Research Article

Assessment of disease reporting among health care workers in a South Eastern State, Nigeria

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ABSTRACT

Background: A functioning disease surveillance and reporting system has been a serious challenge to developing countries; and as such, effective strategies to strengthen capacity for early disease out- break detection is required. The main objective was to determine knowledge, attitude, practice and challenges of disease reporting among health care workers and the comparison thereof across the geopolitical zones in a South Eastern State, Nigeria.

Methods: A cross sectional descriptive design, used stratified simple random sampling technique to select health care workers from three geopolitical zones in a South Eastern State, Nigeria. Data was collected using a pretested semi structured questionnaire and an observational checklist. Descriptive analyses and statistical inferences were done with p set at 0.05 significant levels.

Results: Majority of respondents indicated that they knew what disease reporting is (89.1%) but only two thirds (66.7%) were aware of disease reporting forms and of those aware, between 11 and 24% did not know or correctly identify the uses of one type of form or the other. Majority were of the opinion that disease reporting was a cumbersome activity (67.3%) with inadequate supply of forms (52.4%). About 74% had not reported a disease before or received training in disease reporting. Furthermore, there were significant differences between the respondents from the different geopolitical zones with respect to knowledge, attitude and practice of disease reporting ($p < 0.05$).

Conclusions: Health care workers are faced with multiple challenges. Therefore to ensure effective disease reporting; strategies that secure political commitments, adequate and equitable funding with regular training should be implemented.

Keywords: KAP, Disease reporting, Health workers, Imo, Nigeria

INTRODUCTION

A functioning disease surveillance, notification and reporting system, involves the continuous scrutiny of disease on an individual, local, national and international level. It depends on, but not limited to health care workers which include doctors, nurses, community health extension workers, medical record officers and laboratory technicians both in the public and private sector; to identify, collate, analyse and promptly disseminate data

on the occurrence of diseases and health related events of public health significance for public health action.^{1,2}

Effective disease surveillance, notification and reporting have been a serious challenge to developing countries especially in Africa and more so, in Nigeria, as she has come a long way in trying to strengthen its surveillance, notification and reporting capabilities since the yellow fever out-break in 1986/87. Nigeria went through a phase

with the introduction of Disease Surveillance Notification (DSN) system in 1988, which appeared to be operating in parallel and sometimes completely independent with other surveillance structures established by vertical disease control programs that were well funded by donor agencies; and following this, was the establishment of the Integrated Disease Surveillance Response (IDSR) Strategy that was adopted as a regional strategy by World Health Organization (WHO) in 1998. The purpose of introducing IDSR was to integrate the various surveillance activities into one system within the broader National Health System, to strengthen national capacity for early disease out- break detection by effectively and efficiently utilizing the existing human and financial resources.^{1,3}

The IDSR operates at all levels of the health system by linking communities, health facilities, Local, State and National Government levels. Functionally, it begins with the detection of disease, generation of health information and immediate notification at the level of the health facilities, to the Local Government level (district) where the DSN officers collect and collate the health data from the various health facilities (public and private) within the Local Government Area (LGA); which is then promptly disseminated to the relevant structures at the State and National levels for onward dissemination to WHO.^{4,5}

In 2010, the current status of IDSR was assessed in the African region, which highlighted critical gaps at the district level (LGA) namely; absence of IDSR dedicated district level staff in 30% of countries, lack of epidemic management committees in over 80% of districts, absence of rapid response teams in over 50% of districts, lack of logistic, communication capacities and consistency in the use of IDSR core indicators in monitoring and evaluation.⁵

In Nigeria, IDSR implementation is still faced with these challenges of disease reporting especially from the level of the health facilities where inadequate health information is generated, as the health care workers especially clinicians appear not to be effectively reporting diseases.⁶

Over time, disease out breaks in Nigeria have been attributed to health care workers especially clinicians either reporting late or not reporting at all, and this may partly be due to low awareness of their roles in the prevention and control of disease outbreaks through disease surveillance and notification activities; and ignorance of both the reporting guidelines and list of notifiable diseases and also, the lack of feedback information regarding notification.⁶⁻⁸

These challenges appear to hinder any progress that may have been achieved in closing those IDSR critical gaps identified in 2010, because without disease information generated from the health facilities, there will be no data to collate, analyse, interpret or disseminate. As a

consequence, under reporting of disease increases the risk of disease outbreaks and prevents timely public health intervention, resulting in increased morbidity, disability and mortality.⁹

Clinicians remain indispensable to effective disease reporting because they can suspect and cluster likely diseases based on clinical judgement from symptoms and signs of patients. Also other health care workers are similarly as important, not only in providing support in disease suspicion and laboratory confirmation but also in the collection, collation, analysis, interpretation and timely dissemination of health data.¹⁰

This study aims at identifying gaps in disease reporting among health care workers within a resource limited setting in order to develop programs that improve their knowledge, attitude and practices; and also, enhance their capabilities for early disease detection and response that will consequently reduce the risks and burden of disease.

METHODS

Study area

The survey was conducted in the three geopolitical zones that comprise Imo State, South East of Nigeria. Imo State is located within longitude 5° 29' 06'' N and latitude 7° 02' 06'' E occupying an area between the lower river Niger and the upper and middle Imo River. According to the 2006 census, the State occupies an area of 5289.49 square kilometres with a total population of 3.93 million (2.03 million males and 1.9 million females). The three geopolitical zones in Imo State are Imo West, Imo East and Imo North with 12, 9 and 6 Local Government Areas (LGAs) respectively. The land sizes and populations of Imo West, East and North were 2,316, 1,919 and 948 square kilometres; and 1.65, 1.48 and 0.80 million people respectively.^{11,12}

Study population

The study population comprised health care workers, which included physicians, nurses, community health extension workers, medical record officers and laboratory technicians from the public and private sectors.

Study design and sampling technique

The study was a cross sectional descriptive design that used stratified simple random sampling technique to select 449 health care workers. Imo State is stratified according to the existing 3 geopolitical zones and from each zone, one Local Government Area (LGA) was selected by random sampling using ballot, namely; Orlu LGA from Imo West geopolitical zone, Okigwe LGA from Imo North geopolitical zone and Owerri West LGA from Imo East geopolitical zone. From each of the LGAs, all the health care workers from the health institutions (Government health posts, health centres, health facilities

and Private health care centres) were identified and enrolled to participate after consent as follows; Orlu LGA, 180 participants from 28 health institutions, Owerri West LGA, 126 participants from 22 health institutions, and Okigwe LGA, 143 participants from 40 health institutions.

Data collection and analysis

Data was collected from four hundred and forty one pretested semi structured self-administered questionnaires with an observational checklist. The questionnaire comprises 5 sections, section one; sociodemographic characteristics, section two; knowledge of disease reporting, section three; attitude towards disease reporting, section four; practice of disease reporting and section five; challenges of disease reporting. On physical inspection, the observational checklist was used to verify resources available for disease reporting at each Health Institution.

Medical students were recruited for the distribution and collection of the questionnaires. Data was cleaned and validated manually, and analysed using SPSS v22. Descriptive statistics (frequency tables and summary indices) were generated. Chi Square test was used to test significant differences between geopolitical zones with the p value set at 0.05 significant level.

Ethical considerations: Ethical approval was obtained from the Ethics Committee of Imo State University Teaching Hospital Orlu and verbal consents were given by the respondents.

RESULTS

Four hundred and forty nine questionnaires were administered and four hundred and forty one were completed and returned with a response rate of 98.2%.

Sociodemographic characteristics of respondents

Most of the respondents (85.9%) were between the ages of 20 and 49 years with a majority (35.6%) in the 40-49 age bracket. The respondents were mostly female (75.5%) with either a secondary or tertiary level of education (90.7%). While a majority of the respondents were nurses and community health extension workers (61.7%), only 16.3% were doctors (Table 1).

Knowledge of disease reporting among respondents

A majority of the respondents indicated that they knew what disease reporting is (89.1%), and its importance in disease prevention and control (93.9%), about 15% and 42% of those who knew, said that disease reporting is the report of unhealthy lifestyle and sexually transmitted disease respectively.

Only about two thirds of the respondents (66.7%) were aware of disease reporting forms and of those aware, between 11 and 24% of them did not know or correctly identify the uses of one type of form or the other (Table 2).

Table 1: Sociodemographic characteristics of respondents.

Variable	Category	Frequency (%) (n=441)
Age (years)	20-29	106 (24.0)
	30-39	116 (26.3)
	40-49	157 (35.6)
	>50	62 (14.1)
Gender	Male	108 (24.5)
	Female	333(75.5)
Education	Primary	41 (9.3)
	Secondary	116 (26.3)
	Tertiary	284 (64.4)
Health care worker	Doctors	72 (16.3)
	Nurses	116 (26.3)
	CHEWS	93 (21.1)
	Auxiliary nurses	63 (14.3)
	Health attendants	31 (7.0)
	Medical record officers	33 (7.5)
	Laboratory technicians	33 (7.5)

Knowledge of disease reporting among respondents

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Attitude of disease reporting among respondents

A majority of respondents (68.5%) felt that disease reporting was necessary; 67.3% of them were of the opinion that it was a cumbersome activity. A majority of the respondents were of the opinion that neither the National or State ministries adequately support local disease reporting (71%) nor provide prompt feedback when diseases are reported (63.3%). Similarly, a majority of the respondents felt that there was a lack of adequate coordination and communication between Local, State and National levels (73.2%) especially at the State (68.9%) and Local (55.1%) levels which needed improvement. Furthermore, a majority of the respondents were of the opinion that improvement in disease reporting will be achieved through periodic training (81.4%), regular feedback with results (68.5%) and adequate funding (59%) (Table 3).

Disease reporting practice of respondents

A majority of the respondents had not reported a disease before (74.8%), though more than half of the respondents (54.6%) indicated that their institution did not also report disease. Even with those institutions that reported disease, only 9% always reported with telephone as the primary method of reporting (59.5%). A majority of the respondents had not received training in disease reporting (74.4%) but of those that received training, a majority indicated that the State Government provided such training (67.3%) (Table 4).

Association of knowledge, attitude, practice between geopolitical zones

There were statistically significant differences between the respondents from the different geopolitical zones in terms of knowing what disease reporting is ($p=0.000$), awareness of disease reporting forms ($p=0.000$), the opinion that disease reporting is necessary ($p=0.000$), opinion that National and State ministries adequately support local disease reporting system ($p=0.000$), actual

disease reporting at institution ($p=0.000$), frequency of disease reporting at institution ($p=0.021$) and the primary communication method of disease reporting ($p=0.001$). There was no statistical significant difference between the geopolitical zones in terms of respondents receiving training on disease reporting ($p=0.088$) (Table 5).

Challenges of disease reporting practice of respondents

A majority of the respondents perceived that the lack of training (82.8%), lack of equipment (67.6%) and inadequate supply of forms (52.4%) were the existing limitations that prevented the practice of disease reporting, while close to half of the respondents attributed it to the lack of feedback (49.7%), poor staff motivation (47.2%) and weak supervision (46.5%). But for a majority of respondents, their personal reasons for not reporting diseases were due to the lack of appropriate reporting materials (62.6%) and the complex nature of the reporting procedure (59.9%); though, close to half of the respondents gave other reasons such as lack of willingness to report (48.8%) and lack of a list of reportable diseases (48.3%) (Table 6).

Table 2: Disease reporting knowledge of respondents.

Variable	Category	Frequency (%)
Do you know what is disease reporting (n=441)	Yes	393 (89.1)
	No	48 (10.9)
*What is disease reporting (n=393)	Primarily reporting infectious diseases	335 (85.2)
	Primarily reporting unhealthy lifestyle	60 (15.3)
	Reporting diseases and other health events	306 (77.9)
	Primarily reporting sexual transmitted disease	166 (42.2)
*Importance of disease reporting (n=393)	Changes in trend of disease occurrence	237 (60.3)
	Disease prevention and control	369 (93.9)
	For statistics and planning	219 (55.7)
	Detect and notify disease outbreak	264 (67.2)
	For record purposes	198 (50.4)
	For research purposes	197 (50.1)
	Initiate and monitor intervention	260 (66.2)
	Alert authorities	239 (60.8)
	Health education and advocacy	138 (35.1)
Aware of the disease reporting forms (n=441)	Yes	294 (66.7)
	No	147 (33.3)
*Type of IDSR form you know (n=294)	IDSR 001	248 (84.4)
	IDSR 002	238 (81.0)
	IDSR 003	224 (76.2)
*Uses of IDSR 001 (n=248)	Immediate reporting	205 (82.7)
	Weekly reporting	80 (32.3)
	Monthly reporting	71 (28.6)
*Uses of IDSR 002 (n=238)	Immediate reporting	61 (25.6)
	Weekly reporting	211 (88.7)
	Monthly reporting	73 (30.7)
*Uses of IDSR 003 (n=224)	Immediate reporting	75 (33.5)
	Weekly reporting	85 (37.9)
	Monthly reporting	197 (87.9)

*Multiple responses.

Table 3: Disease reporting attitude of respondents.

Variable	Category	Frequency (%) (n=441)
Do you feel disease reporting is necessary	Yes	302 (68.5)
	No	139 (31.5)
*What is your opinion about disease reporting	Waste time and interfere with clinic work	170 (38.5)
	Violates patients privacy	115 (26.1)
	It is cumbersome	297 (67.3)
	Does not limit disease transmission	143 (32.4)
	Yes	53 (12.0)
Do you feel that National and State ministries adequately support local disease reporting system	No	313 (71.0)
	No opinion	75 (17.0)
	Yes	43 (9.8)
Do you feel that National and State ministries provide prompt feedback when diseases are reported	No	279 (63.3)
	No opinion	119 (27.0)
	Yes	42 (9.5)
Do you feel that there is adequate coordination and communication between Local, State and National levels	No	323 (73.2)
	No opinion	76 (17.2)
	Local level	243 (55.1)
*What level do you feel coordination and communication should be improved	State level	304 (68.9)
	National level	129 (29.3)
	Periodic training	359 (81.4)
*What aspect of disease reporting do you feel should be improved	Feedback with results	302 (68.5)
	Funding	260 (59.0)
	Financial compensation	124 (28.1)
	Public recognition	101 (22.9)

*Multiple responses.

Table 4: Disease reporting practice of respondents.

Variable	Category	Frequency (%)
Is disease reporting done at your institution (n=441)	Yes	200 (45.4)
	No	241 (54.6)
How often is disease reported (n=200)	Sometimes	98 (49.0)
	Always	18 (9.0)
	Rarely	84 (42.0)
Primary method of reporting (n=200)	Postal box	20 (10.0)
	Telephone	119 (59.5)
	Email	28 (14.0)
	Car/van	33 (16.5)
Have you reported a disease before (n=441)	Yes	111 (25.2)
	No	330 (74.8)
Received training on disease reporting (n=441)	Yes	113 (25.6)
	No	328 (74.4)
Which level provided training (n=113)	Local Government	25 (22.1)
	state Government	76 (67.3)
	National Government	12 (10.6)

Observational check list of health institutions

On inspection of the Health Institutions only less than half to about one third of them (34-44%) had any of the disease reporting forms. In terms of equipment, less than

one third of the Health Institutions had a computer (24.4%), printer (12.2%) or health map (31.1%) though in terms of logistic support and transportation a majority of the Institutions had telephone (90%) and car/van (52.2%) respectively (Table 7).

Table 5: Association of knowledge, attitude and practice between geopolitical zones.

Variable	Imo West (%)	Imo North (%)	Imo East (%)	Total (%)	Statistic χ^2 , df, p-value
Knowledge					
Do you know what is disease reporting					
Yes	150 (84.7)	143 (100)	100 (82.6)	393 (89.1)	26.17
No	27 (15.3)	0 (0)	21 (17.4)	48 (10.9)	df=2
Total	177 (100)	143 (100)	121 (100)	441 (100)	p=0.000*
Aware of the disease reporting forms					
Yes	114 (64.4)	74 (51.7)	106 (87.6)	294 (66.7)	38.60
No	63 (35.6)	69 (48.3)	15 (12.4)	147 (33.3)	df=2
Total	177 (100)	143 (100)	121 (100)	441 (100)	p=0.000*
Attitude					
Do you feel disease reporting is necessary					
Yes	67 (37.9)	138 (96.5)	97 (80.2)	302 (68.5)	136.60
No	110 (62.1)	5 (3.5)	24 (19.8)	139 (31.5)	df=2
Total	177 (100)	143 (100)	121 (100)	441 (100)	p=0.000*
Do you feel that National and State ministries adequately support local disease reporting system					
Yes	15 (8.5)	19 (13.3)	19 (15.7)	53 (12.0)	32.81
No	138 (78.0)	81 (56.6)	94 (77.7)	313 (71.0)	df=4
No opinion	24 (13.5)	43 (30.1)	8 (6.6)	75 (17.0)	p=0.000*
Total	177 (100)	143 (100)	121 (100)	441 (100)	
Practice					
Is disease reporting done at your institution					
Yes	59 (33.3)	74 (51.7)	67 (55.4)	200 (45.4)	17.58
No	118 (66.7)	69 (48.3)	54 (44.6)	241 (54.6)	df=2
Total	177 (100)	143 (100)	121 (100)	441 (100)	p=0.000*
How often is disease reported					
Sometimes	35 (59.3)	40 (54.1)	23 (34.3)	98 (49.0)	11.60
Always	7 (11.9)	5 (6.8)	6 (9.0)	18 (9.0)	df=4
Rarely	17 (28.8)	29 (39.2)	38 (56.7)	84 (42.0)	p=0.021*
Total	59 (100)	4 (100)	67 (100)	200 (100)	
Method of reporting					
Postal box	11 (18.6)	3 (4.1)	6 (9.0)	20 (10.0)	23.09 df=6 p=0.001*;
Telephone	34 (57.6)	49 (66.2)	36 (53.7)	119 (59.5)	
Email	8 (13.6)	15 (20.3)	5 (7.5)	28 (14.0)	
Car/van	6 (10.2)	7 (9.5)	20 (29.9)	33 (16.5)	
Total	59 (100)	74 (100)	67 (100)	200 (100)	
Received training on disease reporting					
Yes	50 (28.2)	41 (28.7)	22 (18.2)	113 (25.6)	4.85
No	127 (71.8)	102 (71.3)	99 (81.8)	328 (74.4)	df=2
Total	177 (100)	143 (100)	121 (100)	441 (100)	p=0.088

*Significant

DISCUSSION

This study determined the knowledge, attitude, practice and challenges of health care workers; and the comparison thereof across the geopolitical zones in Imo, a South Eastern State in Nigeria. In the present study, the health care workers were predominantly female and within the ages of 20-49 years and the majority were nurses and community health extension workers (CHEWs) with either a secondary or tertiary level of education. This distribution of predominant females aged

between 20 -49 years with a secondary or tertiary level of education and the majority of the study participants being nurses and community health extension workers was similarly observed in a previous study in the South East of Nigeria by Nnebue et al.¹³ At the primary health care level, due to the difficulty in recruiting and retaining doctors in the rural areas, CHEWs are encouraged as substitute healthcare workers under the supervision of doctors in the provision of primary care in communities and as such, play important roles in disease reporting.¹⁴

Table 6: Challenges of disease reporting practice by respondents.

Variable	Category	Frequency (%)
Perceived structural limitations (n=441)	Lack of training	365 (82.8)
	Lack of transportation	174 (39.5)
	Poor staff motivation	208 (47.2)
	Inadequate supply of forms	231 (52.4)
	Lack of logistic support	192 (43.5)
	Weak supervision	205 (46.5)
	Lack of feed back	219 (49.7)
	Bad roads	178 (40.4)
	Pressure of work	60 (13.6)
	Lack of equipment	298 (67.6)
	Lack of willingness to report	215 (48.8)
Personal reasons that prevents reporting (n=441)	Complex reporting procedure	264 (59.9)
	Lack of a list of reportable diseases	213 (48.3)
	Protection of patients' confidentiality	66 (15.0)
	No penalty for not reporting	96 (21.8)
	Lack of knowledge of reporting guidelines	111 (25.2)
	Lack of awareness of reportable disease	122 (27.7)
	Not my assigned task	41 (9.3)
	Lack of appropriate reporting materials	276 (62.6)

*Multiple responses

Table 7: Observational check list of health institutions.

Item	Type	Health Institutions (n=90)
Disease reporting forms	IDSR 001	40 (44.4)
	IDSR 002	36 (40.0)
	IDSR 003	31 (34.4)
Equipment	Computer	22 (24.4)
	Printer	11 (12.2)
	Calculator	84 (93.3)
	Generator	78 (86.7)
	Health map	28 (31.1)
Logistic support	Electricity	84 (93.3)
	Telephone	81 (90.0)
	Email	17 (18.9)
	Post box	51 (56.7)
Transportation	Motorcycle	39(43.3)
	Bicycle	26 (28.9)
	Car/Van	47 (52.2)

Though it was observed in the present study that a majority of the health care workers said they knew what disease reporting is, and its importance in disease prevention and control, it was surprising that about 15 to 42% of them indicated that unhealthy lifestyle and sexually transmitted diseases were what are primarily reported; and more so, about 32% of the respondents felt that disease reporting was not necessary. This further questions the quality of training, as it is expected that due to their training as health care workers, they should all know exactly what disease reporting is and its importance; and therefore, appreciate its necessity in disease prevention and control.

As a consequence, it is not unexpected that the present study observed that about one third of the respondents were unaware of disease reporting forms and between 11 and 24% of them did not know or correctly identify the uses of one type of form or the other. This observation was further highlighted on inspection of the health institutions, where it was reported that only less than half to about one third of them (34-44%) had any of the disease reporting forms. This was contrary to what was observed in a study in Plateau, Northern Nigeria by Lar et al, who reported the presence of disease reporting forms in 89% of health facilities and in Tanzania by Nsubuga et al, who also reported that 73% of the health facilities had disease reporting forms.^{15,16}

The role, priorities and probably commitments of the National and State Governments with respect to funding, organisation and maintenance of the disease reporting structures could also be contributing to the level of lack of respondents' awareness of reporting forms and knowledge of its uses, resulting in an ineffective and inefficient reporting process. This is supported by the observation in the present study, where a majority of respondents felt that there was a lack of adequate coordination and communication between Local, State and National levels; and that the National and State ministries did not adequately support local disease reporting. This was further collaborated by the majority of the respondents who mentioned limitations such as, lack of training opportunities, lack of equipment, inadequate supply of disease reporting forms and lack of prompt feedback. All these observations coupled with the lack of willingness to report diseases, the existing complex reporting procedures and lack of a list of reportable diseases indicated by the majority of the respondents as personal reasons that prevent reporting, may explain to a large extent why a majority of the respondents in the present study had neither themselves nor their institutions reported a disease.

Thus, the existing inadequacies of the health care workers in disease reporting probably associated with the quality of their primary training, highlights the need for additional and periodic training in disease reporting, as only 26% of the respondents in the present study had received training in that area. This level of training was observed in a similar study done by Nnebue et al, who reported that only 32% of the health care workers had been trained.¹³ A study done by Abubakar et al, in Kaduna, Northern Nigeria reported a worse situation, where only 8% of the health care providers employed by the Local Government were trained.¹⁷ Though a previous study done in Tanzania by Nsubuga et al, reported a much better situation where 81% of the staff were trained.¹⁶ Nnebue et al, further noted that, training effectively closes the knowledge gap and therefore improves attitude and practice of health care workers in disease reporting.¹⁶ Similarly, interventional studies done in Nigeria and also in Ethiopia, reported by their Ministry of health, showed that training improved disease reporting either by improving knowledge, improving health workers appreciation of the value of reliable data, improving awareness and use of IDSR indicators or the completeness and timeliness of reporting.^{15,18-20}

In the present study, it was observed that there were significant differences between the three geopolitical zones that comprise Imo State in terms of knowledge, attitude and practice of disease reporting by the respondents; though, the issue of lack of training on disease reporting was the same across the zones and therefore not significantly different. This could be due to a combination of varying degrees of political commitments and disease reporting challenges which ranges from the political leadership of the State who

places resource distribution emphasis based on the geographical zone he or she hails from, leading to inequitable distribution of equipment, disease reporting instruments, logistic support, good road network; to the lack of competency of the health care worker resulting in poor knowledge and low awareness of reportable disease; and also, to the lack of willingness to report diseases completely and on time due to cumbersome disease reporting procedure, poor staff motivation and support.

Furthermore, it is believed that these political and disease reporting challenges form the basis why a majority of the respondents in this study were of the opinion that coordination, communication and support should be improved at the Local Government and State levels; as this will translate to improvement in disease reporting through periodic training, regular prompt feedback with results and adequate funding.

CONCLUSION

The health care workers are faced with multiple challenges including personal limitations across the different geopolitical zones which create gaps and therefore prevent effective and uniform disease reporting. So, in order to close these gaps, focus should be on developing strategies that secure political commitments, adequate and equitable funding for the disease reporting process including regular staff remuneration and also, strategies that involve regular training programs.

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