



# The Effectiveness of Traffic Code Strategy Based On Local Wisdom of *Tat Twam Asi*

**M. A. Suprapta**

anikajus05@gmail.com

Ganesha University of Education, Education Science, Singaraja – Indonesia

**Ni K. A. Evaria**

komanganikevania@gmail.com

Sanglah Hospital, Denpasar - Indonesia

**Abstract:** Following competence and standards, prompt and appropriate treatment can guarantee optimal and professional emergency treatment to prevent death and minimize disability. All of this can be achieved, one of which is by increasing the disposition time in the Medical-Surgical room. Inappropriate disposition time will reduce the quality of service both in the Medical-Surgical room or in other rooms, which will create a buildup of patients to affect the quality of service in the hospital. Giving traffic codes with local wisdom *Tat Twam Asi* is one of the reminders/codes to achieve disposition time. This study aims to determine the effectiveness of traffic codes on the accuracy of disposition time in the Medical-Surgical room at Sanglah Hospital Denpasar, including Quasy experimental research, with consecutive sampling technique. The results obtained a p-value of 0.031 ( $<0.05$ ) so that  $H_a$  is accepted, which means that implementing the traffic code strategy effectively increases the accuracy of the patient's disposition time in the Medical-Surgical Ward Sanglah Hospital Denpasar in 2021.

**Keywords:** Traffic code, *Tat Twam Asi*, disposition time, Sanglah Hospital

## Introduction

As a first aid line in hospitals, inpatient observation rooms play an essential role in providing clinical services that require immediate medical action to save lives and prevent further disability. The Emergency Department (ED) is a pretty important unit in a hospital. All the experiences of patients who have come to the ED will significantly influence the community views on the hospital service.



Disposition time is the time it takes from the patient being received by the doctor until the patient decides to move to an inpatient room or an operating room. Medical-Surgical Room is an inpatient room in an emergency department that functions to nurse acute patients clinically and hemodynamically stable but still requires monitoring and observation for 2 x 24 hours. Following competence and standards, prompt and appropriate treatment can guarantee optimal and professional emergency treatment to prevent death and minimize disability. One of these things can be achieved by increasing the disposition time in the Medical-surgical room. Disposition time Medical-Surgical room is a presentation of a patient who is decided to leave the Medical-Surgical room from or equal to 2 x 24 hours starting when he just entered the Medical-Surgical room until the patient leaves the room.

According to data on the disposition time of patients moving in 2020, the Medical-Surgical Room at Sanglah Hospital averages around 35% every month. This number does not meet the target of the hospital quality indicator, which is 80%. Preliminary studies have been carried out for the last three months. The obtained data showed for February 2021 (36%), March 2021 (33%), and April 2021 (34%). There are various reasons why patients cannot move 2 x 24 hours, including unstable patient conditions, lack of equipment in the usual room such as wall suction, suggestions from the doctor in charge who cannot move to the standard room, and others.

The impact that can be caused if the disposition time of Medical-Surgical patients does not run optimally is that patients' length of stay in the Medical-Surgical room will lengthen. So, there will be an accumulation of patients in triage (bed blocks) and intensive rooms looking for a place in the Medical-Surgical room. The solution implemented to achieve the accuracy of the disposition time of patients moving rooms is socialization to all doctors in charge of patients and residents on duty, installing a written code to remind the disposition time. These actions do not continue because the resident doctor and the Patient's Responsible Doctor change from time to time.

According to Wahyu (2019), a reminder is a message that helps someone remember something; a reminder can be more useful when contextual information is used to present information at the right time and in the right place. The reminder can also be used as time management, giving warning alarms in location-based notifications, time, and contextual notes. According to the Big English Dictionary Indonesian Translation, the meaning of the word



reminder is an English word that means reminder. Another meaning of reminder is an English word that means warning. So, the reminder system can be interpreted as a unit consisting of components or elements that are linked together to facilitate the flow of information.

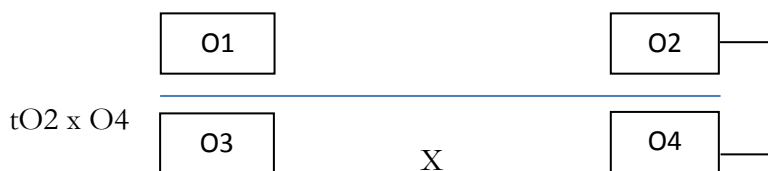
Reminders to achieve the right disposition time using the *Tat Twam Asi* local wisdom approach will strengthen the way to achieve disposition time. *Tat Twam Asi* is a sense of similarity that creates mutual respect, mutual respect, a sense of belonging, a sense of kinship, and feeling the suffering of others as their suffering (Mertayasa, 2020). The teachings of *Tat Twam Asi* are more interpreted as a pattern of life that emphasizes togetherness based on the attachment of fate and human responsibility so that social morality is built between fellow community members in all aspects of their lives (Adhi, 2016).

The problem in this study is "whether by using a traffic code with *Tat Twam Asi* approach will you be able to achieve the patient's disposition time?" Based on the formulation of the problem above, the purpose of this study was to determine the effectiveness of the use of traffic codes on the accuracy of disposition time in the Medical-Surgical room at Sanglah Hospital Denpasar.

## Methods and Research Design

*Method.* This type of research includes Quasy experimental research.

*Research design.* Using a nonequivalent control group design to assess treatment outcomes and compare with groups before and after specific treatments(Nursalam, 2020). The research design can be described as below:



Information:

O2: disposition time pre-implementation of traffic code strategy

O4: disposition time after implementation of traffic code strategy

tO2xO4: comparison of pre and post-disposition time of traffic code strategy implementation



The data obtained include the patient's disposition time before and after implementing the traffic sign strategy. This study uses the Consecutive Sampling sampling technique; namely: The samples taken are all observed subjects and meet the sample selection criteria, which are then included in the sample until the required sample size is met (Sugiyono, 2019). Sample is all patients treated in the Medical-Surgical Room of the Sanglah Hospital Denpasar during the study period that met the sample criteria, namely the inclusion and exclusion criteria. Inclusion criteria are general characteristics of research subjects from a target population that is affordable and will be studied (Sugiyono, 2019). From the data obtained in the Medical-Surgical Room IGD Sanglah Hospital Denpasar, in May 2021, the number of existing patients was determined as an estimate of the population ( $N$ ) of 130 patients. (Sanglah Hospital, Denpasar, 2021). From these data, the estimated proportion (by 50%, so  $= 0.5$  and  $= 1 - p$ ),  $p = 50\%$   $q = 50\%$  ( $0.5$ ), and the standard normal value for  $\alpha = 0.05$  ( $1.96$ ) so that  $= 1.96$ , and the error rate ( $d = 5\%$ ). The number of samples in this study was 88 samples according to the sample formula obtained.  $Z_{\alpha}$

The data collection sheet in this study used an observation sheet for the accuracy of disposition time. The assessment results are inputted and calculated before the implementation and after the implementation of the traffic sign marking strategy. According to Nursalam (2020), the independent variable is the object of research or the point of attention. The independent variable in this study is traffic sign strategy. A Va or dependent variable is a variable whose value is determined by another variable (Nursalam, 2020). In this study, the dependent variable is the disposition time of the patients treated in the Medical-Surgical ED at Sanglah Hospital, Denpasar.

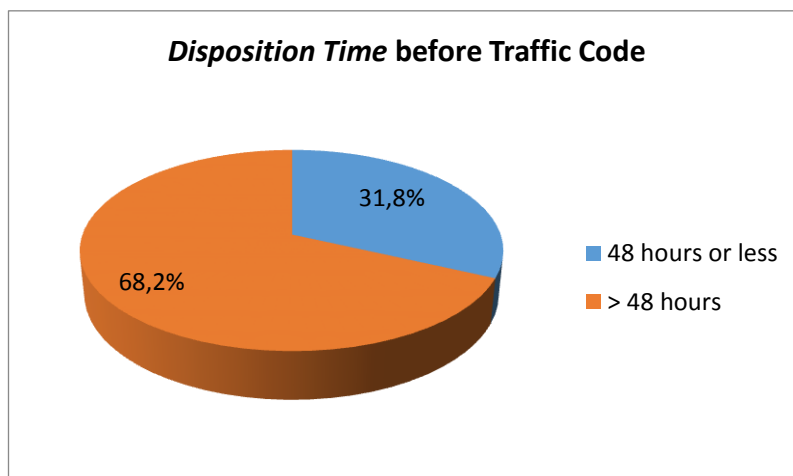
The analysis of this research is a univariate analysis, which describes the characteristics of the respondents and the main variables in the study; a descriptive univariate analysis is carried out by displaying in the form of frequency tables and pictures and explained in narrative form. Another analysis is comparative analysis, namely, to analyze the influence between the independent variable and the response variable, a comparative test is carried out. To test the comparative hypothesis of two unpaired samples if the data is in nominal form, the Chi-Square statistical technique (Kai Square) is used (Sugiyono, 2019). The researcher's analysis using the help of statistical application programs with  $= 0.05$  (5%) provided that if the significance value

(p-value) is less than the value of, then  $H_a$  is accepted, which means that the implementation of the traffic sign code strategy is effective in increasing the accuracy of the patient's disposition time in the Medical-Surgical Room ED Sanglah Hospital Denpasar in 2021.

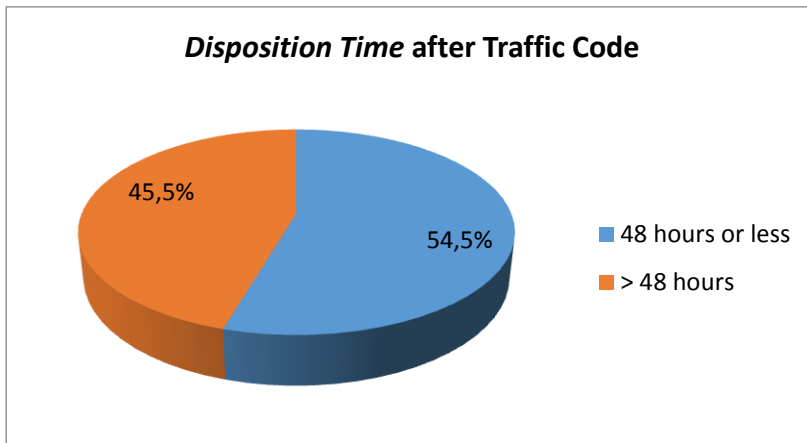
## Findings

Following the research objectives and indicators of success, the results of this study have several essential things, namely the effectiveness of using traffic codes on the accuracy of disposition time in the Medical-Surgical room at Sanglah Hospital Denpasar.

*Results of Observations on Research Subjects.* Percentage of respondents based on disposition time pre-use of traffic codes based on research results, from a total of 88 samples, data obtained that as many as 14 people (31.8%) of respondents were disposed in less than 48 hours, and 30 people (68.2%) were disposed of in less than 48 hours. Time more than 48 hours. See in the Figure 1 below.



**Figure 1.** The distribution of the percentage of respondents based on pre-use disposition time traffic code



**Figure 2.** The distribution of the percentage of respondents based on disposition time after using the last code

Based on the Figure 2 above, it can be explained that of the 88 respondents, it was found that the disposition time after the application of the traffic light code was 24 people (54.5%) less than 48 hours, while the remaining 20 people (45.5%) were more than 48 hours.

**Table 1.** Cross Tabulation of pre and post-use disposition time traffic code

Intervention	Disposition	
	less than equal to 48 hours	more than 48 hours
pre	14	30
post	24	20

The Table 1 above shows that before using the traffic code, 14 patients were disposed of in less than 48 hours, while those who were more than 48 hours were 30 people. Meanwhile, 24 patients were disposed of in less than 48 hours after using the traffic code, and 20 people were disposed of for more than 48 hours. The statistical test used is *Chi-Square* (Kai Squared) two samples because it compares two variables with data in nominal data (Sugiyono, 2011).



**Table 2.** Test of Patient Disposition Time Analysis in the Medical-Surgical at Sanglah Hospital Denpasar Pre and Post Traffic Code Usage

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
<b>Pearson Chi-Square</b>	4.632a	1	.031		
<b>Continuity Corrections</b>	3.752	1	0.053		
<b>Likelihood Ratio</b>	4.676	1	.031		
<b>Fisher's Exact Test</b>				.052	.026
<b>Linear-by-Linear Association</b>	4.579	1	.032		
<b>N of Valid Cases</b>	88				

a. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 19.00.

b. Computed only for a 2x2 table

Based on the data above, a p-value of 0.031 ( $<0.05$ ) was obtained to accept  $H_a$ . The application of the traffic light code effectively reduced patient disposition time in the Medical-Surgical Room, the Emergency Installation Sanglah Hospital Denpasar, in 2021.

## Discussions

The research was carried out in the Medical-Surgical ward Sanglah Hospital, Denpasar. The data collection was carried out in June 2021. The type of data collected as primary data, namely data obtained directly from research subjects as a source of information sought (Nursalam, 2020). The data obtained includes the patient's disposition time before and after implementing the traffic sign strategy. The data collection sheet in this study used an observation sheet for the accuracy of disposition time. The assessment results are inputted and calculated before the implementation and after the traffic sign marking strategy with the local wisdom approach of *Tat Twam Asi*.

Disposition time data before and after the application of the traffic code on local wisdom of *Tat Twam Asi*:

- a. Disposition time traffic light code pre-application. Prior to applying the traffic light code, the average patient disposition time in the MS room was 63.8 hours. Of the 44 pre-use traffic code respondents, 31.8% were disposed of in less than/equal to 48 hours, while the remaining





68.2% were disposed of within more than 48 hours since the patient arrived at the MS room. As far as the study that the author has done, the author has not found similar research. So, the authors cannot compare the results with another one.

- b. Disposition time post-implementation of traffic code on local wisdom of *Tat Twam Asi*. After using the traffic code, the disposition time was shortened; there were 54.5% who needed less than 48 hours to be disposed of, while the remaining 45.5% took more than 48 hours.

From the results of data analysis using SPSS, a p-value of 0.031 ( $<0.05$ ) was obtained so that  $H_a$  was accepted; namely, the use of traffic codes was effective in reducing patient disposition time in the MS Room Emergency Installation Sanglah Hospital Denpasar in 2021. According to (ACI, 2016), In Australia, an inpatient model similar to the Medical-Surgical (MS) Room has been developed, called the Medical Assessment Unit (MAU). Patients treated at MAU were treated for 24-72 hours. After that, the patient will be transferred to a regular room (ward) or sent home and receive a visit (homecare) as needed. In the MS Room, the patient is expected to move to another ward (concerning the patient's condition) in less than 48 hours. This parameter is one of the quality indicators that is monitored every month. It is listed in the MS Room quality dictionary.

In addition to statistical effectiveness analysis, the researcher also analyzed the effectiveness of traffic light codes and escalation in terms of cost (cost control). The MS room is a room for first and second-grade patients. However, patients whose rights are class 3 but require observation in the MS room will also be treated in the MS room without increasing the patient's class. So in terms of cost, the hospital must cover the cost of treatment in class two for patients whose rights are class 3. Assuming the number of class 3 patients treated in the MS Room (class 2) is 100 patients per month, then the amount of funds that the hospital must bailout during a month is a hundred times the difference in the cost of care in the second and third grades. On the other hand, patients from the ICU and Intermediated Ward (IW) who need treatment in the MS Room are also hampered because the MS Room is full of patients who should have moved to the ward. This situation also can cause losses to the hospital because the cost of treatment in the ICU and IW increases. Assuming the patient is delayed by two days in getting the ward at





MS. Then the difference in costs incurred is  $2x (650,000-150,000) = \text{Rp. } 1,000,000$  per person, not including the cost of drugs, supporting examinations, and others. However, the researcher cannot do detailed and accurate calculations because the ceiling provided by the Agency Healthcare Social Security Providers (BPJS) vary greatly depending on the patient's diagnosis. Patients' length of days of hospitalization (LOS) also greatly determines the number of costs spent during treatment.

In terms of quality (quality control), by pursuing the disposition target before 48 hours, the medical team, nurses, and other health teams will work more optimally so that fast and precise services can be achieved. This wellbeing aspect will reduce morbidity and mortality. In addition, with the smooth flow of patients in the MS Room who can move to the regular treatment room, the flow of patients from the Triage Room will also be smooth. So it can minimize bed blocks in triage. The lack of bed blocks will also impact the quality of service and minimize patients going home of their own accord (PP) caused by the unavailability of inpatient rooms. The condition, of course, will also affect the hospital's income. In addition to bed block in triage, it can occur from the ICU or IW. Most of the patients admitted to the installations had to be admitted to the MS Room first. So, those other patients who need treatment rooms in the ICU and IW are also blocked. This way of treatment causes the quality of service to decline, which impacts public trust in the hospital.

With the achievement of disposition time less than 48 hours in the MS Room, the potential for hospital income can be optimized, potential losses can also be reduced, and the quality of service can be improved. So that quality control and cost control efforts can be carried out optimally.

## **Conclusion**

Based on the study results, it can be concluded several things as follows. Prior to implementing the traffic code strategy using the local wisdom approach, the average disposition time in the Medical-Surgical Room of the Emergency Room was 63.8 hours. From 44 respondents who pre-implemented the traffic light code, 31.8% of patients were disposed of within 48 hours or less. Meanwhile, the remaining 68.2% were disposed of in more than 48 hours since the patient arrived at the Medical-Surgical Room. After implementing the traffic code strategy, the patient disposition time was shortened. There were 54.5% who needed less than 48 hours to be disposed of, while the rest were



still more than 48 hours. Implementing the traffic code strategy effectively increased the accuracy of disposition time in the Medical-Surgical ED at Sanglah Hospital, Denpasar, in 2021 with a p-value of 0.031 ( $<0.05$ ).

### Suggestion

1. To Denpasar Sanglah Central General Hospital  
The traffic code strategy program should be supported more to improve disposition accuracy time in the Medical-Surgical Room in the Emergency Installation of Sanglah Hospital so that in the future, it will serve patients more optimal. The efficiency will improve the hospital's quality in general.
2. To the Emergency Installation of Sanglah Hospital Denpasar  
In order to help coordinate according to the escalation code made with related parties, patient flow in the Medical-Surgical room can run smoothly, which will impact the smooth flow of ED services as a whole.

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### References

- Acute Care Taskforce. (2014). ACI Acute Care Taskforce NSW Medical Assessment Unit Model of Care Consultation Draft, April 2014.
- Adhi, M. K. (2016) 'Tat Twam Asi: Adaptation of The Value of Local Wisdom in tat Twam Asi is moral teaching from Hinduism, identical to humanity in Pancasila. *Tat me, and I are you, who*', pp. 581–594.
- Mertayasa, I. K. (2020). 'Tat Twam Asi: A Moral Foundation for Sharpening, Compassionate, and Upbringing', *Religion in Peace*, pp. 85–100. <http://jayapanguspress.penerbit.org/index.php/JPB/article/view/527>.
- Nursalam. (2020). *Nursing Research Methodology: Practical Approach. Edition 5*. Jakarta: Salemba Medika.
- Sanglah Hospital Denpasar. (2021). *Patient Recapitulation Data in the MS Room Emergency Installation at Sanglah Hospital Denpasar*. Denpasar.
- Sugiyono. (2011). *Qualitative, Quantitative, Research Methods and R&D*. Bandung: Alfabeta.
- Sugiyono (2019) *Qualitative and R&D Quantitative Research Methods*. Bandung: Alfabeta.