

# Shared Clinical Reasoning and the Influence of Adverse Events in Care

**Stéphanie Hoyelle-Pierre\***

*ERPHAN research team, University of Saint Quentin en Yvelines, France*

**\*Corresponding author:** Stéphanie Hoyelle-Pierre, ERPHAN research team, University of Saint Quentin en Yvelines, France

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## ABSTRACT

**Introduction:** The shared clinical reasoning in multidisciplinary teams would allow to limit the reasoning biases. Moreover it may infer a gain in relevance and in quality in the interventions of care.

**Method:** The method is a pilot feasibility study for determining the relevance of the clinical judgement at the end of a shared clinical reasoning in a multidisciplinary team, on the occurrence of adverse events associated with care. The criteria measured will focus on the relevance of the clinical judgement following a simulation session of a patient in the emergency room in order to measure the degree of confidence or doubt concerning the accuracy of the clinical judgement following the shared clinical reasoning. The second criterion will evaluate the identification of interactions between the different participants during this simulation, such as leadership, teamwork and cooperation, data collection and exchange in order to identify collective intelligence, sharing and emotional intelligence.

**Results:** The hypothesis put forward in this study is that collegial clinical reasoning would promote the relevance and accuracy of clinical judgement in order to promote the relevance of care interventions and subsequently reduce the occurrence of adverse events associated with care.

## Introduction

In 2010, the DREES (Direction de la Recherche, des Etudes, de l'Evaluation et des Statistiques) (Michel, et al. [1]) highlighted that a serious adverse event occurs every 5 days in a 30 bed ward in France. The analysis of causes by the Haute Autorité en Santé (HAS [2]) shows that 27% of serious adverse events are linked to a communication issue between health professionals as well as to a dysfunction in transmissions and alerts. Ten years later, the situation is 4,4 serious adverse events per 1,000 days of hospitalization (Michel, et al. [3]). The contributing factors most frequently found were individual failures and lack of communication between professionals. Health professionals use clinical reasoning in their daily practice to manage patients. Clinical reasoning has been defined by several authors as the set of "cognitive strategies and processes that health professionals use to understand the meaning of patient health data, to identify and diagnose current or potential problems, to make decisions that

contribute to problem resolution, and to achieve positive patient outcomes" (Perrier [4]). Clinical reasoning, for medical, paramedical or medico-social professionals, is the central decision-making (Laurin, et al. [5]) and the implementation of actions. However, it is a complex process that involves many biases, particularly in relation to a dual system of thinking, the intuitive cognitive system (system 1 of thinking) and the non-analytical cognitive system (system 2 of thinking) (Croskerry, et al. [6]).

Thierry Pelaccia, Jacques Tardif, Emmanuel Tribby and Bernard Charlin (Pelaccia, et al. [7]) have identified several situations where the activation of the analytical cognitive system occurs: first of all, when time is of the essence, or when there is a high stake in the outcome, or when the situation is complex, or the decision maker is faced with an ambiguity, a non-routine, or an ill-defined problem, or in a context of uncertainty. Another point that influences clinical reasoning is the importance of the affective state of the person who must

make a clinical reasoning while the non-analytical cognitive system is particularly sensitive to this affective state. The authors go so far as to state that it is unrealistic to consider that clinical reasoning can be based solely on objective judgments that are devoid of emotion. Individuals practicing clinical reasoning must demonstrate emotional intelligence which is the ability to control one's emotions and those of others, to distinguish between them, and to use this information to guide thinking and action. This proves that collective intelligence will be a determining factor in the relevance and quality of patient care interventions. There is a theory explaining our brain has the capacity to inhibit the automatism of the non-analytical cognitive system in order to activate the analytical cognitive system, it is the inhibition system developed by Oliver Houdé (Houdé [8]). Non-analytical (intuitive) thinking is automatic thinking, very fast in its triggering but unreliable in its judgement. Whereas analytical thinking is reflective, more reliable but much less rapid.

According to Oliver Houdé's theory, in order to promote this analytical thinking and thus counteract intuitive thinking, the arbitration function that is inhibition system must be activated. If individuals are aware of these different systems of thought as well as the reasoning biases that exist, the arbitration system can be activated simply in order to obtain a relevant judgement. This regulation is similar to metacognition, i.e. the set of processes by which each of us regulates our attention, chooses to inform ourselves, to plan, to solve a problem, identifies our errors and corrects them. This theory, which I not well known in the health sector, could have an influence on clinical reasoning, both in terms of learning and feedback on adverse events. In order to improve efficiency, quality and safety, and thus promote teamwork in the care of a patient, it is important that the language used to be common and thus allow the patient to understand and participate in exchanges and decision-making. Each health professional will conduct his or her own clinical reasoning within his or her field of competence and responsibility, but will also contribute to the clinical reasoning of other health professionals, i.e. shared clinical reasoning (Psiuk [9]). This collective intelligence of health professionals allows for the convergence of knowledge and skills towards the common goal of safe patient care, in the process of quality care.

## Method

This is a pilot feasibility study to determine the relevance of clinical judgement based on shared clinical reasoning in limiting adverse events associated with care. The study would be conducted in a simulation center recreating patient care scenarios arriving in the emergency room and involving various health care professionals. The main objective is to experience the shared clinical reasoning on the formulation of a relevant clinical judgement. This relevance of the clinical judgement formulated by each professional who participated in the

simulation situation just before the debriefing will be measured using a self-evaluation tool, the Spectral Metacognitive Test developed by Dieudonné Leclercq (Leclercq [10]). This will measure the degree of confidence or doubt regarding the accuracy of the clinical judgement following this shared clinical reasoning. This measure will be by identifying the interaction between the different participants during the simulation of the patient's reception, such as leadership, teamwork and cooperation, data collection and exchange in order to identify the collective intelligence, sharing and emotional intelligence. The inclusion criteria are those of professionals involved in the reception of a patient in the emergency room, whether medical or paramedical personnel, and also those of students in the health field. The criteria for non-inclusion would be those of professionals who work together on a daily basis and who would bias social interactions with other participants. This study should be conducted over 18 months as soon as funding is made available.

## Results

The expected result of this study would validate the experimental framework which is to demonstrate that collective intelligence through clinical reasoning leads to a relevant clinical judgement in quality and safe care.

## Conflict of Interest

The author declares no conflict of interest.

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**Stéphanie Hoyelle-Pierre.** Biomed J Sci & Tech Res



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