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Quantifying the Relationships Between Health Sector Strategic Planning Practices and Health Sector Results in Tanzania: A Cross-Sectional Study

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ABSTRACT

Background and Aim: There is still limited evidence on the relationships between strategic planning practices and strategic results in the health sector. The study aimed to examine and quantify these relationships in Tanzania.

Methods: A cross-sectional study involving 290 council health managers from 23 councils was conducted. We used a questionnaire to collect data on health sector strategic planning practices and health sector results related to health sector strategic plan IV (HSSP). We analyze the data using descriptive methods analysis, factor analysis, and multiple regression analysis.

Results: Our findings showed separately that HSSP formulation practices had a positive, weak, and significant relationship with perceived health sector results; HSSP implementation practices had a positive, moderate, and significant relationship with perceived health sector results; HSSP monitoring and evaluation had a positive, strong, and significant relation with perceived health sector results. Furthermore, jointly, all the practices of HSSP formulation, implementation, and monitoring and evaluation were positively related to perceived strategic health sector results, and findings indicated that only HSSP implementation and monitoring and evaluation practices were significantly and positively related to the health sector results.

Conclusions: Our study provides additional evidence to the ongoing debate on the relationships between strategic planning practices and strategic results in the health sector and the public sector. Overall, our evidence suggests that only the HSSP implementation and HSSP monitoring and evaluation practices are significantly and positively related to strategic health sector results. We recommend that the council health managers continue to engage in the implementation, monitoring, and evaluation practices to enhance their chances of achieving the strategic results set out in the health sector strategic plans. We encourage future studies using longitudinal study design, objective and in other settings.

1 | Background

Strategic planning has become a standard practice in the public sector [1–4]. It has three main practices: strategic plan formulation, implementation, and monitoring and evaluation [1, 4, 5]. Strategic planning in the health sector is the one strategy intended to strengthen health systems and facilitate the achievement of national and international goals, including sustainable development goals and targets [4, 6, 7].

International researchers have examined the relationship between strategic planning practices and strategic results in the

public sector outside the health sector, generating mixed results [8, 9]. Some of these researchers have demonstrated that public sector strategic planning practices are associated with realizing strategic results in terms of aligning (focusing) organizations and external stakeholders to important issues and priorities, improved decision-making, and enhanced organizational performance [10–14]. On the other hand, some researchers have demonstrated that some of the public sector strategic planning practices are not positively associated with realizing intended strategic results in the public sector [15, 16].

Also, some studies have been done to understand health sector strategic planning and related health sector results in other countries [1, 17, 18]. Using qualitative methods, two researchers have identified and reported critical practices in formulating, implementing, monitoring, and evaluating health sector strategic plans in the studied countries [1, 17]. Moreover, these studies identified and descriptively reported the health sector strategic results achieved by applying the health sector strategic planning practices. The reported results include improved actors' coordination, resource availability, health services coverage, and population health status [17, 18]. Although these studies generated valuable evidence on practices and health sector results, they did not examine and model the relationship between health sector strategic planning practices and the reported health sector results.

In summary, the studies conducted so far in the public sector and health sector provide limited and inconclusive evidence on the relationships between health sector strategic planning practices and health sector strategic results in various settings of the public sector and health sector. As a result of this knowledge gap, international researchers call for more research to examine the relationships between strategic planning practices and strategic planning results in various service areas, settings, and levels of the public sector [10, 11, 19–21].

Tanzania adopted and prepared its first health sector strategic plan in 1999 [22]. Since then, health sector strategic planning and health sector strategic plans have been used as leadership and governance tools to guide the implementation of national health policy and internationally agreed policies [22]. In Tanzania, the health sector strategic planning has three main practices: formulation, implementation, and monitoring and evaluation of health sector strategic plan. The overall objective of using health sector strategic planning and health sector strategic plans is to improve the health system's performance [22, 23]. Specifically, the practices of formulation, implementation, and monitoring and evaluation of the health sector strategic plan are intended to contribute to achieving four health sector results: improved actors' alignment to the health sector priorities, increased resource availability, increased health service coverages, and improved health and well-being of Tanzanians [22, 23]. However, since the adoption of the health sector strategic planning practices, there is still limited empirical evidence linking the health sector strategic planning practices and strategic health results. Since adopting strategic planning practices in the Tanzanian health sector, two studies have been done on health sector strategic planning. The first study examined only the contents of the health sector strategic plan [24]. The second study, a midterm evaluation, assessed the achievement of planned strategic health sector results related to the third health sector strategic plan [25] and indicated mixed findings. These studies did not examine and quantify the relationships between health sector strategic planning practices and strategic health sector results. Therefore, our study sought to address this knowledge gap by examining and quantifying the relationships between the health sector strategic planning practices and the strategic health sector results. Our study focuses on the health sector strategic planning practices and strategic health results related to the 2015–2020 health sector strategic plan IV (HSSP). The following research question guided this study: Are health sector strategic planning practices positively and significantly related to strategic health sector results in Tanzania Mainland?

2 | Materials and Methods

2.1 | Theoretical Perspective and Conceptual Framework

The formal strategic planning theory served as a theoretical foundation for designing and developing the conceptual framework of this study. The theory offers an important theoretical explanation for understanding and investigating the relationships between strategic planning practices and strategic results [2, 14]. The formal strategic planning theory theorists argue that, if properly practised, the practices of formulating, implementing, and monitoring and evaluating strategic plans are believed to lead to realizing strategic results in the public sector [2, 6, 9, 10, 14, 26–29]. The results that can be realized in the public sector include improved actors' coordination and alignment to priorities, improved decision-making, and increased organizational/sectoral performance (e.g., achievement of both financial and nonfinancial objectives) [2, 4, 28, 29].

In the context of the health sector, key and direct strategic health sector results can be realized through health sector strategic planning, including improved actors' alignment to health sector priorities, increased resource availability, and improved health services coverage [4, 17, 18, 23]. According to the theory, critical practices theoretically associated with realizing these results in the health sector are formulation, implementation, monitoring and evaluation of health sector strategic plans [1, 4, 9, 30].

Drawing on the formal strategic planning theory and the empirical literature [11, 14, 17–20], we developed a conceptual framework (Figure 1) to guide data collection, data analysis, and presentation of findings. The framework shows the theoretical relationships of study constructs and variables: (a) health sector strategic planning practices: formulation, implementation, and monitoring and evaluation of health sector strategic plan and (b) strategic health results. Formulation practices refer to specific actions or activities in which managers prepare a strategic plan, and implementation practices denote all specific practices carried out to execute a strategic plan. Monitoring and evaluation practices mean activities or actions conducted to assess the progress of strategic plan implementation and achievement of strategic results. In this study, health strategic sector results are defined as results to be achieved in 5 years of an implementation period of a health sector strategic plan; the

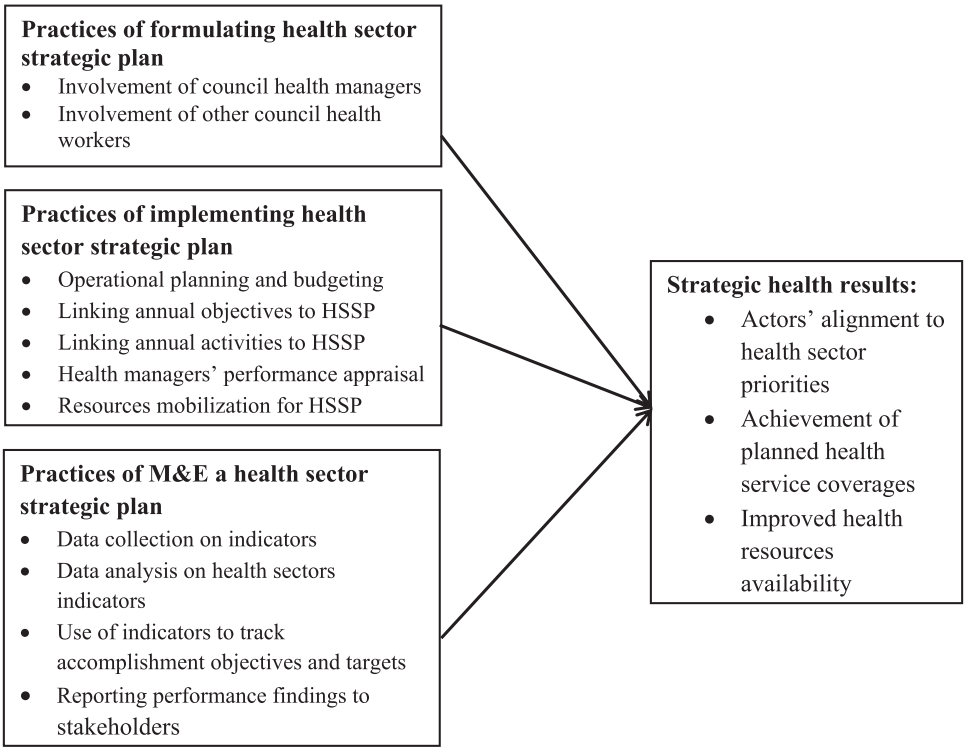

FIGURE 1 | Conceptual framework.

results included in the framework and assessed in this study are improved actors' alignment to health sector priorities, increased resource availability, and improved health services coverages.

2.2 | Research Type and Setting

We conducted a cross-sectional study in Tanzania Mainland. A cross-sectional study is appropriate for examining the nature, quantifying relationships among study variables, and generating measurable evidence [9, 12, 17, 20, 31, 32]. The study was conducted in 23 councils to assess the health sector strategic planning practices and health sector results related to the 2015–2020 HSSP. In Tanzania, councils implement and monitor the HSSP. Also, the councils are the leading providers of primary health services to their population [23, 33].

2.3 | Sample and Sampling Technique

Our study population was council health managers (council health management team member [CHMT]), who coordinate and oversee the implementation of health sector strategic plans and the provision of essential health services at the council level [22]. Our sample size was 290 of 340 targeted council health managers from 23 councils in seven regions (response rate of 85%). Most council health managers who did not participate in the study coordinated COVID-19 responses in various areas of their councils. We derived our planned sample size from the sample determination table using a 95% confidence interval and a population proportion of 0.5 of 2760 council health managers [34, 35]. The sample was obtained using a multi-stage cluster sampling technique, which is appropriate for obtaining a representative sample from a geographically dispersed population [32]. The selection of the sample was done in three stages. In the first stage, one region was selected from each of the seven zones recognized by the Ministry of Health using a simple random sampling method [36]. In the second, one urban council and at least two rural councils were selected from the selected regions using a simple random sampling method. The selection decision was guided by the need to ensure diversity and representation of different health system contexts in Tanzania Mainland. Rural councils are many and typically face different challenges (e.g., resource limitations, workforce shortages) compared to urban councils, which tend to have better infrastructure and access to healthcare resources including a mix of urban and rural councils allowed for a more comprehensive understanding of how strategic planning practices influence health sector results across different settings. In the third stage, we included all council health managers in the selected councils with at least 1 year of managerial experience. We excluded those with less than 1 year of experience.

2.4 | Data Collection and Variable Measurement

We collected data by administering a questionnaire to the council health managers from April to September 2020 during the peak of the COVID-19 pandemic in Tanzania. The questionnaire had multiple Likert-type items and was developed by adopting the format and items from previous research tools used to study strategic planning practices and strategic results for sectors other than the health sector [11, 37, 38]. The questionnaire captured data related to dependent, independent, and control variables.

Our dependent variable was the health sector results set out in the HSSP [23]. The health sector result is a multidimensional concept [14, 23] and was measured using 11 questions, which were developed to reflect the health sector context of Tanzania. The questions covered three aspects of health sector results: actors' alignment to health sector direction and priorities, improvement of health resources availability, and achievement of the health services coverages [22, 23, 28, 38]. Following the prior public-sector strategic planning research practice [11, 13, 39, 40], the health sector result was assessed using Likert-type items. Using these items, the council health managers were asked to indicate the degree to which they agree or disagree with health sector result statements using a five-point Likert response ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The items used to assess the health sector results are presented in Table S1 of the appendix.

This study had three independent variables: practices involving council health staff in formulating the HSSP, HSSP implementation, and HSSP monitoring and evaluation. Informed by the previous public-sector strategic planning research [11, 13, 39, 40], the health sector strategic planning practices were measured using 11 Likert-type items. The items to measure practices were developed to reflect the health sector context of Tanzania. The council health managers were asked to indicate the degree to which they agree or disagree with Likert-item statements covering the practices of formulation, implementation, and monitoring and evaluation of the HSSP. Each item had a five-point response ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The items used to assess the practices of health sector strategic planning are presented in Table S2 of Appendix 1.

Also, we collected data on five control variables, variables that have the potential to influence perceptions of health sector strategic planning practices and health sector results [28, 40]. Our control variables were education, sex, managerial experience, employment experience, and the position of council health manager; each variable was measured using a single question. The developed questionnaire is available from the author on request.

2.5 | Methods of Data Analysis

We performed descriptive and multiple regression analyses using Statistical Package for Social Science version 23 to answer our research question. Before descriptive and multiple regression analyses, we conducted four preliminary analyses: factor analysis, internal consistency reliability assessment, common methods bias assessment, and descriptive analyses. Factor analysis was used to identify common factors and their related items [41–43]. We used maximum likelihood and direct oblimini rotation methods to extract the factors and to achieve a simple factor structure, respectively [44]; the maximum likelihood method is suitable for generating accurate estimates for factor loadings and other statistics that help to decide how many factors to retain and interpret [44].

Factor analysis showed items with loadings of ≥ 0.4 and a clear three-factor solution (indicated by Scree plot) for the final 11 items retained to measure the health sector strategic planning practices (Table S1 in Appendix 1). The three factors were named as follows: practices of involving council health staff in the HSSP formulation (two items), HSSP implementation (five items); and HSSP monitoring and evaluation (four items). Four items related to health sector strategic planning practices were initially deleted: they had low correlation coefficients, loading scores less than 0.5 (used as a cut-off point in this study) or cross-loading scores on more than one factor. The three-factor solution explained 70% of the variance, and eigenvalues for each meaningful factor were above 1 (see Figure 2). Furthermore, a one-factor exploratory factor analysis showed a clear one-factor solution to 11 health sector result items (Table S2 in Appendix 1), which provided confidence to use one composite index for the health sector results. The factor analysis findings were in line with the conceptual framework, the formal strategic planning theory and planned health sector results stated in the 2015–2020 health sector strategic plan.

Internal consistency reliability assessment showed that the responses to questionnaire items related to practices and health sector results had very good internal consistency reliability [42]; Cronbach's alpha ranged from 0.82 to 0.88 (see Tables S1 and S2 in the appendix). The means item-total corrections were between 0.36 and 0.758. In addition, the findings of the common methods bias assessment indicated that the study results could not be seriously affected by common source bias [20]. The analyses on multiple linear regression assumptions indicated no violation of assumptions [43–45], including the multicollinearity assumption (see Table 1). Also, the preliminary analysis indicated that the sample was adequate for conducting multiple regression analysis [43–45].

We analyzed data using descriptive analyses and a series of hierarchical multiple linear regression analyses to determine the relationships between independent and dependent variables [45]. Hierarchical multiple linear regression analyses were done to statistically control demographic variables and study the relationships between independent and dependent variables [43]. In these analyses, the perceived health sector result index was used as a continuous dependent variable to measure health sector results. We calculated the perceived health sector result index score by summing each health manager's responses to 11 items related to health sector results [11, 20, 39]. The score could range from 11 to 55, with a high score indicating higher perceived strategic health sector results. The three factors (identified through factor analysis) related to practices of involving council health staff in the formulation of the HSSP, HSSP implementation, or HSSP monitoring and evaluation acted separately and jointly as key independent variables. From ΔR^2 and R^2 of the model, we calculated and used Cohen's f^2 to assess and present the strength of relationships between the health sector strategic planning practices and health sector results, as measured by the perceived health sector results index (44). According to Cohen's criteria [46], f^2 effect sizes of 0.02, 0.15, and 0.35 are termed small, medium, and large, respectively. Moreover, we used a sign of beta weight (β) and p-value ($p \leq 0.5$) to assess and present the direction and statistical significance of relationships between the health sector strategic planning practices and health sector results, respectively [44].

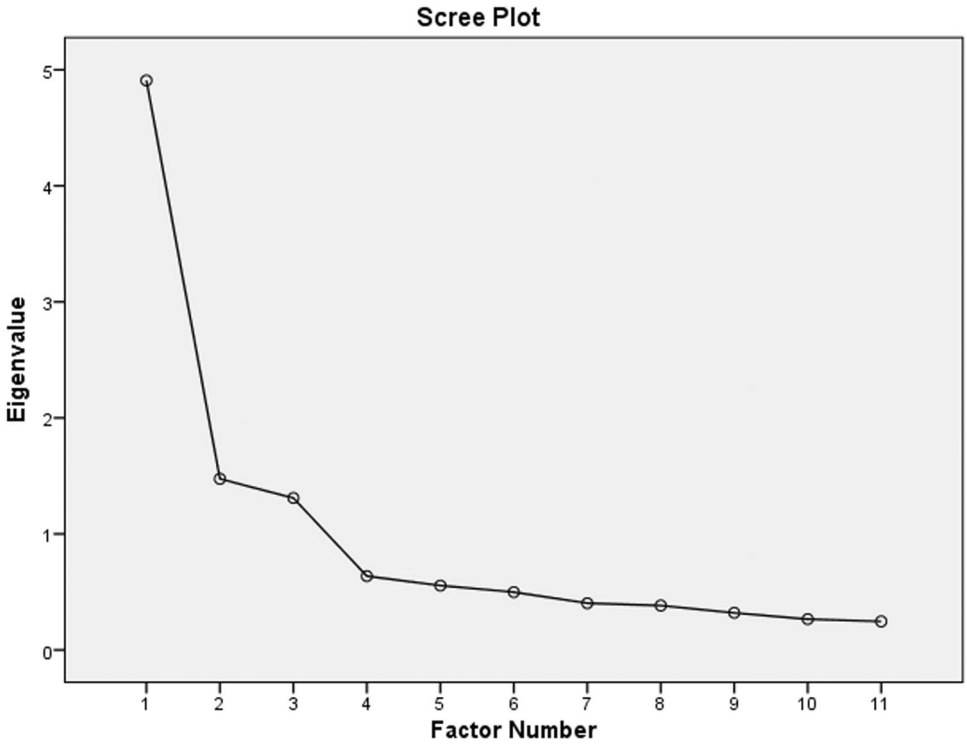

FIGURE 2 | Scree plot from the exploratory analysis.

TABLE 1 | Correlation statistics for health sector results index and factors.

	1	2	3	4
1. Health sector result index	1			
2. HSSP formulation	0.255**	1		
3. HSSP implementation	0.487**	0.329**	1	
4. HSSP monitoring and evaluation	0.506**	0.286**	0.658**	1

Note: $N = 290$.
**Correlation is significant at the 0.01 level (two-tailed).

2.6 | Reliability, Validity and Standards Reporting

We employed various strategies to enhance the reliability and validity of our research [42, 47]. Health sector strategic planning practices and health sector results were measured using a multi-item approach [39, 47]. Also, the questionnaire was reviewed by two experts and pre-tested before data collection. Moreover, exploratory factor analysis was conducted to identify dimensions of the perceived health sector results and health sector strategic planning practices. Furthermore, we assessed the reliability of the questionnaire. In addition, we followed standard guidelines for reporting observational studies [48], cross-sectional studies [49], and statistical methods [50]. For details on how we adhered to standard guidelines for reporting observational studies, see the supplementary Appendix 2.

2.7 | Ethical Consideration

This study was approved and conducted according to Mzumbe University procedures and guidelines. The approval to conduct the research was given through a letter dated April 2, 2020 with reference no. PhD/FSS/MZC/001/T.16/10. The National Institute for Medical Research (NIMR) mandates universities to approve health research conducted by Tanzanian staff and students under the National Health Research Guideline [51]. Permission to collect data was sought from the Regional Administrative Secretaries and Council Executive Directors. Informed consent was obtained from all the research participants before data collection.

3 | Results

3.1 | Characteristics of the Sample and Descriptive Statistics

Our final sample was 290 council health managers, with an average of 13 health managers per council included in the study. Among these, 151 (52%) were males, 163 (57%) had a first degree and above educational qualification, and 197 (68%) were working in rural councils. In addition, the council health managers had a normally distributed mean managerial and

employment experience of 5 (SD = 4.8 and 12 (SD = 8) years, respectively.

The mean scores for all specific health sector strategic planning practice statements were above the midscore of the scale (3), ranging from 3.74 to 4.20. Except for one statement with a mean score of 3.51, the mean scores for 10 health sector strategic result statements were above 4, ranging from 4.01 to 4.20. The mean score of the perceived health sector result index was 44.52 (above the midscore of 33), which suggested that the council health managers perceived health sector strategic planning practices to generate heath sector results in their councils.

3.2 | Health Sector Strategic Plan Formulation Practices and Strategic Health Results

A two-step hierarchical multiple regression analysis was performed to model the relationship between HSSP formulation practices (involving council health managers and other health workers) and strategic health sector results. This analysis had two models: model 1 had only demographic variables, and model 2 had demographic variables and health sector strategic plan formulation practices. The analysis indicated that the practices of involving council health staff in the HSSP formulation explained a significant amount of incremental variance in the perceived health sector result index: $\Delta R^2 = 0.068$, F change $(1, 283) = 21.194$, $p < 0.001$ (Table 2). The HSSP formulation practices had a Cohen's f^2 of 0.075. The obtained value of $f^2 = 0.075$ indicated a small effect: a weak relationship (association) between the practices of involving council health staff in the HSSP formulation and the perceived health sector results index. In this analysis, involving council health staff in the HSSP formulation was statistically and positively related to the perceived health sector results as predicted in the study framework ($\beta = 0.265$, $p = 0.001$).

3.3 | Health Sector Strategic Plan Implementation Practices and Strategic Health Results

We performed a two-step hierarchical multiple regression analysis to assess the relationship between HSSP implementation practices and strategic health sector results (see Table 3). The analysis showed that the HSSP implementation practices explained a significant amount of incremental variance in the perceived health sector result index: $\Delta R^2 = 0.232$, F change $(1, 283) = 87.59$, $p < 0.001$ (Table 3). The HSSP implementation practices had a Cohen's f^2 of 0.31, which indicated a moderate-to-large effect: a moderate-to-large relationship between the HSSP implementation practices and the perceived health sector result index. In this model, the HSSP implementation practices had a significant and positive relationship with the perceived health sector results as predicted in the study framework ($\beta = 0.486$, $p = 0.001$).

3.4 | Health Sector Strategic Plan Monitoring and Evaluation Practices and Strategic Health Results

As shown in Table 4, we performed a two-step hierarchical multiple regression analysis to determine the relationship between HSSP monitoring and evaluation practices and the strategic health sector result. Our analysis showed that the HSSP monitoring and evaluation practices explained a significant amount of incremental variance in the perceived health sector result index: $\Delta R^2 = 0.254$, F change $(1, 283) = 99$, $p < 0.001$ (Table 4). The HSSP monitoring and evaluation practices had a Cohen's f^2 of 0.35, which indicated a large effect: a strong relationship between HSSP monitoring and evaluation practices and the perceived health sector result index. The sign of the multiple regression coefficient of the monitoring and evaluation practices was positive and significant ($\beta = 0.517$, $p = 0.001$).

TABLE 2 | Hierarchical regression results for regressing perceived health result index on health strategic sector plan formulation.

	Model 1		Model 2	
Variables in the model	***β***	***p***	***β***	***p***
Model 1: Control variables				
Sex	−0.051	0.395	−0.078	0.182
CHMT current position	0.046	0.462	0.079	0.199
CHMT managerial experience	0.112	0.088	0.109	0.087
Working experience	0.013	0.836	0.009	0.886
Educational qualification	0.002	0.979	0.024	0.686
Model 2: Control and formulation variables				
HSSP formulation			0.265	0.001
Models R^2 statistics				
R^2	0.018		0.087***	
ΔR^2 from model 1			0.068***	

Note: $N = 290$. Model R^2 = percent of variance in the dependent variable explained by all variables in the model. ΔR^2 = increase in the percent of variance explained by the variables added at step two. β = standardized multiple regression coefficients. ***$p < 0.001$.

TABLE 3 | Hierarchical regression results for regressing perceived health result index on health sector strategic plan implementation.

Variable in the model	Model 1		Model 2	
	β	p	β	p
Model 1: Control variables				
Sex	−0.051	0.395	-0.057	0.279
CHMT current position	0.046	0.462	0.012	0.823
CHMT managerial experience	0.112	0.088	0.081	0.159
Working experience	0.013	0.836	0.027	0.635
Educational qualification	−0.002	0.979	0.035	0.523
Model 2: Control and implementation variable				
HSSP implementation			0.486	0.001
Models R^2 statistics				
R^2	0.018		0.25***	
ΔR^2 from model 1			0.232***	

Note: $N = 290$. Model R^2 = percent of variance in the dependent variable explained by all the variables in the model. ΔR^2 = increase in the percent of variance explained by the variables added at step two. β = standardized multiple regression coefficients. ***$p < 0.001$.

TABLE 4 | Hierarchical regression results for regressing perceived health result index on health sector plan monitoring and evaluation.

Variable in the model	Model 1		Model 2	
	β	p	β	p
Model 1: Control variables				
Sex	−0.051	0.395	−0.061	0.244
CHMT current position	0.046	0.462	0.007	0.893
CHMT managerial experience	0.112	0.088	0.108	0.057
Working experience	0.013	0.836	−0.060	0.289
Educational qualification	−0.002	0.979	0.050	0.358
Model 2: Control and monitoring and evaluation variables				
HSSP monitoring and evaluation			0.517	0.001
Models R^2 statistics				
R^2	0.018		0.273***	
ΔR^2 from model 1			0.254***	

Note: $N = 290$. Model R^2 = percent of the variance in the dependent variable explained by all the variables in the model. ΔR^2 = increase in the percent of variance explained by the variables added at step two. β = standardized multiple regression coefficients. ***$p < 0.001$.

3.5 | Health Sector Strategic Planning Practices and Strategic Health Results

Finally, we performed a two-step hierarchical multiple regression analysis to quantify the overall (combined) relationship between the HSSP formulation, implementation practices, monitoring and evaluation practices, and strategic health results (see Table 5). The analysis showed that the linear combination of the three practices of health sector strategic planning explained a statistically significant amount of incremental variance in the perceived health sector result index: $\Delta R^2 = 0.301$, F change $(3, 281) = 41.34$, $p < 0.001$ (Table 5). All the practices had a Cohen's f^2 of 0.44, indicating a significant effect: a strong relationship between health sector strategic planning practices and perceived health sector result index. As a set, all practices of HSSP formulation, implementation, and monitoring and evaluation were positively related to the health sector results as measured by the perceived health sector result index; only two practices were positively and statistically significantly related to the perceived health sector results ($p < 0.05$): HSSP implementation ($\beta = 0.243$, $p = 0.001$) and HSSP monitoring and evaluation ($\beta = 0.327$, $p = 0.001$).

4 | Discussion

To address gaps reported in the empirical literature [8, 10, 11, 18], this study was set to examine and quantify the relationships between the health sector strategic planning practices and strategic health results in Tanzania Mainland. First, our research evidence indicates that each health sector strategic planning practice included in the study is positively and significantly related to the

TABLE 5 | Hierarchical regression results for regressing perceived health result index on all the three practices of health sector strategic planning.

Variable	Model 1		Model 2	
	β	*p*	*β*	*p*
Model 1: Control variables only				
CHMT current position	0.046	0.462	0.016	0.771
Sex	−0.051	0.395	−0.068	0.173
CHMT managerial experience	0.112	0.088	0.092	0.093
Working experience	0.013	0.836	−0.028	0.617
Educational qualification	−0.002	0.979	0.058	0.270
Model 2: Control and health sector strategic planning practices variables				
HSSP formulation			0.09	0.093
HSSP implementation			0.243	0.001
HSSP monitoring and evaluation			0.327	0.001
Models R^2 statistics				
R^2	0.018		0.319***	
ΔR^2 from model 1			0.301***	

Note: $N = 290$. Model R^2 = percent of variance in the dependent variable explained by all the variables in the model. ΔR^2 = increase in the percent of variance explained by the variables added at step two. β = standardized multiple regression coefficient. ***$p < 0.001$.

planned strategic health sector results. Second, taken as a set, our evidence indicates that the health sector strategic plan implementation and monitoring and evaluation practices of the health sector strategic plan at the council level are positively related to the health sector results.

4.1 | Health Sector Strategic Planning Practices and Health Sector Results

Our research evidence has demonstrated a positive and weak relationship between the practices of involving council health staff in the HSSP formulation and strategic health sector results. The weak relation between the practices of formulating the HSSP and health sector results may be due to the inadequate number of specific practices included in this study. Our finding suggests that involving council health managers and other health staff in the HSSP formulation seems to increase the likelihood of achieving health sector results; this may be attributed to the shared understanding among actors, increased ownership and the possibility of implementing the developed HSSP [11]. Moreover, our findings suggest that while involving council health managers and other health staff in formulating health sector strategic plans is beneficial, its direct impact on health sector results may be limited unless followed by strong implementation, monitoring and evaluation. The finding concurs with similar research findings in the public sector other than the health sector [11–13, 39]. Conversely, the finding of involving actors in this study contradicts the finding reported by Johnsen [40].

Furthermore, our evidence indicated a positive and moderate-to-large relationship between the HSSP implementation practices, and the health sector results as measured by the perceived health sector results index. This finding suggests that the council health managers generally perceive the implementation of the HSSP to be important in realizing strategic health sector results at the council level in Tanzania. The finding supports earlier studies showing a similar relationship between strategic plan implementation practices and the perceived strategic results in the public sector outside the health sector of developed countries [10, 12, 21, 38, 39].

Moreover, our evidence has indicated a strong and positive relationship between health sector strategic monitoring and evaluation practices and the health sector results. This finding implies that the council health managers perceive the practices of monitoring and evaluating the health sector strategic plan to play a more critical role in helping the council health managers attain strategic health sector results in their councils. It is likely that monitoring and evaluation practices helped council health managers take corrective measures to improve the performance of their councils. Our finding confirms similar research findings reported in the public sector outside the health sector [10, 12, 13, 38, 39].

Finally, our study evidence from the overall model indicated a strong and positive relationship between the health sector strategic planning practices and health sector results. Moreover, only the strategic plan implementation and monitoring and evaluation practices were statistically significantly related to the health perceived health sector results. This finding indicates that the council health managers generally perceive that achieving strategic health sector results at the council level depends mainly on strategic plan implementation and monitoring and evaluation practices. The findings on the overall relationship between health sector strategic planning practices and health sector results and the importance of strategic plan implementation and monitoring and evaluation practices in realizing strategic sector results corroborate similar findings

reported in the previous research outside the health sector [12, 19, 20, 24, 38, 39].

4.2 | Implications to Theory and Practice

Consistent with the strategic planning theory and our conceptual framework, our findings provide empirical support for the proposition that health sector strategic planning practices positively relate to the strategic health sector results. Our evidence has practical implications and suggests that council health managers should participate in formulating, implementing, monitoring, and evaluating the health sector strategic plan to enhance their chances of achieving health sector strategic results in future health sector strategic plans. In addition, health policymakers at the ministerial level should continue to engage council health managers in formulating, implementing, monitoring, and evaluating future strategic plans for the health sector to facilitate the realization of strategic health sector results.

4.3 | Limitations of the Study and Implications for Future Research

This study has some limitations. First, our study used a cross-sectional study design and self-reported measures to assess the relationships between health sector strategic planning practices and health sector results. Our study, therefore, has found associations and has not established causal relationships between health sector strategic planning practices and health sector results [43]. Using self-reported measures and techniques may overestimate or underestimate practices and results. However, previous methodological research has demonstrated that managers' perceptions are valid, reliable, and sensitive to practices and performance [52]. Despite these limitations, our research has provided valuable insights into the relationships between the health sector's strategic planning practices and the strategic health results in Tanzania.

Second, our final model explained only about 30% of the health sector strategic results variance. Most (70%) of the variance in the health sector results remains unexplained by the variables we included in the model. Thus, we still know little about the relationships between the health sector strategic planning practices and the health sector strategic results. We recommend future research to include more health sector strategic planning practices-related variables (e.g., leadership and support from various actors) and non-health sector strategic planning variables (e.g., council characteristics such as population size, education, and income) that are likely to improve our understanding of how health sector strategic planning practices are related to the health sector strategic results [11, 18, 19, 52].

5 | Conclusion

Our study provides further evidence to the ongoing debate regarding the relationships between strategic planning practices and strategic results in the health and public sectors. Our research has produced additional evidence indicating that each of the HSSP formulation, implementation, monitoring, and evaluation practices is positively related to the strategic health sector results at the council level in Tanzania. Furthermore, when considered as a whole, only the HSSP implementation and monitoring and evaluation practices are significantly and positively related to the strategic health sector results. Our findings suggest that the council health managers should continue to engage in implementing, monitoring and evaluating the health sector strategic plan to enhance their chance of achieving the health sector strategic results set out in the HSSPs. We recommend future research to assess the relationships between health sector strategic planning practices and health sector strategic results using longitudinal studies and in other settings.

Author Contributions

Mwandu Kini Jiyenze: conceptualization, investigation, writing – original draft, funding acquisition, methodology, validation, visualization, writing – review and editing, formal analysis, data curation, project administration. **Henry Mollel:** conceptualization, methodology, validation, writing – review and editing, supervision. **Charles Tundui:** conceptualization, methodology, validation, formal analysis, supervision, writing – review and editing.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Our data supporting this study's findings are available from the corresponding author upon reasonable request. The lead author (corresponding) affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Transparency Statement

The lead author Mwandu Kini Jiyenze affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.