare professionals, of which 160 were in employment at the time of the study, while the remaining 42 were graduates in medicine, dentistry and pharmacy who were looking for a job. The latter had applied to a recruitment process set up by the health department of the province of Oran. The distribution by professional situation is as follows: 105 participants had a fulltime position (60 men, 45 women – 52 percent of the total); 38 participants worked in the private sector (26 men, 12 women – 19 percent of the total); 17 participants (11 men, 6 women – 8.4 percent of the total) had a part-time position; while 42 participants (25 men, 17 women – 20.8 percent of the total) were unemployed and looking for work.

The data collection method consisted of a structured questionnaire composed of closed and open questions, addressing various aspects of professional integration, including: demographic information: age, gender, marital status; academic background: year of obtaining the baccalaureate, specialisation, university; professional experience: year of graduation, specialist training; as well as questions related to the job search: length of search, support systems, and methods used.

Results

The result analysis shows that of the 202 participants, 122 are male (60.4 percent) and 80 are female (39.6 percent). The mean age is 29.94 years with a standard deviation of 4.81 years. The majority of respondents (68.8 percent) are single, consistent with the relatively young mean age of the sample. Nearly a third of the respondents (30.7 percent) are married, showing a certain diversity in the

sample's marital status. Only one respondent (0.5 percent) is divorced, which represents a very small proportion of the sample.

Table 16.2. *Analysis of specialisation choices based on the baccalaureate*

	Experimental sciences		Mathematics		Mathematical Technique		Total	
	N	%	N	%	N	%	N	%
Doctors	124	61.4	13	6.4	8	4.0	145	71.8
Dentists	21	10.4	1	0.5	5	2.5	27	13.4
Pharmacists	20	9.9	3	1.5	7	3.5	30	14.9
Total	165	81.7	17	8.4	20	9.9	202	100.0

The majority of our sample comes from the bachelor's degree specialisations in experimental sciences, representing 81.7 percent of the sample. The specialisations in mathematics and mathematical techniques are less represented, with 8.4 percent and 9.9 percent of participants respectively. This distribution underlines the importance of knowledge in experimental sciences for success in these biomedical fields. Previous studies have also highlighted the close link between the academic profile and career orientation in the health field (Bédard et al., 2012). However, the diversity of career paths, although in the minority, demonstrates the possibility of accessing these training courses through alternative routes, offering an opening to more varied profiles (Gagnon et al., 2005).

Table 16.3. *Duration of job search according to diploma specialisation*

	Doctors		Dentists		Pharmacists		Total	
	N	%	N	%	N	%	N	%
Less than 6 months	95	47.0	10	5.0	21	10.4	126	62.4
Between 6 and 12 months	32	15.8	12	5.9	8	4.0	52	25.7
Between 2 and 3 years	8	4.0	3	1.5	0	0.0	10	5.0
Three years and longer	10	5.0	2	1.0	1	0.5	14	6.9
Total	145	71.8	27	13.4	30	14.9	202	100.0

The majority of respondents (62.4 percent) found a job in less than 6 months, with higher proportions among doctors (47 percent) than among dentists (5 percent) and pharmacists (10.4 percent). About a quarter of respondents (25.7 percent) took a year to find their first job. Significant differences are recorded between doctors (15.8 percent), dentists (5.9 percent) and pharmacists (4 percent). Only 5 percent of respondents took between two and three years to find a job, while 6.9 percent took more than three years.

These results suggest significant differences in the time it takes to find a first job, depending on the diploma specialisation, with faster professional integration for doctors than for dentists and pharmacists. These disparities can be explained by several factors, such as demand on the labour

market, employer preferences, graduates' career choices or even working conditions in different sectors (Feroukhi et al., 2001; Béduwé et al., 2007).

Table 16.4. Duration of job search by gender

	Men		Women		Total	
	N	%	N	%	N	%
Less than 6 months	75	37.1	51	25.2	126	62.4
Between 6 and 12 months	33	16.3	19	9.4	52	25.7
Between 2 and 3 years	9	4.5	2	1.0	11	5.4
Three years and longer	5	2.5	8	4.0	13	6.4
Total	122	60.4	80	39.6	202	100.0

Table 16.4 illustrates the gender differences in the length of time spent searching after for a job completing science studies. It reveals a significant inequality between men and women in terms of professional integration in these fields. Men were integrated more rapidly than women, as 37.1 percent of men found a job in less than 6 months, compared with only 25.2 percent of women. This disparity is significant and suggests an advantage for men in the medical job market. As the duration of the job search increases, so does the gap between men and women, indicating that the difficulties for women increase further with time. Although the studies provided do not deal specifically with unemployment among doctors, dentists and pharmacists, some information allows us to formulate hypotheses on the causes of these disparities in integration. For specialisation and choice of practice, the article by Bloy (2014) points out that many young general practitioners, especially women, are reluctant to set up in private practice, preferring hospital employment or part-time work. It is possible that this tendency is also found among dentists and pharmacists, thus influencing the length of job search.

Gender stereotypes in study choices and career aspirations also impact on inequalities in access to employment in Algeria. Benhabib (2017) found that unemployment among young women was twice as high as that of men. Related to this is the issue of the work-life balance. Women doctors, dentists and pharmacists often face difficulties in reconciling their careers with their family responsibilities. These constraints can influence their career choices, pushing them towards positions offering greater flexibility, which can lengthen their job search. A 2006 CRASC study on women and socio-economic integration confirms these difficulties and points to the lack of public policies supporting early childhood. (Benghabrit-Remaoun, 2006).

Table 16.5. Professional situation according to the diploma specialism

	Doctors		Dentists		Pharmacists		Total	
	N	%	N	%	N	%	N	%
I have a full-time position	90	44.6	6	3.0	9	4.5	105	52.0
I work in the private sector	16	7.9	9	4.5	13	6.4	38	18.8
I have a part-time job	11	5.4	3	1.5	3	1.5	17	8.4
I am unemployed and looking for a job	28	13.9	9	4.5	5	2.5	42	20.8
Total	145	71.8	27	13.4	30	14.9	202	100.0

Data analysis shows significant differences in the professional situation of doctors, dentists and pharmacists in Oran, Algeria ($\chi^2(6) = 30.388$, $p < 0.001$). Nearly half of all respondents (52.0 percent) holds full-time jobs, with a much higher proportion among doctors (44.6 percent) than among dentists (3.0 percent) and pharmacists (4.5 percent). Work in the private sector concerns 18.8 percent of respondents, with a marked difference between doctors (7.9 percent), dentists (4.5 percent) and pharmacists (6.4 percent). The rate of unemployment and job seeking is 20.8 percent overall, but varies significantly by profession: 13.9 percent for doctors, 4.5 percent for dentists and 2.5 percent for pharmacists. Finally, 8.4 percent of respondents have a part-time job, with similar proportions for the three professions.

These results demonstrate a significant disparity in the professional integration of doctors, dentists and pharmacists in Oran. They are consistent with other studies conducted in Algeria, which have also underlined difficulties in accessing employment for certain categories of healthcare professionals, particularly in urban areas (Larib & Boucheriba, 2021). The differences can be explained by factors such as the saturation of certain labour markets, employer preferences, graduates' career choices or working conditions in different sectors.

Finally, these results raise important questions in terms of equity in access to employment and human resources planning in the Algerian healthcare sector, and disparities linked to territorial development and healthcare coverage, particularly for certain medical specialisations. Targeted policies could be envisaged to promote better professional integration of all graduates, whatever their field of specialisation.

Table 16.6. Distribution of orientation choices by scientific sector

	Experimental sciences		Mathematics		Mathematical Technique		Total	
	N	%	N	%	N	%	N	%
Personal choice	122	60.4	16	7.9	17	8.4	155	76.7
Family choice	59	29.2	4	2.0	3	1.5	66	32.7
Influence of circle of friends	34	16.8	3	1.5	6	3.0	43	21.3
Job prospects	47	23.3	2	1.0	7	3.5	56	27.7
Total	165	81.7	17	8.4	20	9.9	202	100.0

Table 16.6 shows the influences on the choice of study courses in experimental sciences, mathematics and mathematical techniques. The main influences are personal choice, family choice, influence of friends and job prospects. The majority of students (76.7 percent) chose their field of study according to their personal preferences. This is consistent with the trends observed in other studies, where personal interest is often the predominant factor in career choice (Kazi & Akhlaq, 2017; Hussain et al., 2024). About 32.7 percent of students were influenced by their family. This influence is also observed in other contexts, particularly in cultures where the family plays a central role in educational decisions (Allehyani, et al., 2022). The influence of friends is less significant (21.3 percent), but it remains a considerable factor. Studies show that peers can have an impact on educational choices, although this impact is often secondary to family and personal influence (Feld & Zölit, 2022). Job prospects influence 27.7 percent of medical science students. This trend is also observed where career opportunities play a vital role in the choice of study paths (Mann-Isah et al., 2019).

In Algeria, educational choices are often influenced by socio-economic and cultural factors. For example, a study by (Noui, 2019) shows that employment prospects and family expectations are determining factors in the choice of courses.

Table 16.7. *Methods of recruiting health professionals*

	Doctors		Dentists		Pharmacists		Total	
	N	%	N	%	N	%	N	%
Online Ads	53	26.2	13	6.4	7	3.5	73	36.1
Professional social networks	49	24.3	9	4.5	11	5.4	69	34.2
Employment agencies	24	11.9	3	1.5	6	3.0	33	16.3
Unsolicited applications	74	36.6	10	5.0	9	4.5	93	46.0
Family network	32	15.8	11	5.4	12	5.9	55	27.2
Total	145	71.8	27	13.4	30	14.9	202	100.0

Table 16.7 illustrates the different recruitment job search methods used for doctors, dentists and pharmacists. It has been shown that online advertisements are used by 26.2 percent of doctors, 6.4 percent of dentists and 3.5 percent of pharmacists, which cumulatively represents 36.1 percent of total recruitments. This method is particularly popular among doctors, which can be explained by the ease of access and wide reach of online platforms such as job boards that simplify the matching of supply and demand as well as their relatively low cost. In addition, Algeria is experiencing growth in the digitalisation and digitisation of its services, including the recruitment field.

Professional social networks have been adopted by 24.3 percent of physicians, 4.5 percent of dentists and 5.4 percent of pharmacists, collectively accounting for 34.2 percent of all recruitments. Although this method is less widely used than online advertising, it is still significant. Sites like LinkedIn and professional groups play a key role in recruitment. For example, a group in Facebook called (Emploi médical DZ, 2025) bring together almost 65,000 members from different medical specialisms. These members share all the advertisements and recruitment results, as well as requests for information about interviews, and advice on writing applications and CVs.

Some job seekers use employment agencies, 16.3 percent of our sample submitted their applications to agencies such as ANEM (the National Employment Agency), DAIP/DAIS (the professional integration and social integration support system), ANSEJ/ANADE (National Agency for Supporting Youth Employment/National Agency for Support and Development of Entrepreneurship), and CNAC (National Unemployment Insurance Fund). Within the framework of executive decree n°=19-336, 600,000 beneficiaries of the two support systems for professional integration and social integration were integrated in 2022 into permanent positions in the public economic sector. According to the Minister of Labour and Social Security the majority of them were university graduates.

Unsolicited applications are the most common method, used by 36.6 percent of doctors, 5.0 percent of dentists and 4.5 percent of pharmacists, representing 46.0 percent of total recruitments. Candidates are able to take initiative and act independently in their job search. Some researchers refer to this as proactive job search, where the candidate seeks information directly from employers, as opposed to reactive job search, which simply responds to advertised vacancies.

Finally, the family network is used at 27.2 percent of the total recruitments. This result corroborates the study (Medjoub & Hammouda, 2018) found that 21.4 percent of job seekers obtained their job through family relations, they explain that the labour market in Algeria is characterised by weak institutional regulation and a predominance of the informal sector.

Recruitment methods vary considerably depending on the specialisations of healthcare professionals. Online advertisements and unsolicited applications are the most common, while professional social networks and employment agencies also play an important role. Family networks remain a significant method, especially for dentists and pharmacists. These trends are consistent with national and international studies, which highlight the growing importance of online platforms and personal networks in the recruitment of healthcare professionals.

From the 202 participants in our sample, 75.2 percent believed that specialising in the medical sciences helps avoid unemployment, while 24.8 percent did not share this opinion. This perception that specialised training is a major asset for finding a job and avoiding unemployment is widely shared in the medical profession.

Professional integration: between difficulties and successes

We asked our respondents to describe their path to employment upon graduation. Many of participants expressed significant difficulties in their career paths. For example, a 27-year-old physician said, “I am unemployed and looking for a job. After completing my studies, I encountered many obstacles in finding a stable position.” This sentiment is shared by many graduates, particularly in the field of dentistry, where competition is particularly high. A 26-year-old dentist noted: “There is a lot of competition for jobs in the dental field. After graduation, many young dentists have difficulty finding stable employment.”

These challenges are not isolated. A study conducted in France shows that higher education graduates often face similar obstacles, particularly due to increased competition and high expectations from employers (Crozet & Morgand, 2021). Moreover, a study on the professional integration of graduates

in sub-Saharan Africa also focuses the challenges related to the transition to the labour market, exacerbated by economic and institutional factors (Amouretti et al., 2012).

Some testimonials feature successful pathways to integration. A 29-year-old doctor shared his positive experience: “I applied for a position as a general practitioner in a public hospital, and after an interview, I was accepted. My path was facilitated by relevant internships during my studies.” Similarly, a 29-year-old pharmacist said: “After graduating, I worked in a community pharmacy for a year, and then I continued my career in the public sector.” These successes are often attributed to practical experiences and good preparation during training. Some researchers point towards the importance of soft skills, such as communication and networking (Hussein, 2024; Chiu et al., 2024). This observation is corroborated by international studies showing that graduates with practical skills and a strong professional network have better chances of successful professional integration (International Labour Organization, 2020).

The testimonies of healthcare professionals demonstrate the contrasting realities of professional integration. While some encounter difficulties, others manage to establish themselves quickly in their field. These experiences highlight the importance of practical training, a solid professional network and non-technical skills to promote integration. It is crucial to adapt training and employment policies to better support young graduates in their career paths.

Conclusion

This study sheds light on the difficulties encountered by young doctors, dentists and pharmacists in finding employment in Oran. The long duration of job searches, the precariousness of the positions offered and the lack of attractiveness of the public sector are major obstacles. These findings underline the need to review public health sector policies. To improve the professional integration of these graduates, it is essential to implement concrete measures: increase salaries, create stable positions, promote continuing training and encourage entrepreneurship. Such an approach would not only optimise the use of acquired skills, but also more equitable access to healthcare for the population.

In sum, to build a more efficient and appealing healthcare system, close collaboration between public authorities, training institutions and healthcare professionals is crucial. The future of healthcare in Algeria depends on the ability to meet these challenges and to enhance the potential of its young graduates.

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