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## Article

# Public health: The voice of professionals

PEDRO L. FERREIRA<sup>1</sup>, and RUI PASSADOURO<sup>2</sup>

<sup>1</sup>Centre for Health Studies and Research of the University of Coimbra (CEISUC) and Faculty of Economics, University of Coimbra, Av Dias da Silva 165, Coimbra 3004-512, Portugal, and <sup>2</sup>Center for Health Studies and Research of the University of Coimbra (CEISUC) and Public Health Unit, ACeS Pinhal Litoral, ARS Center, Av. Dias da Silva 165, Coimbra, 3004-512, Portugal

Address reprint requests to: Pedro L Ferreira. Centre for Health Studies and Research of the University of Coimbra (CEISUC) and Faculty of Economics, University of Coimbra, Av Dias da Silva 165, Coimbra 3004-512, Portugal. E-mail: pedrof@fe.uc.pt

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### Abstract

**Objective:** To monitor, for the first time in Portugal, job satisfaction on public health units (PHUs).

**Design:** Observational, transversal and descriptive/correlational study.

**Setting:** All 55 PHUs of mainland Portugal.

**Participants:** This study targeted all 1196 public health professionals working in PHUs.

**Main outcome measures:** Instrument to Assess Satisfaction of Professionals (IASP), filled online, respecting the ethical considerations and a conceptual measurement model.

**Results:** Data were obtained from 64% of professionals serving in PHUs, 73% of them female. Response rate of the physicians was 59.1%, with 72.3% of environmental health technicians, 62.0% of nurses and 58.3% of technical assistants. The average age was 47.6(±10.4) years, from 22 to 69 years. We found fair/good satisfaction with men, less educated and professionals with coordination functions more satisfied and low-level satisfaction with salary. Sociodemographic and labour characteristics play a relevant role on job satisfaction. Being female, a physician and an environmental health technician or working in a public setting increases the probability of low satisfaction.

**Conclusions:** Public health professionals are satisfied with their job, revealing high pride in their professions and strongly recommending their units to family and friends. Some variables, for example gender, leadership, marital status and education, do influence satisfaction. However, we found dissatisfaction among physicians when practice is compared with what is thought in the internship. It is possible to change the reality in which public health professionals work and to contribute to a reorganization of resources, new internal dynamics and establishment of improvement plans, aimed at a full accomplishment and job satisfaction.

**Key words:** job satisfaction, public health, health policy

### Introduction

Job satisfaction is a complex concept, a state of mind, a feeling or an affective response to work, resulting from the assessment of an individual, based on her/his views about ideal job values [1,2], incorporating preferences, moods and emotions [3]. It can also be considered as an overall attitude towards work and the willingness to act according to information and emotion [3,4]. Usually, it includes two components: a cognitive component or individual's opinions

about work and an affective component or how employee feels towards work [1,4].

An increasing number of studies focus on job satisfaction, due to its decisive effect on workers' behaviour, for example motivation and absenteeism, and consequent impact on efficiency and productivity of organizations [5–9], as well as on quality of care, performance level and treatment compliance [10–12]. The European Commission considers it a quality variable of work [13]. Moreover, low

satisfaction promotes the intention to abandon organizations, aggravating the problem of staff turnover [5,14–16]. It can influence health, by increasing the risk of coronary disease [17] and by compromising mental health and self-esteem, with repercussions on physical health perceptions [14,18–20] and quality of life [21–24].

In Portugal, job satisfaction in health sector was only assessed after 1990 [9,25]. In the same decade, CEISUC developed a job satisfaction assessment tool (Instrument to Assess Satisfaction of Professionals [IASP]) to measure the levels of satisfaction with quality of workplace, quality of care provided, continuous quality improvement and overall satisfaction [26,27]. It has been implemented by the Ministry of Health (MoH) in accreditation assessments of hospitals [28,29]. In primary health care (PHC), satisfaction levels of family health units (FHU) were assessed [30,31], and patient satisfaction index currently belongs to the list of indicators for commissioning between MoH and PHC units [32]. However, in public health units (PHUs), where human capital is critical to promote a new ambition for public health, as stated by the general directorate of health [33], satisfaction monitoring has not been a common practice.

Since 2006, Portugal is experiencing a new PHC reform aimed at obtaining better access, quality and continuity of care, improving patient and professional satisfaction and, ultimately, improving NHS performance, efficiency and health gains to citizens [34].

The traditional health centres have been reorganized in health centre groupings (ACeS), encompassing different functional units, such as the previous health centres, new FHU organized in small teams with a performance-based payment system, PHUs acting as health observatories, community health units especially oriented to the most vulnerable citizens and shared resource units offering psychology, social and health technology care, as well as a unit focusing on supporting management. In particular, PHUs are supposed to develop public health plans and epidemiologic surveillance, manage health promotion intervention programs and be the local health authority. All functional units annually enter in a commissioning process with the MoH aimed at obtaining better outcomes.

This study, with a literature-based conceptual framework, for the first time in our country, aims at assessing job satisfaction in PHU. Complementary research hypotheses raised questions about the sensitivity of job satisfaction by sociodemographic and labour characteristics, as well as how to understand the role of determinants of job satisfaction of this particular working population.

## Methods

### Study design and data collection

This observational, transversal and descriptive/correlational study involved professionals from all 55 PHUs of the mainland Portugal. After a first meeting with the general directorate of health and with the five regional health authorities, we agreed on the active involvement of all PHU coordinators throughout the study.

The questionnaire filled by professionals was made available in the Internet with password access. Sealed envelopes were sent to each coordinator (as many as PHU professionals), with instructions on how to respond to the questionnaire and a unique password. Finally, it was requested that each coordinator distribute these envelopes, at random, to all professionals.

The conceptual model is presented in Figure 1. To measure job satisfaction, we assumed that there are sociodemographic and labour determinants.

Satisfaction was measured through the IASP questionnaire validated for the Portuguese language [26,27]. It measures the dimensions ‘quality of workplace’, ‘quality of care provided’ and ‘continuous quality improvement’. Satisfaction with the workplace broached human resources policy, in particular those developed by the ACeS directive board, morale, state of mind, relationship with the coordinator and technologic and financial resources, including salary, quality of facilities and equipment. Satisfaction with care included staff attention, coordination of care, sensitivity, facilities, information provided and cost to users.

Opinions and attitudes were addressed through perception of received training adequacy to carry out tasks, recommendation of PHU’s services or preference for another unit and, if going back was possible, whether to choose the same PHU to work and the same profession. In addition, we collected an overall assessment of her/his general level of satisfaction.

### Data analysis

After data collection, information was processed, taking into account a value function developed by an expert panel, from a 1 (bad)–5 (excellent) original scale to a 0–100 scale, according to the following criteria: 100 = excellent, 90 = very good, 70 = good, 50 = fair and 0 = bad. The scores of dimensions, sub-dimensions and overall job satisfaction were obtained by averaging the scores of the corresponding items, after applying this value function.

Meanwhile, three main research hypotheses were raised. The first one (H<sub>1</sub>) tested how sensitive are setting, sociodemographic and labour variables, opinions and attitudes, regarding the overall satisfaction of public health professionals. The second one (H<sub>2</sub>) explored how job satisfaction dimensions differ when the four major public health professions are taken into account. At last, H<sub>3</sub> tested how sociodemographic and labour variables explain the overall job satisfaction.

Data were analysed using statistical package SPSS v21. We applied descriptive statistics and measures of central tendency and dispersion. However, before any statistical analysis, we tested whether satisfaction variables were approximately normally distributed. We obtained skewness and kurtosis (both should be between –1.96 and 1.96) and applied the Shapiro–Wilk test (*p*-value should be above 0.05). When non-normality occurred, non-parametric statistics were used (Mann–Whitney U test for differences between two independent samples and Kruskal–Wallis H test for several independent samples) and Tobit regression to address H<sub>3</sub> due to censored characteristics of the dependent variable. For this hypothesis, dummy variables were created based on gender (FEM), marital status (MAR), being public employed (PUB), or professions (PHY, physicians; NUR, nurses; EHT, environmental health technicians).

### Ethical aspects

Professionals participating in this study were informed about its research nature and objectives, methods and how conclusions could be extracted. This information was provided on the first page of the questionnaire, which included a checkbox stating the acceptance of this research and an informed consent [35].

The Ethics Committee of Centre Regional Health Authority approved this project (Process #102), an anonymous questionnaire to be voluntarily filled by professionals.

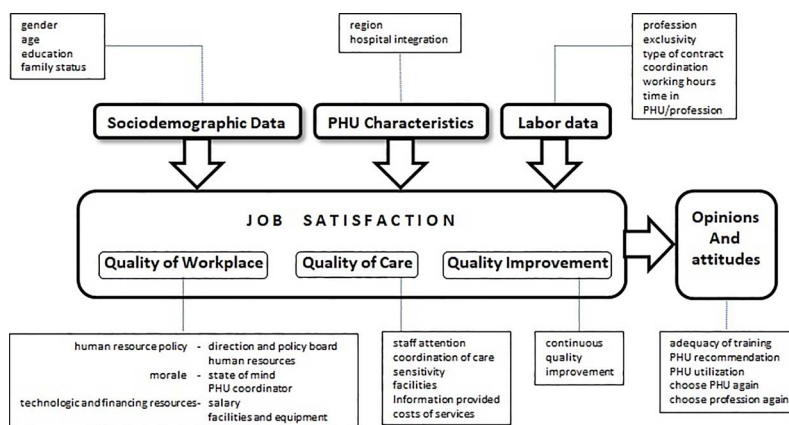


Figure 1 Conceptual model of the study.

## Results

### Response rates

This study targeted all 1196 public health professionals of mainland Portugal working in the PHUs. We obtained an overall response rate of 63.8%. All staff categories provided very high response rates, representative of the whole population ( $\chi^2(9) = 7.85; P = 0.165$ ).

### Normality tests

Looking at the skewness and kurtosis, we rejected the normal distribution of overall satisfaction and its dimensions. Therefore, we decided to use non-parametric statistics.

### Sociodemographic and labour characteristics

Table 1 presents the sociodemographic and labour data of 763 respondents, as well as their overall job satisfaction, opinions and attitudes.

Geographically, our sample replicates the distribution of public health professionals in all health regions, as well as the PHU's hospital integration. About 73% were women, and all the respondents had average age of 47.6 ( $\pm 10.4$ ) years, with a slightly lower prevalence of professionals older than 60 years. The vast majority of respondents were married or living in common law, about 16% had no bachelor degree, and 23.1% had, at least, a MSc.

About 31% were physicians, 16% nurses, 37% EHT and 16% technical/operational assistants. Among the physicians, the majority (76%) worked in exclusivity. About 88% had a contract in public functions, and almost 17% occupied leadership positions. The large majority (71.0%) worked weekly between 36 and 40 hours.

### Opinions and attitudes

It was asked whether professionals felt that their academic and professional training could be considered adequate for their work. The large majority (95%) responded positively, but some physicians referred the lack of specific public health training in medical schools and some discrepancy between what is taught at the internship and what is actually practised.

It was also examined whether they would recommend PHU to family and friends and whether they would themselves use it, if needed. It is very encouraging to evidence the large number of professionals who would recommend their units (93%) or even use them, if needed (93%).

Finally, it was asked whether if they could go back in time or would choose the same PHU to work or even the same profession. About 82% answered positively to the first question. On the other hand, more than a quarter of the respondents (26.5%) probably would not choose the same profession. Physicians argued that public health is now rather mischaracterized, much closer to community health, and that they would probably obtain greater recognition if they change speciality. EHT also complained about the lack of professional, social and economic recognition.

The last two columns of Table 1 represent the distribution of the overall job satisfaction among the different categories of each variable. Answering to H<sub>1</sub>, we did not find any difference in what concerns geographical location, integration in hospital setting, age group, family status, being in exclusivity, being a public servant or weekly working hours that were not determinants for job satisfaction.

On the other hand, male professionals seem to be slightly more satisfied than women and the same with those with coordination functions and those with, at least, a graduation. In general, the technical or operational assistants were the more satisfied and the EHT the least satisfied ones.

At last, having an adequate training and being willing to recommend or to use his/her PHU can be seen as a consequence of a better satisfaction. Similarly, choosing the same PHU or the same profession can also be considered as a satisfaction outcome.

### Job satisfaction

The overall satisfaction found was 63.8, encompassing the quality of workplace (60.3), the quality of care provided (71.4) and the approach followed for continuous quality improvement (70.3). Table 2 presents the scores corresponding to this structure.

Regarding the quality of the workplace, respondents were more satisfied with the morale (71.1) and less satisfied with the technologic and financial resources (45.7), especially with the salary earned (30.9). There is also dissatisfaction *vis-a-vis* ACeS' management bodies (49.8) on how they handle with, appreciate and support professionals.

To address H<sub>2</sub>, we performed Kruskal–Wallis H test and compared the overall job satisfaction and its dimensions among the four main professional groups. The last two columns of Table 2 present the results.

It is evident that public health job satisfaction differed among professions in all dimensions. For almost all subscales and

**Table 1** Distribution of overall job satisfaction per category of sociodemographic and labour variables, opinion and attitudes ( $n = 763$ )

Variable	Values	Freq.	Perc.	M $\pm$ sd	U/H ( $\alpha$ )
Region	North	251	34.1%	64.1 $\pm$ 17.2	H = 4.2 (0.377)
	Centre	171	23.2%	65.4 $\pm$ 15.5	
	Lisbon and Tagus Valley	219	29.8%	62.5 $\pm$ 15.6	
	Alentejo	60	8.2%	63.4 $\pm$ 18.4	
	Algarve	35	4.8%	62.9 $\pm$ 17.3	
Integration in hospital setting	Yes	114	15.5%	61.7 $\pm$ 19.5	U = 33 943.0 (0.469)
	No	622	84.5%	64.2 $\pm$ 15.8	
Gender	Female	459	72.9%	63.5 $\pm$ 15.9	U = 34 148.5 (0.013)
	Male	171	27.1%	66.1 $\pm$ 66.1	
Age	<40 years	160	25.2%	64.8 $\pm$ 17.8	H = 5.9 (0.116)
	40–49 years	183	28.9%	62.3 $\pm$ 16.9	
	50–59 years	189	29.8%	64.4 $\pm$ 14.7	
	60+ years	102	16.1%	67.1 $\pm$ 16.2	
	Min–Max	22–69			
	M $\pm$ sd	47.6 $\pm$ 10.4			
Family status	Married	439	69.2%	64.7 $\pm$ 15.7	U = 41 818.5 (0.644)
	Not married	195	30.8%	64.7 $\pm$ 17.1	
Level of education	Not graduated	108	16.0%	63.3 $\pm$ 16.7	U = 24 793.5 (0.002)
	Graduated or higher	566	84.0%	68.3 $\pm$ 16.2	
Profession	Physicians	217	30.9%	64.3 $\pm$ 16.0	H = 36.7 ( $<$ 0.001)
	Nurses	115	16.4%	66.6 $\pm$ 14.6	
	Environmental health Technicians	261	37.2%	59.4 $\pm$ 17.1	
	Technical/operational assistants	109	15.5%	69.6 $\pm$ 14.7	
Regime	Exclusivity	134	75.7%	62.8 $\pm$ 15.2	U = 2353.0 (0.364)
	No exclusivity	43	24.3%	64.3 $\pm$ 18.3	
Employment relationship	Public servant	669	87.8%	63.6 $\pm$ 15.9	U = 25 963.0 (0.090)
	Non-public servant	93	12.2%	65.6 $\pm$ 19.9	
Coordination Functions	Yes	129	16.9%	68.2 $\pm$ 12.6	U = 31 771.5 (0.002)
	No	633	83.1%	62.9 $\pm$ 17.0	
Weekly working hours work	$\leq$ 35 hours	172	22.5%	63.4 $\pm$ 16.6	H = 0.292 (0.864)
	36–40 hours	542	71.0%	64.0 $\pm$ 16.5	
	$>$ 40 H	49	6.5%	62.9 $\pm$ 15.8	
	Min–Max	5–50			
	M $\pm$ sd	30.0 $\pm$ 6.0			
Adequacy of training	Yes	676	94.9%	64.2 $\pm$ 16.4	U = 9008.5 (0.009)
	No	36	5.1%	57.5 $\pm$ 15.7	
Recommend this PHU	Yes	660	92.7%	65.9 $\pm$ 14.7	U = 3462.5 ( $<$ 0.001)
	No	52	7.3%	37.9 $\pm$ 15.3	
Would use this PHU	Yes	663	93.1%	66.0 $\pm$ 14.6	U = 1626.5 ( $<$ 0.001)
	No	49	6.9%	34.7 $\pm$ 11.5	
Would choose again this PHU	Yes	583	81.9%	67.7 $\pm$ 13.6	U = 12 235.0 ( $<$ 0.001)
	No	129	18.1%	46.5 $\pm$ 16.7	
Would choose the same profession	Yes	523	73.5%	66.2 $\pm$ 15.9	U = 33 849.0 ( $<$ 0.001)
	No	189	26.5%	57.3 $\pm$ 16.1	

Min–Max, minimum–maximum; M  $\pm$  sd, Mean  $\pm$  standard deviation; U ( $\alpha$ ), Mann–Whitney ( $p$ -value); H ( $\alpha$ ), Kruskal–Wallis ( $p$ -value)

items, technical and operational assistants showed the highest satisfaction, and EHT showed the lowest. Exceptions include the technologic and financial resources, where physicians were the most satisfied, and the salary, where nurses are the least satisfied.

In what concerns the quality of care provided, the highest satisfaction lies in staff attention to users, in the sensitivity expressed by them about users' problems and concerns and in the way they do their work. At the other end, professionals are less satisfied with the cleanliness, comfort, lighting and temperature of waiting rooms

and toilets. EHT and physicians are relatively less dissatisfied than technical or operational assistants.

Professionals revealed high pride in their profession. They also felt much more dissatisfied with the trust and affection they have for each other, with the efforts to prevent waste and task repetition and, mainly, with the encouragement and sharing of ideas to improve the service, as well as with the training they received to improve the quality of care. EHT are, once again, the least satisfied professionals, and technical or operational assistants are the most satisfied. Nurses are still more satisfied than physicians.

**Table 2** Job satisfaction scores by profession

Dimension Sub-dimension	Sample	PHY	NUR	EHT	TOA	H	<i>p</i>
<i>-Facet</i>							
Overall job satisfaction	63.8 ± 16.5	64.3 ± 16.0	66.6 ± 14.6	59.4 ± 17.1	69.6 ± 14.7	36.7	<0.001
Quality of workplace	60.3 ± 25.9	62.0 ± 16.9	62.4 ± 15.6	55.5 ± 18.2	65.1 ± 16.2	32.2	<0.001
Human resource policy	56.0 ± 19.6	55.7 ± 19.1	57.8 ± 20.3	52.4 ± 19.8	62.1 ± 18.2	19.5	<0.001
<i>-Direction and policyboard</i>	49.8 ± 17.6	51.1 ± 25.5	49.8 ± 28.5	46.2 ± 25.6	53.6 ± 25.3	9.9	0.019
<i>-Human resources</i>	60.9 ± 19.6	59.3 ± 19.4	64.2 ± 19.0	57.2 ± 19.4	68.9 ± 18.3	31.4	<0.001
Morale	71.1 ± 22.8	71.8 ± 23.1	75.6 ± 18.3	65.7 ± 23.6	77.9 ± 19.5	28.7	<0.001
<i>-State of mind</i>	69.8 ± 20.8	69.1 ± 21.7	73.8 ± 73.8	64.9 ± 20.4	78.6 ± 17.7	42.7	<0.001
<i>-PHU coordinator</i>	71.3 ± 25.3	72.3 ± 24.6	75.9 ± 19.5	65.9 ± 23.4	78.0 ± 21.1	25.4	<0.001
Technologic and financial resources	45.7 ± 19.6	52.0 ± 18.1	44.0 ± 18.5	40.7 ± 19.5	45.1 ± 20.0	41.2	<0.001
<i>-Salary</i>	30.9 ± 29.6	43.6 ± 27.4	22.6 ± 28.8	23.6 ± 26.9	31.8 ± 31.8	65.0	<0.001
<i>-Facilities and equipment</i>	56.7 ± 20.9	58.3 ± 20.3	60.0 ± 20.2	53.6 ± 21.3	54.6 ± 21.9	10.1	0.017
Quality of services provided	71.4 ± 16.0	69.0 ± 15.4	75.0 ± 15.4	68.7 ± 16.5	78.2 ± 14.5	40.2	<0.001
Continuous quality improvement	70.3 ± 19.9	68.8 ± 20.1	75.5 ± 17.1	65.2 ± 20.5	78.8 ± 16.8	43.8	<0.001

H, Kruskal–Wallis test. PHY, physicians; NUR, nurses; EHT, environmental health technicians; TOA, technical or operational assistants.

**Table 3** Determinants of global job satisfaction

Model	$\beta$	Std. error	t	Sig.	95% CI	
constant	0.779	0.042	18.41	0.000	0.696	0.862
FEM	-0.046	0.015	-3.02	0.003	-0.076	-0.016
AGE	-0.000	0.001	-0.12	0.903	-0.001	0.001
MAR	0.013	0.015	0.90	0.368	-0.016	0.042
PUB	-0.050	0.022	-2.24	0.025	-0.094	-0.006
PHY	-0.055	0.021	-2.58	0.010	-0.097	-0.013
NUR	-0.019	0.024	-0.78	0.434	-0.066	0.028
EHT	-0.106	0.021	-4.94	0.000	-0.149	-0.064

FEM, female; MAR, married; PUB, public servant; PHY, physician; NUR, nurse; EHT, environment health technician.

At last, we looked at the main determinants of the overall job satisfaction among the public health professionals (H<sub>3</sub>). Table 3 presents the results of a Tobit regression using sociodemographic and labour variables.

We noticed that age and being married did not have any significant influence on the overall job satisfaction. On the other hand, taking into account the other variables, female tended to be less satisfied with their job as well as not being a public servant, a physician or an EHT. The likelihood ratio chi-square of 44.02 (df = 7) with a *P*-value of <0.001 tells us that our model, as a whole, fits significantly better than an empty model.

## Discussion

The main objective of this study was to monitor the satisfaction of professionals of the PHU of mainland Portugal. 763 out of the eligible 1196 professionals participated in this study, achieving a global participation rate of 63.8, similar to that of other national studies [31,36].

Regarding sociodemographic characteristics, we can note that the majority were women, also as observed in previous studies [30,36]. This suggests, as has been happening in other European countries, the feminisation of the health labour market.

The average age of participants was 47.6 years, with predominance of the age group 50–59, which is higher than in other studies conducted in previous years [29–31,36]. This may be related to

the policy of restricting the admission of new professionals in the public administration and possibly with high percentage (88%) of professionals with a stable contractual relationship who participated in this study.

Job satisfaction level was 63.8, between fair and good, lower than the results found in other studies carried out in primary care [30,31,36]. Using the same methodology, this level of satisfaction is also below the one found in 2014 in the FHU [31]. On the other hand, the economic constraints of the country, with direct impact on health services, might justify a part of the results obtained.

In general, technical assistants are the most satisfied professionals in all dimensions, with the exception of technologic and financial resources. EHT are the least satisfied, in all dimensions, with the exception of salary, where nurses are at the lowest level of satisfaction, also in accordance with other authors [23]. The results regarding EHT may be explained by two distinct situations: (i) although they have top-level training, including university graduation, they receive a remuneration lower than other professionals with the same degree; (ii) on the other hand, their technical autonomy may not be effective in some PHUs, since they hierarchically report to a coordinator. In what regards nurses, this was one of the professional classes, which suffered most with the scarcity of resources related to the previous economic crisis. These professionals perceive that their situation will tend to become worse with the emigration flow of health sector professionals.



Overall, salary was the facet with the lowest level of satisfaction, also found in other studies with the same methodology [30,31]. This result is, in our opinion, a serious issue in terms of job satisfaction, since low salary can increase dissatisfaction [36]. Analysing the satisfaction with salary in the light of the theory that assesses the gap between the remuneration and responsibilities and the experience and performance [36], our research is in line with results of other authors [12], leading us to believe that senior professionals consider that their remuneration is by far lower than they expected to receive.

Job satisfaction of public health professionals was not sensitive to regional variations and to the integration of PHU in a hospital setting. However, the professionals on the PHU integrated in hospital setting are less satisfied with the direction and policy boards, human resource policy and quality of care provided. These capitation-funded settings were created in a joint organization of primary and hospital healthcare, with very different strategies and with persisting deficiencies in the capacity and in the funding of outpatient services, especially the lack of human resources, which may explain these results.

Satisfaction with management, in the present study, occupies a place much lower than the results in another study using the same methodology [30]. At a time when workers feel less recognition by managers and colleagues [36], we can understand that professionals ascribe to the ACeS management an important part of these difficulties. The perception that one is not recognized by management can lead to decreased job satisfaction, and this situation has also been confirmed in other studies [7,25].

On the other hand, it is worthy of concern—although not unprecedented [7]—the fact that a significant percentage of respondents probably would not choose the same profession or choose again her/his PHU. This may relate to dissatisfaction with extrinsic work factors, such as remuneration, working conditions, work organization and relationship with leadership [36].

The challenge we face is to reverse the deterioration trend of job satisfaction perception, investing in communication with professionals and in best working conditions, with remuneration as one of the variables of this deterioration. As happens in FHU, remuneration may be a relevant determinant of performance.

In general, it is essential to promote behaviours and attitudes, which make it possible to increase the value of motivational components and, on the other hand, decrease the time between perception and the exhibition of dissatisfaction behaviours, in order to quickly change the trend towards lower job satisfaction.

## Conclusion

Our representative sample evidenced that public health professionals are satisfied with their job, revealing high pride in their professions and strongly recommending their units to family and friends. We found no differences regarding unit location, age, family status or contract type. Only gender, leadership, marital status and education made the difference in the satisfaction scores.

However, one of the most interesting results from this study is the relative dissatisfaction public health physicians show when their practice is compared with what they were taught in the internship.

Authors consider that professional satisfaction evaluations should be regular, as job satisfaction is a good indicator to monitor health policy decisions. We also suggest that the assessment of job

satisfaction be effectively included in the commissioning goals set by the MoH, as has happened with patient satisfaction.

## Declarations

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## Authors' Contributions

PLF implemented the questionnaire online, and both authors (PLF and RP) decided the methods, analysed and interpreted the results and wrote the final manuscript. Both authors critically revised and approved the final manuscript.

## Expected Contribution

The main objective of this study was to gather, for the first time in Portugal, enough information to monitor the assessment that the professionals of the PHUs make of their workplace and of the services provided there. The authors were very pleased with the way in which the study took place and with the results found. We believe that this should be a study with continuity and very useful to a current reform of public health in Portugal.

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