

# AN AUDIT OF RESUSCITATION TROLLEYS AT SEVERAL HOSPITALS IN KWA-ZULU NATAL

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## 1. BACKGROUND

Trauma and emergencies contribute to the quadruple burden of disease in South Africa. The high number of trauma, medical and cardiac emergencies demand emergency preparedness with equipment, drugs and emergency trolleys for quality resuscitations and quality of care. All health care organizations have an obligation to provide a high-quality resuscitation service which is governed by various statutory regulations.

Emergency trolleys are essential for emergency medical care, by providing mobility, organization and efficiency for healthcare professionals and patients alike. The National Patient Safety Agency has recognized many deficiencies and shortcomings with resuscitation trolleys despite the use of policy guided checklists.

The Emergency Medicine Society of South Africa has published a set of guidelines in managing the emergency medical centers in South Africa in order to meet the minimum standard to safely manage any emergency. The standard equipment that should be in all emergency centers in South Africa has been used as a guide to formulate policy and checklists for all emergency department trolleys. Furthermore, the Kwa-Zulu Natal Department of health has also made available a standard checklist for (child) resuscitation trolley.

## 2. METHODS

A prospective descriptive study was conducted in several rural and urban hospitals in Kwazulu-Natal to identify the readiness of resuscitation trolleys for emergencies and to ascertain compliance to policy guidelines in respect of preparedness and safety check lists.

King Cetshwayo	Umkhanyakude	Uthukela	Umzinyathi
Ekombe Hospital Eshowe Hospital	Bethesda Hospital Hlabisa Hospital	Emmaus Hospital Estcourt Hospital	Church of Scotland Hospital Dundee Hospital
Mbongolwane Hospital Nkandla Hospital	Manguzi Hospital Mosvold Hospital Mseleni Hospital	Ladysmith Hospital	Greytown Hospital
Ugu	Zululand	Harry Gwala	Ilembe
G.J. Crookes Hospital	Benedictine Hospital	Christ the King Hospital	Montebello Hospital
Murchison Hospital St. Andrews Hospital	Vryheid Hospital	St. Apollinaris Hospital	
eThekweni (Durban)	uMgungundlovu	Amajuba	
King Dinizulu Hospital Complex	Appelsbosch Hospital		

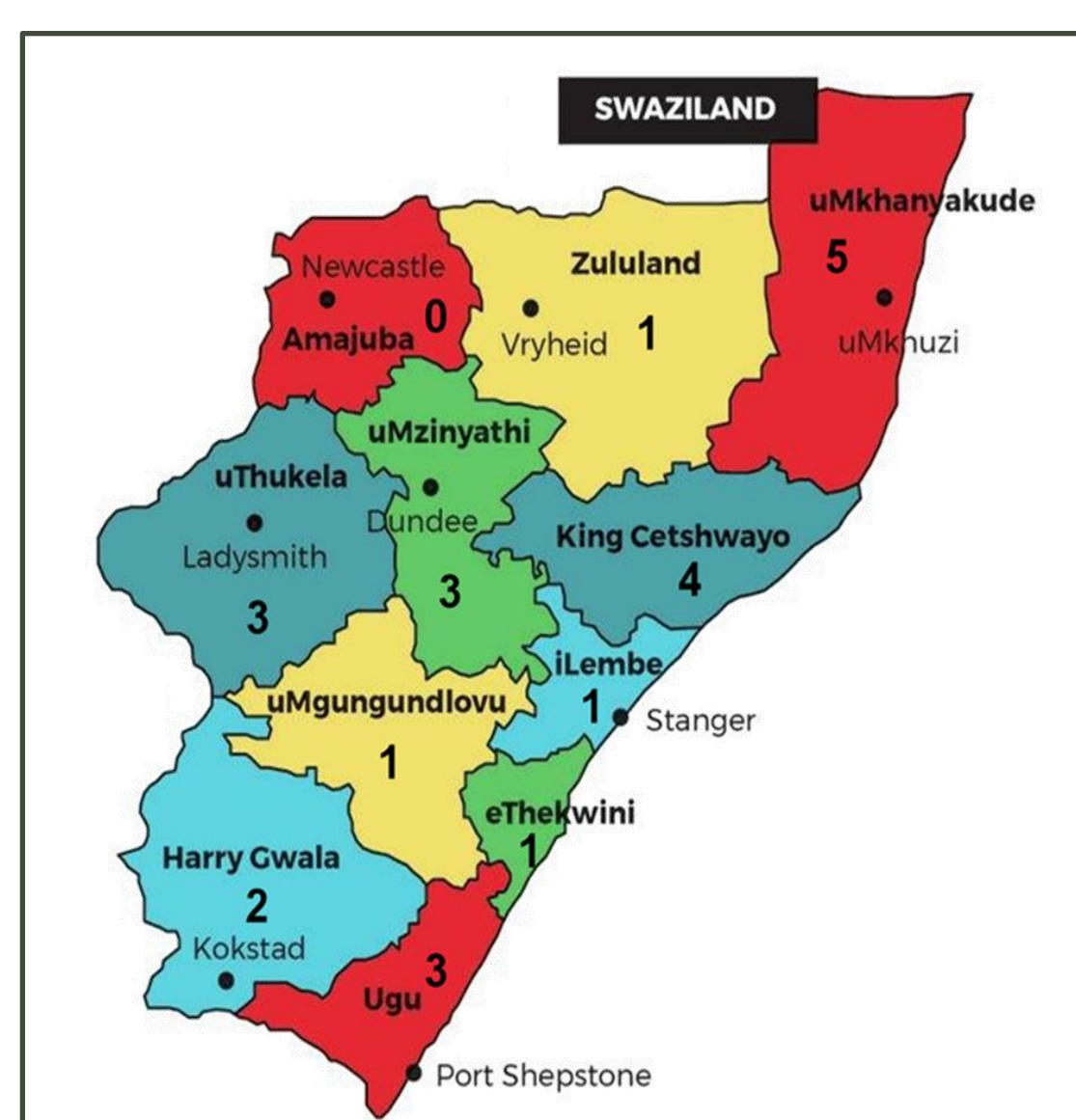


Table 1: Hospitals with Resuscitation Items Evaluated

## 3. RESULTS

### MEAN COMPLIANCE RATE OF RESUSCITATION ITEMS BY DISTRICT

District	Number of Facilities	Number of items assessed	Mean Compliance Rate	Standard Error	95% Confidence Interval		SD
					Lower	Upper	
Harry Gwala	2	66	62.12	5.51	51.32	72.92	44.77
Ilembe	1	66	62.12	6.02	50.33	73.91	48.88
King Cetshwayo	4	66	60.98	5.24	50.72	71.25	42.55
Ugu	3	66	68.69	5.28	58.33	79.04	42.92
Umkhanyakude	5	66	71.82	4.34	63.31	80.32	35.25
Umzinyathi	3	66	67.17	5.21	56.95	77.39	42.36
Uthukela	3	66	77.27	5.99	65.54	89.00	48.63
Zululand	1	66	54.55	6.18	42.44	66.65	50.17
eThekweni	1	66	86.36	4.26	78.02	94.71	34.58
uMgungundlovu	1	66	34.85	5.91	23.26	46.43	48.01

### MEAN COMPLIANCE RATE OF RESUSCITATION ITEMS BY CATEGORY

Category	Items Assessed	Mean Compliance Rate	95% Confidence Interval		SD	Minimum	Maximum
			Lower	Upper			
Devices to Open and Protect Airway	9	44.89	26.01	63.77	28.90	4.00	84.00
Devices to Confirm Tracheal Intubation	2	12.00	12.00	12.00	0.00	12.00	12.00
Equipment for difficult intubation	4	38.00	3.90	72.10	34.79	8.00	72.00
Devices to deliver oxygen and ventilate patients	3	84.00	72.02	95.98	10.58	72.00	92.00
ECG monitor defibrillator	1	76.00	NaN	NaN	NaN	76.00	76.00
Intravascular Access	6	78.67	61.77	95.56	21.12	48.00	96.00
Equipment for monitoring Airway, Breathing and Circulation	6	86.67	74.41	98.92	15.32	60.00	96.00
Appropriate Hardware	8	64.50	44.99	84.01	28.16	8.00	96.00
Emergency Drugs	21	67.24	50.63	83.85	38.84	0.00	96.00
Guidelines and documentation	2	12.00	12.00	12.00	0.00	12.00	12.00
Intravenous Solutions	4	96.00	96.00	96.00	0.00	96.00	96.00

## 3. RESULTS CONTINUED...

### INDIVIDUAL FACILITY SCORES PER DISTRICT

District	Hospital	Urban vs Rural	Total Score (n = 66)	Score %
eThekweni	King Dinizulu Hospital	Urban	57	86,36
Harry Gwala	Christ the King Hospital	Rural	37	56,06
	St. Appolonaris Hospital	Rural	45	68,18
Ilembe	Montebello Hospital	Rural	41	62,12
	Ekombe Hospital	Rural	33	50,00
King Cetshwayo	Mbongolwane Hospital	Rural	39	59,09
	Nkandla Hospital	Rural	41	62,12
	Eshowe Hospital	Rural	48	72,73
Ugu	St. Andrews Hospital	Rural	42	63,64
	Murchison Hospital	Rural	46	69,70
	GJ Crookes Hospital	Rural	48	72,73
uMgungundlovu	Appelsbosch Hospital	Rural	23	34,85
	Manguzi Hospital	Rural	42	63,64
Umkhanyakude	Mseleni Hospital	Rural	42	63,64
	Mosvold Hospital	Rural	43	65,15
	Hlabisa Hospital	Rural	48	72,73
	Bethesda Hospital	Rural	62	93,94
Umzinyathi	Greytown Hospital	Rural	41	62,12
	Dundee Hospital	Rural	45	68,18
	Church of Scotland Hospital	Rural	47	71,21
Uthukela	Estcourt Hospital	Rural	39	59,09
	Emmaus Hospital	Rural	42	63,64
	Ladysmith Hospital	Urban	62	93,94
Zululand	Vryheid Hospital	Rural	26	39,39
	Benedictine Hospital	Rural	36	54,55
<b>All Districts Assessed</b>	<b>Mean score – all facilities</b>		<b>43</b>	<b>65,15</b>

### SUMMARY OF RESULTS

1. Significant inconsistencies and shortcomings
2. Poor compliance to policy guidelines
3. Trolleys were not correctly labelled
4. They were inadequately stocked, and several emergency drugs were missing.
5. Essential equipment was either damaged, misplaced or not available on the trolley.
6. Several emergency drugs were expired

## 4. CONCLUSION

This study highlights a common theme of inadequate preparedness of resuscitation trolleys for emergencies in several hospitals in Kwazulu-Natal which may contribute to negative outcomes or failed resuscitations in emergencies. Several interventions and strategies are recommended to improve the standards in terms of compliance with best practice.

The audit of resuscitation trolleys is a critical aspect of healthcare facility management and patient safety. It ensures that emergency response teams are well-equipped and ready to address life-threatening situations promptly. Regular audits not only help maintain compliance with medical guidelines but also contribute to continuous improvement in emergency response protocols. By prioritizing trolley audits, healthcare facilities can provide a safer environment for patients, increase the efficiency of their emergency teams, and demonstrate their dedication to delivering high-quality care.

## 5. RECOMMENDATIONS

- A. The emergency trolley must be maintained in a fully functioning and workable order, at all times.
- B. This emergency trolley easily accessible at all times with no obstructions.
- C. The emergency trolley must be checked twice daily, recorded and accordingly signed.
- D. The emergency trolley must be equipped with items as per recommended guidelines.
- E. A complete inventory of all items required on the emergency trolley must be maintained and kept up-to-date.
- F. The defibrillator check should be performed daily. The corresponding test print out must be checked and initialed each day by a designated individual.
- G. Expiry date: any items exceeding their expiry date should be removed from the trolley and disposed of in the appropriate manner. All items removed from the trolley must be replaced immediately and a record of any changes recorded on the checklist where the expiry date is required. Evidence of tampering: all items on the trolley must be checked in order to ensure that they are suitable for use and do not show any signs of damage/tamper.
- H. Once a month all items should be removed from the trolley and the trolley thoroughly cleaned.

## 6. REFERENCES

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