



# Operational Procedures Related to Clinical Handover in Reference Maternity Hospitals in Burkina Faso

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## Abstract

**Introduction:** Communication between healthcare professionals is an essential dimension of the healthcare environment. Clinical handover is the term commonly used to describe the exchange of relevant patient information between healthcare professionals. However, this period of communication, exchange, and handover of instructions, which is crucial for patient care, is insufficiently observed by healthcare professionals in maternity wards. This The study aimed to assess the availability, implementation and monitoring of operational procedures related to clinical transmission in three reference maternity hospitals in Ouagadougou, Burkina Faso. **Method:** It was a quantitative, cross-sectional, descriptive study conducted from August 7th to November 22nd, 2023 in three level III hospitals. Exhaustive sampling with consecutive recruitment was used todata collection. Epi Info software version 7.1.6 was used to analyze the information collected from respondents after the database was cleaned. The variables were described using means and proportions. **Results:** A total of 169 healthcare professionals participated in the study. The mean age was 41.12 with a standard deviation of 6 years with extremes of 36 and 55 years. The average seniority of respondents was 15.14 with a standard deviation of  $\pm 4.83$  years. Midwifery staff comprised 73.37% of participants. According to all respondents, no guidelines, standards, procedures, or protocols for clinical handover were available in the maternity wards. No supervision or evaluation of professional practices had been conducted in the past three years. Clinical transmission practices varied from one team to another, from one department to an-

other and from one maternity ward to another according to all the respondents. **Conclusion:** This study revealed a deficiency in the availability, application, and monitoring of the implementation of standards, protocols, and operational procedures in reference maternity units. These shortcomings must be taken into account in strategies and interventions to optimize clinical transmission in hospitals.

## Subject Areas

Gynecology & Obstetrics

## Keywords

Clinical Transmission, Operational Procedures, Standardization, Maternity, Burkina Faso

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## 1. Introduction

Clinical handover (CH) is defined as the transfer of professional responsibility and accountability for some or all aspects of the care provided to a patient or group of patients to another person or professional group, either temporarily or permanently [1]. Handover is an essential component of hospital care procedures. It occurs at various times during changes in care teams and in different contexts.

TC is carried out on the basis of precise and crucial information about the patient's situation during the care process in order to ensure adequate care.

However, clinical handovers are considered critical moments where errors are more likely to occur in the communication of information. They encompass a large number of daily activities that are particularly important for patient safety [2]. Poor quality or variable handover has been associated with errors, omissions in care, treatment delays or inappropriate treatments, and inefficiencies [3].

Cases of medical malpractice often reveal multiple points in a patient's journey where the effectiveness and accuracy of clinical information communication were disrupted, or where missed opportunities for the healthcare team to clarify information and prevent harm were missed. Indeed, more than half (57%) of the cases analyzed revealed poor communication between two or more healthcare providers [4].

Incidents in obstetrics services account for 10% of incidents reported to the National Reporting and Learning System and approximately 80% of the value of compensation claims settled by the NHS Litigation Authority in Great Britain. Indeed, intrapartum care, provided by multidisciplinary teams comprising obstetricians, midwives, anesthetists, healthcare assistants, and other staff, is highly susceptible to patient safety incidents. These teams care for two patients simultaneously—the mother and the unborn baby—which amplifies the risk of error [5]. Effective communication between teams is therefore essential to ensure continu-

ous and safe care.

Since 2007, the prevention of medical errors related to transmissions has been among the priorities established by the World Health Organization (WHO) to improve patient safety [6].

Therefore, several standardized models of handover have been developed and applied in hospitals with convincing results [7] [8].

The implementation of these standardized models requires operational procedures based on care standards and protocols. Indeed, implementing a protocol may involve several healthcare professionals and numerous transfers of responsibility between teams or departments. An effective operational procedure outlines each person's responsibilities, as well as the methods and locations for these transfers.

An operating procedure or standard operating procedure (SOP) is a set of detailed instructions designed to help staff perform routine operations and standard practices [8].

The development and use of SOPs are an integral part of a successful quality system, as they provide service providers with the information needed to perform work correctly and facilitate consistency in the quality and integrity of a product or final result [9].

Burkina Faso is engaged in a process of certifying healthcare facilities in accordance with normative documents focused on patient safety [10]-[13].

According to the requirements of the quality framework, healthcare facilities must develop and ensure the effective implementation of operational procedures to guide the practices of caregivers with reference to pre-established norms and standards [14]. However, these requirements are insufficiently implemented in healthcare facilities. Few operational procedures are available and standardization of care practices is used. Standardizing clinical transmission is a measure applicable at all levels of care to address communication errors among healthcare professionals during the patient care process. To ensure effective communication between healthcare professionals, formalized, harmonized, and standardized procedures must be implemented at all levels of the healthcare system to reduce the risk of errors.

There is a growing number of standardized models that have been validated and applied with conclusive results [15]-[18]. However, there is no evidence that one transfer mnemonic is better, that is, more likely to guarantee patient safety, than another [8]. Furthermore, the issue of clinical transmission has not yet been addressed in the scientific literature in Burkina Faso. However, Burkina Faso is engaged in a process of certifying healthcare facilities in accordance with normative documents focused on patient safety [10]-[13]. This research will contribute to this strategy of improving the culture of patient safety. The aim of this study to assess the availability, implementation and monitoring of operational procedures related to handover in three reference maternity hospitals in Ouagadougou, Burkina Faso.

## 2. Materials and Methods

### 2.1. Type and Period of Study

This is a cross-sectional descriptive quantitative study conducted from August 7 to November 22, 2023 among healthcare workers.

### 2.2. Population and Inclusion Criteria

The study population consisted of all healthcare professionals working in the maternity wards of the university hospitals (Yalgado Ouédraogo, Bogodogo, and Tengandogo) in Ouagadougou. This included midwives, physicians, and nurses. The population size was estimated based on the hospitals' action plans. Healthcare professionals meeting the inclusion criteria were selected for this study. Namely: agreeing to participate in the study, being present at the time of the study and having at least 3 years of seniority in the position for doctors in specialization and at least 1 year for doctor, midwives and registered nurses. Seniority at the position is an important factor to consider when understanding the institutional environment. Indeed, it allows respondents to provide relevant opinions on our research topic because they have a comprehensive view of the study framework, working methods, and difficulties encountered, enabling them to make suggestions.

### 2.3. Study Site

The study covered the 3 university hospitals in the city of Ouagadougou, which are at the third level of the national health pyramid.

Indeed, Burkina Faso has a three-tiered pyramid-shaped health system in terms of healthcare provision.

The first level consists of two tiers. The first tier includes health and social promotion centers (CSPS) and medical centers (CM), the second tier of care is represented by the Medical Center with Surgical Unit (CMA) or district hospital (HD).

The second level comprises regional hospital centers (CHR). The third level comprises university hospital centers (CHU). It is the highest level of reference for specialized care [19]. Of the four university hospitals in the city of Ouagadougou, three (03) offering gynecology and obstetrics services were selected for the study. These were the university hospitals: Yalgado Ouédraogo, Bogodogo and Tengandogo.

The hospitals were selected by reasoned choice, taking into account the range of activities carried out and the administrative organization of these establishments.

### 2.4. Sampling

The three (3) sites were selected based on their level within the healthcare system. These centers represent the third level of the national healthcare system and offer gynecological and obstetric services. Their structural and organizational environment, as well as their range of activities, provides a favorable framework for conducting this study.

For healthcare workers, exhaustive sampling and a consecutive recruitment method were used.

The total sample was estimated at 317 healthcare professionals at the time of the study. This estimate was made based on the 2022 statistical yearbook, action plans and additional information gathered from the coordinators of maternity care units within the study area (**Table 1**).

**Table 1.** Staff numbers retained by the university hospital for the study.

Staff Profile	University hospital centers			Total
	Yalgado Ouédraogo	Bogodogo	Tengandogo	
<b>Doctors</b>	12	10	9	31
<b>Midwives</b>	110	93	49	252
<b>Nurses</b>	19	7	8	34
<b>Total</b>	150	110	49	317

After applying the inclusion criteria, 169 out of 317 healthcare professionals participated in the study, representing a participation rate of 53.31%. The distribution of respondents by hospital and professional category is shown in **Table 2**.

**Table 2.** Distribution of staff surveyed by university hospital during the study.

Staff Profile	Yalgado Ouédraogo University Hospital n (%)	Bogodogo University Hospital n (%)	CHU Tengandogo n (%)	Set n (%)
<b>Doctors</b>	2 (2.89)	0 (0.0)	3 (8.33)	5 (2.95)
<b>Midwives</b>	54 (78.26)	57 (89.06)	26 (72.22)	137 (81.06)
<b>Nurses</b>	13 (18.85)	7 (10.93)	7 (19.45)	27 (15.97)
<b>Total</b>	<b>69 (100)</b>	<b>64 (100)</b>	<b>36 (100)</b>	<b>169 (100)</b>

## 2.5. Data Collection Techniques and Tools

Data collection was carried out using a questionnaire administered in French. A pre-test was conducted with 32 healthcare professionals, representing approximately 10% of the total sample.

Following this pre-test, training was carried out for three (3) investigators.

The questionnaire was structured around information relating to the availability, application and monitoring of the implementation of standards and procedures and care protocols.

Indeed, the availability of operational procedures is a prerequisite for their dissemination, adoption, and use by healthcare professionals. Furthermore, the ap-

plication of operational procedures, standards, and protocols allows for their evaluation by healthcare professionals, their periodic review, and their continuous improvement.

Monitoring the implementation of standards, procedures, and protocols ensures their application. It serves as a control and evaluation mechanism. This monitoring encourages their application and facilitates the detection and correction of any shortcomings.

**The availability and application of standards, procedures and protocols concerns:** this is the existence and accessibility of normative documents on quality of care and patient safety in accordance with a list of normative documents disseminated by the Directorate of Quality of Care and Patient Safety, policies, standards and protocols of reproductive health care from the Directorate of Family Health, care protocols developed and validated by clinical services, the mechanism for developing and revising standards and protocols and procedures, compliance with standards, procedures and care protocols by caregivers, and the existence of operational procedures for the application of standards and protocols, the existence of protocols and procedures on clinical transmission.

**Monitoring the implementation of standards, procedures, and care protocols concerns:** The existence of a formal mechanism for monitoring the implementation of care standards, procedures, and protocols, and the existence of a mechanism for training new staff and trainees in the application of standards and procedures. These variables were selected in accordance with the quality framework and standards. and charters for improving the quality of maternal and neonatal care in health facilities in Burkina Faso.

These variables are essential factors in the application of a standardized model of clinical transmission.

## 2.6. Data Analysis

The data analysis was carried out as follows:

For dichotomous variables, proportions were calculated through the scores of “0” or “1” corresponding respectively to the “No” or “Yes” responses that were collected.

For the open-ended questions, to allow for the calculation of proportions, the responses were grouped by unit of significance.

The Epi info software version 7.1.6 allowed us to perform data analysis after cleaning the database.

## 2.7. Ethical Considerations

The study protocol was approved by the ethics committee under number 2023-03-065. Authorization for the study was also submitted to the general management of the hospitals involved. Participation was voluntary, requiring the signing of an informed consent form. Anonymity was guaranteed, and availability constraints were taken into account to ensure continuity of services.

### 3. Results

#### 3.1. Characteristics of the People Surveyed

A total of 169 healthcare professionals from the three hospitals participated in the study. Midwives comprised 81.06% of the participants. The mean age (standard deviation) was 41.12 (6) years, with a range of 36 to 55 years. The mean length of service of the respondents was 15.14 (4.83) years, with a range of 8 to 26 years.

**Table 3** presents details on socio-demographic characteristics.

**Table 3.** Distribution of healthcare workers surveyed in the university hospitals of Ouagadougou according to socio-demographic categories.

Variables	Number of participants (n)	Percentage of participants (%)
<b>Age</b>		
30 - 39 years old	69	40.83
40 - 49 years old	88	52.07
50 years and older	12	07.10
<b>Professional seniority</b>		
3 - 5 years	00	00
5 - 9 years old	44	26.04
10 years and older	125	73.96
<b>Sex</b>		
Women	92	54.43
Men	77	45.56
<b>Professional categories</b>		
Midwives	137	81.06
Nurses	27	15.98
Doctors	5	2.96
<b>Units/Services</b>		
Emergency/Delivery Room	14	08.28
High-risk pregnancies	55	32.55
Post-operative	69	40.83
Postpartum period	31	18.34
<b>Hospital</b>		
CHU YO	69	0.41
BGD University Hospital	64	0.38
TGDG University Hospital	36	0.21

### **3.2. Availability and Application of Operational Procedures**

Regarding normative documents on quality of care and patient safety, according to all respondents, no guidelines or standards on quality of care were available in maternity wards. Furthermore, no respondent was aware of any such normative documents. Only standards and protocols for emergency obstetric and neonatal care, validated by department heads, were available and displayed, according to all respondents. However, according to 50.88% of surveys, the displayed standards and protocols were not always up-to-date with the latest recommendations in Burkina Faso. The system for developing care protocols and procedures was unknown to all respondents, and none had ever participated in the process. There is no protocol that guides handover during shift changes between care teams. Handover practices varied from one team to another, from one department to another, and from one hospital to another, according to all respondents.

No operational procedures are available to guide caregivers' practices, according to all respondents. The reasons for variation in practices were workload, insufficient supervision and evaluation of care practices (48.52%), insufficient training (40.20%), motivation (36.68%), and neglect (35.50%). All respondents stated that no mechanism for reviewing existing care procedures was in place in their department.

### **3.3. This Was Followed by the Implementation of Operational Procedures**

There is no formal mechanism for monitoring the implementation of care standards and protocols, according to all respondents. Indeed, according to all providers across the three hospitals, no evaluation has been conducted. Professional and supervisory practices regarding the quality of care, taking into account written and oral communication, have not been implemented in the last three (3) years. Therefore, all respondents reported a deficiency in the application of care standards and protocols to ensure quality care for mothers and newborns.

According to all respondents, the training of new staff and trainees on the application of care standards and procedures remains informal. However, all respondents expressed their commitment to implementing a standardized clinical handover protocol. The lack of formalization and the absence of a protocol for clinical handover were identified by 93.49% and 98.22% of respondents, respectively, as obstacles to its effective implementation.

## **4. Discussion**

The objective of this study was to assess the operational procedures related to clinical transmission in reference maternity wards. The results revealed shortcomings in the availability, use, and monitoring of the implementation of care procedures and protocols. This study has several limitations. First, the descriptive cross-sectional design does not allow for establishing causal links due to the simultaneous measurement of variables related to the availability, application, and monitoring

of care standards, protocols, and procedures. Second, the absence of normative documents was identified based on self-reporting and a list of available reference documents provided by the respondents. This is because the study did not aim to conduct a content analysis, which could constitute a methodological limitation.

Furthermore, the small sample size in this study prevents us from generalizing the results. A larger sample size would allow for a more thorough analysis. Finally, this study aimed to present the factors related to operational procedures in the implementation of clinical handover, with a view to standardizing healthcare practices. A study implementing an operational procedure for clinical handover could be considered.

#### **4.1. Availability and Application of Care Protocols and Procedures**

Care standards and protocols refer to the official documents that guide healthcare professionals' practices. Indeed, every healthcare facility must have all the standardized procedures and protocols in place to ensure quality care and patient safety [12]. However, there is no communication procedure or protocol between healthcare professionals, nor any standardized document on quality of care and patient safety. Information sharing is informal and inconsistent. Similar findings have reported a lack of Specific written or form-based methods are used to facilitate verbal transmission, resulting in significant variability in the quality and content of transmissions. However, according to the same study, respondents were very supportive of implementing standardized protocols [20]. Also in India, insufficient protocols have been identified as an obstacle to the implementation of handover in hospitals, with practices varying from one professional category to another [21]. In Indonesia, the results of a comparative study in three hospitals revealed disparities in the availability of handover scan procedures. According to the study's findings, only one of the three hospitals had implemented standard handover scan operating procedures as part of its accreditation process. However, these procedures were not always followed by healthcare professionals [22].

The importance of using standardized and formalized approaches that have yielded conclusive results has also been highlighted by studies [22]-[25]. Indeed, since 2007, the WHO has recommended the universal use of SBAR (Situation Background-Assessment-Recommendation) for all transmissions, not just medical ones [6].

The primary objective of standardization remains to structure communication interactions between partners. This improves mutual understanding and fosters a shared approach to care, which in turn guarantees continuity. Indeed, this continuity requires that the work performed by one or more caregivers be identified, understood, reviewed, and then enhanced and transformed, in a sense, by the work of other caregivers. This is achieved through the transfer of information and knowledge, always for the benefit of the patient [6]. Standardizing TC is a means that will allow its implementation and evaluation as a professional practice.

#### **4.2. This Was Followed by the Implementation of Operational Procedures**

Monitoring the implementation and updating of care procedures is a requirement of the quality framework [14]. This monitoring and updating will ensure that healthcare services are provided in accordance with current standards. Several mechanisms can be implemented for this purpose. Evaluation of professional practices (EPP). It is an integral part of efforts to promote the quality, safety, effectiveness, and efficiency of care by empowering the various stakeholders. It encourages healthcare professionals to reflect on their practices, particularly by motivating them to engage in a continuous improvement process for the overall care of patients [26]. This approach is also a requirement in Burkina Faso [12]. The results of this study revealed insufficient monitoring and supervision of healthcare providers regarding compliance with operational care procedures. The same was true in Indonesia and The Gambia, where inadequate monitoring and supervision mechanisms and procedures were identified as an obstacle to the implementation of care procedures [20] [23].

#### **5. Conclusions**

The results of this study revealed deficiencies in the availability, implementation, and monitoring of operational care procedures in the three hospitals. Specifically, the lack of mechanisms to foster a procedural culture within the hospitals constitutes a major challenge to implementing adequate clinical handover. Insufficient operational procedures, professional practices evaluation, and monitoring and supervision of healthcare professionals represent a significant obstacle to the implementation and evaluation of clinical handover.

Therefore, the availability of operational procedures remains a prerequisite for implementing a standardized clinical handover model. The results of this study could serve as a basis for developing and implementing standardized operational procedures for clinical handover. This will formalize the practice of clinical handover, defining its principles and characteristics to reduce the occurrence of adverse events and thus improve the quality of maternal and perinatal care.

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#### **Conflicts of Interest**

The authors declare no conflicts of interest.

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