

## **Influence of Healthcare Provider Training on the Survival Rate of Cardiac Arrest Among Adults in Kenya**

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### **Abstract.**

The study purpose was to determine the influence of healthcare provider training on the survival rate of cardiac arrest among adults in Kenya. A cross-sectional design was used to collect data from 402 nurses in Machakos Level 5 Hospital, Muranga Level 5 Hospital, and the Aga Khan University Hospital, Nairobi. Descriptive and inferential statistics were examined and the findings were presented through tables, figures, and explanations. The major results of the questionnaire provided 280(77%) nurses were of a positive opinion on the relevance of CPR in their work jurisdiction. Therefore, out of 191(60%) who attended CPR training, 143(45%) had completed the training to get a certificate. Further, 207(64%) had acquired BLS training and 170(53%) had heart saver training. In the training, 273(85%) noted that they had gained teamwork skills while at the same time, 285(88%) said that they were able to use patient simulators that enabled them to gain relevant skills applicable during actual occurrence. That notwithstanding, 193(60%) had no training in ACLS while 186(58%) did not get life support training every 2 years. More discouraging was that 149(46%) never got a chance to put into practice their CPR skills at a team-based CRP event therefore .145(45%) lacked the actual real-life experience to respond to a CPR. It was also noted that 188(59%) nurses were not in a position to administer medication in a CPR occurrence since they lacked training in advanced life support. Further, the regression results indicated that the Pearson correlation coefficient of  $r$  was 0.495\*\* at  $\alpha < 0.002$  and 99% significance level. Therefore, since the correlation values were less than 1 and significance level was less than 0.05, the study rejected the null hypothesis. It was concluded that healthcare provider training had a significant influence on the survival rate of cardiac arrest among adults. Healthcare providers lacked advanced professional skills such as ACLS training and lacked the zeal and discipline to consistently attend CPR training every 2 years. Hospitals were noted to have poor implementation of policies that guided the correct exposure to CPR management to all healthcare providers. The recommendations on the healthcare provider training are that the hospital management should enact learning and development policies that make it mandatory for various staff in different units to attend CPR training. Additionally, the medical staff should improve awareness through internal forums such as hospital workers' unions on the need to acquire advanced professional skills such as ACLS training.

**Keywords:** *Healthcare Provider Training, Survival Rate of Cardiac Arrest, Adults, Kenya*

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## 1.0 Introduction

In-hospital cardiac arrests (IHCAs) have been a significant reason for illnesses and deaths in hospitals worldwide. Roughly 1-5 patients in a group of 1000 people admitted have experienced an IHCA around the world which contributes to eighty percent of deaths occurring in hospitals (Aziz, et al., 2018). The recent coronavirus disease 2019 (COVID-19) pandemic has rendered cardiac arrest outcomes even more unpredictable (Shao et al., 2020).

In America, Cardiac arrests come in third as the main elements that lead to high mortality predominantly affecting men aged between 60 and 70 years (Monsieurs et al., 2015). According to Andersen et al., (2019), there have been more than two hundred and ninety-thousand cases of cardiac arrests that have happened inside the hospitals annually in addition to other sudden cardiac arrests (SCA) that affected 300,000 persons. In European countries such as Norway and Germany, first aid training involving the use of automated external devices (AEDs) was advocated, leading to over 80-95% of the public trained. The USA trains only 3% of its population annually, leaving the majority of bystanders unprepared to handle an out-of-hospital cardiac arrest (Andersen et al., 2014). Enhanced training and knowledge could translate to more lives saved (Cheng et al., 2018).

In Cameroon cardiovascular-related complications were reported to cause 288 deaths among patients, with 27(9.4%) being sudden cardiac death. The crude incidence rate in this study was 31.3 per 100,000 person-years (Bonny et al., 2017). Delayed response following a cardiac arrest is a major cause of low rates of ROSC (Cheng et al, 2018). A study carried out in South Africa showed that in-hospital cardiac arrests had poor rates of ROSC at 18% (Ocen et al., 2015). Cheng et al, (2018) further noted the impact of distance to healthcare facilities on ROSC following a cardiac arrest, with an estimated 10% increase in mortality noted for any increase in time without resuscitation (Cheng et al., 2018).

Cardiac arrests in Kenya carry a poor prognosis, with a mere 16% of patients surviving the initial CPR and almost none surviving to discharge (Ocen et al., 2015). Prognosis is dependent on factors such as the presence of sepsis, renal failure, metastatic cancer, and stroke though the consequent cardiac arrest outcomes cannot be directly traced from those factors (Wachira & Tyler, 2015). However, the presence of inadequate data on in-hospital cardiac arrests in Kenya makes its management and any attempts to improve outcomes a major challenge (Ocen et al., 2015b). Therefore, the study intends to examine the survival rates of cardiac arrest in Kenya through safety standard protocols on CPR, Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), Advanced Life Support in Obstetrics (ALSO), and Advanced trauma life support [ATLS].

## 1.1 Problem Statement

Cardiac arrests are the highest source of mortality and morbidity worldwide (Czyż et al., 2018). Post-cardiac arrest survival rates are low, ranging from 0-36.2%. In the USA alone, in-hospital cardiac arrests claim over 200,000 lives, with an average survival rate of 17% (Perman et al., 2016). Although cardiovascular diseases are on the rise in Africa, data on the incidence of cardiac arrests in this part of the world are lacking (Bonny et al., 2017). The absence of this information in the cardiac arrest response a challenge in many African countries (Nolan et al., 2019).

Low post-cardiac arrest survival rates in Kenya are thought to be due to a lack of adequate emergency response equipment, low numbers of responders, lack of competence, and poor team leadership in responding to IHCAs (Andersen et al., 2019). The few studies that have been carried out have focused on out-of-hospital cardiac arrest (OHCA) (Perman et al., 2016).

Notably, limited research from Kenya has estimated a low survival rate after IHCA at between 11.1-16% and return of spontaneous circulation (ROSC) at 29.2%, actual healthcare workers' response to IHCA and the rate of ROSC following IHCA in Kenyan facilities is currently undefined. This study therefore seeks to assess in-hospital cardiac arrest prevalence, evaluate cardiac arrest response, review cardiac arrest outcomes, and explore variables explaining the outcome of cardiac arrest in private and public healthcare facilities in a developing country. The findings will guide the development of recommendations and sustainable solutions to improve cardiac arrest response in those facilities and Kenya as a whole.

## **1.2 Objective of the Study**

To determine the influence of healthcare provider training on the survival rate of cardiac arrest among adults in Kenya.

## **1.3 Research Hypothesis**

H<sub>0</sub>1: Healthcare provider training did not have a significant influence on the survival rate of cardiac arrest among adults in Kenya.

## **2.0 Literature Review**

### **2.1 Theoretical Review**

Cardiac Pump Theory [CPT] was originally developed by Babbs (1980) and later advanced by Redberg et al. (1993). It states that during CPR, blood was forced to flow when it was pressed between the spine and sternum by a chest compression system. This was whereby the compression caused immense pressure in the ventricles, forcing a closure of the mitral and tricuspid valves as the semilunar valves opened. Eventually, the blood was supplied in the arteries and an arteriovenous pressure was created in the chest to enable the patient to inhale. Further, Babbs (1980) pointed out that a ventilation system was needed after chest compressor was released since the available inhaled air was still insufficient for the patient to survive. According to Bobrow et al. (2008), the most vital operations of CPR were compressions of the chest and clearing of the obstruction. Literature over the years recommended an increase in ratio of chest compressions to ventilation from 5:1 to 15:2 to 30:2 during CPR. This increased ratio was found to be beneficial in both human and animal studies.

Therefore, in relation to healthcare provider training, it required a doctor or nurse who had undergone intensive training, to understand how a chest compression system works and the level of pressure needed to ensure blood flow. Notably, the training encompassed basic life support, advanced cardiac life support, heart saver, and defibrillation. The health care provider with in-depth training ensured that the patient was administered adequate pressure that did not crush other organs as they resuscitated the heart. Notably, the consistence training and practice of CPR enabled a health provider to ensure that as they a resuscitating a patient, care was taken on the administer accurate compression rate and depth. It also needed training to understand when to apply the AED shocks, how to balance the AED with chest compressions, and when to stop, particularly when pauses were noticed. Further, the pattern of doing CPR whereby a minimum of thirty compressions were administered with two breaths was vital towards saving a patient's life.

### **2.2 Empirical Review**

A study by Kaihula et al. (2018) in MNH clinical departments in Tanzania found very poor knowledge of cardiac arrest care by healthcare providers, even though they had performed CPR in the past. Out of 350 HCPs, only 16% scored above 50% in the written and practical test against the international minimum passing score. Poor knowledge of the performance of CPR

has also been noted at a general tertiary hospital in Kenya and in other low-income countries (Wachira & Tyler, 2015). The study based in Kenya found that quick detection of warning signs of an impending cardiac arrest made it possible to provide relevant treatment and improve health outcomes. However, the management needed to implement systems that supported training, certification, and monitoring of the healthcare providers' skills. This in turn supported a motivated response to curb the chances of a situation worsening.

Therefore, Graham et al. (2015) noted that IHCA presented a challenge to healthcare systems; in some hospitals with low rates of cardiac arrest, specialists and other healthcare providers lacked the competence to deal with IHCA. They further pointed out that some teaching hospitals relied on students, residents, and fellows who upon completion of their training left behind new trainees who did not have the required expertise to perform IHCA appropriately. Great teamwork, skills, and competencies were required to improve the quality of IHCA which younger healthcare providers lacked (Hayes et al., 2007).

Another challenge presented was that emergencies were time-involving and required a strategic approach by both management and staff to improve the outcomes of post-resuscitation care. A study by Dufourq et al., (2017) found that training increased the perceived level of skill, competence, and confidence among trainees. Surgery trainees who had advanced life support certificates for instance were more likely to respond to IHCA than their colleagues who had not undergone training in emergency skills. This indicated that life support training not only impacted knowledge but also led to a change in behavior and perception (Dufourq et al., 2017).

Lack of data on the incidence of cardiac arrests made it difficult to assess the parameters used to estimate both IHCA and OHCA (SEM, 2015). This study emphasized the need for more studies and teaching, rethinking IHCA, provision of technical equipment as well as team training to improve IHCA response. The training and learning emphasized quick identification of signs, communication, and utilization of barrier devices and the use of safety devices in situations that require these. Real education not only changed the mind but changed the heart since the healthcare providers' attitudes towards the provision of CPR were also transformed. The use of defibrillators was noted to improve with increased knowledge which consequently improved health outcomes following a cardiac arrest.

Emergency response teams had a responsibility to enhance learning by all HCPs within the health facility to ensure responders were competent in performing CPR (Murakami et al., 2014). Taha et al. (2015) concluded the low rate of ROSC following IHCA pointed to the need for training and education of staff to ensure better delivery of CPR, and to enhance post-cardiac arrest care. Similarly, White (2013) called for holistic and inclusive training that took care not only of IHCA but also one that ensured that public bystanders were skilled in performing CPR, to save lives. The benefit of training was illustrated by the fact that those trained were more likely to offer CPR than those who were not. Bray et al. (2017) recommended the use of advanced technology in training like through DVD kits and self-instruction videos. The study showed that much more can be done in this way to increase training rates and improve skills for better IHCA outcomes.

Ko et al. (2018), noted that training staff enabled them to easily recognize worsening states and quickly respond to cardiac arrest through CPR and defibrillation, increasing the chances of survival. Morrison et al., (2013) recommended developing a competency-based human resource policy that ensured the ability of staff to identify cardiac arrest and perform chest compression using an AED and to put into action the best policies, a thorough cardiac arrest process, and a sustained quality care routine.

### 3.0 Methodology

A cross-sectional design was used to collect data from 402 nurses in Machakos Level 5 Hospital, Muranga Level 5 Hospital, and the Aga Khan University Hospital, Nairobi. They were sampled using simple random method from departments such as medical/surgical wards such as cardiology, anesthesiology, emergency, and Critical Care Units [CCU]. Data was collected using questionnaires. Pilot test was done in Nairobi and Kenyatta hospitals whereby the results enabled examine reliability and as well as validity. Descriptive and inferential statistics were examined and the findings were presented through tables, figures, and explanations.

### 4.0 Results and Discussion

#### 4.1 Response Rate

The study sampled 402 nurses who were to be issued with questionnaires. Their response rates are presented in Table 1.

**Table 1: Response Rate**

Respondents	Sampled	Response	Percentage
Nurses	402	321	80

According to Table 1, 321(80%) nurses returned filled-in questionnaires which were above the 70% required threshold according to Mugenda and Mugenda (2003) to be termed as very good. Therefore, this shows the response rate was satisfactory.

#### 4.2 Reliability Test Results

The study conducted a pilot test from a sample of 40 nurses whose results are provided in Table 2.

**Table 2: Reliability Results**

Research Instruments	Pilot Population	Cronbach Alpha
Questionnaires	40	0.930

According to Table 2, the study gathered that questionnaires had a Cronbach alpha coefficient of an average of 0.930. This shows that they were above 0.7 which showed that the questionnaires used in the study were reliable. According to Nikmard et al. (2023), the reliability of instruments was depicted when their Cronbach's alpha value was above 0.7.

#### 4.3 Descriptive Results on Survival Rate of Cardiac Arrest Among Adults

The survival rate of cardiac arrest among adults was the dependent variable and it was measured by ROSC which comprised of safety standard protocols on CPR, basic Life Support (BLS), advanced Cardiac Life Support (ACLS), advanced Life Support in Obstetrics (ALSO), and Advanced Trauma Life Support (ATLS). It had closed-ended questions and interview questions.



**Table 3: Descriptive Statistics of Survival Rate of Cardiac Arrest Among Adults**

Statements N=321	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Safety standard protocols implemented stability of the patient's breathing pattern	0 (0%)	40 (13%)	0 (0%)	155 (48%)	126 (39%)	4.14
Healthcare providers are assigned to monitor the patient	0 (0%)	26 (8%)	8 (3%)	68 (21%)	219 (68%)	4.50
Clear communication channels are used to notify the family/relatives of the patients	20 (6%)	0 (0%)	8 (3%)	61 (19%)	232 (72%)	4.57
Hospital staff educate the patients on healthy lifestyles	3 (1%)	27 (8%)	0 (0%)	162 (51%)	129 (40%)	4.55
Increased rate of survival of patients who experience cardiac arrest	94 (29%)	35 (11%)	7 (2%)	122 (38%)	63 (20%)	3.08
Hospital committee established to evaluate medical negligence	0 (0%)	62 (19%)	15 (5%)	178 (55%)	66 (21%)	3.77

Table 3 reveals that 126(39%) strongly agreed and 155(48%) agreed that there were safety standard protocols implemented to ensure that the patient's breathing pattern was stabilized after Cardiopulmonary Resuscitation (CPR) (mean of 4.14). Additionally, 219 (68%) strongly agreed and 68(21%) agreed that healthcare providers were assigned to monitor the patient (mean of 4.50). Further, 232(72%) strongly agreed and 61(19%) agreed that there were clear communication channels used to notify the family/relatives of the patients on their ROSC status (mean of 4.57). In addition, 129(40%) strongly agreed and 162(51%) agreed that the hospital staff educated the patients on healthy lifestyles as measures of avoiding a reoccurrence of cardiac arrest (mean of 4.55). Further on, 63(20%) strongly agreed and 122(38%) agreed that there had been an increased rate of survival of patients who experienced cardiac arrest while in hospitals (mean of 3.08). Notably, 66(21%) strongly agreed that 178(55%) agreed that there was a hospital committee established to evaluate medical negligence as a possible cause of fatalities from cardiac arrest (mean of 3.77).

The results indicate that hospital management has done its best to ensure that its patients survive IHCA. Therefore, there has been the establishment of several standard protocols related to stability in breathing patterns, especially after the administration of CPR, monitoring the patients, keeping constant communication with the family, and providing post-recovery awareness to patients to avoid re-occurrence. These measures were found to be effective in keeping patients alive and in a case of negligence, there was a team hospital committees established to investigate and explicate who, when, and how it occurred. Supportively, Graham et al. (2015b) observed that for the burden on public health's cardiac arrest cases to be manageable, hospitals had to take various factors seriously. The factors include the provision of medical staff, equipping the health centers, creating awareness through aggressive campaigns, and investigation of any slight negligence from the medical practitioners.

#### 4.4 Descriptive Statistics of Healthcare Provider Training

Healthcare provider training was the first variable and it was measured through various indicators like basic life support, advanced cardiac life support, heart saver, and defibrillation. It had dichotomous questions, closed-ended questions, and interview questions. The results of the closed-ended questionnaires are presented in Table 4.

**Table 4: Descriptive Statistics of Healthcare Provider Training**

Statements N=321	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Mandatory CPR training	15(5%)	23(7%)	3(1%)	56(17%)	224(70%)	4.40
CPR training in BLS	0(0%)	50(16%)	64(20%)	56(17%)	151(47%)	3.89
CPR training in ACLS	112(35%)	16(5%)	78(24%)	58(18%)	57(18%)	2.64
CPR training in Heart Saver	0(0%)	64(20%)	87(27%)	37(12%)	133(41%)	4.02
Training in Life Support every 2years	6(2%)	186(58%)	0(0%)	54(17%)	75(23%)	2.19
Adequate training in performing CPR	12(4%)	70(22%)	1(1%)	155(47%)	83(26%)	3.71
Patient simulators were helpful	0(0%)	34(11%)	2(1%)	162(50%)	123(38%)	4.17
Confident in operating the resuscitation equipment	16(5%)	57(18%)	4(1%)	168(52%)	76(24%)	3.72
Response to crisis management of communication	2(1%)	4(1%)	0(0%)	34(11%)	281(87%)	4.83
Response to the teamwork	1(1%)	47(14%)	0(0%)	91(28%)	182(57%)	4.26
Opportunity to practice multi-disciplinary, team-based CPR response	12(4%)	149(46%)	0(0%)	160(50%)	0(0%)	2.96
ANSWER a OR b						
a) Anxious about participation in mock resuscitation CPR scenarios despite training	3(1%)	4(1%)	0(0%)	35(11%)	279(87%)	4.82
b) Anxious about participation in mock resuscitation scenarios since I have no resuscitation CPR training	0(0%)	31(10%)	90(28%)	85(26%)	115(36%)	3.88
Enough experience to respond to a CPR	5(2%)	145(45%)	40(13%)	27(8%)	104(32%)	2.85
Recognize the cardiac rhythm correctly	12(4%)	69(21%)	74(23%)	75(24%)	91(28%)	3.14
Recognition of a CPR scenario	21(7%)	25(8%)	7(2%)	68(21%)	200(62%)	4.25
Use of equipment as assigned during CPR	0(0%)	57(18%)	0(0%)	82(26%)	182(56%)	4.21
Perform chest compressions and mouth to mouth breathing adequately	0(0%)	149(46%)	0(0%)	121(38%)	51(16%)	3.02

Prescribe and administer medication in a CPR scenario	0(0%)	188(59%)	0(0%)	40(13%)	93(29%)	2.94
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The major results of Table 4 reveal that 224(70%) strongly agreed and 56(17%) agreed that CPR training was relevant in their line of work and hence should be made a mandatory part of their continuing education (mean of 4.40). Other 248(77%) strongly agreed and 41(13%) agreed that they had acquired CPR training in BLS (mean of 3.89). Notably, 133(41%) strongly agreed and 124(39%) agreed they had gotten CPR training in heart saver (mean of 4.02). Additionally, 123(38%) strongly agreed and 162(50%) agreed that patient simulators shown to them during training were helpful during an actual resuscitation (mean of 4.17). Notably, 182(57%) strongly agreed and 91(28%) agreed that they could respond to the teamwork because of the designation of roles taught during the CPR training (mean of 4.26).

However, 112(35%) strongly disagreed and 16(5%) disagreed that they had received CPR training in ACLS (mean of 2.64). Further, 186(58%) disagreed that they were trained in Life Support- CPR every 2 years (mean of 2.19). Notably, 149(46%) disagreed that they had an opportunity to practice multi-disciplinary, team-based CPR response (mean of 2.96). Other 145(45%) disagreed that they had enough experience to participate and respond to CPR (mean of 2.85). Further 188(59%) disagreed that they could prescribe and administer appropriate medication in a CPR scenario due to the training of advanced life support (mean of 2.94).

The results imply that nurses had a positive attitude toward having CPR training as part of their advanced career course. Therefore, majority had undergone training in BLS and heart saver courses whereby various patient simulators shown to them during training were helpful during actual resuscitation. The training also came in handy in ensuring that they developed teamwork skills and the ability to recognize a CPR scenario. However, majority of the nurses had not undertaken ACLS training nor maintained consistency in life support training of CPR every 2 years. The results agreed with Manono (2022) on the perspective of failure to have ACLS certification but also contradict the author at the same time on staff having undergone the BLS training. The context of certification of BLS was for nurses in the current study but Manono (2022) considered health providers such as clinical officers.

Additionally, the findings of the current study indicated that the nurses complained about not being allowed to put into practice various team-based CPR responses while others claimed not to have enough CPR management experience. Therefore, the fact that they lacked exposure, led to poor skills in prescribing and administering appropriate medication in a CPR scenario. Similar complaints were brought forth by Kaihula et al. (2018) who indicated that healthcare providers in Tanzania's MNH departments were also affected by poor knowledge of cardiac arrest management. The same sentiments were also repeated by Wachira and Tyler (2015) who pointed to knowledge gaps among medical practitioners in Kenya.

#### 4.5 Pearson Correlation of Outsourcing Practice

The study had a null hypothesis that stated that healthcare provider training did not have a significant influence on the survival rate of cardiac arrest among adults in Kenya. Therefore, Pearson correlation analysis was used to determine whether there was any influence or absence of it.



**Table 5: Pearson Correlation of Healthcare Provider Training**

		Survival Rate of Cardiac Arrest	Healthcare Provider Training
Survival Rate of Cardiac Arrest	Pearson Correlation	1	.495
	Sig. (2-tailed)		.002
	N	321	321
Healthcare Provider Training	Pearson Correlation	.495	1
	Sig. (2-tailed)	.002	
	N	321	321

\*\* . Correlation is significant at the 0.01 level (2-tailed)

Table 5 indicates that the Pearson correlation coefficient  $r=0.495^{**}$  at  $\alpha < 0.002$  and 99% significance level. Therefore, since the correlation values were less than 1 and significance level was less than 0.05, the study rejected the null hypothesis. The implication of the results provides that healthcare provider training determined a lot on the survival rate of cardiac arrest patients. The results are in agreement with Manono (2022) who pointed out that the knowledge and skills training of healthcare providers increased the effectiveness of CPR in Nakuru County Hospital. Additionally, Pareek et al. (2018) indicated that training nurses on CPR improved patient's mortality rate.

#### 4.6 Summary

The major results of the questionnaire provided 280(77%) nurses were of a positive opinion on the relevance of CPR in their work jurisdiction. Therefore, out of 191(60%) who attended CPR training, 143(45%) had completed the training to get a certificate. Further, 207(64%) had acquired BLS training and 170(53%) had heart saver training. In the training, 273(85%) noted that they had gained teamwork skills while at the same time, 285(88%) said that they were able to use patient simulators that enabled them to gain relevant skills applicable during actual occurrence. That notwithstanding, 193(60%) had no training in ACLS while 186(58%) did not get life support training every 2 years. More discouraging was that 149(46%) never got a chance to put into practice their CPR skills at a team-based CRP event therefore .145(45%) lacked the actual real-life experience to respond to a CPR. It was also noted that 188(59%) nurses were not in a position to administer medication in a CPR occurrence since they lacked training in advanced life support. Further, the regression results indicated that the Pearson correlation coefficient of  $r$  was  $0.495^{**}$  at  $\alpha < 0.002$  and 99% significance level. Therefore, since the correlation values were less than 1 and the significance level was less than 0.05, the study rejected the null hypothesis.

#### 5.0 Conclusion

The conclusion remark on healthcare provider training is that it had a significant influence on the survival rate of cardiac arrest among adults. On the one hand, the healthcare providers lacked advanced professional skills such as ACLS training and lacked the zeal and discipline to consistently attend CPR training every 2 years. On the other hand, hospitals were noted to have poor implementation of policies that guided the correct exposure to CPR management to all healthcare providers. This 'privilege' was only left to the chosen few and as a result, it was discovered that there was a gap in the skills that the health workers possessed related to prescribing and administering appropriate medication in a CPR scenario.

## 6.0 Recommendation

The recommendations on the healthcare provider training are that the hospital management should enact learning and development policies that make it mandatory for various staff in different units to attend CPR training. Additionally, the medical staff should improve awareness through internal forums such as hospital workers' unions on the need to acquire advanced professional skills such as ACLS training. The hospital management could motivate the healthcare providers by rewarding the certified staff or offering priority on promotional opportunities to the ones that have shown effort in getting certification in advanced ACLS training. The departmental unit leaders should consistently keep training members on the need to work as a team in emergencies so that every member could get a chance to improve key skills such as CPR management.

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