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ENSURING PUBLIC HEALTH SECURITY FOR ITS CITIZENS – ZAMBIA WALKS THE TALK

Editorial

By ML Mazaba

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Zambia has put on its priority list of the health sector, strategies and activities to ensure the health of its citizens is secured. This mandate is further expanded to contributing to securing the health of the global community by subscribing to the framework of the International Health Regulations (2005), a key driver in the effort to strengthen global public health security

Ensuring Public Health Security for its citizens – Zambia Walks The Talk!

Zambia has put on its priority list of the health sector, strategies and activities to ensure the health of its citizens is secured. This mandate is further expanded to contributing to securing the health of the global community by subscribing to the framework of the International Health Regulations (2005), a key driver in the effort to strengthen global public health security

The Ministry of health has transformed the way it manages health and put in place systems, strategies and actions that will enhance its capacity to ensure disease prevention, detection and timely response for addressing national public health threats that have the potential to become global emergencies.

In the 2017 – 2021 National Health Strategic Plan (NHSP), the Ministry of health provides a framework for building robust and resilient health systems through primary health care approach across the continuum of care focused on promotive, preventative, curative, rehabilitative and palliative care.

Strategic structures have been included in the health sector to incorporate and enhance strategies that will address and ensure public health security including the creation of a technical arm responsible for public health security, the Zambia National Public Health Institute (ZNPHI).

According to the Director of the ZNPHI. Dr Victor M Mukonka, "ZNPHI was born out of a need to bridge gaps in Zambia's public health security. This was galvanized by the spirit and broader vision of the Africa Centers for Disease Control and Prevention (Africa CDC) of 'Safeguarding Africa's Health'. The Zambian government leadership, at the highest level, recognized that developing a national public health institute (NPHI) would help consolidate and coordinate essential public health functions, including disease surveillance, emergency preparedness and response to outbreaks and other events of public health importance. Established in February 2015, ZNPHI serves as a focal point for integrating and coordinating public health activities and addressing major public health problems that affect our country".[1]

The capacity of the ZNPHI was tested during the 2017/18 cholera outbreak which resulted in close to 6000 cases and 114 deaths nationwide. Activating its recently established Public Health Emergency Operations Center (PHEOC) and using the Incident Management Systems strategy, the ZNPHI successfully coordinated an effective multisectoral response that saw high level support.

The dedication of the high level leadership, with the president of the Republic of Zambia, Mr. Edgar Chagwa Lungu, constituted a committee of Ministers for policy direction, a committee of Permanent Secretaries chaired by the Secretary to Cabinet for administrative direction indicates the determination to 'walk the talk'.

Adhering to the core IHR functions does not limit a country to ensuring just the safety of its citizens but beyond by ensuring disease is contained within areas affected and mitigated timely to afford further spread.

Zambia strategically positioned as the host country for the Africa Centers for Disease Prevention and Control (Africa CDC) Regional Collaborating Centre (RCC) for Southern Africa is also committed to this cause and actualizes its objectives to support the Global Health Security Agenda. The ZNPHI in the interim holds the fort of the RCC with its Director Dr Mukonka as Interim Coordinator and the heads of clusters supporting various functions including coordinating trainings, supporting other countries in outbreak response, setting up NPHIs, supervising the volunteers in place to support the establishment of the RCC among other assignment.

Strategic trainings aimed to improve the capacity of member states to detect, confirm, respond and report outbreaks and events of public health concern that may hamper global security include:

• Extension of Community Health Outcomes (ECHO) project a video conferring platform for Information sharing
• Public Health Emergency Management training
• Rapid Response Team training
• Incident Management Training

Having recognised threats and hazards exacerbated by population movement,

migration of birds and bats, trade in animals leading to spread of infectious diseases of public health concern, Zambia highlights the importance of strengthened health systems, adequate human resource to quickly detect, confirm, mitigate and report outbreaks.

The Editorial team endorses that the Government of the Republic of Zambia through its Ministry of Health, in particular the ZNPHI is walking the talk in the context of ensuring Public Health Security.

This issue publishes two manuscripts; one that focused on determining the knowledge, attitude and practice of women attending gynecological clinic at Ndola Teaching hospital and the other a case report entitled 'Ocular Surface Squamous Neoplasia (OSSN) in a 17 year old'. Happy reading!

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OCULAR SURFACE SQUAMOUS NEOPLASIA (OSSN) IN A 17-YEAR-OLD – A CASE REPORT

Case Report

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A young female of 17 years presented with progressive growth in her left eye with loss of vision. She had previously received topical medication with no effect. She was on anti-retroviral therapy for seven years. She had a fungating squamous cell carcinoma mass covering the entire ocular surface for which total orbital exenteration was done.

Case Scenario

A 17-year-old female from rural district in Eastern province of Zambia presented to the University Teaching hospitals Eye Hospital complaining of a progressive growth on her left eye for six months. It was associated with white eye discharge. The growth was of spontaneous onset, covering whole eye such that she was unable to see with her left eye. She had received treatment with topical medication at local clinic with no improvement. She had no history of ocular surgery or any other growths on the eye or the body. Significant medical history was that she had been on Anti-retroviral therapy for the past nine years for vertically transmitted Human Immunodeficiency Virus (HIV). There was a positive family history of non-healing leg ulcer in her mother who had passed on some years back. She was an orphan living with her aunt.

On examination, she appeared appropriate for age and of fair nutritional status. She had no pallor, no jaundice but had a small 1x1 cm mobile, non-tender left submandibular lymphadenopathy. General systemic examinations were otherwise normal. Visual acuity was 6/6 for the right eye and no light perception for the left eye. Her right eye had normal anterior and posterior segment findings. Left eye findings included restriction of extra ocular movements in all planes of gaze. She had a huge fungating mass filling entire palpebral fissure and covering bulbar to forniceal conjunctiva. Ocular structures were not discernible.

A clinical diagnosis of left eye squamous cell carcinoma was made. The patient was admitted and counselled on the diagnosis and prognosis as well as need for orbital exenteration. Full blood count, renal function and liver function test parameters were all within normal range.

She underwent left eye total orbital exenteration and tissue was sent for histopathology confirmation which confirmed the diagnosis of squamous cell carcinoma (SCC) of the left eye.

Figure 1: Clinical appearance of the patient's left eye with tumour covering entire ocular surface.

Discussion

Ocular surface squamous neoplasia (OSSN) is a term that encompasses a spectrum of precancerous and cancerous lesions of the conjunctiva ranging from conjunctival intraepithelial neoplasia (CIN) to frankly invasive squamous cell carcinoma (SCC) with destruction of the orbit and intracranial invasion (1). Classically, OSSN has been associated with light skinned elderly males living in regions with excessive sunlight (ultraviolet) exposure. Other identified risk factors include immunosuppression, xeroderma pigmentosa, and infection with Human Papilloma Virus (HPV) types 16 and 18 and with Human Immunodeficiency Virus (HIV) (2).

Current recommendation is to test for HIV in all patients presenting with OSSN especially those younger than fifty years. A recent review of studies showed high incidence of HIV in patients presenting with OSSN and also a high relative risk of OSSN in patients with HIV (1). HIV has also been associated with more aggressive OSSN lesions. Mean age of patients with both OSSN and HIV has been found to be lower than with OSSN alone. However, still the mean age ranges in various studies for occurrence of OSSN in HIV patients have been in the 30's to 50's (3), (4). There is no documented evidence of occurrence of OSSN in patients younger than 20 years of age. At the UTH Eye a situation was encountered were a patient aged 17 years was diagnosed with SCC and this was confirmed histologically.

Patients with OSSN commonly present with ocular redness and irritation, in addition to the lesion on the ocular surface which may grow within weeks to years; commonly of several months (5). Visual acuity is only reduced if lesion grows over the cornea. Clinically, CIN, carcinoma in situ and invasive SCC may have similar appearance. Lesions commonly arise within the interpalpebral fissure, mostly at the limbus. OSSN may appear gelatinous, papilliform, leukoplakic, or nodular lesion (5). The lesion may or may not be pigmented. If the condition is neglected, the lesion may invade the intraocular structures and spread to systemic circulation resulting in metastasis (2). It may also extend to involve the orbital structures. This was the case with the patient under discussion, hence exenteration was done. The patient was young, sexually inactive and HIV positive which she got vertically. There was no history of trauma or eye infection prior to the onset of the eye growth.

Fluorescein, Rose Bengal or Lissamine green staining have been used to help clearly delineate the borders of the lesion. Exfoliative cytology may be used to identify neoplastic cells, and ultrasound biomicroscopy to determine depth of invasion; though definitive diagnosis still remains histology (5).

Treatment of OSSN lesions includes surgical and medical options. Surgery includes excision biopsy using the no-touch technique with cryotherapy. Recurrence rates range from 33% to 50% (2). Medical options include topical chemotherapy with 0.02%- 0.04% mitomycin, or 1% 5-fluorouracil, or interferon-alpha2b. In cases of orbital extension of invasive SCC orbital exenteration is done with or without adjuvant radiotherapy (2). Topical antibiotics must never be used as the treatment option for conjunctival growths. This patient was initially given this treatment option which was very wrong. This calls for sensitisation of health workers and the community so that such lesions are not taken for granted at all.

This case highlights a very young age at occurrence of OSSN in a patient with HIV. She presented with an advanced OSSN lesion at 17 years old. She had a six months history of a growing lesion in her left eye which was of an aggressive nature and also a seeming delay in identifying the possibility of OSSN led to a loss of the eye in order to preserve life.

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KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS BREAST CANCER AMONG WOMEN ATTENDING OBSTETERIC AND GYNAECOLOGY CLINIC AT NDOLA TEACHING HOSPITAL IN NDOLA, ZAMBIA.

Case Report

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Breast cancer is the second most common cancer in the world accounting to 570,000 deaths in 2015. Studies have shown that in developing nations it is diagnosed in its late stages hence contributing to high fatality rates. This is because of late presentation to the hospital that is usually as a result of low knowledge, which affects people's attitudes and practices. Hence, this study aimed at determining the knowledge, attitude and practice of women attending gynecological clinic at Ndola Teaching hospital. The findings of the study will help devise sensitization programs aimed at reducing the mortality burden secondary to breast cancer. A cross sectional study design was employed. A standardized questionnaire was used on 303 participants systematically randomly selected. Data was entered and analyzed using SPSS V 20.0. Pearson-chi-square correlation was used for the associations at 95% CI. A total of 300 (99.0%) out of 303 persons approached to take part in the study actually participated. The study revealed that 70.7 % (212) of our participants had inadequate knowledge. Most (88.7%) of the respondents had negative attitude towards breast cancer and breast self-examination. Altogether, 84% (253) of the participants had poor practice. Significant associations were observed between attitude and education (p=0.008), occupation (p<0.001) and relationship status (p=0.019).

These findings show that there is an urgent need to educate our women on breast cancer through information, communication and educational programs.

Introduction

Of 184 countries in the world, breast cancer is the most diagnosed form of cancer in 140 countries [1]. It is the most common cancer in women in both developed and developing worlds and it was estimated that over 508 000 women died in 2011[2]. In 2015 the mortality rate increased to 570,000. It has been estimated that by the year 2020, approximately 70% of newer cases will occur among individuals in developing countries and population groups with a substantial amount been secondary to breast malignancy [3-5].

There has been little information on the prevalence of Breast cancer in women in sub-Saharan Africa and this has been attributed to lack of national cancer registry [6]. From the available literature, a rise in the incidence of breast cancer has been observed and this has been attributed to the changes in lifestyles, especially in those of African women. In addition, African nations are typically poorer than western, industrialized nations, and this is likely to be a contributing factor to the limited availability of medical technology for cancer screening and treatment. Socioeconomic status is also associated with a variety of lifestyles and dietary practices that will affect breast cancer risk [7]. Studies have shown that in developing nations breast cancer is usually diagnosed in late stages compared to developed nations hence contributing to high fatality rates [8-11].

Very few studies have been done to determine the knowledge of patients regarding breast cancer as most studies focus on breast self-examination. However, the few studies that have been in sub-Saharan Africa have shown that there ¬¬¬is low knowledge on breast cancer. The low knowledge affects people's attitudes and practices. Patients' knowledge is related to women's knowledge and beliefs about breast cancer and its management [5, 12-15].

Studies done in Zambia revealed that women had a considerable knowledge on breast cancer [16-17]. No such study has been in Ndola. Hence this study aimed at determining the knowledge, attitude and practice of women attending gynecological clinic at Ndola Teaching hospital. The findings of this study will help formulate better policies that may enhance the sensitization of women for a better management and reduction mortality.

Methodology

A cross sectional study was conducted at Ndola Teaching hospital in Ndola, Zambia. Ndola Teaching Hospital is the second highest referral Hospital in the country and it covers Copperbelt, Luapula, and Northwestern Provinces of Zambia. The

calculated sample size was 275 participants. Further adjustment for non-response rate at an estimate of 10% was made. This then came to total 303 women participants. The study targeted the women that attending the obstetrics and gynecology clinic and was done over a period of 12 weeks .Systematic random sampling technique of 1⁄k was used was used to select the study participants, where k was taken as 3. A standardized questionnaire was used to determine the knowledge, attitude and practice of women towards breast cancer at Ndola teaching hospital. The questions were asked in a language that the participants were most comfortable with. The first part had demographic information about the participants including their age, level of education, Marital status etc. Section B contained questions on the knowledge, attitude and practices toward breast cancer. Data was entered and analyzed using SPSS V20. SPSS V20 was used for descriptive statistics. Pearson Chi-square correlation was used to evaluate the relationship between socio-demographics and knowledge, attitude and practice at the 5% significance level. Approval to conduct this study was obtained from The Tropical Disease Research Centre (TDRC) Ethical Review Committee and Ndola teaching hospital. The objectives of the study were clearly explained and written consent was obtained before each interview. Only those that consented participated in this study and confidentiality was maintained.

Methods

A total number of 26 questions were used to assess the knowledge. Every correct answer was awarded a 1 whereas a wrong answer and no answer were awarded a 0. This gave a total mark of 26. Using the blooms grading system, knowledge was divided into inadequate knowledge and adequate knowledge. The cut of point in our study was modified from 60% to 50% with those scoring less than 50% having inadequate knowledge and those scoring more than 50% having adequate knowledge.

There were 7 attitude indictors that were used to evaluate respondents. Every Positive attitude was equal to 1, and Every Negative attitude was equal to 0, those who scored > 5 had Positive attitude, while those who scored <5 had Negative attitude

Results

Out of a sample size of 303, 300 women responded, giving a response rate of 99.0%. Out of the 300 participants, the majority 136 (45.3%) were in the age range 21-30 years and only 10.3% (31) were aged below 20 years. Of these only 40.7% (122) were graduates and 28 % (83) were employed. Almost all 98% (294) of the participants were Christians with a majority (61%)been married as shown in Table 1.

Table 1: Socio-demographics Characteristics

		Frequency (n)	Percentage (%)
Age(years)	<20 21-30 31-40 >40 Total	31 136 95 38 300	10.3 45.3 31.7 12.3 100
Education level	Non graduate Graduate Total	178 122 300	59.3 40.7 100
Occupation	Unemployed Employed Total	216 83 300	72.0 28.0 100
Relationship status	Married Single Total	183 117 300	61.0 39.0 100
Religion	Christian Non-Christian Total	294 6 300	98.0 2.0 100

Altogether, 70.7 % (212) of our participants had inadequate knowledge. Majority (67.3%) of the respondents did not know what breast cancer is. About half (52.3%) of the participants did not know how breast cancer is acquired.

However, 69.0% of participants knew that breast cancer is curable. Some of the risk factors that were identified included smoking with 62.0% of the respondents, and a positive family history with 64.3% of the respondents. Some of the signs and symptoms which were identified included lump in the breast with 65.3%, weight loss with 58.3%, and swelling of the breast with 70.7% of the respondents. Some of the methods used in screening and diagnosis of breast cancer which were identified included ultrasound with 53.3%, and examination by a doctor with 84.0% of the respondents. Most (72.0%) people did not know how to perform self-breast examination. The recommended age to start self-breast examination was not known by majority (52.0%), as well as the recommended age to start mammography (95.0%) as shown in Table 2

Table 2: Knowledge, attitudes and practices.

		Frequency(n)	Percentage (%)
What is breast cancer	Right Wrong Total	98 202 300	32.7 67.3 100
How is breast cancer acquired?	Right Wrong Total	143 157 300	47.7 52.3 100
Is breast cancer curable?	Right Wrong Total	207 93 300	69.0 31.0 100
Risk factors identified	smoking Family history	186 193	62.0 64.3
Signs/Symptoms identified	Lump in the breast Weight loss Swelling of the breast	196 175 212	65.3 58.3 70.7
Methods of Screening/ diagnosis identified	Ultrasound Examination by doctor(CBE)	160 252	53.3 84.0
Knowledge on how to perform self-breast examination(SBE)	Didn't know Know	216 84	72.0 28.0
Recommended age for SBE	Didn't know Know	156 144	52.0 48.0
Recommended age for mammography	Didn't know know Total	285 15 300	95.0 5.0 100

Generally, most (88.7%) women had negative attitude towards breast cancer and breast self-examination. The majority (84%) of the participants had poor practice.

Table 3. shows the association between socio-demographic characteristics and knowledge. The only statistically significant association was between the education level and knowledge (p value of <0.001).

Table 3: Associations between knowledge and the socio-demographic characteristics.

		Good knowledge n (%)	Poor knowledge n (%)	Total	P-value
Age(years)	<20 21-30 31-40 >40 Total	5(16.1) 48(35.3) 22(23.2) 13(34.2) 88(29.3	26(83.9) 88(64.7) 73(76.8) 25(65.8) 212(70.7)	31 136 95 38 300	0.068
Education level	Non graduate Graduate Total	141(79.2) 71(58.2) 212(70.7)	37(20.8) 51(41.8) 88(29.3)	178 122 300	0.001
Occupation	Unemployed Employed Total	57(26.4) 31(36.9) 88(29.3)	159(73.6) 53(63.1) 212(70.7)	216 84 300	0.072
Relationship status	Married Single Total	53(29.0) 35(29.9) 88(29.3)	130(71.0) 82(70.1) 212(70.7)	183 117 300	0.866
Religion	Christian Non-Christian Total	87(29.6) 1(16.7) 88(29.3)	207(70.4) 5(83.3) 212(70.7)	294 6 300	0.491

Table 4 shows associations between socio-demographic characteristics and attitude. Significant associations were observed between education (p=0.008), occupation (p<0.001) and relationship status (p=0.019) on one hand and attitude on the other

Table 4: Associations between attitude and the socio-demographic characteristics

		Positive attitude n (%)	Negative attitude n(%)	Total	P-value
Age(years)	<20	1(3.2)	30(96.8)	31	0.399
	21-30	15(11)	121(89)	136	
	31-40	12(12.6)	83(87.4)	95	
	>40	6(15.8)	32(84.2)	38	
	Total	34(11.3)	266(88.7)	300	
Education level	Non graduate	13(7.3)	165(92.7)	178	0.008
	Graduate	21(17.2)	101(82.8)	122	
	Total	34(11.3)	266(88.7)	300	
Occupation	Unemployed	15(6.9)	201(93.1)	216	0.001
	Employed	19(22.6)	65(77.4)	84	
	Total	34(11.3)	266(88.7)	300	
Relationship status	Married	27(14.8)	156(85.2)	183	0.019
	Single	7(6.0)	110(94.0)	117	
	Total	34(11.3)	266(88.7)	300	
Religion	Christian	34(11.6)	260(88.4)	294	0.376
	Non-Christian	0(0)	6(100)	6	
	Total	34(11.3)	266(88.7)	300	

Table 5 shows that there were no significant associations between any of the socio- demographic characteristics and practice. The majority of the participants regardless of their age, education level, occupation, relationship status had a negative attitude.

Table 5: Association between socio-demographic characteristics

		Good practice n (%)	Poor practice n (%)	Total	P-value
Age(years)	<20	3(9.7)	28(90.3)	31	0.190
	21-30	28(20.6)	108(79.4)	136	
	31-40	12(12.6)	83(87.4)	95	
	>40	4(10.5)	34(89.5)	38	
	Total	47(15.7)	253(84.3)	300	
Education level	Non graduate	23(12.9)	155(87.1)	178	0.114
	Graduate	24(19.7)	98(80.3)	122	
	Total	47(15.7)	253(84.3)	300	
Occupation	Unemployed	34(15.7)	182(84.3)	216	0.955
	Employed	13(15.5)	71(84.5)	84	
	Total	47(15.7)	253(84.3)	300	
Relationship status	Married	31(16.9)	152(83.1)	183	0.448
	Single	16(13.7)	101(86.3)	117	
	Total	47(15.7)	253(84.3)	300	
Religion	Christian	47(16)	247(84.0)	294	0.286
	Non-Christian	0(0)	6(100)	6	
	Total	47(15.7)	253(84.3)	300	

Discussion

The study comprised of 300 participants of which most of the participants (70.7%) had a poor knowledge. These results are similar to those of a study that was conducted in Solwezi rural district and Lusaka urban district of Zambia which showed that women had poor knowledge on breast cancer [17]. Lack of adequate knowledge can negatively impact women's education on screening practices and affect their attitude towards adoption of early detection practices [14]. Education level was significantly associated with knowledge level. This showed that those who had reached tertiary educational level had generally good knowledge, and this finding confirms what was found in a similar study done on primary health care nurses [18] which suggested that there is an association between high educational levels and good knowledge. Another study done in Nigeria showed that professional jobs significantly affect the level of knowledge on breast cancer [19].

The current study revealed a general negative attitude towards breast cancer as 88.7% had a negative attitude towards breast cancer. This finding is congruent with other studies that realized a negative attitude. The negative attitude was attributed to the myths that women and the community at large have on breast cancer [20-22]. In our study, this can be attributed to the poor knowledge that our participants portrayed.

The current study also found that the majority of women had poor practice. This is in line with other studies were most women neither practice self-breast examination nor go to the health care providers for a clinical examination. Just like in other studies, this finding in our study can be attributed to lack of knowledge as about 72.0% of the respondents did not know how to perform self- breast examination [23-25].

There was no significant association between practice and the social demographic characteristics a finding which is different from a study done by Ramson et al where a significant association was found between practice and level of knowledge [25].

Conclusion

The study showed that the majority of women had poor knowledge, negative attitude and poor practice irrespective of their socio-economic status. There is an urgent need to educate our women on breast cancer through information, communication and educational programs.

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INFLUENZA SENTINEL SURVEILLANCE

Surveillance Report

Republic Of Zambia (Ministry Of Health)

Reporting Period: 01/01/2018 to 07/08/2018. *Results until End of Epidemiologic Week:* (2018) 35

Number of Positive Samples by Influenza Types and Subtypes and Detection Rate by Week
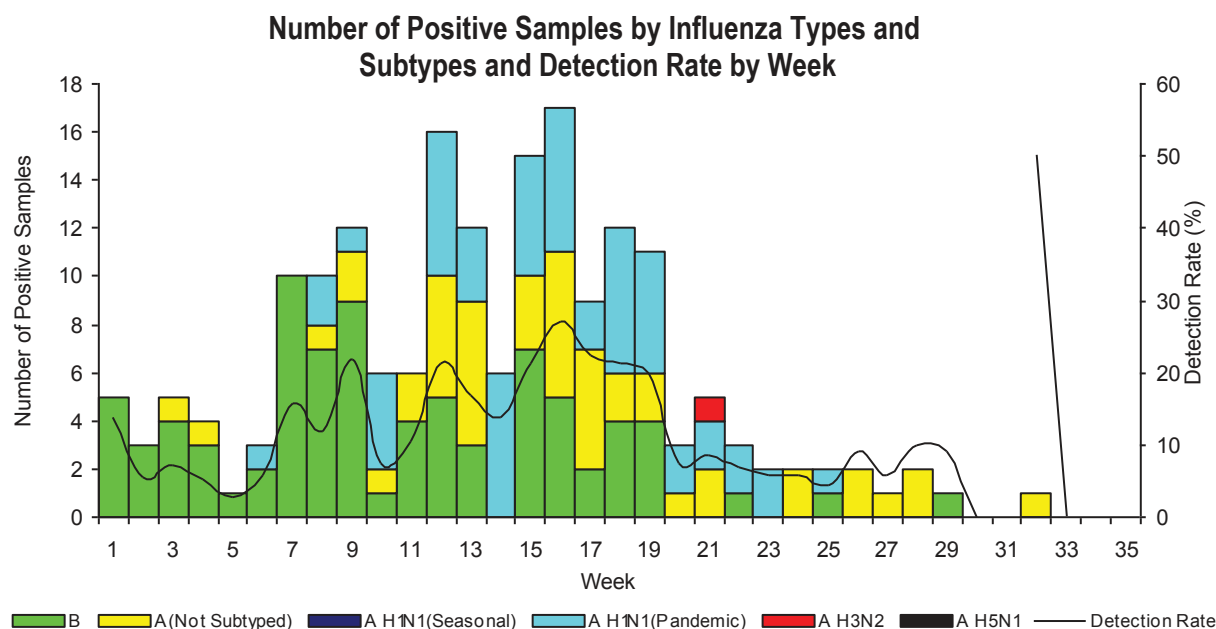
Cumulative Number of Identified Influenza Types and Subtypes and Total Number of Samples Collected by Case and Hospital/Clinic

Case	B	A (Not Subtyped) d)	A H1N1 (Seasonal)	A H1N1 (Pandemic)	A H3N2	A H5N1	Total Samples Tested s
ILI	43	27	0	32	0	0	**601**
SARI	25	12	0	16	1	0	**638**
Unknown	14	9	0	8	0	0	**229**
Total:	*82*	*48*	*0*	*56*	*1*	*0*	*1468*

Hospital/Clinic	B	A (Not Subtyped) d)	A H1N1 (Seasonal)	A H1N1 (Pandemic)	A H3N2	A H5N1	Total Samples Tested s
Arthur Davison	8	4	0	10	0	0	136
Chipata Clinic	10	23	0	27	0	0	271
Ndola Central	13	7	0	2	1	0	293
New Masala	33	4	0	6	0	0	341
UTH Filter	3	3	0	0	0	0	156
UTH Pediatric	15	7	0	11	0	0	271
Total:	*82*	*48*	*0*	*56*	*1*	*0*	*1468*