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# THE IMPACT OF HOSPITAL ACCREDITTAION ON THE NUMBER OF OCCURANCE VARIANCE REPORTS OR INCIDENT REPORTS

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**ABSTRACT**
Ensuring the safety of everyone that comes into contact with health services is one of the most important challenges facing healthcare today. Patient safety is an important challenge for all modern health services. Healthcare is a risky business; it brings together sick and vulnerable patients with medical services and often complex technology and requires the effective coordination of many people. Complex systems in any industry are prone to human error. ***Objectives:*** To study the impact of National Accreditation Board for Hospitals & Healthcare Providers (NABH) Accreditation, India on Occurrence Variance Report (OVR's) or Incident Reports. ***Methods:*** It is a quantitative, descriptive and inferential research based case study. ***Significance of Research:*** It was observed initially before the accreditation that the reported OVR's number was very high prior to the hospital accreditation which has an impact on the hospital business and reputation. ***Hypothesis:*** Null Hypothesis (Ho) and Alternative Hypothesis (H1) were used and tested to compare the before and after impact of accreditation. ***Study Design:*** All reported Occurrence Variance Reports (OVR's) or Incident Reports of one quarter before and after the accreditation were compared in order to see the impact of hospital accreditation on the OVR's. ***Study Population:*** All reported incidents, one quarter before and one quarter after the accreditation. ***Data Collections:*** Primary data were collected from the survey questionnaires. Secondary data were collected from relevant published journals, articles, research papers, academic literature and web portals. ***Conclusion:*** At the 5 % level of significance, there is a significant difference in the mean occurrence variance report between before accreditation (Mean= 34.89, SD=43.05) and after accreditation (Mean=7.21, SD=9.59).

**Key words:** Occurrence Variance Reports (OVR's), Incident Reports, National Accreditation Board for Hospitals & Healthcare Providers (NABH) Accreditation

## I. INTRODUCTION

Patient safety is an important challenge for all modern health services. Healthcare is a risky business; it brings together sick and vulnerable patients with medical services and often complex technology and requires the effective coordination of many people. Complex systems in any industry

are prone to human error [1, 2]. No matter how committed, skilled and hard working the staff, the complexity of the organization and the nature of human behaviour means that unwelcome incidents do happen and errors are made. Very few errors are due to a lack of care or commitment from health care professionals or from a desire to deliberately harm patients [1].

Patient safety incidents also have emotional, psychological, social and economic consequences for the families involved, and for healthcare staff; so it is vital that we strive to reduce their frequency and severity. Major reports and studies from developing countries around the world consistently demonstrate that there are real opportunities to make healthcare safer through improvements in the systems for delivering that care [3, 4].

An international perspective on the rate of patient safety incidents Patient safety is an international concern and broadly similar levels of patient safety incidents have been found across health care systems in developed countries. A range of sources and methods have been used over the past 40 years to quantify and describe patient safety. Different methods used to

Measure the patient safety incidents and different definitions will produce differing results. For example, results will differ depending on whether events which did not lead to harm are included or not, and the thresholds that are used for deciding whether harm to patients was unexpected or unintended. At present there is no internationally-accepted taxonomy for patient safety incidents [5]. An incident is an "'Oh S***!' moment". The official definition from the NPSA (National Patient Safety Agency) is "Any unintended or unexpected incident which could have or did harm one or more patients receiving NHS funded healthcare." [6]. Internationally, there is increasing recognition of the need to collect and analyse data on patient safety incidents, to facilitate learning and develop solutions. The National Patient Safety Agency (NPSA) for England and Wales has been capturing incident data from acute hospitals since November 2003.

## II. REVIEW OF LITERATURE

Several estimates have been made of the number of patient safety incidents that occur each year, and the number of people who die as a result. For example, estimates that have been widely quoted are of 850,000 incidents per year and 40,000 deaths in England [7], although other sources have suggested 25,000 deaths in the UK each year [8]. The accuracy of these estimates, and of similar estimates from other countries, has been widely debated [9]. Such estimates are likely to depend on a number of factors including the source of the original data and the definitions used in the original studies from which the estimates were derived.

Errors in medical care are discovered through a variety of mechanisms. Historically, medical errors were revealed retrospectively through morbidity and mortality committees and malpractice claims data. Prominent studies of medical error have used retrospective chart review to quantify adverse event rates [10, 11]. While a collection of data in this manner yields important epidemiologic information, it is costly and provides little insight into potential error reduction strategies. Moreover, chart review only detects documented adverse events and often does not capture information regarding their causes. Important errors that produce no injury may go completely undetected by this method [12-15].

Complex, high-risk industries outside of healthcare, including aviation, nuclear power, petrochemical processing, steel production, and military operations, have successfully developed incident reporting systems for serious accidents and important "near misses." Incident reporting systems cannot provide accurate epidemiologic data, as the reported incidents likely underestimate the numerator, and the denominator (all opportunities for incidents) remains unknown.

Researchers in Lebanon examined the association between patient safety culture predictors and outcomes. 6,807 staff from 68 hospitals were surveyed. There was a relationship between aspects of safety culture and the number of adverse events reported. Event reporting, communication, patient safety leadership and management, staffing, and accreditation were predictors of positive patient safety culture [16].

Investigators in Hungary assessed the attitudes of surgical teams at three hospitals regarding committing errors, the impact of errors and safety culture. Safety attitudes were influenced by the work environment. The authors suggest that safety attitudes among team members may impact on their performance and reporting of errors [17].

Researchers in Israel examined the influence of safety climate on hospital employees' willingness to report errors. 632 staff from across 44 internal medicine, surgery and intensive care departments in three hospitals were surveyed. Three aspects of safety climate were measured: the way employees perceived safety procedures, the safety information flow within departments, and the relative priorities given to safety in the department. The more that staff perceived procedures as suitable and safety information as available, the more willing they were to report treatment errors [18].

## III. DATA ANALYSIS

**Occurrence Variance Report (OVR) / Incident Report (IR) Data Analysis:**

| Sr. No. | Occurrence Variance Reports Classification | Before Accreditation | After Accreditation |
|---|---|---|---|
| 1 | Medication | 147 | 34 |
| 2 | Accident | 15 | 6 |
| 3 | Health and Safety | 46 | 12 |
| 4 | Equipment | 34 | 6 |
| 5 | Community | 11 | 2 |
| 6 | Service Users | 99 | 21 |
| 7 | Maternity | 28 | 9 |
| 8 | Infection Control | 23 | 4 |
| 9 | Operating Rooms | 17 | 4 |
| 10 | Violence & Behavior | 26 | 4 |
| 11 | Staffing | 21 | 3 |
| 12 | Information | 18 | 2 |
| 13 | Safety and Security | 6 | 1 |
| 14 | Clinical Assessment and Treatment | 134 | 26 |
| 15 | Access | 17 | 3 |
| 16 | Organization | 4 | 0 |
| 17 | Other Organization | 9 | 0 |
| 18 | Fire Safety | 7 | 0 |
| 19 | Sentinel Events | 0 | 0 |
| | **Total** | **662** | **137** |

**Hypothesis:**

**$H_0$:** There is no significant difference between a mean occurrence variance between one quarter before accreditation one quarter after accreditation

**$H_1$:** There is a significant difference between a mean occurrence variance between one quarter before accreditation one quarter after accreditation

| Groups | N | Mean | Standard Deviation (SD) | T test statistic, p-value |
|---|---|---|---|---|
| OVR's Before accreditation | 19 | 34.89 | 43.05 | 2.736, **0.013** |
| OVR's After accreditation | 19 | 7.21 | 9.59 | |

p-value in bold represents significant test with p-value<0.05

At the 5 % level of significance, there is a significant difference in the mean occurrence variance report between before accreditation (Mean= 34.89, SD=43.05) and after accreditation (Mean=7.21, SD=9.59).

## IV. CONCLUSION

At the 5 % level of significance, there is a significant difference in the mean occurrence variance report between before accreditation (Mean= 34.89, SD=43.05) and after accreditation (Mean=7.21, SD=9.59).

## LIMITATIONS OF THE STUDY

This study is limited to the Quality Department of the study hospital and for a limited duration (before one quarter and after one quarter of accreditation) only.

## DIRECTIONS FOR FUTURE RESEARCH

In future, such research should be conducted to study the impact of national and international accreditations on the other services of the hospitals over a large period of time.

## SOURCES OF FUNDING FOR THE STUDY

This research was self-financed by the author himself.

## IMPLICATIONS OF THE FINDINGS

The accreditation has a positive impact on the satisfaction of Quality Department of the study hospital.

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