A cross-sectional job satisfaction survey of physicians in Bhutan to address the problem of retention

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ABSTRACT

Introduction: A persistent shortage of physicians and relatively high attrition (>10% over 7 years) have been longstanding challenges for Bhutan despite efforts at improvement. Little is known about physicians' job satisfaction. The study was done to assess level of job satisfaction amongst physicians in Bhutan and identify factors affecting it, thereby be able to better understand factors affecting physician retention. **Methods:** A national, cross-sectional study on job satisfaction of all Bhutanese physicians was conducted in 2016. Physicians were defined as satisfied if they answered yes to >50% of general survey questions about job satisfaction and and associations between demographic or job characteristics (e.g., married vs. unmarried, clinical vs. non-clinical) and job satisfaction were examined. Physicians were also queried about specific elements of their jobs (e.g., pay, working conditions) and explored associations between demographic or job characteristics and job elements. **Results:** Of 147 physicians who completed the job survey, 94 (64%) were classified as satisfied. There were significant differences in job satisfaction between married and unmarried physicians (72% vs 49%, p=0·01), specialists and generalists (73% vs 55%, p=0·04), non-clinical and clinical physicians (89% vs 61%, p=0·02), and physicians in referral and district hospitals (75% vs 48%, p <0·01). Across all demographic and job characteristics, salary satisfaction was low (11%). In multivariable analysis, non-clinicians had significantly greater satisfaction than clinicians with salary, annual leave, and work-family balance. Physicians in referral hospitals had significantly greater satisfaction than physicians in district facilities with work hours and working conditions. **Conclusion:** Survey findings suggest that, although job satisfaction appeared high, improved physician retention may require increased pay, opportunities for promotion to desired settings and job categories, and improved staffing and work conditions in district healthcare facilities.

Keywords: Bhutan; Developing country; Health workforce; Physician Job Satisfaction; Physician retention.

INTRODUCTION

Retention of physicians is a challenge in low-income countries. A number of factors affect the ability of these countries to retain physicians, including financial incentives, staffing, work environment, and opportunities for career development[1–3]. Job satisfaction is an important factor that influences job performance and the migration of health workers, both from rural areas to cities, and out of the country[4]. There are a number of determinants of job satisfaction that vary by job category. In the health sector, job satisfaction is highly associated with quality of services, continuity of care, patient satisfaction, performance of the facilities, staff turnover, and costs of the medical services[5-7].

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Bhutan, a small, landlocked, developing nation between China and India, with a population of 727,000 people[8], initiated its first planned healthcare services delivery in 1954 in a one-room dispensary. Since then, Bhutan has seen a rapid expansion in medical personnel and infrastructure that has contributed to declines in morbidity and mortality[9]. Today there are 27 hospitals and 208 Basic Health Units (BHU), none of which are private. Modern and traditional healthcare are free. With a physician density of 0.43 per 1000 population[10], Bhutan is among 44% of United Nations member states with a physician density less than one per 1000[11]. In recent years, physician resignations have created stress in the healthcare system, compromising the ability to deliver quality care. Between 2011 and 2015, 24 (9.6%) of 251 registered physicians left practice (personal communication, Human Resource Division of MOH and Royal Civil Service Commission, Royal Government of Bhutan); 13 (54.2%) were specialists. To address the problem of physician retention, the

government of Bhutan increased the number of scholarships for medical students to study in other countries (Bhutan lacks a medical school), provided medical and specialist allowances for health professionals, reformed physicians' career paths[12], and initiated a program for in-country, postgraduate medical specialty training. In spite of these efforts, an additional 15 physicians left between 2016 and 2018, of which 12 (80%) were generalists (personal communication, Human Resource Divistion, Royal Civil Service Commission, Royal Government of Bhutan). The 39 physicians who departed between 2011 and 2018 represented over 10% of physicians in the country.

A survey conducted by the Ministry of Health in 2017 found that 68% of healthcare providers were satisfied with their jobs, but physicians were the least satisfied professional category, at 62%[13]. Another study done in 2013-2014 noted that life satisfaction scores of Bhutanese physicians were significantly lower than those reported by the general population, which had been found to have happiness levels >80%. Findings of this study suggested that physician happiness in Bhutan may have been determined by factors related to personal, family, religious and social domains unrelated to their professional responsibilities[14]. In June 2016, this survey was initiated to specifically assess Bhutanese physician job satisfaction in an effort to better understand factors that affect job satisfaction and those that might influence physician retention.

METHODS

Survey type: A national cross-sectional survey on job satisfaction of all Bhutanese Physicians.

Survey population: At the time of this study, there was a total of 251 registered physicians in Bhutan. Of these 251 physicians, 62 were out of the country either on long term training or extraordinary leave (greater than one month). Therefore, at the time of this survey, 189 physicians were in-country and available to participate.

Enrollment: All physicians with at least a Bachelor of Medicine and Bachelor of Surgery (MBBS) degree and currently working in Bhutan were eligible to participate and received the survey instrument at professional meetings or by email. Non-respondents were contacted several times to request their cooperation.

Data collection: Survey forms had three sections. The first section covered demographic and job characteristics, which included specialization status (MBBS vs MBBS plus specialization (either residency or public health training), location of MBBS training, clinical status (clinical vs non-clinical), and location of practice (referral vs district healthcare facility). The second section was a validated standard job satisfaction survey comprised of 30 questions with yes/no responses developed by Welcoa, Inc. (hereafter referred to as Welcoa survey)[15]. The third section was a Likert-type survey (hereafter referred to as Likert survey) comprising questions about specific aspects of the physician's job with scaled potential responses (strongly disagree/disagree/neutral/agree/strongly agree).

Statistical analysis: Data analysis was performed with R v3.5 software. We assessed physicians' self-reported level of job satisfaction in two ways. For the Welcoa survey, we defined a positive overall response as a 'yes' to 15 or more out of 30 total questions. For the Likert survey, four elements of job satisfaction (pay, professional development, work conditions, and workload) were examined and categorized responses as positive if the response was agree or strongly agree, and negative if one of the other responses was indicated. The association between a demographic or job characteristic and job satisfaction were assessed using Chi-square or Fisher's exact test as appropriate for categorical variables, and Wilcoxon rank sum test for continuous variables. Joint contribution of job characteristics from the first survey section were examined to explain job satisfaction responses obtained in select questions in the Likert survey using multivariable log-binomial regression by treating job satisfaction as a binary outcome variable and job characteristics as independent variables. For this analysis, we extracted variables from six survey questions from the Likert survey that were associated with at least two job characteristics (educational attainment, clinical status, and work place) from the first survey section. Adjusted relative rate ratio (RR) of job satisfaction and 95% confidence interval (CI) were determined.

Ethical considerations: The Research Ethics Board of Health (REBH), the Policy and Planning Division in the Ministry of Health of the Royal Government of Bhutan vide ref. No. REBH/Waiver letter/2016/034 dated 23rd May, 2016, and the United States Centers for Disease Control and Prevention Human Subjects Protection representative each reviewed the protocol and determined it was non-research. A letter explaining the purpose of the survey was attached to each questionnaire and all participants were asked to provide written informed consent. Survey forms included no personal identifiers and data were stored in password protected databases.

RESULTS

Demographic and job characteristics: Of 189 physicians targeted, 78% completed the survey (Table 1). Of 147 respondents, 73% were male, 67% were married, and the median age was 33 years (interquartile range [IQR]: 28-40 years). The average age of married physicians was greater than unmarried physicians (37 years vs. 28 years), the average years in service were greater (11 years vs. 3 years), and 56% of married physicians' spouses were employed. The educational attainment was an MBBS degree for 52% physicians and MBBS plus specialization (hereafter referred to as specialization) for 48%; 76% had graduated from

Table 1. Demographic and job characteristics of physicians overall and by level of job satisfaction in Welcoa survey, Bhutan, 2016

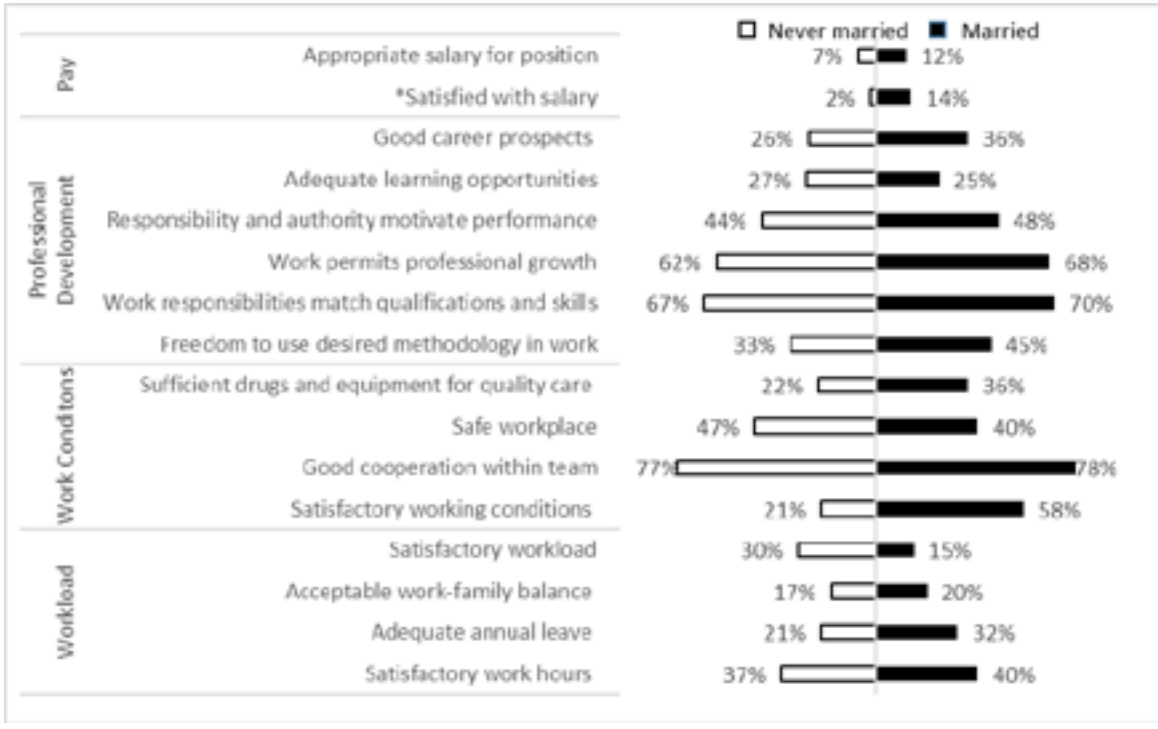
Characteristic	*n* (%)	Positive *n* (%)	Negative *n* (%)	*p*-value
Total	147 (100)	94 (64)	53 (36)	
Age in years, median (IQR*)	33 (28–40)	35 (29–41)	31 (28–37)	0.09
Gender				0.68
Male	107 (73)	70 (65)	37 (35)	
Female	40 (27)	24 (60)	16 (40)	
Marital status				0.01†
Never married	43 (29)	21 (49)	22 (51)	
Married/living together	99 (67)	71 (72)	28 (28)	
Single	5 (7)	2 (40)	3 (60)	
Educational attainment				0.04†
MBBS	76 (52)	42 (55)	34 (45)	
MBBS + specialization	71 (48)	52 (73)	19 (27)	
Countries where MBBS training completed				0.29†
India	53 (36)	39 (74)	14 (26)	
Bangladesh	24 (16)	13 (54)	11 (46)	
Sri Lanka	59 (40)	35 (59)	24 (41)	
Others	11 (8)	7 (64)	4 (36)	
Clinical status				0.02†
Clinical	127 (86)	77 (61)	50 (39)	
Non-clinical	19 (13)	17 (89)	2 (11)	
Work place				<0.01†
District healthcare facilities	58 (40)	28 (48)	30 (52)	
Referral hospitals	88 (60)	66 (75)	22 (25)	
Administrative responsibility				1.00
Yes	68 (47)	44 (65)	24 (35)	
No	78 (53)	50 (64)	28 (36)	
Years in service, median (IQR*)	4.5 (1–12)	3 (1–10)	7 (2–12)	0.07

*IQR=inter quartile range; †significant at 0.05

Table 2. Adjusted associations, OR (95% CI), between job satisfaction variables from Likert survey and educational attainment, clinical status, and workplace, using multivariable log-binomial regression, Bhutan, 2016

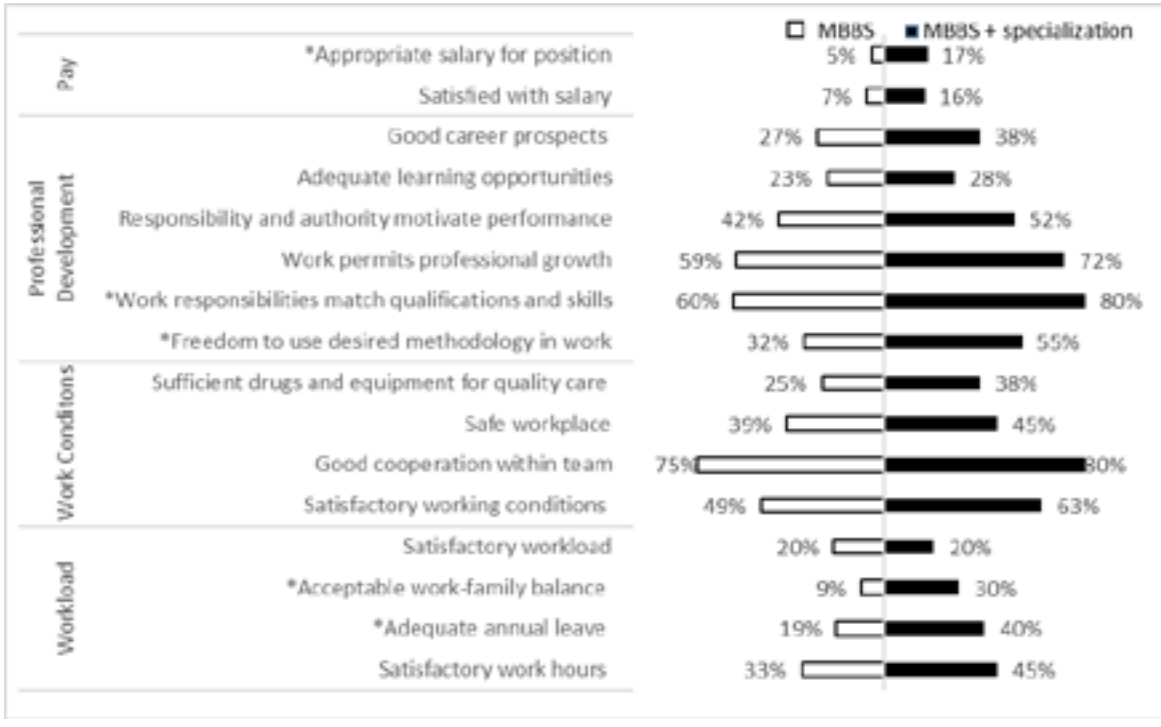
	Educational attainment: Specialization vs MBBS-only	Clinical status: Non-Clinical vs Clinical	Work place: Referral hospital vs District level
Satisfactory work hours	0.82 (0.49-1.38)	1.75 (1.09-2.80)*	1.79 (1.01-3.15)*
Adequate annual leave	2.06 (0.99-4.28)	2.34 (1.34-4.04)*	0.64 (0.31-1.32)
Acceptable work-family balance	1.31 (0.47-3.63)	2.79 (1.42-5.49)*	2.34 (0.69-7.94)
Satisfactory working conditions	0.83 (0.59-1.17)	1.32 (0.95-1.82)	1.79 (1.20-2.68)*
Freedom to use desired methodology	1.39 (0.85-2.28)	1.32 (0.88-2.00)	1.27 (0.75-2.14)
Appropriate salary for position	1.25 (0.25-6.32)	5.35 (1.79-15.94)*	1.23 (0.23-6.58)

*significant at 0.05



*Significant at 0.05

Figure 1. Percentage of physicians reporting satisfaction with various aspects of job in Likert survey, by marital status, Bhutan, 2016

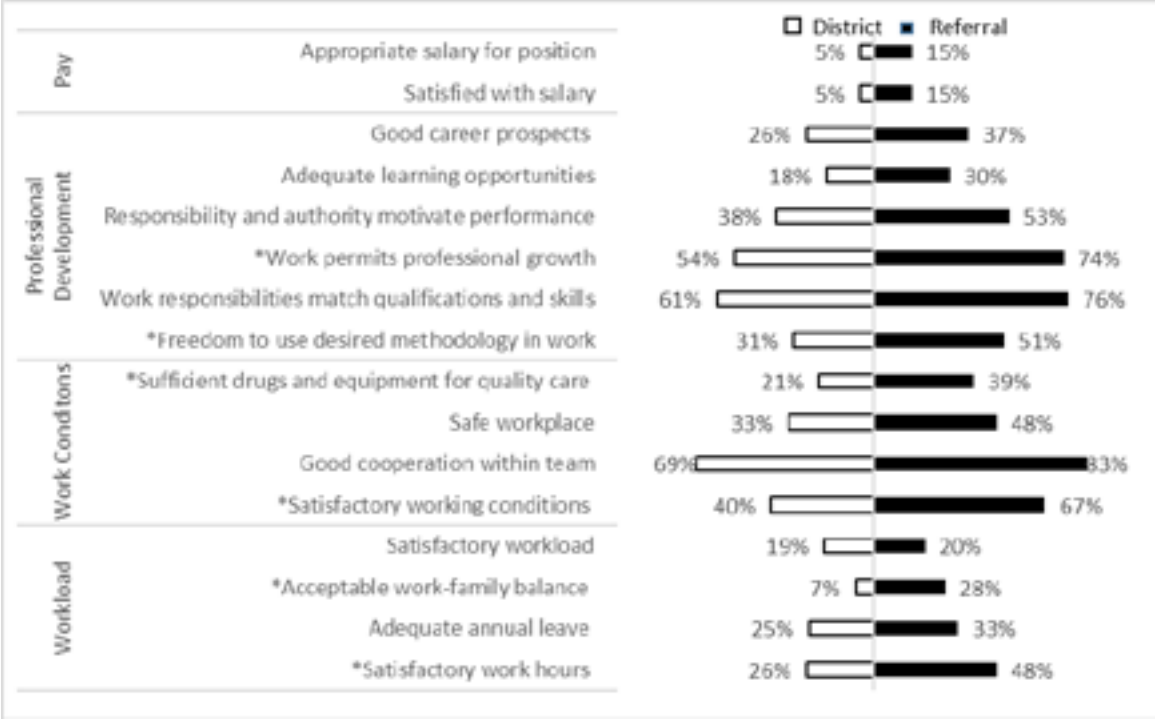


*Significant at 0.05

Figure 2. Percentage of physicians reporting satisfaction with various aspects of job in Likert survey, by educational attainment, Bhutan, 2016

*Significant at 0.05

Figure 3. Percentage of physicians reporting satisfaction with various aspects of job in Likert survey, by clinical status, Bhutan, 2016



*Significant at 0.05

Figure 4. Percentage of physicians reporting satisfaction with various aspects of job in Likert survey, by work place, Bhutan, 2016

institutions in Sri Lanka or India. Of 147 respondents, 86% worked as clinicians, 40% worked in district hospitals (and BHUs), and 47% had administrative responsibilities. The median number of years in service was 4·5 (IQR: 1-12 years).

Job Satisfaction: Results of the Welcoa survey suggested that 64% respondents were satisfied with their job (Table 1). There was a greater apparent likelihood of job satisfaction among married than non-married physicians (72% vs 49%, p=0·01); physicians with a specialization than with MBBS only (73% vs 55%, p=0·04); physicians in non-clinical than clinical positions (89% vs 61%, p=0·02); and those with positions in referral than district hospitals (75% vs 48%, p<0·01).

Data in the Likert survey showed low levels of satisfaction with pay and workload, with mixed opinions about professional development and work conditions (Figure 1). The only statistically significant association between job satisfaction and marital status was found with salary, with married physicians more likely to be satisfied than non-married physicians (14% vs 2%, p<0·05).

Physicians with higher educational attainment reported more satisfaction across most of the variables in the Likert survey than those with education limited to an MBBS (Figure 2). Statistically significant differences in reported satisfaction were observed with "appropriate salary for position" (17% vs 5%), "work responsibility matches qualifications and skills" (80% vs 60%), "freedom to use desired methodology in work" (55% vs 32%), "acceptable work-family balance" (30% vs 9%), and "adequate annual leave" (40% vs 19%).

Across all job variables, a higher percentage of physicians in non-clinical positions were reported being satisfied than clinicians (Figure 3). Statistically significant differences were observed for "appropriate salary for position" (42% vs 6%), "pay" (44% vs 6%), "freedom to use desired methodology" (68% vs 39%), "satisfactory working conditions" (79% vs 53%), "acceptable work-family balance" 58% vs 14%), "adequate annual leave" (67% s 24%), and "satisfactory work hours" (68% vs 35%).

Across all variables, a higher percentage of survey respondents working in referral hospitals were satisfied than those in district healthcare facilities (Figure 4). Physicians in referral hospitals were significantly more likely than those in district hospitals to be satisfied with "opportunities for professional growth" (74% vs 54%), "freedom to use desired methodology in work" (51% vs 31%), "sufficient drugs and equipment for quality care" (39% vs 21%), "satisfactory working conditions" (67% vs 40%), "acceptable work-family balance" (28% vs 7%), and "satisfactory work hours" (48% vs 26%).

When asked to choose which one of the following five potential job benefits motivated them most, respondents indicated salary increase (39%), recognition (37%), motivational talks (7%), promotion (7%), and annual leave (2%). While 77% of survey respondents indicated that they wanted the healthcare system to progress, only 32% believed their career prospects were good.

In multivariable analysis, non-clinicians were more likely than clinicians to be satisfied with work hours (relative ratio [RR] = 1·75, 95% confidence intervals [95% CI] 1·09-2·80]), annual leave (RR 2·34, 95% CI 1·34-4·04), work-family balance (RR 2·79, 95% CI 1·43-5·49), and appropriate salary for position (RR 5·35, 95% CI 1·79-15·95), independently of educational attainment and work place (Table 2). Compared to physicians in district hospitals, physicians in referral hospitals were more likely to be satisfied with work hours (RR 1·79, 95% CI 1·01-3·15), and work conditions (RR 1·79, 95% CI 1·20-2·68), independently of educational attainment and clinical status.

DISCUSSION

Findings in this job satisfaction survey revealed that nearly two thirds of physicians in Bhutan were satisfied with their job. This survey was the first to be conducted in Bhutan and one of few performed in developing countries[16-19]. The results of this survey were similar to findings from previous studies of physicians in Japan, India, Saudi Arabia, and Thailand, all of which are middle- or high-income countries[13,18,20-22], but much lower than those in higher income countries like the USA, Australia, UK, and Singapore[23-27]. In the data presented here, despite relatively high job satisfaction, several areas of concern were revealed. Physicians who were not married, had lower education attainment, worked in a district hospital, and in clinical positions appeared to have lower job satisfaction. There is no association between job satisfaction and age, gender, or years of experience in this study, which is similar to results of several other studies[27-34].

The Likert scale data enabled us to distinguish individual elements of physicians' work that were most important in determining overall job satisfaction from the Welcoa questionnaire. Although the satisfaction with salaries was low for all physicians, it was higher for married than unmarried physicians. The most likely explanation for this finding is higher household income, as most physicians' spouses were employed, adding a second salary to the household. It is also likely that, on average, married physicians had higher incomes than unmarried physicians because their average age and average years of service were greater. This finding was similar among physicians in southwestern Ontario[28], Calabar, Nigeria[17], and Jiangsu province, China[29]. In general, unmarried physicians had lower satisfaction than married physicians for most of the job elements identified in the Likert survey. The reasons for these findings merit further exploration.

Overall, physicians with higher educational attainment were more satisfied with most elements of their job examined in the Likert survey than non-specialist physicians. This was similar to findings of studies from China and Pakistan[16,29]. Specifically, physicians with higher educational attainment in this survey were more likely to respond that their salary was appropriate for their position, their work responsibilities matched their qualifications/

skills, they were free to use desired methodologies, and they had acceptable work-family balance and annual leave. These findings are encouraging in the sense that Bhutan has prioritized retaining specialist physicians through strategies such as higher professional allowance, higher civil service entry pay grade, and frequent professional development opportunities[30,31]. Specialists are also granted greater autonomy in their practice because of their scarcity in the country. An unanswered question is whether these relatively greater benefits are having the desired outcome of higher retention of specialist physicians in Bhutan, which had improved modestly over the past 3 years of government data. Despite these encouraging signs, the lower satisfaction of non-specialist physicians is an area of concern because of the greater need for primary care physicians and recent attrition of over 7% of generalists, compared to 2% of specialists. A recent literature review of the impact of primary care across many settings in developed and developing countries suggested that primary care was associated with enhanced access to healthcare services, better outcomes, and decreases in hospitalizations and emergency department visits[32]. The problem of physician retention among both generalists and specialists could be addressed in Bhutan by offering clearer career pathways to specialization for physicians.

Physicians in non-clinical positions were substantially more satisfied than clinicians across all Likert survey variables. Non-clinicians were significantly happier with salary, autonomy, working conditions, work-family balance, annual leave, and work hours. These findings were reinforced in multivariable analysis, which found independent associations between non-clinical status and satisfaction with pay, work hours, annual leave, and work-family balance. Physicians' preferences for non-clinical careers has been documented previously[33]. Explanations for the non-clinical preference could include burnout from long hours and stress in clinical practice, or a desire to engage in health care management to improve the functioning of the healthcare system[34,35]. Current policies in Bhutan include the provision of scholarships to study medicine, which require, in return, that physicians make a commitment to limit their career to clinical work[33]. Consequently, only three physicians hold non-clinical positions in the Ministry of Health, and only 32% of survey respondents expected their career to progress. Improved physician retention in Bhutan may require several interventions, such as improved pay, improved conditions in the workplace, and an increase in distinct career paths that for some could include management positions.

Second only to clinical status for job satisfaction was workplace location which, across all variables, was higher for physicians in referral hospitals than in district healthcare facilities (HCFs). Multivariable analysis showed independent associations between employment in referral hospitals and satisfaction with work hours and working conditions (Table 2). Clinical practice in referral hospitals tends to be more varied, with better access to equipment and supplies, higher physician density. More opportunities for utilizing medical training, more treatment options for patients, better career advancement, and location in urban areas that have greater amenities. Because the small number of referral hospitals limits opportunities for physician transfers, further study is needed to determine specific reasons for lower job satisfaction among physicians in district hospitals.

Most physicians responding to this survey indicated that they were motivated by either salary increase or recognition. The provision of higher pay, particularly for clinicians and physicians who work in district hospitals, could be an important incentive for physician retention. It is not clear from this survey what type of recognition would motivate respondents, since recognition could consist of awards, bonuses for high quality work, or eligibility for promotion. At least two studies have identified recognition as a factor influencing physicians' job satisfaction in China and Mexico[36,37]. Further study needed to determine the relative desirability of different forms of recognition in Bhutan.

This study had several important limitations. First, although the survey aimed to recruit all Bhutanese doctors, those undergoing training out of the country were excluded and 22% of eligible doctors did not participate, which could have introduced non-response bias into the survey. Second, in this study the analysis of the Welcoa survey data, it was dichotomized job satisfaction arbitrarily as 15 or more positive responses, but actual satisfaction may be more nuanced and may merit more response categories, even though the internal consistency between Welcoa and Likert survey data suggests that the Welcoa analysis accurately portrayed physician satisfaction. Finally, this cross-sectional survey represented a snapshot in time and conditions for physicians in Bhutan could have changed. Indeed, the number of physicians has increased in the three years since the survey was conducted. Periodic surveys similar to this study could benefit the Bhutanese MOH by helping assess potential interventions designed to improve physician retention.

CONCLUSION

In conclusion, although nearly two-thirds of physicians in Bhutan were satisfied with their job by one measure, survey findings highlighted several areas of concern that may have had a role in the recent loss of over 10% of Bhutanese physicians from civil service. In particular, physicians in clinical positions and located in district HCFs appeared to be the least satisfied. Survey findings suggest several possible remedies that could be explored to address the problem:

- increased pay commensurate with professional skills and responsibility;
- increased recognition from authorities for irregular and long working hours, job stress, professional responsibilities, sacrifices, and workplace hazards, including exposure to infections and chemicals ;
- improved work conditions (e.g., increased physician staffing in district HCFs, greater access to clinical equipment and supplies, and proper office set up);

- more opportunities for professional development through a dedicated budget for each hospital and department for training/workshop/conference opportunities per physician;
- more opportunities for career advancement, including pathways toward specialization, non-clinical positions, and work responsibilities that include health and program management to improve the quality of health programs;
- better work-life balance.

In addition to the above remedies, further study of physician job satisfaction in Bhutan is warranted to determine factors that could help improve professional working conditions and prospects for physician retention.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

CW: concept, analysis of data, study design, manuscript drafting and critical reviews

SK: Concept, Design, Manuscript

TP: Concept, Design, Manuscript

RQ: Concept, Design, Manuscript

Authors agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

The authors declare no potential conflicts of interest with respect to the research, authorship, or publication of this article. The contents of this paper are solely the responsibility of the authors and do not necessarily reflect the official views of the Centers for Disease Control and Prevention (CDC).

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