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# Ethics of Human Resources Management in the Cameroonian Health System, Medical Nomadism and the Ineffectiveness of the Fight against High Blood Pressure

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## Abstract

**Context/objectives:** The fight against Chronic Non-Communicable Diseases (NCDs) is a long-term undertaking, which requires available, motivated and well-managed human resources (HR). The administrative management of skills on both qualitative and quantitative levels is one of the essential functions of a health system. To better implement policies of fight against High Blood Pressure (HBP) and other chronic diseases, it is important to establish strategies to retain health personnel. This loyalty requires favorable working conditions and consideration of the contribution-reward couple. Good working conditions are likely to reduce the phenomenon of medical nomadism; conversely, poor HR management can contribute to their exodus towards exotic "green pastures", thus leading to an additional crisis in the Cameroonian health system. The fight against HBP is a complex, multifaceted and multifactorial reality that requires appropriate management model for all types of resources mainly HR. The main objective of this research is to show the impact of poor management of human resources in Cameroon health system on medical nomadism and the ineffectiveness of the fight against High Blood Pressure. **Method:** A cross-sectional descriptive survey among five hundred (500) health facilities in the center region of Cameroon has been conducted. A stratified probabilistic technique has been used, and the number of health facilities to be surveyed has been determined using the "sample size estimation table" of Depelteau. The physical questionnaires have been printed and

then distributed to data collectors. After data collection, the latter were grouped during processing in Excel sheets. The Chi-square test was used for data with a qualitative value and that of Kolmogorov-Sminorf for data with a quantitative value to assess the normality and reliability of data. The Crochach's Alpha reliability test allowed us to have a summary of the means and variances and then to search for intragroup correlations between variables. Descriptive analysis was possible with the XLSTAT 2016 software. **Results:** 43.60% of Health Facilities (HF) managers were unqualified. 82.20% of HF managers have staff in a situation of professional insecurity. They are mainly contractual (49.00), decision-making agents (24.40%), casual agents (08.80). The proportion of unstable personnel is average of 22.00% and very unstable, 12.00%.

## 1. Context and Objectives

High Blood Pressure (HBP) constitutes a real threat within the Cameroonian population. This chronic pathology represents nowadays a real problem in this country. His prevalence is about 29.7% in cities areas [1], but, in the absence of recent data from national research, the proportion of people directly affected appears greater. The fight against this public health emergency needs a "one health approach" collaborative action [2] which implies motivated and committed human resources involved in a long and difficult battle to bend the epidemic curve of the problem. The phenomenon is spreading with exponential speed in all countries of the world, but with varying intensities given the lifestyle models in force in current societies. This socio-health reality is more and more present in sub-Saharan Africa where 24.90% of individuals are affected by the disease compared to Southeast Asia and Australia (17.10%), South Asia (18.5%), Europe (21.00%), America (13.50%), North Africa and Middle East (15.80%) and global prevalence (16.50%) [3]. At a time when the problem of Cameroon's economic, social and cultural take-off is extremely acute, its health system, considered one of the essential links in achieving this objective, is prey to several crises, including those of medical nomadism, unsatisfactory management of available human resources, and a significant proportion of unqualified personnel who perform acts of sovereignty. However, it is clear that a lack of qualified health personnel represents a major obstacle to the development of health systems in developing countries in general and in low-resource countries in particular [4]. This shortage of qualified personnel coexists with the phenomenon of substantial shortage, the explanations of which lie within migration logic. The observed migratory flow of health personnel towards developed countries not only creates a medical

demographic deficit, but also unfavorable conditions in African health systems. Added to this deficit is the failure of existing loyalty policies. Generally speaking, human resources constitute in the current economic environment of tough competition, the foundation on which several organizations rely in order to build a sustainable competitive advantage [5]. In order to reverse the trend of progression of high blood pressure in Cameroon, retaining human resources mobilized for the cause is one of the challenges. A high motivation gradient, satisfactory working conditions and social justice seem positively correlated with staff involvement in activities to combat hypertension and negatively associated with the intention to abandon their workstation. To do this, we must develop policies aimed at reducing the departure intentions of employees, particularly those with strategic and operational skills in this long-term struggle. Job satisfaction has a negative effect on the intention to leave one's organization in search of better well-being [6]. In Cameroon, a developing country, policies for the prevention of NCDs in general and arterial hypertension in particular do not objectively integrate effective strategies for retaining health personnel. The precariousness of the latter thus increases the probability either of changing professions or of attempting the Western adventure where the salary conditions seem best. Some who are unable to emigrate prefer to offer their services to more than one health facility in order to achieve the minimum subsistence level, but with little involvement in long-term control strategies. It is therefore a staff trapped by living conditions which increase the stress which exposes them themselves to developing this chronic illness while they are supposed to prevent it. Thus, the country's health ecosystem appears incapable of fully playing its part in the fight against this pathology, which requires the commitment of the various stakeholders. Staff retention consists of a series of measures aimed at establishing and maintaining a lasting relationship of trust with them over time and space, by providing them with the essential amenities essential to dissuade them from seeking possible employment alternatives.

## 2. Materials and Methods

### 2.1. Study Design

This study was carried out in the Central Region of Cameroon which has approximately 1626 public and private health facilities spread over thirty-two health districts. This choice is justified by the fact that 1) it is the most populated region of the country. It houses approximately 18.67% of the population; 2) as an administrative center, it experiences significant movements of populations in search of work opportunities; 3) it is the Region with the largest number of health facilities, which constitutes a significant population in our study, *i.e.* approximately 28.8% of the total workforce. To achieve our objective, a cross-sectional descriptive study among five hundred (500) health facilities in the center region of Cameroon has been conducted. The study population consisted of health facilities with legal existence. Regarding the data collection, the period from July to Au-

gust 2023, health facilities chosen randomly and that agreed to participate to the study has been investigated. Conversely, health facilities whose consent was not obtained, which do not belong to the central region, were not integrated. The data was collected using a structured questionnaire addressed to managers of health facilities, with the aim of collecting data relating to the loyalty of health-care personnel, their working conditions, the different profiles who manage these health facilities independently, of the category of the health facility and the professional categories, the location of the health facility, as well as the level of stability of the staff. For bias control, in other to be selected as a data collection agent, the candidate had to have experience of at least two participations in data collection activities in doctoral studies and/or surveys of national and/or regional scope; be a professional in the field of health or statistics with a minimum level of study equivalent to a baccalaureate. The investigators then received a day of training with ourselves and two other public health experts. This training made it possible to review data collection techniques and the conduct of interrogation.

## 2.2. Sampling Technic

In order to guarantee the representativeness of all categories of health facilities in the health pyramid system, a stratified probabilistic technique has been used. The number of health facilities to be surveyed was determined using the "sample size estimation table" of Depelteau [7]. The Central health region has a total of 1626 health facilities (Table 1). Thus, the sample size estimation table of Depelteau (2000) legitimizes the choice of 317 of them as the minimum size. However, we have extended the number up to 500 statistical units. This number therefore constitutes the size retained for this study. Each individual in our population benefited from a 1/N probability of being part of the sample. The sampling rate was regularly defined based on the n/N ratio. In each health district of our study site, we used official, up-to-date and available data on the distribution of health facilities by category. Each individual within a sample was assigned a weight, corresponding to the weighting coefficient (pi = N/n), proportional to their probability of belonging to the sample. The sum of the "pi" is equal to N (total number). A sampling frame (paper or computer list of our statistical units) was created. We then numbered all the HFs in each district from F1 to FN. A number "b" between 1 and r (r = N/n) was chosen and then we interviewed the individuals respectively numbered "b"; "b + r"; " b + 2 * r"; " b + (n − 1) * r".

Final sample (n) = $n_1 + n_2 + n_3 + n_4 + n_5 + n_6$ ($n_1$ corresponds to the number of health facilities in the first category; $n_2$ corresponds to the number of health facilities in the second category; $n_3$ corresponds to the number of health facilities in the third category; $n_4$ corresponds to the number of health facilities in the fourth category; $n_5$ corresponds to the number of health facilities in the fifth category and $n_6$ corresponds to the number of health facilities in the sixth category. The size of the final Sample (n) = $n_1$ = 04; $n_2$ = 02; $n_3$ = 03; $n_4$ = 32; $n_5$ = 106; $n_6$ = 353, n = 500.

**Table 1.** Distribution of health facilities in the Central Region by health district.

| Health District | 1st Cat. (GH) | 2nd Cat. (CH) | 3rd Cat. (RH) | 4th Cat. (DH) | 5th Cat. (CMA) | 6th Cat. (CSI) | Total public | Total public and private |
|---|---|---|---|---|---|---|---|---|
| Akonolinga | 0 | 0 | 0 | 1 | 1 | 22 | 24 | 32 |
| Awae | 0 | 0 | 0 | 1 | 1 | 4 | 6 | 13 |
| Ayos | 0 | 0 | 1 | 0 | 1 | 14 | 16 | 23 |
| Bafia | 0 | 0 | 0 | 1 | 5 | 32 | 38 | 72 |
| Biyem Assi | 1 | 0 | 0 | 1 | 2 | 1 | 5 | 157 |
| Cite Verte | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 61 |
| Djoungolo | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 132 |
| Ébebda | 0 | 0 | 0 | 1 | 0 | 5 | 6 | 8 |
| Éfoulan | 0 | 0 | 0 | 1 | 3 | 2 | 6 | 104 |
| Élig-Mfomo | 0 | 0 | 0 | 1 | 1 | 6 | 8 | 9 |
| Éséka | 0 | 0 | 0 | 1 | 3 | 17 | 21 | 28 |
| Ésse | 0 | 0 | 0 | 1 | 0 | 11 | 12 | 14 |
| Évodoula | 0 | 0 | 0 | 1 | 0 | 5 | 6 | 10 |
| Mbalmayo | 0 | 0 | 0 | 1 | 4 | 24 | 29 | 48 |
| Mbandjock | 0 | 0 | 0 | 1 | 2 | 9 | 12 | 23 |
| Mbankomo | 0 | 0 | 0 | 1 | 1 | 12 | 14 | 32 |
| Mfou | 0 | 0 | 0 | 1 | 1 | 21 | 23 | 111 |
| Monatélé | 0 | 0 | 0 | 1 | 0 | 10 | 11 | 22 |
| Mvog-Ada | 3 | 0 | 0 | 1 | 1 | 2 | 7 | 108 |
| NangaEboko | 0 | 0 | 0 | 1 | 3 | 22 | 26 | 31 |
| Ndikinimeki | 0 | 0 | 0 | 1 | 2 | 7 | 10 | 18 |
| NgogMapubi | 0 | 0 | 0 | 1 | 4 | 13 | 18 | 25 |
| Ngoumou | 0 | 0 | 0 | 1 | 3 | 25 | 29 | 34 |
| Nkolbisson | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 71 |
| Nkolndongo | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 92 |
| Ntui | 0 | 0 | 0 | 1 | 2 | 20 | 23 | 55 |
| Obala | 0 | 0 | 0 | 1 | 1 | 16 | 18 | 33 |
| Odza | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 139 |
| Okola | 0 | 0 | 0 | 1 | 2 | 23 | 26 | 37 |
| Sa'a | 0 | 0 | 0 | 1 | 0 | 20 | 21 | 29 |
| Soa | 0 | 0 | 0 | 1 | 1 | 8 | 9 | 36 |
| Yoko | 0 | 0 | 0 | 1 | 2 | 11 | 14 | 19 |
| Total | 4 | 3 | 1 | 31 | 51 | 369 | 459 | 1626 |

**Source:** Ministry of Public Health (2023)/programmatic health map.

### 2.3. Data Collection Procedure

During the preparatory stage, we recruited and trained fifteen (15) data collection agents on the methods of administering a questionnaire in a "face to face" and telephone call mode. After this training, a selection test was organized, after which five (05) data collection agents have been selected. Before, we previously obtained ethical clearance from the Center's Regional Committee for Ethics in Human Health Research (CRERSH), and administrative authorization for data collection. Once in the field, each interviewer stated their identity, presented the data collection authorizations, the information notices. After obtaining the consent of the respondent, the administration of the questionnaire began immediately in "face to face" mode and lasted approximately 25 to 35 minutes.

### 2.4. Statistical Methods

The physical questionnaires have been printed and then distributed to data collectors. After data collection, the latter were grouped during processing in Excel sheets. Firstly, the results were presented either in the form of graphs and distribution tables of averages, or frequencies or even percentages. These graphs and tables present the categories of variables and the corresponding numerical data, characteristics of their distributions for both quantitative and qualitative data. This was done using the Microsoft Office 2016 EXCEL program.

#### Normality and reliability tests

The Chi-square test was used for data with a qualitative value and that of Kolmogorov-Sminorf for data with a quantitative value. The Crochach's Alpha reliability test allowed us to have a summary of the means and variances and then to search for intragroup correlations between variables.

#### Descriptive analytics

Descriptive analysis made it possible to synthesize and prioritize the data and detect the characteristic parameters of each data variation. It also makes it possible to check whether the variations are due to chance, to the collection tools or whether these variations are significant and to compare the variation and significance thresholds to better assess the results obtained. This analysis was possible thanks to the XLSTAT 2016 software.

## 3. Results

### 3.1. Characteristics of Health Facilities (HF) Interviewed

Our results are based on a purely descriptive analysis of aspects of health facilities (HF) and human resources (HR) related to ethic of human resources management and the fight against HBP. Regarding the characteristics of HF interviewed (Figure 1), it was observed that the 58% with legal status private and 42% public have been investigated either in rural, urban and peri-urban area. It also appears that the public HF belonging to the 6<sup>th</sup> category were most represented with 77.14% (Table 2). HF in this category are the most numerous in the Cameroonian health system specially at the peripherral level. The same observation

was made for private health facilities, where category D health facilities are more numerous with a proportion of 65.86 % (Figure 2). The majority of these HF were located in urban areas (58.00%), rural areas (24.00%) then in peri-urban areas (18.00%) as shown by Figure 3. The majority of HF managers were men (52.00%), with a sex ratio of 1.08 (Figure 4).
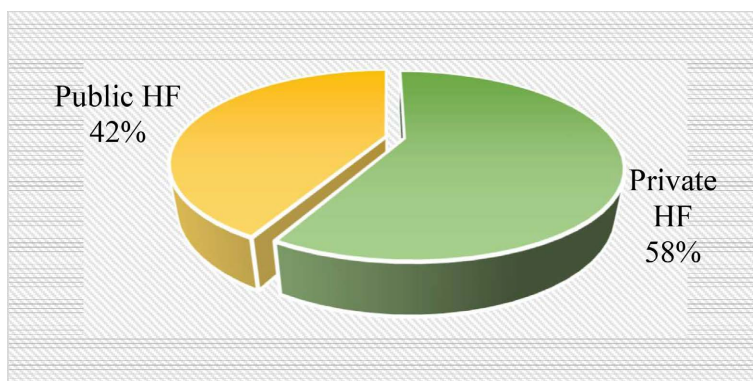


Figure 1. Legal status of the health facility.

Table 2. Proportion of public health facilities by category.

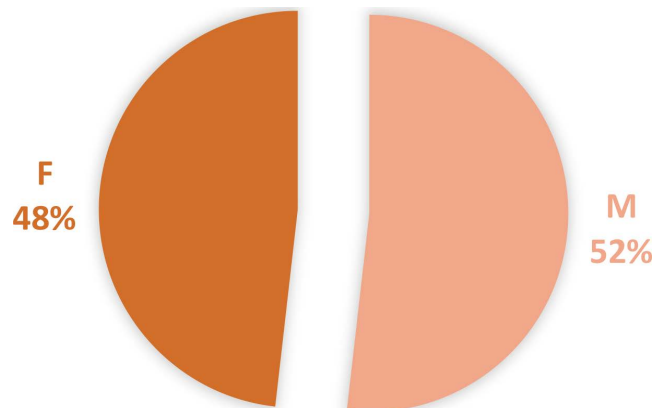| Category public health facilities | Number (N) | Frequency % |
|---|---|---|
| 1st category | 4 | 1.9 |
| 2nd category | 3 | 1.42 |
| 3rd category | 1 | 0.47 |
| 4th category | 10 | 4.76 |
| 5th category | 30 | 14.28 |
| 6th category | 162 | 77.14 |
| Total | 210 | 100.00 |
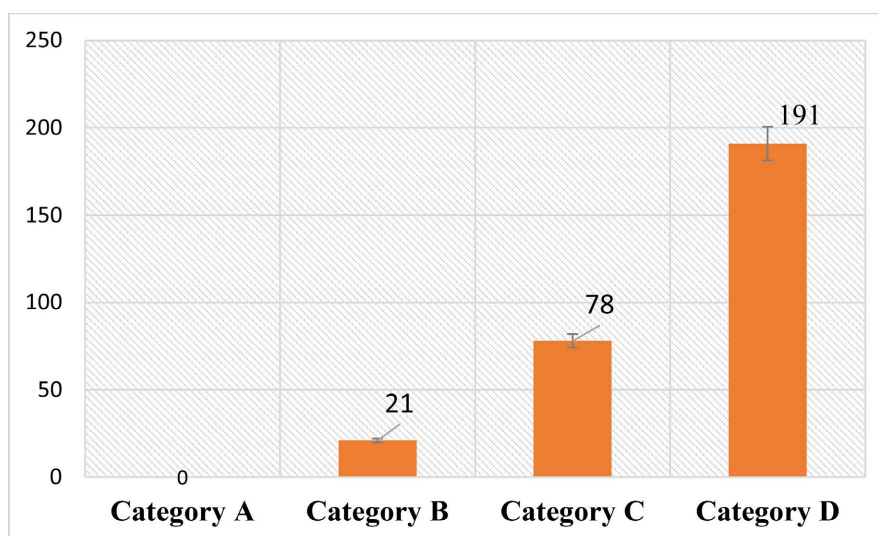


Figure 2. Proportion of private health facilities by category.
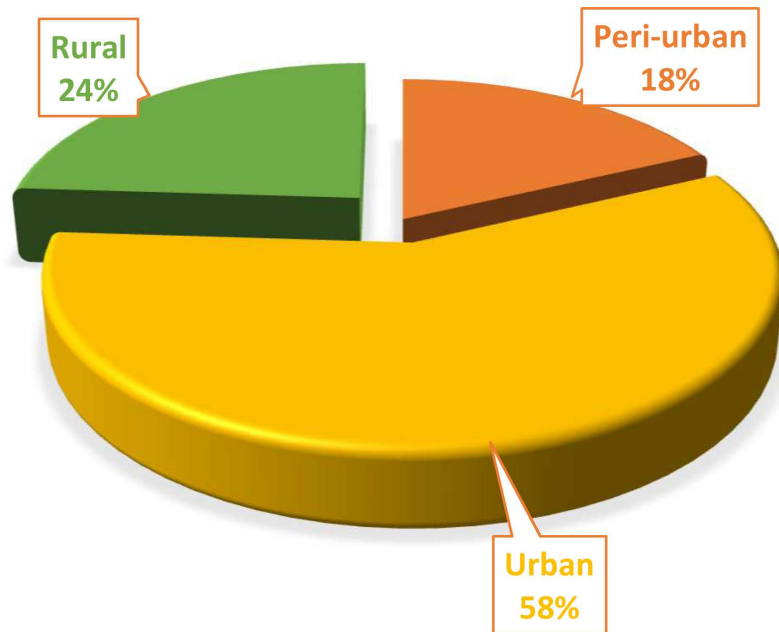
**Figure 3.** Proportion of Health Facilities (HF) by Geographic location.



**Figure 4.** Proportion of HF managers by gender.

## 3.2. Human Resource Management in the Health System

Regarding HF human resources, it appears that the majority of HF responsible was Medical Doctors (29.40%). However, Technical Medical and Sanitary Agents (TMSA)/General Nursing Aids (GNA) (28.00%) State Registered Nurses (SRN)/ Bachelor of Nursing Sciences (BNS)/Midwives (M) (27.00%) were involved (**Figure 5**). Cumulatively, 43.60% of HF managers were unqualified academically, technically and in management of HR. In those HF, 82.20% of HF managers have staff in a situation of professional insecurity (**Figure 6**). They are mainly contractual (49.00), Decision-making agents (24.40%), casual agents (08.80). The staff situation in the HF is declared relatively stable (58.00%) by HF manager, even if a large part is unstable (22.00%) and very unstable (12.00%). Staff with an unstable career are likely to become demotivated and develop harmful automatisms. The most stable status being that of civil servant (**Figure 7**).
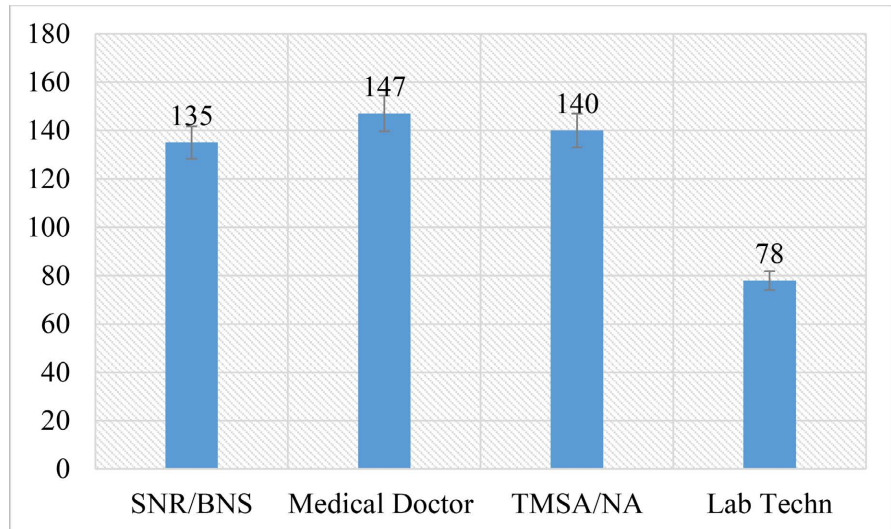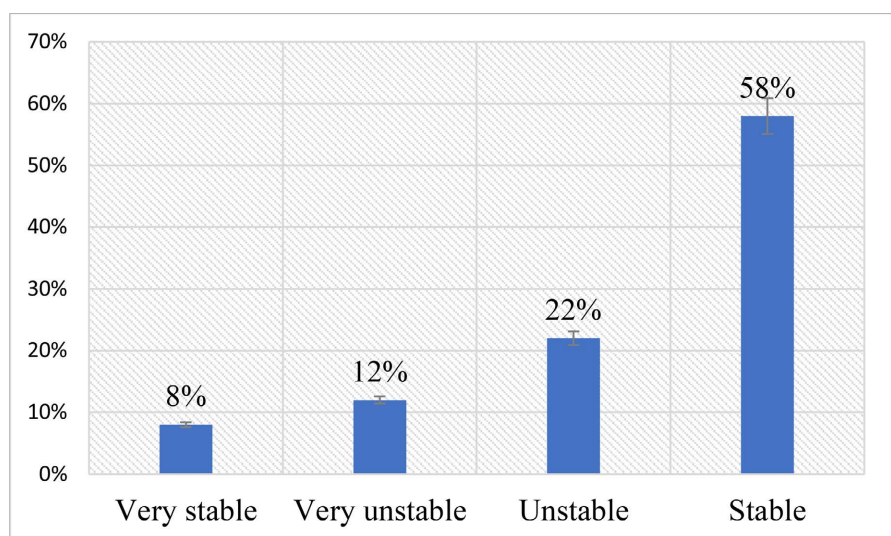
**Figure 5.** Distribution of HF by professional status of the manager.
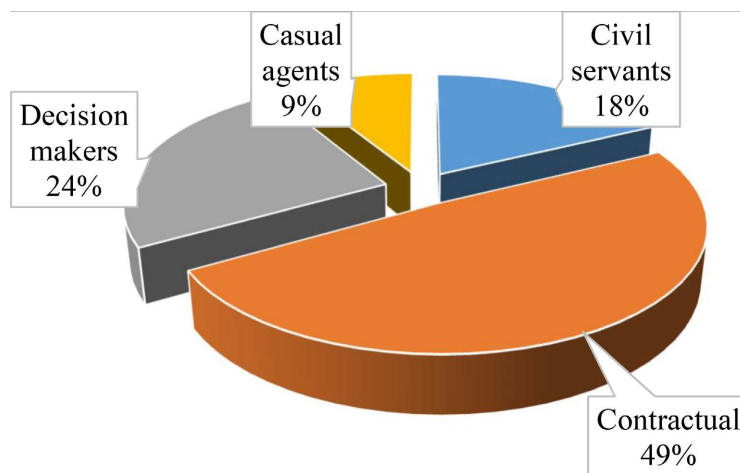


**Figure 6.** Distribution of dominant status of health facilities.



**Figure 7.** Health workforce stability gradient.

## 4. Discussion

A health system represents a set of organizations, institutions, resources, methods and strategies aimed at reversing unfavorable health dynamics into favorable health dynamics within the population. By analyzing the conceptual framework of the performance of a health system, we recognize the existence of four essential functions, each of which has corresponding pillars. Thus, the administrative management function corresponds to aspects related to governance/leadership; the service delivery function is based on the policies of service provision and production of health information; the resource creation function focuses on material and human resources and the financing function seeks financial resources. In a health system, human resources constitute the central pillar which significantly influences the existence of the other pillars of the system. The administrative management of human resources function poses a major ethical problem. Ethical acts are recognizable by the principles of justice, respect for autonomy, non-maleficence and beneficence. If we are interested in justice, Figure 6 illustrates the existence of injustices within the Cameroonian health system. This injustice materializes in a diversity of precarious statuses. Indeed, for people with the same specifications, similar academic and professional courses, we note a diversity of professional statuses with an unequal contribution-remuneration adequacy. This situation contributes to weakening the health systems of the South, to accentuate medical nomadism and the search for "green pastures". For a very long time, doctors from the North would treat populations from the South, whether within the framework of colonial medicine or, more recently, within the framework of non-governmental organizations (NGOs). In recent years, the flow has been reversed and more and more medical personnel from emerging and developing countries are heading to developed countries. This migratory logic is mainly from the countries of the South towards the countries of the North and second [8]. However, to achieve long-term objectives in the fight against chronic non-communicable diseases (NCDs) such as high blood pressure, human resources must be retained through a policy that promotes social justice. As premature deaths from acute illnesses decline, the prevalence of conditions that accumulate over time increases, particularly in a world where greater exposure to unnatural environments increases long-term vulnerability to problems. Health [9] requires better strategies for retaining health personnel by reducing the idea of leaving for other destinations. The results of our study highlighted an instability of health personnel within the Cameroonian health system justified by the status of decision-making and occasional agents. This instability is determined by the precarious living conditions imposed by those responsible for the decision-making chain, the absence of social and organizational justice, and respect for the profile-job fit. In this study, 43.60% of health facility managers were not qualified from an intellectual and technical point of view. To fight against HBP inceasing prevalence, we need a resilient health system. The organization's capacity for resilience is developed through strategically manag-

ing human resources [10], that promote commitment with psychological safety (good conditions), to response to environmental complexities. In our field of study, they were TMSA or NA health managers (28.00%) whose duration of training does not exceed one year with the entry level of the Certificate of First Cycle Studies (CFCS) or equivalent. These personnel were also medical-sanitary technicians (15.6%) with a level of study equivalent to a baccalaureate plus three years but whose training course does not offer management functions for public health problems. The name respect for training-job adequacy is likely to lead to harmful behavior and frustration within the system, and finally demotivation. This state of affairs is likely to affect the critical judgment of staff and poor implementation of policies to combat high blood pressure at the peripheral level of the pyramid. The growing number of persons suffering from major chronic illnesses face many obstacles in coping with their condition, not least of which is medical care that often does not meet their needs for effective clinical management, psychological support, and information [11]. This poor clinical management of chronic disease cases is caused by the failure to respect career profiles when designating those responsible for structures responsible for implementing defined policies. This situation significantly influences the gradient of involvement within the organization. Indeed, several studies have shown that the perception of external employment alternatives has a positive effect on the intention to leave the organization and a negative effect on calculated.

## 5. Conclusion

Retaining human resources is an important issue for any health system that aims to contribute to improving the health status of populations and meet their expectations. The prevention and fight against HBP need motivated, and involved personnel. Better work condition is able to solve this problem, by reducing medical nomadism phenomenon and increasing gradient of engagement and motivation. This research, which focused on the ethics of administrative management of HR in the Cameroonian health system, the phenomenon of medical nomadism and the ineffectiveness of the implementation of the fight against HBP, highlighted a crisis in the use of available skills. It appears obvious that the ethical problem raised by this research is that of social justice. We noted that several health professionals with academic and professional profiles benefit from various salary considerations without truly objective explanations. Likewise, several health facilities are managed by unqualified personnel who are called upon to implement policies to combat HBP at the peripheral level of the health pyramid. These unqualified personnel are sometimes responsible for managing the administrative and professional careers of the qualified personnel under their responsibility. It is therefore a staff which fundamentally operates in economic, professional and administrative precariousness. This situation is justified by the corruption and nepotism which are plaguing the country. These anti-social and counterproductive behaviors are likely to lead to discouragement of the HR in

charge of the fight against hypertension, thus encouraging their exodus towards the search for better living conditions. The health system is experiencing a crisis of stability of health personnel. This crisis influences the functioning of the health system and the achievement of its objectives. The injustices observed in career management increase the risk of abandonment of health organizations, thus leading to a reduction in the medical population in Cameroon and an accentuation of the exodus towards green pastures. Failure to respect the adequacy of job training reinforces this state of affairs, aggravates the resource crisis and can contradict the ambitions of the long-term fight against NCDs of which HBP is the worthy representative. In order to effectively fight against hypertension, and other Chronic Non-Communicable Diseases whose actions extend over time, it appears important to emphasize objective management of skills and careers through respect for couples profile-work station and contribution-retributions. These measures aim to remobilize staff aroundcommon objectives by erasing harmful, counter productive attitudes.

## Acknowledgements

## Compliance with Ethical Standards

We obtained authorization to collect data from the regional delegation of public health of the center, and the ethical clearance from the Regional Committee on Research Ethics for Human Health of the Center.

## Authors' Contributions

Jean NDIBI ABANDA, François Anicet ONANA AKOA, Desire TCHOFFO and Ulrich DAMA, designed the study, while Jean NDIBI ABANDA, Desire TCHOFFO and Pierre Pierre YASSA YONIENE analyzed the data and produced the first draft of the study. All authors extracted the manuscript and approved the final draft.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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