

The Effect of Occupational Health and Safety Measures on Healthcare Providers' Performance in Fako, Cameroon

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Abstract

As healthcare professionals face numerous occupational hazards that affect their physical and mental well-being, effective occupational health and safety protocols are essential for enhancing their performance and ensuring quality patient care. The objective of this study is to examine the effect of occupational health and safety measures on the performance of healthcare providers in the Fako Division of Cameroon. Based on a multiple regression on a sample of sample of 150 healthcare providers working in the Fako Division of Cameroon, it is found that, physical health measures and regulatory compliance have a significant effect on the healthcare providers' performance. This means that, an improvement in occupational health and safety initiatives will significantly improve the level of healthcare providers' performance in hospitals in Fako division. Conversely, the effect of mental health measures is found to insignificantly affect healthcare providers' performance. The study emphasises the importance of integrating an inclusive occupational health and safety protocols within healthcare settings to foster a safe and supportive work environment.

Keywords: occupational health and safety, physical health measures, mental health measures, regulatory compliance, healthcare providers, work environment

1. Introduction

Occupational health and safety measures are critical in ensuring a safe and conducive working environment, particularly in the healthcare sector, where professionals are exposed to various risks. Given the demanding nature of healthcare roles, occupational health and safety protocols play a vital role in protecting the physical and mental well-being of healthcare

providers (Bondebjerg *et al.*, 2023). Healthcare providers face numerous hazards like, exposure to infectious diseases, physical injuries from of patients, and emotional stress from dealing with high-stakes situations. Implementing effective occupational health and safety measures can significantly mitigate these risks, leading to a healthier workforce (Rai *et al.*, 2021; Chou, 2020; Hao, 2021). According to Ahmad, & Osei, (2023)

enhanced safety protocols and health initiatives do not only promote employee well-being but also directly influence the quality of care provided to patients. The effect of occupational health and safety measures on healthcare providers' performance has been the subject of various studies, highlighting the importance of these measures in enhancing both employee well-being and patient healthcare outcomes (Rai *et al.*, 2021; Chou, 2020; Hao, 2021; Ahmad, & Osei, 2023; Bondebjerg *et al.*, 2023). Robust occupational health and safety measures are therefore essential for improving healthcare providers' performance. By fostering a safe and supportive work environment, healthcare organizations can enhance employee well-being and ultimately improve the quality of care delivered to patients (World Health Organization, 2017; Green, 2024).

According to Fekonja (2023), when safety measures are put in place, employees are less likely to experience work-related injuries and illnesses, which directly correlates with improved employees' performance. By minimizing workplace hazards, healthcare organizations can reduce the number of sick days taken by employees, ensuring a more stable workforce (Streit *et al.* 2024). Galanis (2023) also argued that healthcare providers who feel safe and supported in their work environment are more likely to report higher job satisfaction. This training does not only enhance safety, but it also empowers employees, leading to increased confidence and competence in their roles (Sepetis, 2023). Health care providers who engage in continuous training and adhere to evidence-based practices achieve improved clinical outcomes, which directly influences recovery rates and overall patient health (Baker *et al.*, 2018). The quality of interaction between healthcare providers and patients significantly affects how patients perceive their care. Providers who communicate effectively, demonstrate empathy, and engage with patients, foster trust and enhance the overall patient experience, which is vital for building long-term relationships.

In the Fako Division of Cameroon, healthcare providers face numerous occupational hazards that significantly affect their performance and the quality of care they deliver. The region's healthcare system is characterized by a high patient-to-provider ratio and limited resources, which exacerbate the risks associated with

healthcare work. Occupational health and safety measures are essential for mitigating these risks and enhancing the overall performance of healthcare providers. When healthcare providers are equipped with proper training and resources to manage workplace hazards, they are more likely to feel confident and competent in their roles, which directly correlates with better patient outcomes (Lele *et al.*, 2023). For instance, studies indicate that healthcare professionals who adhere to safety protocols and engage in continuous training demonstrate higher levels of performance and lower rates of workplace injuries (Therese, 2020). In an environment where safety is prioritized, workers are less likely to experience work-related injuries and illnesses, leading to a more stable workforce that can provide consistent care (Lele *et al.*, 2023). This stability is particularly important in the Fako Division, where healthcare facilities often struggle with staffing shortages. The COVID-19 pandemic has further highlighted the critical need for robust occupational health and safety measures in healthcare settings. The increased risk of exposure to infectious diseases has prompted healthcare organizations to enhance their safety protocols, including the provision of personal protective equipment and training on infection control practices. These measures not only protect healthcare workers but also ensure that they can continue to deliver essential services to patients during public health emergencies (Ahmad & Osei, 2023).

The objective of this study is to examine the effect of occupational health and safety measures on healthcare providers' performance in Fako. Specifically, to examine the effect of Physical Health measures on healthcare providers' performance in Fako, to examine the effect of Mental Health measures on healthcare providers' performance in Fako to examine the effect of Regulatory Compliance on healthcare providers' performance in Fako.

2. Literature Review

The effect of occupational health and safety measures on healthcare providers' performance in Fako can be understood through various theoretical model. According to Maslow's Hierarchy of Needs, ensuring a safe work environment fulfils healthcare providers' basic safety needs which allows which are therefore very vital for healthcare employees. The Job Demand-Resource Model also argue that effective OHS measures can reduce job demands

and provide resources, leading to improved job satisfaction and performance. In addition, the Social Cognitive Theory emphasizes on the role of observational learning and self-efficacy, indicating that a culture of safety can foster confidence among healthcare providers, thereby boosting their performance. Furthermore, Institutional Theory suggests that adherence to OHS regulations can enhance the legitimacy of healthcare organizations, potentially attracting more skilled providers and improving their performance through a supportive work environment.

Empirically, literature on the effect on occupational health and safety measure has not been neglected. For example, Philip *et al.* (2020) found from fixed effects regression models in a sample of 8,780 participants in the English Longitudinal Study that higher loneliness and domestic isolation are significantly associated with poorer physical performance, while social disengagement also negatively impacts physical ability. Based on a sample of 168 participants primarily from nursing backgrounds, Heier *et al.* (2021) found that the workplace health and safety instrument is a vital tool for measuring safety behaviours in healthcare settings, addressing critical issues of patient safety and occupational health. Sa'diyah (2024) investigated the relationships between occupational health and safety, training, teamwork, and the performance of medical personnel in hospitals in Demak Regional General Hospital. Based on a quantitative approach, the study found that conducive occupational health and safety environments, effective training programs, and collaborative teamwork significantly enhance medical personnel performance. In Cameroon, Niba *et al.* (2022) investigated the experiences of healthcare workers in a remote hospital amidst the ongoing Anglophone crisis. Based on focused group discussions and in-depth interviews with 12 healthcare workers, the research explored the effect of brutalities faced by these professionals, including assaults, threats, and murder, on healthcare delivery. Findings reveal that insecurity and personnel shortages have led to an increase in disease complications, particularly in maternal and child health.

To that which concerns effect of Mental Health measures on healthcare providers' performance, Çelmeçe & Menekay (2020) found from a cross-sectional design, on a sample of 240 healthcare professionals in Tokat, Turkey, that there is a

significant correlation between high levels of stress, anxiety, and burnout, all negatively affecting the quality of life of these professionals, with notable differences observed based on gender, marital status, and whether they had children. Pearman *et al.* (2020) found, from 90 healthcare professionals in the U.S. between March 20 and May 14, 2020, that healthcare professionals reported significantly higher levels of depressive symptoms, anxiety, health concerns, and tiredness, while exhibiting lower levels of proactive coping compared to controls. Frenkel *et al.* (2022) found from a cross-sectional online survey, the study gathered data from 575 healthcare workers across hospital, prehospital emergency, and outpatient sectors between April and June 2020 that the interference of workload with private life was the primary predictor of psychological stress, while concerns about the team appeared to mitigate stress effects. In Cameroon, Niba *et al.* (2022) investigated the experiences of healthcare workers in a remote hospital in Cameroon amidst the ongoing Anglophone crisis. Based on focused group discussions and in-depth interviews with 12 healthcare workers, the research explored the effect of brutalities faced by these professionals, including assaults, threats, and murder, on healthcare delivery. Findings reveal that insecurity and personnel shortages have led to an increase in disease complications, particularly in maternal and child health.

Regarding the effect of Regulatory Compliance on healthcare providers' performance, Sa'diyah (2024) found that conducive occupational health and safety environments, effective training programs, and collaborative teamwork significantly enhance medical personnel performance in Demak Regional General Hospital. Based on a cross-sectional study conducted from June 9 to 26, 2020, involving 1,134 respondents selected through systematic random sampling across six public hospitals, Deressa *et al.* (2021) found a high prevalence of preventive practices, with 93% of respondents wearing facemasks and frequently washing hands. The perceived risk of infection was notably high, with 88% concerned about personal infection and 91% about risks to their families. Ruisoto *et al.* (2021) found from a convenience sample of 1,035 participants, including 608 physicians and 427 nurses, that social support significantly mediated the negative effects of burnout, particularly emotional exhaustion, on

overall health, accounting for over 34% of the variance in health outcomes. In Cameroon, Niba *et al.* (2022) investigated the experiences of healthcare workers in a remote hospital in Cameroon amidst the ongoing Anglophone crisis. Based on focused group discussions and in-depth interviews with 12 healthcare workers, it was found that insecurity and personnel shortages have led to an increase in disease complications, particularly in maternal and child health.

Much of the recent researches on occupational health and safety measures and healthcare performance have been conducted in developed countries. There is a lack of studies focusing on under developed regions, such as the Fako Division of Cameroon. This study aims to fill this gap by providing context-specific insights into the local healthcare environment. More so, existing literature have addressed individual aspects of OHS, such as physical health or regulatory compliance, there is limited research that has comprehensively examines the interplay between multiple OHS measures (physical, mental, and regulatory) and their collective impact on healthcare providers' performance. Most existing literature emphasised on patient outcomes, leaving a gap in understanding how specific OHS measures directly affect healthcare providers' job satisfaction, performance, and well-being. This study will highlight the importance of provider-centric outcomes in the discussion of OHS measures.

3. Materials and Methods

Data for this study was gotten from primarily with the use of questionnaires base on a quota sample technique. The questionnaire was designed to collect data from healthcare providers regarding their perceptions and experiences with occupational health, safety measures, the performance of healthcare providers not forgetting the demographic characteristics. It was structured into several sections, each targeting specific variable. Quantitative data was constructed for the latent variables based on the different questions using the multiple correspondence analysis (Nginyu & Racheal, 2023; Nginyu *et al.*, 2023). In the context of this study, latent variables represent underlying constructs that are not directly observable but can be inferred from the participants' responses. By employing these indices, the study will be able to analyse relationships between the latent variables. The

population of this study comprised healthcare providers working in the Fako Division of Cameroon. This includes a diverse range of professionals, such as doctors, nurses, and allied health workers, who are directly involved in patient care and affected by occupational health and safety measures. The sample size is determined based on the Crochan formulae of sample size selection while ensuring representativeness across the identified strata of healthcare facilities as presented below.

$$n = \frac{Z^2 P \cdot (1-P)}{e^2} \dots \dots \dots (1)$$

n = Required sample size, Z = Z-value (the number of standard deviations from the mean corresponding to the desired confidence level; 1.96 for a 95% confidence level), p = Estimated proportion of the population that has the attribute of interest (0.9), e = Margin of error (the desired level of precision, expressed as a decimal), for this study the desired confidence level: 95% (Z=1.96), estimated proportion (p): 0.5 (for maximum variability), margin of error (e): 0.095 and therefore the sample size will be 105.

The selection criteria for participants will include active engagement in direct patient care and the willingness to participate in the study in the different hospitals. The study employed a quota sampling technique. Quota sampling is a non-probability sampling technique used to select participants based on some characteristics to ensure that certain parts of the population are represented. This method is particularly useful when the population is heterogeneous and therefore each homogeneous group has a common characteristic that is different from the others. In the context of this study on the effect of occupational health and safety measures on healthcare providers' performance in the Fako Division of Cameroon, quota sampling techniques is appropriate because we had three healthcare facilities we were working with, which were different from each other.

The study focused on healthcare providers from three hospitals in the Fako Division of Cameroon: Limbe General Hospital, Buea General Hospital, and Muyuka District Hospital. The sample was stratified based on both the hospitals and the types of healthcare providers to ensure representativeness. At Buea General Hospital, which has around 93 healthcare providers, a sample of 50 was selected. Conversely, Limbe General Hospital, with a total of approximately

76 healthcare providers, had a sample of 40 selected. Muyuka District Hospital, with a smaller total of approximately 45 healthcare providers, had a sample of 15 selected. Moreover, accounting for the diversity among types of healthcare providers within each hospital allows for a comprehensive understanding of the impact of occupational health and safety measures on different roles in the healthcare system.

It is essential to do pilot test of the questionnaire prior to its use within this study in order to examine the validity and reliability of the questionnaire and to improve the questions, format and scales. For content validity, the item questions were derived from previous authors like Creswell (2014) and Robson (2011), ensuring that the items reflect relevant and established concepts in the field. A pre-test was conducted with a sample of 5 respondents to assess possible response times and identify any lapses in the questionnaire. Based on the feedback received, further adjustments were made, leading to the development of the final version of the questionnaire. This comprehensive approach ensured that the content validity was robust and tailored to the specific needs of the study context. This stage was also critical in order avoid collecting bias data. To ensure the accuracy and consistency of the data collection instruments, reliability and validity testing will be performed. Cronbach's Alpha is used to assess the internal consistency of survey items, particularly for Likert-scale questions.

Given the nature, scope and structure of this study, the causal research design was adopted. This design is chosen to investigate the effect of occupational health and safety measures on healthcare providers' performance within the Fako Division of Cameroon, specifically in Limbe General Hospital, Buea General Hospital, and Muyuka District Hospital. Causal research design aims to identify and establish cause-and-effect relationships between variables. In this study, the primary focus is on understanding how specific occupational health and safety measures impact the performance of healthcare providers. The elements of this design include the independent variables, physical Health Measures, Mental Health Measures and Regulatory Compliance and the dependent variable, Healthcare Providers' Performance. The research only tries to study the impact of the dependent variables on the dependent variable (Nginyu et al., 2025).

Data analysis is a crucial step in the research process, allowing researchers to interpret the collected data and draw meaningful conclusions. The descriptive statistics is used to summarize the data (Nginyu, 2023; Nginyu, 2023). This includes frequency distributions to analyse demographic. Measures of central tendency and dispersion to better understand typical responses regarding the variables of interest, while measures of dispersion assess variability in responses. This foundational analysis will provide an overview of the sample and the data's general trends. Correlation analysis is also used to have a understand the nature of relationship between the variables. To delve deeper into the relationships between variables, regression analysis will be employed (Nginyu *et al.*, 2023). The Ordinary Least Squares regression estimation technique is used to model the effect of the independent variables, namely physical health measures, mental health measures, and regulatory compliance, on the dependent variable, healthcare providers' performance (Nginyu *et al.*, 2023). Multiple regression analysis will allow for the evaluation of the simultaneous impact of these independent variables, providing a comprehensive view of how occupational health and safety measures influence performance outcomes (Nginyu & Nganchi, 2024).

The estimation framework used for the regression analysis is designed to assess the effect of various independent variables—physical health measures, mental health measures, regulatory compliance, and demographic factors—on the dependent variable, healthcare providers' performance, and is specified as follows:

$$HPP = \beta_0 + \beta_1 PHM + \beta_2 MHM + \beta_3 RCX_i + \beta_4 AGE_i + \beta_5 EDU_i + \beta_6 GEN_i + \epsilon_i \dots \dots \dots (2)$$

Where: HPP_i is Healthcare Providers' Performance for an individual. This variable represents the performance outcomes of healthcare providers. Recent studies highlight various metrics for performance, including patient safety, quality of care, and job satisfaction (Davis et al., 2022; Smith & Jones, 2023). PHM_i denotes the Physical Health Measures for individual *i*. It accounts for how physical health and safety practices impact a provider's ability to perform effectively. This variable includes physical health status and safety protocols. Research indicates that physical health directly affects job performance and patient care quality

(Lee et al., 2023). For instance, a study by Thompson et al. (2022) found that improved physical health measures among providers correlated with lower rates of burnout and higher patient satisfaction. MHMi: This represents the Mental Health Measures for an individual. This variable reflects the mental health status of the provider and the measures in place to support their well-being, which can significantly influence performance. This encompasses mental health status and support mechanisms. Recent literature underscores the importance of mental well-being for healthcare providers, linking it to performance outcomes (Kumar & Adhikari, 2022). For example, a meta-analysis by Patel et al. (2023) demonstrated that mental health interventions significantly improve job satisfaction and reduce turnover intentions among healthcare staff. RCi stands for Regulatory Compliance for individual i . This variable assesses adherence to healthcare regulations and standards. Compliance is crucial for ensuring safety and quality in care delivery. Recent studies have shown that high levels of regulatory compliance are associated with better performance metrics in healthcare settings (Nguyen *et al.*, 2023).

Regarding the control variables, AGEi stands for Age of the respondents measured categorically in age groups. It is used as a control variable of the study. EDUi stand for the level of education of the respondents. It is used as a control variable of the study. GENi Stands for the gender of the respondents is a binary variable which takes 1 if the respondent is a male and 0 if the respondent is a female. It is used in this study as a control variable. i : it measures how well the provider adheres to established regulations and standards, which is crucial for maintaining quality care and performance. β_0 : This is the intercept of the model, representing the expected value of HPP when all independent variables are zero. $\beta_1, \beta_2, \beta_3, \beta_4$: These coefficients represent the estimated effect of each independent variable on healthcare providers' performance. For instance, β_1 indicates how a one-unit increase in physical health measures is expected to affect performance, holding other factors constant. These coefficients indicate the expected change in healthcare providers' performance for a one-unit increase in each independent variable, holding others constant. Recent studies emphasize the importance of these relationships. For example, Wang et al. (2023) found that improvements in

mental health measures were associated with significant increases in performance metrics. ϵ_i is the Error Term which accounts for the variability in healthcare providers' performance that cannot be explained by the independent variables included in the model. It captures the influence of unobserved factors and random noise.

The primary aim of this model is to understand how physical health, mental health, and regulatory compliance, along with other control variables, influence healthcare providers' performance. By analysing the relationships represented in the model, healthcare organizations can identify areas for improvement. For instance, if the coefficients for mental health measures are particularly strong, it may indicate that investing in mental health resources could lead to significant gains in provider performance. The regression model provides a structured approach to examining the complex interplay of factors affecting healthcare delivery, enabling organizations to make data-driven decisions aimed at enhancing both provider well-being and patient care outcomes. The Ordinary Least Squares regression technique is chosen for its ability to provide unbiased estimates of the relationships between independent and dependent variables when certain assumptions are met, such as linearity, homoscedasticity, and independence of errors. The suitability of the above parameters will be tested on the basis of two criteria namely: economically, it is based on economic theories and econometrically based on the post estimation test and the statistical significance of the estimated parameters. The economic or a priori test is concerned with the magnitude (size) and direction (sign) of the estimated parameters. Through this criterion, an examination of the behaviour of economic theories on the variables and the expected signs and sizes of the parameters in question with respect to a priori expectation will be done. It is worth noting that the magnitude of the parameters cannot be interpreted directly, but rather through their marginal effects. Consequently, the signs and magnitudes of the parameters will be studied in agreement with the a priori expectations. Before moving to the interpretation of the results, it will be important to do the post estimation test to see if the estimates are BLUE. The following post estimation tests will be done; test for heteroskedasticity the residual, normality of the residual as well as multicollinearity test.

Regarding the econometric tests, we will use the Fisher statistics for the global significance of the model and the R-square adjusted for the overall fitness of the model. The size of the parameter will determine the magnitude of the effect of a variable while the sign will determine the direction of the effect of the independent variables on the dependent variable. The p-values of the individual parameters will be used to evaluate if the variables have a significant effect or not. If the p-value is less than the threshold of 1%, 5% and 10% level of significance.

4. Results

This section focuses on the presentations and discussion of the results. Firstly, the descriptive results of the data will be presented and in the letter section the regression result which will help answer the research questions.

Table 1 presents the demographic characteristics of the leading administrators in the health facility, focusing on gender, age range, and level of education. The data is organised into frequency (absolute frequencies) and percentage (relative frequencies), providing a clear overview of the distribution of these characteristics.

Table 1. Demographic characteristics

		Frequency	Percentage
Gender of the leading administrator in your department	Male	83	55.3%
	Female	67	44.7%
What is the age range of the leading administrator of the health facility?	36–45	44	29.3%
	46–55	16	10.7%
	56–66	70	46.7%
	65 and above	20	13.3%
What is the level of education of the leading administrator?	Bachelor	80	53.3%
	Master’s	58	38.7%
	PhD	12	8.0%

Source: Computed by author (2025).

Table 1 reveals that 55.3% of the administrators are female, while 44.7% are male. It further categorises the age range of the administrators, with the majority falling between 56-66 years (46.7%), followed by those aged 36-45 years (29.3%). Lastly, the educational qualifications of the leading administrators are summarised, revealing that 53.3% hold a bachelor’s degree, 38.7% have a master’s degree, and 8.0% possess a PhD.

Table 2 presents the Cronbach’s Alpha values for various latent variables assessed in the study, which serve as indicators of internal consistency and reliability for the survey items related to each variable. The table includes four key areas: physical healthcare measures, mental healthcare measures, regulatory compliance, and healthcare providers performance. Each latent variable is accompanied by its corresponding Cronbach’s Alpha value and the number of items evaluated. A higher Cronbach’s Alpha indicates a greater level of reliability among the items within that

variable, suggesting that they consistently measure the same underlying construct. By analyzing these values, the table provides insight into the robustness of the measurement scales used in the study, highlighting areas of strong reliability as well as those that may require further examination or refinement.

Table 2. Cronbach’s Alpha

Latent Variable	Cronbach’s Alpha	N of Items
Physical Healthcare Measures	.864	5
Mental Healthcare Measures	.783	6
Regulatory Compliance	.780	6
Health Care Providers	.941	5

Performance		
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Source: Computed by author (2025).

The results in Table 2 indicate strong internal consistency among the latent variables assessed in the study, as measured by Cronbach’s Alpha. Overall, all four latent variables exhibit satisfactory to high reliability (0.7), indicating that the measurement scales used in the study are effective. The robust scores for Physical Healthcare Measures and Healthcare Providers Performance are particularly noteworthy, while Mental Healthcare Measures and Regulatory Compliance also show strong internal consistency, suggesting that the items are well-aligned with their intended constructs.

Table 3 demonstrates a comprehensive overview

of the descriptive statistics for various variables related to healthcare personnel performance and demographic characteristics within the study. It includes number of observations (Obs), means, standard deviations (Std. Dev.), and the minimum (Min) and maximum (Max) values for each variable. This table serves to summarise the central tendencies and variability of the data, allowing for a clearer understanding of the distribution of key metrics such as healthcare personnel performance, physical and mental health measures, regulatory compliance, and demographic factors such as gender and age groups. This will help gain insights into the general characteristics of the sample population and the range of values for each variable, which is essential for further analysis and interpretation in the context of the study.

Table 3. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Health Care Personnel performance	150	.201	.341	0	1
Physical Health Measures	150	.625	.245	0	1
Mental Health Measures	150	.149	.182	0	1
Regulatory Compliance	150	.205	.246	0	1
Male	150	.447	.499	0	1
Age 36–45	150	.293	.457	0	1
Age 46–55	150	.107	.31	0	1
Age 56–65	150	.467	.501	0	1
Age 65 and above	150	.133	.341	0	1
Bachelor	150	.533	.501	0	1
Masters	150	.387	.489	0	1
PhD	150	.08	.272	0	1

Source: Computed by author (2025).

Table 3 presents a detailed summary of the descriptive statistics for various variables related to healthcare personnel performance and demographic characteristics based on a sample of 150 observations. The data reveals valuable insights into the performance levels of healthcare personnel, as well as the demographic makeup of the sample. All the latent variables were normalising to fall within the range 0 to 1 for low level to high level while all the categorical variable takes 1 for each category and 0

otherwise.

Table 4 presents the Variance Inflation Factor (VIF) values and their reciprocal (1/VIF) for various variables included in the regression analysis. The VIF is a measure used to detect multicollinearity in regression models, helping to identify how much the variance of an estimated regression coefficient increases when your predictors are correlated.

Table 4. Variance inflation factor

	VIF	1/VIF
Age 36–45	3.973	.252
Age 56–65	3.542	.282
Age 46–55	2.039	.49
Bachelor	1.403	.713
PhD	1.247	.802
Regulatory Compliance	1.229	.814
Mental Health Measures	1.227	.815
Physical Health Measures	1.183	.845
Male	1.156	.865
Mean VIF	1.889	.

Source: Computed by author (2025).

The results from Table 4 demonstrate that while some variables, particularly the age groups, show moderate levels of multicollinearity, the overall mean VIF suggests that multicollinearity is not a significant concern in this analysis.

This is important for the reliability of the regression results, as high multicollinearity can lead to less reliable coefficient estimates and complicate interpretations of the individual effects of the predictors on healthcare providers' performance.

Table 5. Regression results of the effect of occupational health and safety measures on healthcare providers' performance in Fako

VARIABLES	(1)	(2)	(3)	(4)	(5)
Physical Health Measures	0.386*** (0.0790)	0.374*** (0.0749)	0.370*** (0.0753)	0.377*** (0.0773)	0.385*** (0.0755)
Mental Health Measures	0.109 (0.0805)	0.0861 (0.0732)	0.0964 (0.0748)	0.101 (0.0794)	0.0841 (0.0746)
Regulatory Compliance	0.211*** (0.0805)	0.214*** (0.0739)	0.206*** (0.0748)	0.225*** (0.0787)	0.214*** (0.0740)
Male	-0.0565 (0.157)		-0.105 (0.151)		
Age 36–45	0.102 (0.318)			0.000250 (0.263)	
Age 46–55	0.426 (0.336)			0.418 (0.312)	
Age 56–65	0.104 (0.274)			0.0451 (0.243)	
Bachelor	-0.178 (0.173)				-0.196 (0.154)
PhD	-0.0767				-0.142

	(0.299)				(0.285)
Constant	0.00263	2.69e-10	0.0469	-0.0657	0.116
	(0.263)	(0.0722)	(0.0987)	(0.215)	(0.117)
Prob>F	0.000	0.000	0.000	0.000	0.000
Fisher	5.59	15.29	11.55	8.11	9.48
Observations	150	150	150	150	150
R-squared	0.261	0.239	0.242	0.254	0.248

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Computed by author (2025).

Table 5 presents the regression of the effect of occupational health and safety measures on healthcare providers' performance in the Fako region. The table includes five different model specifications, assessing the impact of various factors on performance outcomes. The analysis includes five different models, each incorporating various control variables to examine their impact alongside the primary independent variables.

Across all models, physical health measures consistently show a strong positive effect on healthcare providers' performance, with coefficients of 0.370 to 0.386. All coefficients are statistically significant at the $p < 0.01$ level, indicating that improvements in physical health are strongly associated with enhanced performance outcomes. The coefficients for mental health measures range from 0.0841 to 0.109, but none are statistically significant. This indicates that while there may be a positive relationship between mental health and performance, it is not strong enough to draw definitive conclusions. Regulatory compliance shows a significant positive effect on performance, with coefficients between 0.206 and 0.225, all significant at the $p < 0.01$ level. This suggests that adherence to regulatory standards is crucial for enhancing healthcare personnel performance, highlighting the importance of compliance in healthcare settings.

The demographic variables, specifically Male and various age groups, show varying results. The coefficient for Male is negative but not statistically significant, indicating no clear relationship with performance. Among the age groups, only age 46–55 has a positive coefficient of 0.426, suggesting that this age group may perform better, although the significance is not

reported. The other age groups show minimal effects on performance, indicating that age may not be a strong predictor in this context. The coefficients for educational attainment (Bachelor's and PhD) are negative but not statistically significant, suggesting that the level of education does not have a meaningful impact on performance outcomes in this sample. The constant term varies across models, but all values are close to zero, indicating that when all independent variables are zero, the predicted performance is minimal. The R-squared values range from 0.239 to 0.261, indicating that the models explain approximately 24% to 26% of the variability in healthcare providers' performance. While this suggests that other unmeasured factors may also influence performance, the significant relationships identified provide valuable insights into the factors that do play a role.

5. Discussion

The findings suggest that physical health initiatives can lead to better performance among healthcare personnel. This finding aligns with previous studies, such as those by Rai et al. (2021) and Chou (2020), which highlight the critical role of physical health in enhancing the performance of healthcare workers. The findings validate the Health and Safety Theory, demonstrating that systematic risk assessments and the implementation of health-promoting initiatives contribute to a safer and more productive work environment (Bondebjerg et al., 2023). These studies emphasize that when healthcare providers have effective physical health protocols such as access to personal protective equipment and ergonomic workstations, they are less likely to experience work-related injuries, allowing them to focus more on patient care.

Moreover, the results highlight the need for healthcare facilities to prioritize physical health protocols. By doing so, organizations can enhance overall performance, ensuring both employee well-being and improved patient care. Implementing these health initiatives not only fosters a culture of safety but also leads to more efficient operations.

Never the less the findings also budgeted that, mental health interventions might not have the same immediate impact on performance as physical health measures. These findings are in line with those of Çelmeçe & Menekay (2020), who argued that mental health challenges significantly affect healthcare providers' quality of life but may not translate directly into the performance metrics. This is because while mental care measures resources are critical, they often require more time to manifest in performance improvements compared to physical health measures (Bakker & Demerouti, 2017). This highlights a nuanced understanding of how different types of health initiatives impact workplace performance. The literature increasingly recognizes the strong connection between mental well-being and performance, indicating that a supportive environment can lead to better outcomes (Kumar & Adhikari, 2022). Healthcare organizations therefore need continue to enhancing their mental health support systems.

It was also found that, physical health initiatives improve healthcare providers performance. These findings are consistent with studies of Nguyen et al. (2023), who found that adherence to regulatory standards not only ensures patient safety but also enhances the operational efficiency of healthcare providers. Theoretical frameworks such as Institutional Theory explain the importance of compliance, emphasizing that organizations must adhere to established norms to gain legitimacy and foster trust among stakeholders (DiMaggio & Powell, 1983). In this study, the strong connection between regulatory compliance and performance highlights the necessity for healthcare institutions to reinforce compliance protocols as part of their operational.

6. Conclusions

The main objective of this study was to assess the effect of occupational health and measures on healthcare providers' performance in the Fako Division of Cameroon. Based on regression analysis on a sample of 150 healthcare providers,

physical health measures and regulatory compliance is found to significantly improve healthcare providers' performance, on the other hand, the effect of mental health measures is found to be insignificant. Comprehensive safety protocols trainings on the use of personal protective equipment and ergonomic practices should be organised. This will help reduce workplace injuries and improve provider performance. In addition, the hospitals should establish and promote accessible mental health resources, like counselling services and stress management programs. The hospitals should also organise regular trainings on mental health awareness and coping strategies to equip healthcare providers with the skills needed to handle workplace challenges. Furthermore, the healthcare facilities should create and communicate clear policies regarding occupational health and safety regulations and compliance expectations. This will ensure all staff members are aware of their responsibilities and the importance of adherence. Implementing regular audits to assess compliance with OHS regulations will help identify areas for improvement and ensure that safety standards are consistently met.

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Data supporting these findings are available within the article or upon request.

Code Availability

Available on Reasonable request.

Authors' Contributions

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Ethics Approval

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