

# Development Tools for Case Management: A Pilot Study

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**Abstract:** Case management is a procedure for planning, searching, evaluating, and monitoring services that patients receive from several health professions. Case managers need a tool that can help their performance optimally. This study aims to develop the tools for case management based on Indonesian standardized tasks and the role of a case manager. This study used research and development method. The total sample in this study was 30 nurses. Phase 1 comprised of the identification and creation of the research instrument. Phase 2 tested the instruments and expert discussion was conducted. Phase 3 comprised a pilot study. The Cronbach's alpha coefficients for the reliability of the first screening was 0.832 the utility assessment was 0.777 the service management plan was 0.643 the service management implementation was 0.832 the service management evaluation was 0.643, and the continual service was 0.643. The information regarding function based on the respondents' and experts' opinions indicated that the instrument was ready to use for the experiment. The test measures with Pearson's product moment showed that several items for each instrument needed to be revised but many of them were valid. The tools that have been formulated together can support the documentation of case management implementation and avoid overlapping tasks between case managers and tasks as nurse unit managers.

## 1 BACKGROUND

Case management is an intervention strategy used by health providers and systems to support clients, coordinate health services, and facilitate results, both in price and quality (Huber, 2010). Case management is a procedure for planning, seeking, evaluating, and monitoring services that patients receive from several health professions (Sunaringtyas & Sulisno, 2015). The type of nursing service as an integral part of a hospital also determines its quality (Tafreshi & Saeedi, 2007). Low quality nursing care will lead to dissatisfaction not only to hospital customers but also to other communities. The impact of this potential discontent makes customers choose other hospitals (Lupiyoadi & Hamdani, 2006; Study et al., 2010)

The member of staff that conducts case management is the case manager. Case managers are generally responsible for the coordination and continuity of patient care. Specific service phases are very close to patients so that case management models can provide patient-centered care-based health services (Aeni, 2014). Several hospitals aiming for the Joint Commission International (JCI) have

adopted a case management model. Experimental panel studies agreed on a case management nursing model as an attempt to realize the preference or the rights of patients to determine treatment options according to their needs and expectations (Morales-Asencio et al. 2010). The case manager works together with the patient to ensure that the planning matches their wishes and needs.

Case management is defined as a process of planning, coordinating, managing, and reviewing a patient's care. The general goal is to develop cost-effective ways of coordinating services to improve quality of life (Ross, Curry, & Goodwin, 2011). The reason this research is important to conduct is because case management provides a clinical model for the management of quality and cost control strategies, designed to facilitate the expected outcome of patients in long-term care and with appropriate resource management. A case managers work professionally in hospitals to conduct outpatient service management. Patient service management is a collaborative process of assessment, planning, facilitation, coordination of care, evaluation, and advocacy for options and services for the fulfillment

of the comprehensive needs of patients and their families, through communication and available resources to provide cost-effective quality patient care (CMSA, 2010). Case managers also help the patient as a liaison between the patient, their family, and doctors. Case managers must understand the patient's condition and treatment to help the patient understand it. So, the aim of this study is to support case managers in knowing their role. While, at the same time, conducting their role as a nurse unit manager.

## 2 METHODS

### 2.1 Study Design

This study was conducted through a research and development model and aimed to develop the tools for case management based on Indonesian standardized tasks and roles of case managers. This study was certified for ethical clearance by the Faculty of Nursing, Universitas Airlangga with the number 547/KEPK.

The population included all Nurse Unit Managers (NUM) who had authorized letters from the hospital director. Samples were obtained by purposive sampling. The inclusion criteria were as follows: 1) case manager in a ward; 2) have authorized letter from the hospital director as a case manager; 3) graduated from diploma minimally but have experience as a NUM for at least 3 years and 4) graduated from a Bachelor of Nursing or professional program. The sample size was 30 participants selected from two hospitals.

### 2.2 Data Collection

Test statistics in the research for the study used the Pearson Product Moment and Cronbach alpha. The Pearson Product Moment correlation test was used to analyze the instruments' validity. Statements were declared valid if the value of the *r* count on each item was greater than the *r* table. Cronbach alpha was used to analyze instrument reliability. The basic decision making of this test was if the value of the *r* count (Cronbach alpha value) was greater than the *r* table, declaring the instrument reliable.

## 3 RESULTS

Table 1 shows that most of the items in the instruments (76.67 %) were not valid. It shows that most of the respondents were confused about how they must fill out the instruments. The overall instrument reliability test score was less than an *r* count of 0.754 with  $\alpha$  0.643. This was the basis for the researcher to redesign the instrument through Focus Group Discussion (FGD). The first Focus Group Discussion will present representatives of respondents, nursing leaders, and the nursing committee in each hospital.

Table 1: Result of instrument validity.

Instruments	<i>r</i> count	<i>r</i> table	Result
Instrument of function 1			
Item 1	r: 0.643	0.754	Not valid
Item 2	r: 0.643	0.754	Not valid
Item 3	r: 0.643	0.754	Not valid
Item 4	r: 0.643	0.754	Valid
Item 5	r: 0.643	0.754	Not valid
Instrument of function 2			
Item 1	r: 0.754	0.754	Valid
Item 2	r: 0.754	0.754	Valid
Item 3	r: 0.643	0.754	Not valid
Item 4	r: 0.643	0.754	Not valid
Instrument of function 3			
Item 1	r: 0.643	0.754	Not valid
Item 2	r: 0.643	0.754	Not valid
Item 3	r: 0.643	0.754	Not valid
Item 4	r: 0.754	0.754	Valid
Item 5	r: 0.754	0.754	Valid
Item 6	r: 0.643	0.754	Not valid
Item 7	r: 0.643	0.754	Not valid
Item 8	r: 0.643	0.754	Not valid
Item 9	r: 0.643	0.754	Not valid
Item 10	r: 0.643	0.754	Not valid
Item 11	r: 0.643	0.754	Not valid
Item 12	r: 0.643	0.754	Not valid
Item 13	r: 0.643	0.754	Not valid
Instrument of function 4			
Item 1	r: 0.643	0.754	Not valid
Item 2	r: 0.936	0.754	Valid
Item 3	r: 0.643	0.754	Not valid
Instrument of function 5			
Item 1	r: 0.643	0.754	Not valid
Item 2	r: 0.643	0.754	Not valid
Item 3	r: 0.849	0.754	Valid
Instrument of function 6			
Item 1	r: 0.643	0.754	Not valid
Item 2	r: 0.643	0.754	Not valid
Total "valid" item (%)			23.33%
Total "not valid" item (%)			76.67%

Table 2 shows that more than half of the respondents in the study (70 %) were 26-45 years old.

More than half of respondents (73.3 %) had a bachelor education background. More than half of respondents (66.6 %) were female. More than half of respondents (53.3 %) had 5-10 years' experience as a NUM.

Table 2: Demographic characteristics of respondents.

Characteristic	Indicators	f (x)	%
Age	26-45 years	21	70
	46-70 years	9	30
Total		30	100
Education	Diploma	8	26.7
	Bachelor	22	73.3
	Master	0	0
	Doctor	0	0
Total		30	100
Gender	Male	10	33.3
	Female	20	66.6
Total		30	100
Experience as a NUM	< 5 years	5	16.7
	5-10 years	16	53.3
	> 10 years	9	30
Total		30	100

Table 3: The conclusion of 1<sup>st</sup> FGD and 2<sup>nd</sup> and decision of the researcher.

Strategic Issue	Problem	1 <sup>st</sup> FGD	2 <sup>nd</sup> FGD (expert)	Decision
First screening	There is no early observation format in patients with high risk	Formatting is clear enough, but not complicated	The initial assessment completeness column can be removed	The rights and obligations information columns and the assessment completion column will be removed and do not change the instrument parameters
Utility assessment	There is no observation format of utility assessment in case management implementation	The appropriate utility assessment format helps the case manager. Formatting is also not complicated	Item parameters of the utility assessment format are sufficient to include clinical, psychosocial, socioeconomic, and payment systems information	The utility assessment format will be tailored to the input of the expert and add the date of the assessment of each parameter
Service management plan	There is no observation format of service management planning in case management implementation	The completion format is sufficient	The format of the service management plan is not as it has been made, but the management plan should clearly include other health care personnel treating the patient	The format will be modified by accommodating other health professionals other than nurses i.e. doctors, pharmacists, nutritionists, analysts, and physiotherapists, as well as allowing non-health personnel to be added, namely the medical record or health insurance officer
Service management implementation	There is no observation format of service management implementation in	The completion format is sufficient to accommodate other health	The implementation format should be adopted from the integrated records	The implementation format will be converted to a case manager event format and adopt integrated records

	case management implementation	workers to deliver their implementation to the patient		
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Table 4: The conclusion of 1<sup>st</sup> FGD and 2<sup>nd</sup> and decision of the researcher (continued).

Strategic Issue	Problem	1 <sup>st</sup> FGD	2 <sup>nd</sup> FGD (expert)	Decision
Service management evaluation	There is no evaluation format for service management evaluation in case of management implementation	Case management evaluation format for case manager if biased, does not separate from another format so that bias is integrated	The evaluation format is sufficiently made that the format can be completed by every health worker involved and given the date of completion	The format will be made to incorporate others that format the results of assessment, planning, implementation, and evaluation so they are all on one page
Continuity service	There is no observed format of service continuity in case management implementation	The format of continuity is in accordance with the parameters set together	Continuity of service should be included in the initial screening format because it assesses the patient until after discharge	The format of continuity of service will be integrated into the patient's initial screening format for case management

#### 4 DISCUSSION

The result of this instrument case management development is an instrument of case manager activity in performing patient service management. The instrument consists of one sheet consisting of an initial screening of patients, planning, and implementation based on a case manager's function (KARS, 2012), date, evaluation follow-up plan, and the case manager's signature. The instrument is compiled to be as short as possible without reducing the content of the documentation. It aims to maximize the use of the documentation without having to write too much, since the case manager carries out multiple-jobs. The instruments resulted from multiple revisions of field test results, expert discussions, and theoretical studies.

Chen et al. (2018), on assessing the reliability and validity of the assessment scales for nursing case management competencies, states that the scale of competence is a valuable tool for assessing task-related competencies. This study indicates that participants who have attended case management courses have superior case management abilities compared to those who have not. It can be assessed through the development of which competencies a first case manager must master and determine the scale of his judgement. According to the researcher, it is initially important to develop tools that can support the performance of case managers in the implementation of case management in hospitals. This effort is appropriate for research regarding case managers who are also nurse unit managers, capable

carrying out the role of case manager, despite holding two roles in the ward.

A proposed recommendation is the flow of implementation because this is lacking in hospitals. The management channel used is the flow of complaints and quality control. The recommendations of the channels that we propose refer to the flow of case management based on the Hospital Accreditation Committee or KARS (2012) combined with the handling of problems and complaints through interviews in the field of nursing with: the head of quality and development, and the head and deputy head of the ward

The results of this study show that case managers in the surgical ward experienced several obstacles: first technical obstacles, including the unavailability of documentation of case management implementation. The case manager completed the main task but there was still overlap between the case manager and tasks of the head of the Nurse Unit Manager because in the appointment decree it is not in the job description of the case manager. The case manager in the Surgical Ward at the government hospital is the NUM who also runs several other functions alongside the role of case manager and the NUMs function. Such functions are complaint management, quality team control, and others. The case manager is appointed based on the decision letter from the director of the hospital, stating that all NUMs are designated as case managers.

The results of this study are in accordance with the explanation by KARS (2012). The definition of a case manager is: general doctor or nurse with education S1

minimum 3–5 years' experience in clinical services and has additional training. Case management is a collaborative process through the assessment, planning, coordination, monitoring, and evaluation of services to meet the patient's health needs through communication and available cost-effective resources (CMSA, 2010). The Indonesian Ministry of Health stated that case managers will arrange patient services for the duration of hospitalization, improve continuity of service, coordination of services, patient satisfaction, service quality, and expected results, which are necessary for certain complex patients and other patients in specified hospitals (Kemenkes, 2011).

Knowledge of case management in a surgery ward is sufficient, along with the interest and willingness to carry out case management, but the component of case managers' documentation does not exist, thus is a major obstacle to unstructured and standardized management cases. So, from the findings in the field it was necessary to conduct a FGD to develop an innovative flow sheet of case management implementation and its documentation that can be implemented in the surgery ward.

## 5 CONCLUSIONS

The tools that have been formulated can support the documentation of case management implementation and avoid overlapping tasks between case managers and nurse unit managers. It can support case managers when facilitating assessments, planning, coordination, monitoring, and evaluation in the implementation of case management, to improve the quality of services in the ward and to support KARS and JCI accreditation to be implemented by hospitals, especially on the assessment of elements of APK 2.

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