

Abstract:

With the AIDS epidemic severely decreasing the health workforce in Botswana, medical professionals have never been more needed (Samb et al., 2007). During this health workforce shortage, migration of health professionals to more developed countries is further depleting this human resource. We surveyed current University of Botswana (UB) students to project the future demographics of Botswana's healthcare workforce. Results found that a majority of pre-medical and nursing students plan to work in Botswana, but the percent of students planning to work abroad is statistically larger than data on abroad health professionals in 2000 (with a discrepancy in non-Batswana student numbers versus non-Botswana-born domestic health workers accounted for in comparative 2000 census). Results suggest that the future generation of health professionals will have a continued problem with the migration of Botswana educated human capital. Future research on motivations of UB students and the effects of Botswana's Medical school running at capacity are necessary to better understand Botswana's migration patterns of health professionals.

Introduction:

The World Health Organization estimates that there is now a global deficit of more than 4 million trained health workers with critical shortages in Sub-Saharan Africa (Samb et al., 2007). In Botswana, 17% of the health workforce died from diseases related to AIDS from 1999 to 2005. (Samb et al., 2007). A census was done in 2000 in nine top-choice destination countries (Australia, Belgium, Canada, France, Portugal, S. Africa, Spain, US, and UK), allowing the number of African-born doctors and nurses employed to be compiled by Clemens and Pettersson (2008). It was found that 65,000 African-born doctors and 70,000 African-born professional nurses were working overseas in developed countries, representing one fifth of African-born physicians in the world, and one tenth of African-born professional nurses (Clemens & Pettersson, 2008). This fraction varied from one African country to the next with higher frequencies in Sub-Saharan African Countries. In this time of huge need for medical professionals, in the wake of an epidemic, migration to developing countries is causing a huge loss of government investment in human services in Botswana and a decrease in health services available to the source country's public sector. We looked to see how the students were responding to the shortage of staff in Botswana and concurrent pull to developed countries overseas, to understand the future demographic of Botswana health professionals.

Methods:

We administered surveys in five University of Botswana classes containing nursing and pre-medical students about future career plans, current education sponsorship, future education and sponsorship plans, location of future job, motivations for health career, five-year plan, and socioeconomic status. Non-pre-health field responses were discarded. Data were analysed using Chi-square to test for significant differences if $p < .05$.

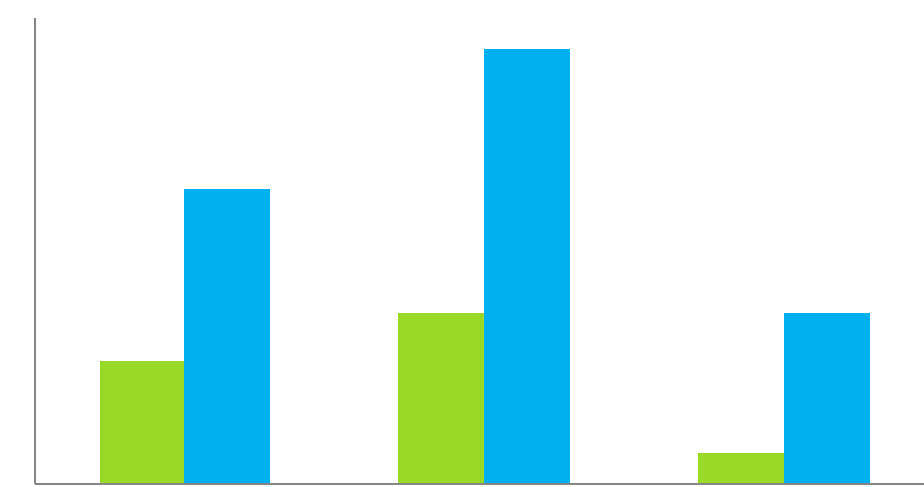


Figure 1. Percent Africa-born nurses or doctors employed in nine "destination" countries out of total nurses or doctors working domestically and abroad in 2000 (Clemens & Pettersson, 2008).

References

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University of Botswana

Results:

Respondents (n=140) Number Percent

Background (n=137)		
Males	62	45%
Females	75	55%
Average Age	22	

Future Career Plan

Nurse (n=56)		
Males	19	34%
Females	37	66%

Doctor (n=58)		
Males	36	62%
Females	22	38%

Sponsorship of Current Degree (n=140)

Gov't of Botswana	121	86%
Other	20	14%

Planning on Continuing Education (n=140)

Yes	124	89%
No	16	11%

Location of Continuing Education (n=125)

Nurses (n=48)		
Botswana + Southern Africa	31	65%
EU/UK/US/CAN/AUS	17	35%

Doctors (n=54)		
Botswana + Southern Africa	13	24%
EU/UK/US/CAN/AUS	41	76%

Degree Sponsorship

Nurses		
Gov't of Bots	12	25%
Everything Else	36	75%

Doctors		
Gov't of Bots	37	63%
Everything Else	22	37%

Location of Future Work

Nurses (n=55)		
Botswana	45	82%
Anywhere else	10	18%

Doctors (n=58)		
Botswana	45	78%
Anywhere else	13	22%

Socio-economic Status

Nurses (n=39)		
Upper/Middle	10	26%
Lower/Poor	29	74%

Doctors (n=46)		
Upper/Middle	32	70%
Lower/Poor	14	30%

Figure 2. General Responses given and break down in nurses vs. doctors.

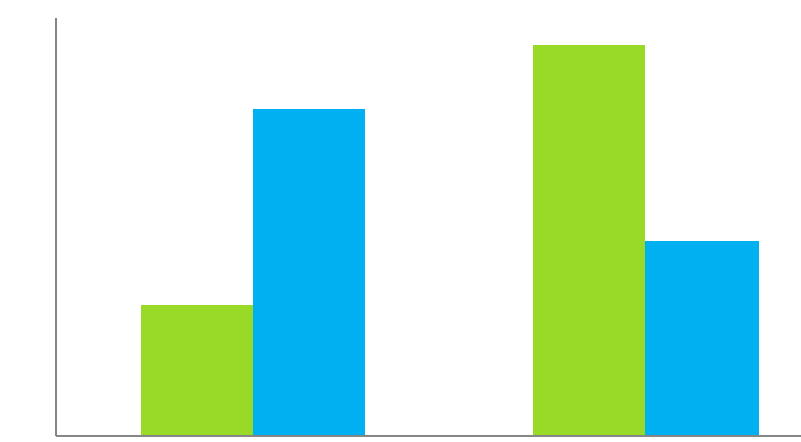


Figure 3. Nurses and doctors in percent Gov. Bots sponsorship vs. Everything else of future degree. Significantly more doctors will plan on being sponsored by the government than nurses ($X^2 = 14.5$, $p = .0001$).

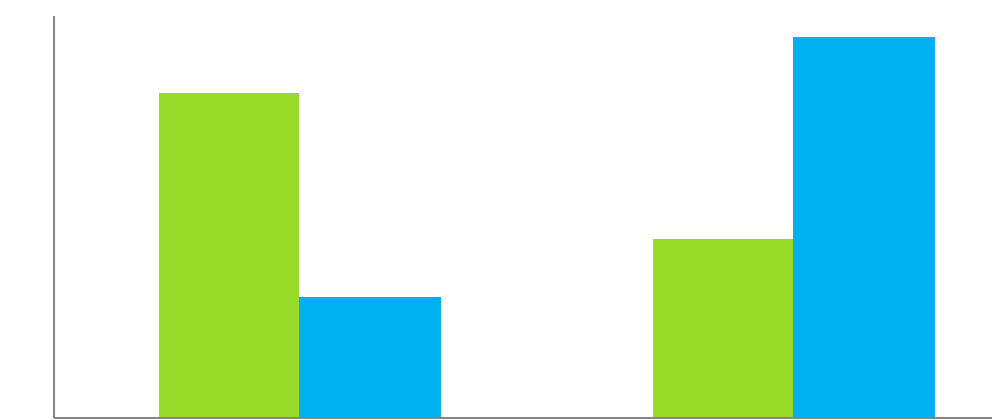


Figure 4. Of future nurses and doctors, percent that plan to school in Southern Africa & Botswana as compared to overseas. Significantly more doctors want to go abroad and nurses plan to stay in Southern Africa to school ($X^2 = 17.0$, $p = .0000$).

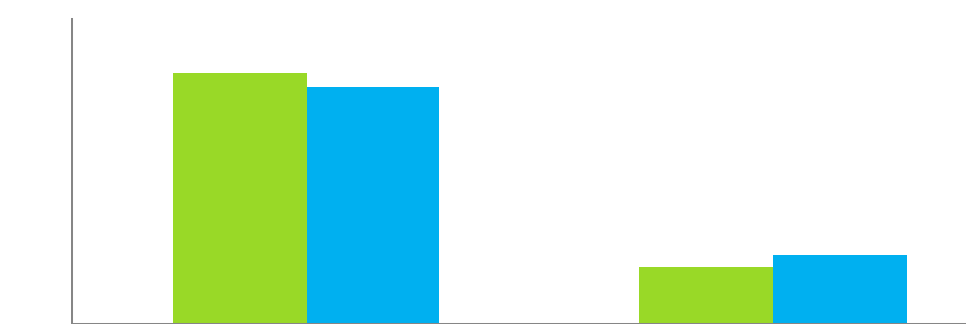


Figure 5. Of nurses and doctors, percent projected work location for Botswana as compared to anywhere else. Twenty-two percent of future doctors and 18% of future nurses plan to work outside of Botswana.

Conclusion:

Our data suggests that problems of migration will still exist in tomorrow's generation of health-field professionals. Because Botswana invests large amounts of capital on pre-health field Batswana, doctors more than nurses, it is vital that these problems receive further attention. Statistically, compared to the 2000 census, a larger percent of students at UB are planning on working abroad than actually was working abroad during the beginning years of the AIDS epidemic. Although, the census included non-African workers working domestically in its total to find percent working overseas, our data only reflected international or local students at UB. Increases in international workers migrating to Botswana would make these data more comparable. More research on motivations of the migrating workforce as well as the migration patterns of students able to study in-country versus out-country, once the medical school is at full capacity, might help to understand the causes of the flow of migration in order to better control it.

Figure 6. Of nurses and doctors from a 2000 census and a 2011 survey, percent working or planning on working outside of Botswana. UB had higher percentages planning on going abroad than census results in 2000.

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