

# **Knowledge and Practices of Nursing Officers regarding Medical Record Keeping in a Government Hospital, Sri Lanka**

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## **ABSTRACT**

The Bed Head Ticket (BHT) is the medical record of the in-ward patient in the Sri Lankan health system. Nursing Officers (NOs) are one of the main stakeholders in maintaining medical records for hospitalized patients. The aim of the present study was to assess the knowledge and practices of NOs in medical record keeping regarding inward patient care.

All NOs Base Hospital Warakapola (BHW) were recruited in the study. Their knowledge and practices regarding medical record keeping were assessed using a self-administered questionnaire. Five hundred BHTs were studied retrospectively in the same hospital with the use of a check list to ascertain the actual practices.

More than half of NOs were not aware of the existence of the general circular pertaining to the maintenance of medical records. Only 62% NOs were found to be aware of when to send the BHT to the record room once the patient was discharged.

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A majority of 91.8% NOs were not aware that the BHT was the sole source of information for Indoor Morbidity and Mortality Return (IMMR). Legibility and completeness of entries made by NOs were satisfactory in 83.6% and 16.2% of BHTs respectively. The knowledge regarding the guidelines pertaining to the management of medical records was poor among NOs. Their basic knowledge on the timeliness of record keeping and flow of medical information system was also not satisfactory according to the study. Selected aspects in practices of NOs in medical record keeping reflected the gaps in knowledge.

**Keywords:** Bed Head Ticket, Medical Record Keeping, Nursing Officers, Knowledge, Practices

## **INTRODUCTION**

Sri Lanka is a country which provides free health care for all citizens. The outcomes in health indicators are outstanding compared to other nations with similar economic development (Björkman, 1985).

A sound information system is a vital requirement in health systems and fundamental in policy making, health care planning, allocation of resources, monitoring and evaluation at all levels (Haux, 2006).

A medical record is a document which carries patient's data, clinical history, details in management such as investigations, treatment and diagnosis (Wright and CRC Press, 2015). In the Sri Lankan scenario, the BHT is the medical record of hospitalized patients. The BHT carries details in managing the patient during the hospital stay. It safeguards the legal interests of the patient, health care workers and the health facility (Feather and Morgan, 1991). Medical records serve as the main communication link among health care providers, a failure of which could give rise to detrimental consequences (Hewett et al., 2009). The maintenance of clarity

and accuracy of medical records not only ensures that a patient’s assessed needs are met comprehensively but also immensely supports proper decision making (Ledikwe et al., 2014).

Each BHT carries a serial number which is suffixed by the last digits of the current calendar year. Upon the discharge of the patient, the diagnosis is to be noted in the specific place given in the BHT (Figure 1) and the document should be sent to the medical records department of the hospital, ideally in the following day morning.

Blood group රුධිර ගණය இரத்த வகை		Health 26	
 රෝගීන් ඇතුළත් කිරීමේ පත්‍රිකාව Patient Admission Form රෝගාගාරි අනුමැති පත්‍රය රෝගීන්ගේ පුද්ගල සහ සෞඛ්‍ය තොරතුරු			
<b>Section A (A කොටස, A பிரிவு)</b>		<b>Personal Health Number</b> පුද්ගලික සෞඛ්‍ය අංකය பிரத்யேக சுகாதார இலக்கம்	
Patients Name in Full (Mr./Ms./Rev.) (PI Check with NIC)	රෝගියාගේ සම්පූර්ණ නම රෝගාගාරිගේ පුද්ගල පොත්	BHT Number	ඇදුම් අංකය පුද්ගලික සෞඛ්‍ය අංකය
NIC Number	ජාතික හැඳුනුම්පත් අංකය ජාතික අංකය - අ.අ.ස. අංකය	Date	D   D   M   M   Y   Y   Y   Y
Address	ලිපිනය මුහුණත	Time	වේලාව ප්‍රදානය am/pm
Name & Address of the Guardian	හරකරුගේ නම සහ ලිපිනය පාලකයාගේ නම සහ ලිපිනය	Age	වයස කාලය
		Sex	Male පිරිමි / Female ගැහැණු
Contact Number	දුරකථන අංකය / මුහුණත අංකය	Marital status	Single ඉවිවාහය / Married විවාහය / Other වෙනත්
		Occupation	වෘත්තිය
Property/ Cash in Possession	රෝගියා සහිත භූමි හිමි / රුද්‍රවල සහිතවලට පාලනය/විකල්ප		
Name of the transferring institution රෝගියා මාරු කර එවන ලද ආයතනය இடமாற்றம் செய்த நிறுவனம்			
Ward/Unit	එවැනි වර්ග	Consultants Name	විශේෂඥ වෛද්‍යවරයාගේ නම වෛද්‍ය නිලධාරීන්ගේ නම
Subsequent Transfers පසුව මාරු කිරීම අනුමැති இடமாற்றங்கள்	Date	දිනය	දිනය
	Ward/Unit	එවැනි වර්ග	
	Consultant	විශේෂඥ වෛද්‍යවරයා	වෛද්‍ය නිලධාරීන්ගේ නම
<b>Section B (B කොටස, B பிரிவு)</b>			
Date දිනය	D   D   M   M   Y   Y   Y   Y	Time	වේලාව ප්‍රදානය am/pm
Name of the Patient	රෝගියාගේ නම රෝගාගාරිගේ නම	Age	වයස කාලය
Clinical notes of Admitting Officer ඇතුළත් කරන වෛද්‍යවරයාගේ සටහන් அனுமதிக்கும் வைத்தியரது குறிப்புகள்	Level of Consciousness	Mode of Admission	Direct සෘජු ප්‍රදානය
	Pulse Rate	අලුත් වැඩ සටහන	Transfer in වෙනත් රෝගාගාරය සිට இடமாற்றம் செய்யப்பட்டது
	Blood Pressure	ප්‍රදානය	Requested ඉල්ලා ඇති පරිදි தேடும் சொந்தத்திற்கு
Provisional Diagnosis එවකට රෝග කිරීමේදී இடைக்கால நோய் நிர்ணயம் Name of Admitting Officer ඇතුළත් කරන වෛද්‍යවරයාගේ නම அனுமதிக்கும் வைத்தியரது பெயர்	<b>Final Diagnosis &amp; Co - morbidities</b>		
	Principal Diagnosis	ප්‍රධාන රෝග කිරීමේදී முதன்மை நோய் நிர்ணயம்	ICD code
	Co-morbidities	අනෙකුත් රෝග ව්‍යාධි රෝග නිර්ණය	ICD code
	Procedure/ Intervention/ Surgery:	අලුත් වැඩ / අනුමැති / ව්‍යුහගත කිරීම	ICD code
	Cause of Death	මරණයට හේතුව	ICD code
Immediate Cause of Death	ආසන්නතම හේතුව	ICD code	
Underlying Cause of Death	පාදක වූ හේතුව	ICD code	
Contributory Cause of Death	ආධාරකාරී හේතුව	ICD code	
Signature	අත්සන සහ අත්සන	Medico-legal referrance	වෛද්‍යවරයාගේ වෛද්‍ය අංකය සහ සෞඛ්‍ය අංකය
Stamp	Transport සහ සෞඛ්‍ය සේවකරුවන් සහ සෞඛ්‍ය සේවකරුවන්	Name of JMO	වෛද්‍යවරයාගේ නම සහ සෞඛ්‍ය අංකය
Emergency Medical Care / A&E Management හදිසි ප්‍රතිකාර අවසර සහ සෞඛ්‍ය සේවකරුවන්ගේ නම සහ සෞඛ්‍ය අංකය			

Figure 1: Front page of the Bed Head Ticket in Sri Lanka

In Sri Lanka, the national health information system consists of information from curative and preventive sectors, disease surveillance systems and special campaigns, population censuses and surveys. But the morbidity and mortality data from the outpatient departments of state hospitals, Ayurvedic institutions and private sector institutions are not systematically collected, which makes the data obtained from the BHTs the only source of information for inpatient morbidity and mortality data in Sri Lanka. The information gathered through the BHTs is transferred through web-based IMMR (eIMMR) to the central level (Kariyawasam et al., 2011).

Insufficient use of information for evidence-based decision-making weakens the linkage between individual care and public health systems (Lippeveld, 2013). Irrelevant and poor-quality data in individual health care activities, information on health care interventions done in silos without being linked to the reference population, heavily centralized information system management and inadequacy of health information system infrastructure, negatively affects the health management (Lippeveld, 2013).

The knowledge and practices of NOs in managing medical records are mostly overlooked by researchers and decision-makers.

The current study was carried out in BHW in Kegalle district, Sri Lanka, which is a secondary care government hospital with a bed capacity of 350.

The aim of the present study was to assess the knowledge and practices of NOs in medical record keeping regarding inward patient care.

## **METHODOLOGY**

Study was carried out from 1st September to 31st December 2017. All the NOs (89) employed in the hospital were included in the study.

A self-administered questionnaire was used to collect socio-demographic and service facts and knowledge and practices regarding management of BHTs of NOs. The questionnaire was based on the guidelines for maintenance of BHTs as per the General Circular issued by Ministry of Health, Sri Lanka (Ministry of Health, Sri Lanka, 1999). The questionnaire was initially prepared in English after reviewing relevant literature and the finalized questionnaire was then translated into native languages (Sinhala and Tamil) and retranslated back into English to ensure the consistency. The questionnaire was pretested and validated. It consisted of close-ended questions which were self-explanatory and easy to respond.

When calculating the percentages, non-responders for a given question were excluded from the total. Chi-square test was used to assess the statistical significance and p value was considered as 0.05.

During evaluation of responses to the questions directly assessing the knowledge of medical record keeping, one mark was allocated for each correct response and the total marks were ascertained as a percentage. A total of 50% or above was considered as basically satisfactory knowledge.

A check list was used to study the BHTs to assess the practices and it was based on the guidelines of Ministry of Health, Sri Lanka on medical records (Ministry of Health, Sri Lanka, 1999). The check list was designed to capture adherence to selected standard practices as per the guidelines (Table 1).

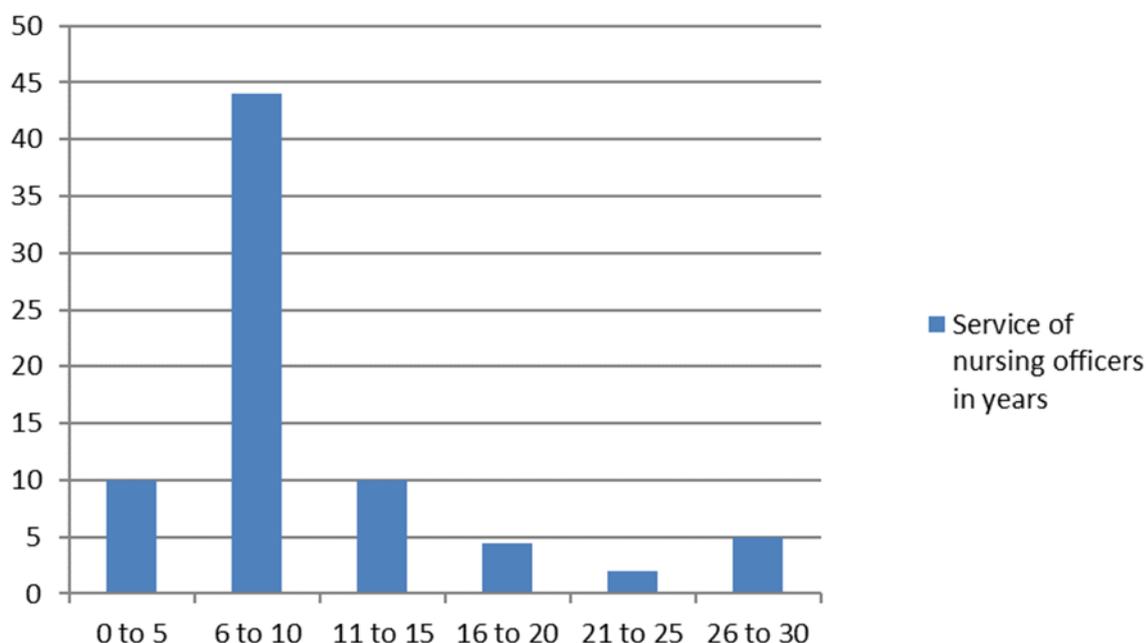
**Table 1:** Standard practices of medical record keeping assessed at the BHT survey and criteria of their fulfillment

<b>Aspect of the standard practice</b>	<b>Criteria</b>
Legibility of notes in the BHT	Ability to be read at a glance under adequate light Can be read without any assistance from another
Completeness of the entries of BHT	Time of the entry mentioned in the BHT The NO who made the entry had placed the signature below the note
Adherence to the proper method of attaching investigation reports to the BHT	Each report is pasted on a separate sheet attached to the BHT
Timely receipt to medical record room after the discharge of patient	Receipt of the BHT by the record room in the day following the discharge

Five hundred BHTs were selected for the study by simple random sampling from those of the second quarter of year 2017. Data were quantitatively analyzed using the program SPSS 16.

## **RESULTS**

There were 89 NOs employed BHW in 2017 and 87 of them were females. Only 73 NOs responded to the questionnaire. Among the NOs, 60.27% (44/73) had a period of service between six to ten years (Figure 2).



**Figure 2:** NOs' duration of service

The knowledge of NOs on selected attributes of medical record keeping are depicted in Table 2. For the question assessed the awareness of general circular which carried guidelines on medical record keeping, 42.46% (31/73) had not responded. Among the responders 52.38% (22/42) was not aware that there was a General circular. Out of the NOs who knew that the circular existed, only 65% (13/20) had read it. Most NOs (52%,38/73) were aware that every entry of the BHT made by any authorized officer should be signed, and every note should carry the time of entry. Only 20.55% (15/73) were found to have the correct understanding about the procedure of issuing a BHT to a bystander for diet purposes. Of the 72 NOs who responded, only 45 (62.5%) knew that the BHT should be sent to the record room in the following day after the discharge of a patient. Most of the nurses 68.49% (50/73) did not have the correct knowledge about the recommended procedure of sending the BHT of a patient who died in the ward, to the medical record room of the institute. Majority of 73.97% (54/73) nurses had the

correct knowledge that a non - judicial BHT should be preserved in the medical record room of the institution for five years.

It was found that 61.64% (45/73) nurses had the correct understanding that the BHT should be preserved at the record room even when it is to be retrieved soon. It was also found that only 8.22% (6/73) of NOs had the correct understanding regarding the basic flow of health information. The knowledge of NOs on medical record keeping showed no significant association with their duration of service (chi-square statistic 0.1527 p-value is .695977).

**Table 2:** Knowledge of NOs regarding selected attributes of medical record keeping

<b>Attribute</b>	<b>Variable</b>	<b>Number of nurses (percentage)</b>
Awareness on the existence of the circular	Yes	20 (47.62)
	No	22 (52.38)
Had read the circular	Yes	13 (65.00)
	No	07 (35,00)
Knowledge on the need of having each entry of BHT signed with a note of time	Correct knowledge	38 (52.05)
	Incorrect knowledge	35 (47.95)
Knowledge on the procedure of issuing a BHT for provision of diet to a bystander	Correct knowledge	15 (20.55)
	Incorrect knowledge	58 (79.45)
Knowledge on the recommended procedure for attaching the investigation reports to BHT	Correct knowledge	23 (31.51)
	Incorrect knowledge	50 (68.49)
Knowledge on the recommended procedure of handling a BHT of a patient who died in the ward	Correct knowledge	23 (31.51)
	Incorrect knowledge	50 (68.49)

Knowledge on the need of sending BHTs of discharged patients timely to the medical record room	Correct knowledge	45 (62.50)
	Incorrect knowledge	27 (37.50)
Awareness regarding the recommended duration for a non- judicial BHTs to be preserved in the medical record room	Correct knowledge	54 (73.97)
	Incorrect knowledge	19 (26.03)
The knowledge on the procedure of preserving a BHT which would be retrieved soon	Correct knowledge	45 (61.64)
	Incorrect knowledge	28 (38.36)
The knowledge of basic flow of health information	Correct knowledge	6(8.22)
	Incorrect knowledge	67(91.78)

The majority of 83.6% (418/500) of BHTs was found to have legible nurses' notes. But only 16.6% entries made by NOs had the satisfactory completeness. It was found that 78.20% (391/500) BHTs showed the correct practice in attaching the investigation reports to the BHT. It was found that 87.6% (438/500) of BHTs had been sent to record room more than seven days after the discharge of the patient.

## **DISCUSSION**

The field of health care grows more complex day by day, and the demarcations between the health science and other highly technical sectors are becoming increasingly blurred, the capability to communicate effectively about patient care is far more important than ever (Gluyas, 2015). The possibility of ensuring good nursing care has always been dependent upon the quality of the health information available to the nurses (Waneka and Spetz, 2010), and they have long been recognized among the key generators and users of patients' information. The role of the NO in the patient care provision and coordinating the care given by other

stakeholders mean that the exchange and transfer of information could be recognized as a significant nursing activity (Currell and Urquhart, 2003).

The timeliness of sending the BHT to the record room has been assessed in an audit on BHTs in District General Hospital, Gampaha and Base Hospital Wathupitwela. It was revealed that no BHT were sent to the record room in the morning following the discharge which was similar in findings of current study (Mallawarachchi et al., 2017). This result can be considered as a reflection of the poor awareness among the health workers including NOs, regarding the standard guidelines. Although the basic initiatives have been taken by the Ministry of Health to digitalize the health information system with eIMMR concept (Kariyawasam et al., 2011), BHT, the cornerstone of indoor morbidity data remains paper based. Therefore, the poor timeliness of receipt of BHTs to the hospital record room persists to be a huge limiting factor in generation of real time health information in the country. To accomplish the Ministry's ambition of uplifting the quality of health services, the emphasis on improving the process of health information warrants immediate attention of decision makers.

The finding that overall knowledge of NOs in medical record keeping had no statistically significant association with their duration of service could be due the lack of in-service training on health information or medical record keeping at present in Sri Lanka for them. As there was no formal platform to upgrade the knowledge on medical record keeping, NOs might have no option other than to learn by trial and error while over relying on observations and mere advices from colleagues and building awareness empirically through their own experiences (Pakenham-Walsh and Bukachi, 2009).

With ever increasing expectations of patients and costs of medical care, the focus on the quality of content of the clinical record is becoming ever more significant (Carpenter et al., 2007). Legibility of notes in records is a main factor to maintain quality of them. In Base Hospital Wathupitiwela and District General Hospital, Gampaha, the overall legibility of notes

of medical officers were 63.8% (Mallawarachchi et al., 2017) and that of nurses in the current study was comparatively better (83.6%). The difference in adherence to legible handwriting in records by medical officers and NOs cannot be explained without further studies.

## **CONCLUSION**

The knowledge of NOs regarding medical records were especially poor in the awareness of guidelines. Though some procedures and facts were correctly known to most of them, such were not practiced adequately. Training, supervision and motivation together would resolve most issues.

## **REFERENCES**

- Björkman J.W. (1985). Health Policy and Politics in Sri Lanka: Developments in the South Asian Welfare State. *Asian Survey*, 25, 537–552.
- Carpenter, I., Ram, M. B., Croft, G. P., Williams, J. G. (2007). Medical records and record keeping standards. *Clinical Medicine*, 7,328–331.
- Currell, R., Urquhart, C. (2003). Nursing record systems: Effects on nursing practice and health care outcomes. In *The Cochrane Collaboration (Ed.), The Cochrane Database of Systematic Reviews*. John Wiley and Sons, Ltd. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002099/full>
- Feather, H., Morgan, N. (1991). Risk management: role of the medical record department. *Topics In Health Record Management*, 12,40–48.
- Gluyas, H. (2015). Effective communication and teamwork promote patient safety. *Nursing Standard*, 29,50–57.
- Haux, R. (2006). Health information systems – past, present, future. *International Journal of Medical Informatics*, 75,268–281.
- Hewett, D. G., Watson, B. M., Gallois, C., Ward, M., Leggett, B. A. (2009). Communication in Medical Records: Intergroup Language and Patient Care. *Journal of Language and Social Psychology*, 28,119–138.
- Kariyawasam, N. C., Weerasekera, V. S., Dayaratne, M. K. D. R. B., Hewapathirana, R., Karunapema, R. P. P., and Bandara, I. R. (2011). eIMMR: The future of health statistics in Sri Lanka. *Sri Lanka Journal of Bio-Medical Informatics*, 1,14.
- Ledikwe, J. H., Grignon, J., Lebelonyane, R., Ludick, S., Matshediso, E., Sento, B. W., Sharma, A., Semo, B. (2014). Improving the quality of health information: A qualitative assessment of data management and reporting systems in Botswana. *Health Research Policy and Systems*, 12,7.
- Lippeveld, T. (2013, May 12). Routine Health Information Systems: The Glue of a Unified Health System [Keynote address]. Workshop on Issues and Innovation in Routine Health Information in Developing Countries, Potomac. <http://docplayer.net/3034875-Routine-health-information-systems-the-glue-of-a-unified-health-system.html>
- Mallawarachchi, S. M. N. S. M., Mallawarachchi, C. H., Chandradasa, D. H. N. S., Dilrukshi, D. A. R. K., Samarakoon, D. S. (2017). An audit on practices of grade medical officers on management of bed head tickets in base hospital, Wathupitiwela and District General hospital, Gampaha, Sri Lanka. *National Health Research Council*, 1.

Pakenham-Walsh, N., Bukachi, F. (2009). Information needs of health care workers in developing countries: A literature review with a focus on Africa. *Human Resources for Health*, 7.

Sri Lanka Ministry of Health (1999). General circular (Report No:01-05/99) Procedures pertaining to medical records and hospital statistics. Ministry of Health: Sri Lanka.

Waneka, R., Spetz, J. (2010). Hospital Information Technology Systems' Impact on Nurses and Nursing Care: *JONA. The Journal of Nursing Administration*, 40,509–514.

Wright, A., CRC Press. (2015). *Clinical problem lists in the electronic health record*. New York: Apple Academic Press.