



International Institute of  
Health Management Research

# ANUSANDHAN — 2019 —

**RESEARCH DAY**  
**JUNE 20, 2019**

Abstracts of Research  
Undertaken by  
Faculty (2018-19),  
Dissertations of PGDHM  
Students (2017-19) & Summer Internship  
of PGDHM Students (2018-20)





# TEAM IHMR



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**ANUSANDHAN 2019**  
**Report released by**

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## FROM THE DIRECTOR'S DESK

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Health has emerged as a priority in India. Indian Health scenario is rapidly changing with non-communicable diseases emerging as major killer. From preparing for and responding to emerging threats such as Nipah virus and unpredictability of resources, public health practitioners have to be resilient and committed to leading through uncertainty and look for emerging evidences. These skills have never been more crucial than they are now, with increasing public accountability for improving population health. There is a need to generate and use evidence to anticipate and address these challenges.

IIHMR is a premier institute reputed for health management research, education, training, program management in the health care sector. The Institute takes pride in being a learning organization, always focused on its core values of quality, accountability, trust, transparency, sharing knowledge and information. The Institute aims to contribute to social equity and development through its commitment to support programs which aim poor and the deprived population where research plays a vital role.

IIHMR is at the cutting edge of research in policy analysis and formulation, strategy development and effective implementation of programmes, training and capacity development and preparing professionals for the healthcare sector.

In our pursuit of research opportunities, we look to strategic collaboration with local and international research organizations to create a critical mass of evidence to improve health benefitting from our in-house multidisciplinary expertise. The research activities are mainstreamed in all our activities including academics. Our post graduate students are exposed to research in the priority areas identified by the organizations involved in delivery of health care. Each one of the students' research work is closely monitored by our faculty. This sets the foundation of the evidence based healthcare practice in their future professional life to improve outcomes.

It is an immense pleasure for me to announce the release of second annual report on our research activities "ANUSANDHAN-2019. This report is the result of research undertaken by our dedicated faculty, dissertations and summer assignments of students. This report will give you a glimpse of research activities undertaken at IIHMR Delhi during the last academic year.

I wish all our students and faculty good luck and may you all continue to excel in your area of work and make IIHMR Delhi proud of your efforts.

Thanks to everyone for being a part of this wonderful institution and contributing to the second Research Day of IIHMR Delhi!



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## MESSAGE FROM DEAN RESEARCH

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It gives me immense pleasure to welcome you warmly to the 3rd Research Day, organized by the International Institute of Health Management Research (IIHMR), New Delhi.

Through its continuing research conducted by Institute since 2008, the institute has not only benefitted the IIHMR faculty but has also been instrumental for IIHMR Delhi students. Evidence-based knowledge generated through various research projects by our faculty members and students have helped many healthcare professionals, academicians, policy makers and hospital administrators to take appropriate decision for strengthening health system of the country. This Research Day is an opportunity to showcase the research done by students and faculty and disseminate the finding among students, faculty and other health professional.

I take this opportunity to thank our leadership for their exceptional guidance, my colleagues, research staff and students who have been working hard day and night for the organizing Research Day 2019.

I thank all PGDHM students (2017-19) and 2018-20 batches, Faculty and Research Staff of IIHMR Delhi for research day and look forward to its success.



**Section 1**  
**Research work by IHMR Faculty**

## **Motivational factors for acceptance and continuation of PPIUCD and barriers for non-acceptance and discontinuation of PPIUCD: A cross sectional study**

**Funding Agency:** ICMR-ICSSR

**Duration:** September 2018- August 2019

**Team:** BS Singh and Dhananjay Srivastava

With increasing numbers of women electing to give birth in health institutions, the Government of India decided to strengthen PFP and to introduce PPIUCD services in a phased manner. In spite of all efforts regarding intensification of PPIUCD coverage we still are far away from satisfactory coverage. We planned in our study to find out why most of the population avoids PPIUCD and motivational factors for acceptance of PPIUCD. We will also explore that why female not continuing the PPIUCD for appropriate period to achieve proper spacing i.e. 2 years between delivery and pregnancy. Our study design is cross sectional and participants will be both beneficiaries i.e. female delivered at institution and service providers i.e. doctors, nursing staff and ASHAs as well. Country-level evidence on the post-insertion outcomes will strengthen the effectiveness of IUCD & PPIUCD programs, ultimately contributing to improved health outcomes for women and babies.

The study is proposed to be undertaken at district hospitals, Block primary health centres (PHC), sub health centres (SC), villages and urban wards in nine selected districts of Bihar state i.e Patna, Muzaffarpur, Chhapra, Darbhanga, Saharsa, Purnia, Bhagalpur, Munger and Gaya.

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## **Health Impact of Metro**

**Funding Agency:** Delhi Metro Rail Corporation

**Duration:** September 2018- April 2019

**Team:** Nitish Dogra, Preetha GS, Pradeep Panda, Vinay Tripathi, Sumant Swain & Sanjiv Kumar (Adviser)

The Metro project has three main objectives. It aims to assess the change in health status for new Metro resulting from physical activity, air quality in transit and health economics metrics. The study is designed as a 6-month before-after study. It aims to study 100 new metro commuters with respect to the above parameters. A screening questionnaire is planned at one metro station to assess the universe of the study. 100 study subjects meeting the inclusion criteria will be drawn by purposive sampling. Further assessment of physical activity and air quality will be done by simulation of the path involving research assistants. Results will then be modelled for health economics and extrapolated for entire metro system. Results will be validated through additional assessment of physical activity and air quality at selected sites.

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## **Impact of Traffic on Asthma amongst School Children in Delhi**

**Funding Agency:** Central Pollution Control Board

**Duration:** January 2019- June 2020

**Team:** Nitish Dogra and Anandhi Ramachandran



Numerous studies from around the world have established that exposure to traffic causes adverse health effects particularly in children. However, there is limited evidence in the Indian context. This is particularly relevant in Delhi where the problem is compounded by high exposure and multiple sources, traffic being one of them. Thus from scientific, programmatic and policy perspective it is essential to have a large-scale definite study on this subject. The present study involves 6000 schoolchildren in Sarita Vihar ward of South Delhi involving heavy, medium and light traffic sites with schools and residence of children near main road contrasted with schools and residence of children away from main road. Health outcomes of asthma, infections and other allergies will be considered. Assessment will be clinical and physiological with pulmonary function tests. The study will also involve geographic information systems (GIS) in order to systematically delineate exposures and model for impacts at the ward level.

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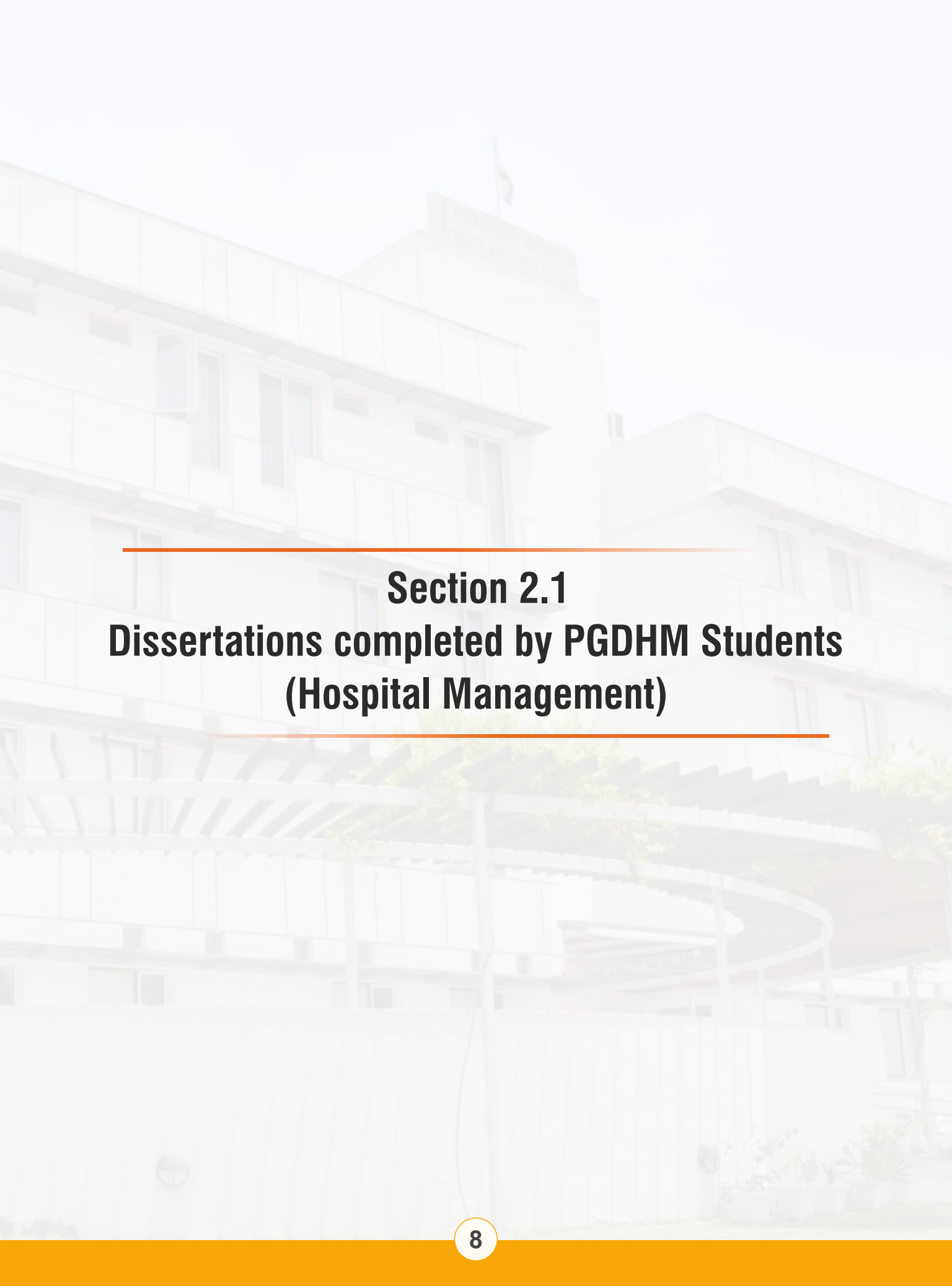
### **Assessing the Knowledge and Awareness about COPD among Health Care Providers and Community- A Pilot Intervention Study in Ludhiana District, Punjab**

**Funding Agency:** Chest Research Foundation

**Team:** Pradeep Panda

The study aims to examine the extent to which health care providers and community possess knowledge and awareness about the chronic obstructive pulmonary disease (COPD) and the issues surrounding the same in Ludhiana, Punjab. The specific objectives of the study are: (a) to assess the knowledge and awareness of COPD among the community, (b) to assess the knowledge and awareness of diagnosis and treatment therapies among health care providers, (c) to examine patient's Quality of Life diagnosed with symptoms of COPD, (d) to examine the barriers to adopting preventive practices and seeking right treatment in the community, and (e) to examine the availability of functional health infrastructure for diagnosis and treatment. About 50 percent of the health facilities in urban areas of Ludhiana (17 health facilities out of 35) were selected randomly for the study. Baseline data were collected in the selected health facilities and its catchment areas/community in May 2019 by using quantitative and qualitative methods: (a) 5100 households in slum and non-slum areas, (b) 150 healthcare providers (doctors, ANMs, other paramedics and ASHAs), (c) 40 exit interviews with patients suffering from symptoms of COPD, (d) health infrastructure mapping of 17 public health facilities, and (e) 10 focus group discussions (FGDs) with the community to assess their health-seeking behavior and barriers to seeking care. Currently, data entry and validation is in progress.

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## **Section 2.1**

# **Dissertations completed by PGDHM Students (Hospital Management)**

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## **To ascertain whether child's gender suffering from Congenital Heart Defects plays a role in parents decision to undertake surgery in Deptt of Paediatric Cardiac Sciences of a Tertiary Care Hospital: A descriptive study**

Lt Col Gopendra

**Objectives:** To study the OPD profile, assess the effect of gender on decision by parents whether to get surgery done and compare the discrimination, if it exists, with any global study published in this regard for the Department of Paediatric Cardiac Sciences of a Tertiary Care Hospital. **Study Area:** Department of Paediatric Cardiac Sciences, Sir Ganga Ram Hospital, New Delhi. **Methodology:** A secondary data based descriptive study utilising patient case sheets and select data from Hospital Information Management System. **Study period** is from 01 May 2018 to 30 April 2019. **Result/Finding:** Study subjects were 3083 cases who presented themselves in the OPD and 235 patients who underwent surgery. Male-to-female ratio of OPD cases works out to 1.73: 1. Low percentage of admissions can be attributed to primary endeavours by the paediatric cardiologist to medically manage the cases till such time surgical intervention becomes imperative. A total of 526 patients who were advised surgery in OPD out of which 315 were males and 211 were females giving a ratio of 1:0.67. 231 cases (7.5%) were admitted for either diagnostic or surgical intervention and out of them 141 underwent surgical intervention; depicting a hospital prevalence of 46 per 1000 OPD cases. 235 patients (males -161, females -74) underwent 257 surgical interventions. Against a ratio of 1:0.67 advised surgical intervention, an average of 1:0.47 males to females are actually being operated in this paediatric cardiac centre. There are numerous studies, both in government and private run health facilities, which have pointed out the gender discrimination in particularly of CHD paediatric patients in India and its neighbours like Pakistan, Nepal, Bangladesh and even, China. However, sub African countries like Sudan, Asia-African country like Egypt and Latin American countries like Peru & Mexico have reported general gender discrimination in health seeking behaviour of Parents but not in particularly CHD. The higher male-to-female ratio in IPD denotes male preponderance. There is definitely a gender bias which plays in minds of parents when it comes to surgical interventions of CHD in favour of the male child vis a vis female child. **Conclusion:** Male preponderance exists in cases diagnosed with CHD. When surgical interventions to treat CHD is required to be undertaken, gender bias exists among parents.

**Keywords:** congenital heart disease, skewed sex ratio, gender discrimination, male preponderance.

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## **Study on Average length of stay of patients staying >3 days in wards at Max Hospital, Vaishali**

Akriti Mahajan

The study evaluates the average length of stay (ALOS) of patients staying more than three days and determines the reasons for long standing patients staying more than 3 days in the wards at Max Hospital, Vaishali. Cross sectional study had been conducted for one month and convenience sampling technique had been used. Sample size of 545 patients was used. Primary data had been collected from hospital censuses and active patient files under the heading of patient name, I.P number, bed number, admission date, admission under which department, Patients panel, clinical status. After that length of stay (LOS) for each patient had been determined in excel by using the formula i.e. =TODAY()-date of admission. ALOS of patient was determined by using the given formula: ALOS of patients staying >3 days = Total LOS of inpatients / Total number of inpatients. ALOS of patients staying more than 3 days had ALOS of 8.1 days. Patients staying more than 3 days in Radiation oncology had the ALOS

of 12.81 days, followed by neurosurgery department which had ALOS of 11.5 days, followed by Obstetrics & Gynaecology department which had ALOS of 10.47, followed by ENT which had ALOS of 10 days, followed by Neurology which had ALOS of 9.58, followed by Medical Oncology which had ALOS of 9.44, followed by Surgical Oncology which had ALOS of 8.53 days, followed by Gastroenterology which had ALOS of 8.33 days, followed by Pulmonology which had ALOS of 8.18 days, followed by General surgery which had ALOS of 8.17 days, followed by Nephrology which had ALOS of 7.68 days, followed by Cardiology which had ALOS of 7.33 days, followed by Internal medicine which had ALOS of 7.1 days, followed by Orthopaedics which had ALOS of 6.66 days, followed by Paediatrics which had ALOS of 6.37 followed by Vascular Surgery which had ALOS of 6.36 days, followed by Plastic surgery which had ALOS of 6.17 days followed by Urology which had ALOS of 5.53 days. Patients staying more than 3 days in channel wise or mode of payment break up: PSU patients had ALOS of 9.08 days, followed by IP patients which had ALOS of 9 days, followed by Cash patients which had ALOS of 8.8 day, followed by TPA patients which had ALOS of 7.3 days. Patients staying more than 3 days shifted to ICU from wards were 12 in number out of them patients from Neurology department were 3, followed by Nephrology department with 3 patients, followed by General surgery department with 2 patients, followed by Neurosurgery, Gastroenterology, Internal medicine departments with 1 patient each. Chronic ill patients and PSU panel patients were the most important reason for greater length of stay. Better understanding of these patients will decrease the length of stay.

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### **Quality Assurance in Bio-Medical Waste Management in Medanta-The Medicity, Gurugram**

Lt Col Shailendra Singh Rawat

A descriptive cross-sectional study “Quality Assurance in Bio-Medical Waste Management in Medanta-The Medicity, Gurugram, Haryana was conducted among approx. 1200 Nursing staff and 14 administrative staff supervisors for the period of three months i.e. 16 February 2019 to 16 May 2019. The Objective of the study was to assess “Quality Assurance in Bio-Medical Waste Management in Medanta - The Medicity, Gurugram, Haryana“, it was conducted by ascertaining the existing knowledge, attitude and practices on BMW management among nursing and administrative staff, finding the extent to which this BMW management in the hospital is in compliance with BMW Management and Handling Rules 2016 and thereafter based on results recommendations were to be suggested for the improvement of BMW management in Medanta - The Medicity. The study sample size of 130 Nursing staff and 7 Administrative supervisors were observed. Non - Probability Convenient sampling method was used for sampling. The Data collection tool were the Structured Questionnaire and Checklist based on the BMW Management and Handling Rules 2016 and the Kayakalp guidelines were formulated. Data collection technique used was Questionnaire and Observation based. The staff was put through a series of 26 questions testing their Knowledge, Attitude and Practice questions including Multiple Answer questions. The analysis of answers was carried out to judge the staff’s compatibility with BMW Management Rules. It was ascertained that 65% of them have good amount of knowledge and understanding on the aspects pertaining to the BMW management issues, around 87% respondents were observed practicing the guidelines in an appropriate manner and on attitude aspect 61% of the staff involved had displayed good results towards the issues related to BMW management in the hospital. Based on the observational checklist it was found that barring few aspects hospital had been following the guidelines as issued on the subject by the government and BMW Management was found to be being effectively implemented. However certain measures were communicated for improvement.

## Patients waiting time calculation for dialysis at DCDC KIDNEY CARE, District Hospital Sultanpur, UP

Lingaraj B. Rout

**Introduction:** Hemo dialysis is a treatment to filter waste and water from blood. Dialysis act as an artificial kidney. Hemo dialysis can be outpatient or inpatients therapy. DCDC kidney care [provides dialysis on OPD basis, one patient requires 3-4 hours to complete dialysis session so for that it is necessary to calculate waiting time of patients for dialysis and scheduling. Research can provide the organisation about the weakness and the strength so that the organisation can put its best efforts for corrective and preventive actions. **Objectives:** To study the OPD Waiting Time Calculation at DCDC kidney care, District Hospital, Sultanpur UP **Specific Objectives** 1. To determine the flow of patient and the average time spent in Dialysis centre 2. To identify the factors those are responsible for high waiting in DCDC kidney care 3. To recommend appropriate suggestions to optimize the waiting time in Dialysis centre **METHODS-** Place of Study: DCDC Kidney care, DISTRICT HOSPITAL SULTANPUR, UP. **Duration of Study:** 3 MONTHS **Study Population:** 100 Dialysis Patients **Study Design:** Descriptive Cross Sectional study **Sampling Technique:** Convenient sampling (Non Probability Sampling) **RESULT-**As per daily observation data shows that most of patients are having waiting time of more than 1 hour .the average waiting time is 50mins.The major cause for long waiting time is dialysis machine disinfection process, dialyzer wash time and high bed occupancy rate. There are lots of gaps which need to analyse for waiting time consumption. shortage of staffs, lack of appointment systems, one way billing system are the predisposing factors, which has been observed by routine observation and patient opinion. **CONCLUSION-** Study shows that average waiting time of patient coming to OPD each day walk in is more in comparison to the appointment patient. Patient also comes on scheduled appointment time sometimes getting delayed. Television facilities required at the waiting hall to make patient feel good.

**Key Words:** Haemodialysis, waiting time, observation, hospital.

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## Impact of Opd Waiting Turn Around Time (Tat) Towards Sustainability of Qualitative Edge By A Multi Speciality Hospital

Col Puneet Kumar Arora

**Background:** The very first exposure at a hospital's OPD, often largely influences the patient's long term opinion towards its efficacy and quality of services being rendered. It is essential to ensure that the OPD services always aim for creating an everlasting impact on its patients irrespective of their class and stature. Reduction & effective management of uncontrolled OPD waiting times by ensuring and instituting steps that would ultimately result in affected patients receiving the right care at the right time is thus mandated. **Objectives of Study :** To observe & determine the flow of patients in various OPDs of a Multispecialty Hospital through a Time motion Study, to quantify the mean waiting time and identify the factors & root problem areas, bottlenecks those are likely responsible for higher waiting time in OPDs followed by few logical suggestions to optimize the same, through a deliberate analysis ( on the SPSS platform) of OPD Turn Around Time(TAT) as captured by the Hospital HIS & to compare it with the captured active data followed by a patient survey in form of a structured questionnaire with a



singular view to gather, analyse their candid inputs wrt quality of services(QoS) being rendered at the OPDs. Methodology: A prospective & retrospective study through an active observation (Time motion study) conducted during Mar 19 & HIS captured OPD data for a period covering Jan to Mar 2019 and a detailed review of literature was undertaken. Systematic sampling technique was carried out by Simple random sampling. The first patient visiting the registration counter was taken as starting point and thereafter next patient was randomly selected who came for registration to the OPD after an interval of 2 to 3 minutes. Sample Size: 400 OPD patients observed randomly). Patient Survey Questionnaire cum feedback on a volunteer basis was obtained from 60 OPD patients randomly. Results: The overall mean TAT for hospital HIS data (Jan – Mar 19) is 36.1 mins, wherein total TAT only includes the doctors time and nurse TAT, while as compared the mean TAT if calculated in similar fashion for the observational data (Mar 19) comes out be as 34 mins, thus with an acceptable minor deviation of just 2 mins. About 56 % patients in OPD have an overall waiting TAT of under 30 mins, while 28 % OPD patients have a TAT between 31 mins to 60 mins, 13% have a TAT between 61 to 120 mins while only 3% have a TAT between 121 to 180 mins. Conclusion: Patients, usually perceive long OPD waiting times as avoidable barriers towards obtaining desired basic quality health care services. Hence OPD TAT is required to be closely monitored by the hospital management in order to sustain their qualitative edge.

**Key Words:** Everlasting impact, Patient Survey, OPD TAT, Time & Motion study, HIS data, SPSS platform, Simple random sampling, Quality of service(QoS), avoidable barriers & monitored.

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## **Patient Satisfaction in OPD, Venkateshwar Hospital, Dwarka, New Delhi**

Col Ravi Chauhan

Patients' satisfaction constitutes a significant indicator of the health care quality as the final quality confirmation which consists an integral part and recognizable indicator of the quality of health care provided. Patient-centered outcomes have taken central stage as the primary means of measuring the effectiveness of health care delivery. Research Objectives: to find out the level of satisfaction among patients regarding Out Patient Department Services in Venkateshwar Hospital, Dwarka, New Delhi. To make suitable recommendations to Hospital Management. Methodology Research Design: The present study is based on descriptive research design and cross-sectional study with the objective of measuring the satisfaction level of patients' of Venkateshwar hospital. The study uses primary source of data collection and for analysis to arrive at conclusions. Data Sources A structured questionnaire was used to obtain answer pertinent to the objectives of the study. For the purpose of the study, 400 outdoor patients were randomly selected as a convenient sample and interviewed with respect to available services in OPD. An analysis of six months OPD numbers was carried out to work out the monthly average of the new OPD cases and a percentage was calculated of the total OPD for each department. Questionnaire Design The information was collected through a pre-designed, structured questionnaire which is already being used by Venkateshwar Hospital as a feedback form for OPD. The existing questionnaire was used so that the deficiency can be measured in existing system if any and corrective actions can be taken to improve the system towards stated objectives of effectiveness and efficiency. Sample Size: A sample of 400 respondents selected from the hospital OPD on the basis of their convenience. Results: The percentage of satisfied patients is mentioned against each parameter. Ease of getting an appointment - 75 %, Cleanliness and ambience of the hospital – 96.25% ,Waiting time for Registration & Billing process – 55.5 %, Waiting time to see the Doctor –

51.25 % ,Waiting time for investigation and procedures – 63 % , Were the reports ready at committed time – 87.5 % , Nursing Staff – 88 % , Phlebotomist (Blood sample collection) – 82.5 % , Radiology Technician – 80 % , Pharmacy – 62.25 % , Cafeteria – 84.25 % ,Will you consider this hospital as your regular source of healthcare? – 87.25 % , Conclusion The study identified some of the factors which are responsible for the dissatisfaction of the patients, so effort must be made to reduce the level of dissatisfaction that patient may have with the services of OPD and thereby to improve the functioning, public image and overall service of the hospital.

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### **Reviewing Patient Medical Documentation as Means to Enhance Patient Safety as per NABH 4th edition standards**

Dr. Kavisha Bhatia

**Aim:** To ensure medical records are complete as per the standards set by NABH and identify the areas for improvement. The accreditation leaves enough scope for adjustments which can be made with regards to the requirements of Patient Safety as per the facilities existing in an organization. **Objective:** The study was conducted to establish role of medical documentation in patient safety to identify the likely non-medical errors by doctors and nurses in patient medical documentation having direct bearing on safety of patient, to utilize internal audit as a possible means to patient safety and to recommend a broad mechanism of internal audit so as to bring behavioral changes in the approach to documentation as means to improve patient safety in a hospital. **Methodology:** The study was carried-out in a cardiac hospital (Unicare heart Institute & research center). It is descriptive cross sectional study design. A sample of 530 patient medical documents was audited for the study. 10 medical documents were selected per month from January 2015 to May 2019 and purposive sampling technique was used. For study tool existing patient medical documentation checklist was utilized. **Findings/Results:** To relate various patient medical documents covered aspects (non medical errors) of non-use of stamps, illegible signatures, not mentioning the time and plan of treatment, non counter signature by primary consultants, lack of endorsement of initial assessment and time of admission in the clinician progress notes, prescription of medication in block letters was not done, name and signature of doctor was not legible, nutritional assessment was not carried out within 24 hrs in number of cases etc. Ultimate aim of any healthcare organization should be to have zero tolerance towards patient safety. To Conclude the way to the accreditation is through following standardized procedures which are implemented by evolving various forms and documents. These documents are subjected to internal and external audit as per accreditation guidelines. However, the purpose of the documentation should be Patient Safety and physician defensibility.

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### **Patient Satisfaction Regarding Service Quality Aspects at Sharad Mohan Singh Multispecialty Hospital Faridabad**

Lt Col Nikhil Kumar

Hospital is a unique organization which deals with the services like diagnosis, treatment and preventing diseases, illness and injuries, physical and mental impairments in human. Hospital deals with people rather than materials or products as an end. It involves emergency nature of work involving high risk, ethical and legal issue and 24 hours

of highly stressful work since lives are affected. A large number of private players are setting hospitals in India to fulfil the gap in health sector. However, these small and big corporate hospitals are mushrooming as profit making entities which have resulted in poor service quality to the patients. In today context patient satisfaction has become a key in gaining and maintaining market share. Knowledge about satisfaction with the service can serve as a performance indicator and also help us to identify areas of improvement with a view to provide better care and services for the betterment of the user's health. The objective of the study is to determine the patient satisfaction in terms of availability of infrastructure facilities, waiting time, behavior of care provider and quality of utility services received. The study has been conducted for three months at Sharad Mohan Singh Multispecialty Hospital Faridabad, where 150 OPD and IPD patients from five departments of Medicines, Gynecology, General Surgery, ENT and Orthopedics were interviewed across all socio-economic status to include Gender, Age, education, occupation, family size, annual income and family wealth. The respondents were selected randomly and IPD patients were included after minimum 24 hours of admission. Due care was given to non-response rate. The results indicated that majority of patients were satisfied with service quality and behaviour of service providers. Approximately 60% respondents were from lower middle class and 67% belonging to age bracket 18-45 years. Approximately 10% respondents were highly satisfied with the quality service and about 2% expressed dissatisfaction with services being offered. The patients are satisfied with good service quality, good facilities & promptness in medical aid. However, it is incorrect to presume that a bad experience in service may result in dissatisfaction among the patients. The patients are dissatisfied with wrong diagnosis & generally not with poor service facilities. Although good service may or may not aid to patient's satisfaction. The patients evaluate satisfaction with the remuneration paid for the services. Generally, the older people have more patience & are satisfied with good service.

**Key Words:** Patient satisfaction, Infrastructure facilities, Utility services, Perceived satisfaction, Causes of Dissatisfaction

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## **Awareness of Biomedical waste Amongst Nursing and Housekeeping Staff At Venkateshwar Hospital, Dwarka**

Lt Col Shyam Singh

All waste which is generated in hospital as a direct outcome of treatment of human/ animals especially those items or body parts of infected patient must be properly collected, segregated, stored, transported, treated and disposed off in a safe way to prevent hospital acquired infections. All healthcare facilities are legislated by biomedical waste rules 2016 and amendment to it in year 2018. Biomedical waste must be managed through a combined integrated effort of all concerned to address the generation, segregation, collection, processing, transportation, storage, treatment and further disposal of waste. The objective of the study was to find out the awareness of nursing and housekeeping staff on biomedical waste at Venketeshwar hospital, Dwarka. This was a cross sectional study and descriptive study conducted from 1 April -10 May 2019. The researcher used convenient sampling methods to collect primary data through quantitative method by self-administered questionnaire as well as by qualitative method through observation checklist. A total of 110 i.e. 50 nurses and 60 housekeeping staff participated in the study. The analysis of data concluded that both nurses and housekeeping staff at Venketeshwar Hospital possesses a good knowledge on handling and management of biomedical waste. Training on biomedical waste for nurses and housekeeping staff needs to be a continuously process concerning

their job on ground. The hospital is adhering to all guidelines of CPCB with respect to biomedical waste. 100 % of the study population are aware about BMW, and color coding segregation. 100 % housekeeping staff and 94 % nurses have undergone BMW training at the hospital. 98.3 % housekeeping staff have benefitted from BMW training.

**Keywords:** BMW, Convenient Sampling, BMW rules 2016, Nurses, HK staff, training

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## **A Study on Patient Feedback at a Super Speciality Tertiary Care Setting**

Deepanshi Kacharia

Patient satisfaction can be defined as fulfilment or meeting of expectations of a patient from a service or product. In the healthcare realm, products offered include specialities, doctors, technology and facilities. The experience of patients in facilitating these services plays an important role in defining their satisfaction level. Assessing patient satisfaction is not just a tool to measure the satisfaction level of patients but it also efficiently helps in understanding where a particular hospital service lacks and can successfully help in evaluating health care services. The objectives of this study are to study the level of in-patient feedback and to measure the different factors affecting patient satisfaction as well as suggesting measures for improvement of services at a super-speciality hospital in Delhi (B.L Kapur Super Speciality Hospital). The study tool place over two months. A cross sectional study was conducted from March to April 2019 using a feedback form. The sample size taken was 318 patients. The assessment contained 7 areas which represent various patient touch points directly affecting the way a patient perceives the hospital, which eventually affects their satisfaction level. The results conveyed that cash (8.2%) and TPA (7.6%) patients were dissatisfied with respect to various services provided by the hospital. On the other hand, government sponsored patients had the most positive feedback towards services. Certain recommendations have been suggested for improving the process of service delivery.

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## **Assessment of Turnaround Time for Discharge Process in Venkateshwar Hospital, Dwarka, New Delhi**

Radhika Uppal

Background: Discharge Turnaround Time (TAT) is one of the vital indicators and is the time interval from the time a consultant approves discharge to the time when all formalities for the same have been completed. Timely hospital discharge is one of the major problems and is also one of the very lengthy procedures. Admission and discharge processes act as bottleneck and adversely affect the efficiency of hospitals. Delay in discharge process leads to hospital bed demand exceeding the capacity, further leading to delays in admission of new patients, transfers and cancellation of certain planned surgical procedures. The present study was conducted to understand the internal hospital process in the discharge procedure, evaluate the time utilized at various steps of discharge process and also analyze the complete discharge turnaround time of cash, credit and TPA patients. Methodology: A cross-sectional study was carried out for a period of 1 month from April 2019 to May 2019 in inpatient department of Venkateshwar Hospital, Dwarka, New Delhi. This study was a time and motion study; the total sample size 235 patients was collected. Out of these discharge 67 cases were cash patients, 90 were credit and 78 were TPA / insurance patients. The sampling method / technique used was convenient sampling. Result: The study was able

to map the whole process of discharge and identify the gaps and various predictor variables (various TAT's) that caused delay in achieving turnaround time for discharge process. In 80.5 % of cases the TAT for cash patient and in 75.5 % of cases the TAT for credit was much higher than standard set by Venkateshwar hospital i.e. 120 mins, also TAT for 52.5 % of TPA patients was much higher than set standard by Venkateshwar hospital i.e. 300 mins. Also, the TAT for 52.2 % of cash patients, 41.1 % of credit patients and 94.8 % of TPA patients was exceeding when compared to NABH standards i.e. 180 mins. Conclusion: Few problems that resulted in majority of defects were; delay in summary finalization by doctor, delay in pharmacy return, delay in financial clearance by attendant and delay in pharmacy return by nursing and focussing on these will reduce the time utilized at various steps of discharge process and drastically improve the TAT for complete discharge process.

**Keywords:** Discharge Process, TAT, NABH, Cash, Credit, TPA

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### **A Study of the Effect of Educational Intervention on Proper Documentation of Cross Consultation Forms Among Hepatology Team at Medanta Hospital, Gurgaon**

Dr Srishti Gupta

In Medanta Hospital, Gurgaon, it was observed that documentation of the Cross Referral forms by the hepatology team doctors was inadequate. During the routine Medical Record Audit, improper documentation of cross consultation forms by the hepatology team was observed and at the same time referred teams facing difficulties in knowing the purpose of consult, when not documented by the primary team in the file. The objectives of the study were (a) to analyse the gap between the standard required and what is being practised, (b) to ensure accuracy, timely completeness of patients medical record, and (c) to provide recommendations and solutions for the analysed problem, implementing them and then reanalysing it. As regards methodology, this is a descriptive cross-sectional interventional study. The study was conducted on 11th and 12th floor (hepatology doctors) for a period of five months (from January to May, 2019). Educational intervention was done in which training was given to hepatology team. A checklist tool was prepared, on the basis of parameters of which data was collected from the medical records of the respective patient. Total Sample Size of 250 was selected, 50 cross referral forms were randomly selected in each month. The results suggest that there was significant improvement in documentation from January to May, 2019. The compliance percentage improved from 27.7% in January to 81.2% in May after the educational intervention was given to the doctors. Thus, the study concludes that (a) Quality of documentation differs based on physician workload, (b) The educational intervention and continuous focus have proved to be effective, (c) The study has helped in improving the cross-referral process, and (d) This quality improvement project has helped in providing better interdisciplinary care to the patients.

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### **Reducing OPD Waiting Time at Yatharth Super Speciality Hospital, Greater Noida**

Abinash Amanta

OPD is known as the soap window of a hospital which is the first point of contact between patient and hospital staff. OPD waiting time is defined as the total time spend by a patient in OPD area till they entry to the OPD to the time they exist from the OPD. Objectives of The Study:- General Objective:- To study the OPD Waiting Time.



Specific Objectives 1. To determine the patient flow and the average time spend OPD 2. To identify the responsible factors for prolonged waiting time in the OPD. 3. To make recommendation to optimize the waiting time in OPD. Methodology:- Place of Study: Yatharth Super Specialty Hospital, Greater Noida Duration of Study: 2.5 Months. Study Population: 80 Study Design: Descriptive Cross Sectional study Sampling Method: Convenient sampling Gap Analysis:- 1-Increased waiting time for billing due to:- New staff take time for billing, Correcting duplicate registration, No queues of patient in billing area, Reception acts as an inquiry counter, 2-Increased waiting time for Consultation due to:-, Dr do not adhere to their OPD timing, HMIS appointment system not working, Dr Visit OT during OPD timings, Dr are round during OPD timing Conclusion:- The objective was to determine the various causes of increased waiting time in the OPD and do a root cause analysis of the same, thus reducing the bottlenecks in the entire process. The two major bottlenecks were found to be waiting time for consultation and waiting time for billing. Patient attending the hospitals are responsible for brand and image of the hospital and hospital management has equal responsible to take care of the patients. The waiting time of the patient should be consumed by providing them some consultation package with minimal charges which can add to the benefit of both patient and hospital.

**Keywords:** OPD, Waiting Time, Root Cause Analysis, Consultation, Appointment

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## **Formulary Adherence in Out Patient and In Patient Pharmacy**

K M Ekta

Out Patient and In Patient Pharmacy forms one of the most important components of hospital supply chain management. It is the show window of the hospital supply chain management and revenue churning as it contributes to the hospital business and growth. The aim of this study is to evaluate formulary adherence for 400 bedded hospital across specialties on out-patient and In Patient basis and suggesting necessary intervention to minimize deviations. The methodology includes observation of the out-patient and In patient pharmacy of the hospital, where any sort of non-availability/substitution was directly monitored for each bill. Any prescription which had constituents was considered a bounced prescription. The team took a note of the parameters like-Data, Specialty, Consultant and formulary adherence for all such incidents. During the first week of study the formulary adherence rate of all bounce prescription was 40%. Hence the catch was that nobody observed this fact and consequently no intervention was either planned or executed around it. The formulary adherence at the last week of the study was 70%, Now an action plan has been set and the organization has a way formed to minimize the same in the coming 12 weeks both by strengthening of formulary & reinforcing the same to one consultants. The cumulative effort of Out Patient and In Patient pharmacy can make Yatharth Hospital Greater Noida to be a pathfinder in setting high quality of service and increasing the productivity.

**Key Words:** Formulary Adherence, Supply Chain Management, Quality of Service, Deviations, Revenue

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## **Study on turnaround time of discharge process at Medcare hospital**

Jyoti Yadav

Background: Discharge process being the final step in the hospital experience is likely to be well remembered by

the patients' even if everything else went satisfactorily, a slow discharge process can result in low patient satisfaction. Delay factors can be of three types, Internal (waiting for discharge summaries, waiting for declaration of chronicity, transfer between nursing units, lack of documentation of discharge plan), External (palliative care, home care resources, long term care facility) and Psychosocial (waiting for family adjustments to illness, waiting for patients' function to improve, inadequate support at home, lack of concrete medical aids).

Research Question: To assess the delay in discharge process through turnaround time. Specific Objectives: To study and understand the existing discharge procedure. To find out the factors leading to delay of discharge. To suggest the steps to control the turnaround time of discharge process. Research Methodology: This was an Observational study of IPD wards at Medcare Hospital from 1st March to 30th May which included 100 patients. Secondary Data was collected through observation and discussion with nurses, floor coordinator and service provider. Outcomes: There was a delay in discharge process and the main cause of delay is poor communication between the nurses, doctors, personnel of pharmacy, billing department and patient's attendants.

**Keywords:** Discharge Process, Turnaround Time

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## **A Study on Sustainability of NABH standards in Super Specialty Hospital**

Komal Jingar

This is a study on sustainability of NABH standards in super specialty hospital to assess the current delivery status of the hospital as per NAB guidelines and to suggest Corrective and preventative action of the gaps identified. The study comprises of services such as - Front office, OPD, Emergency Department, ICU, Operation theatre, IPD, Laboratory (Pathology, microbiology, biochemistry), Radiology and imaging, CSSD, BMW department, Pharmacy, Kitchen, Maintenance, MRD, Human resource department, Labor room, NICU, Dialysis, Security, Engineering and facility management department of Geetanjali Super Specialty Hospital, Udaipur. The data was collected from 1st February to 30th April. Staff and patients were involved in the study, daily round and direct observation. We used NABH self-assessment toolkit for conducting audits of various departments and scored them. All the chapters scored above 8 except Patient Right and Education (PRE) and Continuous Quality Improvement (CQI) as 7.7 and 7.9 respectively. Care of patients (COP) and Facility Management & Services (FMS) got equal scoring of 8.2 respectively. Assess, Access and Continuity of care scored 8.9, Management of Medication (MOM) scored 8.45, Hospital Infection Control (HIC) scored 8.6 and Information Management Services scored 8.65. The chapter Responsibility of Management secured highest score of 9.5. The conclusion of this study is accreditation leads to standardization of various regulations in a hospital which are necessary to provide highest quality of care to patients and also maintain transparency. The study provides an insight into the impact of NABH on the quality of healthcare services of a hospital. It can be measured against pre-set standards. It reveals the areas of improvement in the existing service system. The study would provide the data which would show the gap between the existing services and the standards of NABH in different departments of the hospital.

**Keywords:** Sustainability, Hospital Services, NABH, Super Specialty, Standardization.

## **A Study on Discharge Process at Nayati Multi Super Speciality Hospital, Mathura (UP)**

Shalini Singh

Background: “Discharge Process” is one of the vital functions in the health care organization that needs to be streamlined and monitored on a regular basis. Discharge of patient from the Hospital means, relieving a person from Hospital setting after addressing the healthcare needs of the patient. Appropriate Discharge Process plays an indispensable role in providing quality care services to the patient. There are a number of factors that impact patient experience and a smooth Discharge Process will lead to increase in Patient Satisfaction and quality of service delivery Objectives: To bring down the current TAT within the define limit (Cash, TPA & Panel as 2hours, 4hours & 2hours) in Nayati multi super speciality hospital, Mathura (UP). Methods: Non probability convenience sampling, Retrospective and Observatory study was conducted in the form of Discharge trackers from Discharge intimation to patient is getting physically out from the respected ward. 100% data have been collected with the help of trackers at Nayati multi super speciality hospital, Mathura (UP). Results: Up to 80% patients were taking >4hours in getting discharged in January, February and March and after intervention by quality department in April the discharges were decreased by 80% in May and 80% of the patients gets planned discharge. Conclusion: The result indicated that most of the procedures for discharge process have got streamlined. Further work needed to close gap. The overall planned discharges have been improved by 80% and only 30% of the patients are getting unplanned discharge.

**Keywords:** Discharge Delay, Inpatients and TAT.

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## **Adherence to Hemodialysis and Associated Factors among End Stage Renal Disease Patients at Dialysis unit, Civil Hospital, Bahadurgarh: A Descriptive Cross-Sectional Study**

Simran Sur

A descriptive cross-sectional study was conducted to evaluate adherence to hemodialysis of maintenance hemodialysis (MHD) patients. An attempt was made to also determine associated factors among end stage renal disease patients. The study was conducted at the DCDC dialysis centre at Civil Hospital, Bahadurgarh. The demographic factors taken into consideration were gender, age, marital status, level of education, occupation, yearly income (in rupees), duration of ESRD, mode of payment for hemodialysis. The variables which effect adherence of MHD in patients are days to receive dialysis, hours treated for each session, convenience of dialysis schedule, last day to be told the importance of not missing dialysis session, importance of following dialysis schedule, difficulty of staying for the entire dialysis session, missed dialysis sessions during the three months, shortened dialysis session during the three months. The questionnaire was used to assess adherence to hemodialysis and associated factors among end stage renal disease patients. In this study, descriptive statistics were used to describe the extent of adherence to hemodialysis among ESRD patients. Inferential statistics of chi-square were used to test if there is any association between demographic variables and level of adherence to hemodialysis. Hemodialysis patients above eighteen years of age, of either sex, who had completed two months of maintenance hemodialysis (n = 41), were enrolled into the study. The findings from this study revealed low adherence in 49% of ESRD participants and reveals that factors associated with adherence to hemodialysis in

ESRD population. Results showed that age ( $p = .038$ ) of participants were statistically significantly associated with adherence to hemodialysis. Other demographic factors such as marital status ( $p = .971$ ), educational level ( $p = .338$ ), occupation ( $p = .375$ ), and monthly income ( $p = .376$ ) were not significantly associated with adherence to hemodialysis in ESRD population. In addition, frequencies of education by health care workers about importance of not missing dialysis ( $p = .000$ ), perceived relative importance of hemodialysis ( $p = .020$ ), and experiencing difficulties during the procedure ( $p = .004$ ) were significantly associated with adherence to hemodialysis in the study. Thus, altered adherence to hemodialysis is still a big concern in Civil Hospital, Bahadurgarh affecting negatively ESRD patients' treatment outcomes, thus causing a huge burden on health care institutions.

**Keywords:** End stage renal disease (ESRD), maintenance hemodialysis (MHD), adherence to hemodialysis, demographic factors

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### **Clinical audit on antenatal care for uncomplicated pregnancies in health care organization**

Dr. Sneha Singh

**Objective:** To ensure that the antenatal care provided is compliant with the evidence based guidelines, assess the content of the antenatal care, and to identify the gaps and areas of improvement in the antenatal care provided. **Methodology:** A Descriptive Study was undertaken in a private healthcare organisation. Clinical audit was done. Data was collected through structured questionnaires comprising of 68 questions based on NICE recommended guidelines. Pregnant women with uncomplicated pregnancy coming to OPD for their antenatal appointments were selected as per convenience. 130 Patient Observation and Record Reviews, 130 Patient Interviews and 4 Care Provider Interviews were done. **Result:** Antenatal appointments did not have any defined content neither any written information about likely number, timing or content of these appointments. No information is being given to pregnant women regarding baby development, maternity rights and benefits, recognition of active labour, care of new baby, preparation for labor and birth or breastfeeding, newborn screening test, baby blues and post-natal depression, postnatal self-care and Vit.K prophylaxis. Majority of women were not given any information about antenatal screenings, lifestyle considerations and the correct use of seatbelts. Body mass index was not calculated for any pregnant women, only weight of the women was recorded at each visit. Formal fetal-movement, Doppler ultrasound, cardiac anomalies, electronic monitoring of Fetal Heart Rate and after 24 weeks Ultrasound Scanning are being routinely offered. Majority of care providers do not offer Atypical red-cell alloantibodies screening in early pregnancy regardless of Rhesus-D status, OGTT was not offered again at 24-28 weeks and atypical red-cell alloantibodies screening again at 28th week. No mental health issues were discussed with any pregnant women. Majority of care providers were not offering that External Cephalic Version to single breech pregnancy. **Conclusion:** The antenatal care provided for uncomplicated pregnancy is only 57% compliant with the NICE guidelines. There are some major non-compliances that need to be focused on. The visit plan is not structured. The frequency of visit is also much more than recommended. This leads to unnecessary wastage of scarce resources. Care providers have a very limited time to counsel the patient and to provide all the necessary information. Thus pregnant women are not able to take an informed decision. Measure for improving quality of antenatal care.

## **Review and Restructuring of Modules of First and Second Year (Hospital Stream) of Post Graduate Diploma in Health and Hospital Management at IIHMR, New Delhi**

Lt. Col Shyam Sharma

Healthcare, the world over and similarly in India is a rapidly growing facet of human needs which requires largescale deployment of professionals to ensure a healthy population which contributes to not only a country's economic development but also ensures a high happiness quotient for its citizens. Universally healthcare is visualized as the consequence of an interplay between the doctor and his patient. In reality it is actually the consequence of the contribution of an assembly of professionals, both medical and non-medical, in the public, as well as, the private sector who meet diverse healthcare requirements. Amongst the key professionals, the requirements of professionals exclusively trained to handle the managerial obligations of health, health IT and hospitals is an urgent necessity, which shall only grow with time. International Institute of Health Management Research, New Delhi is one of the few institutes in the country which is uniquely positioned due to its exclusivity in meeting this particular requirement in its exactitude. The Institute is a premier institute providing cutting edge education in health, health IT and hospital management. Established in 2008, it has within a short duration carved for itself a niche in the sunshine sector of healthcare. The Institute's exclusiveness stems from its well-tailored two year curricula which caters to imparting education that prepares professional who manage the provisioning of medical services to those who need them in a satisfying manner. However, since healthcare managerial education is dynamic and evolving (particularly because of the ever increasing health needs of the people) new technologies and the strong impetus to health in a resurgent India there is a need to review and restructure the curricula. This paper endeavours to review the various modules of first year and second year health stream and restructure the same should a requirement exist. The review was carried out by undertaking a study of the course objective, learning objective and syllabus plan of each of the modules. These were weighed against inter se requirement, current requirement within the health care sector, as well as, the sequence of flow so as to ensure lucidity and comprehension by the students. In doing so the views of existing first year students and second year students was taken and an interaction was carried out with interviewers of certain organisations who had taken placement interviews in order to ascertain from them the current requirement of the industry and how well could the students be prepared to meet these. A comparison of the syllabus with a very few of the other institutes who provide similar or near similar training was also carried out so as to ensure that the Institute's curricula was better than the others. Consequent to the review the curricula was restructured thereby ensuring inclusion of the essentials and exclusion of that which was no longer pertinent thus ensuring a syllabus which is up to date with the requirements, as well as, has a smooth flowing comprehensive structure.

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## **Utilisation and Efficiency of Operation Theater of Venkateshwar Hospital**

Lt Col S P Singh

The Operation Theater Utilization and Efficiency is a performance measure of a hospital and main source of revenue generation, contributing about 50-60%. Rest all other departments put together contributes lesser. This is more significant for multi-specialty hospitals. OT Complex requires more expenditure for creation, maintenance



and daily running hence important for the management to ensure optimum utilization and efficiency. It has been observed from various studies, that best of the hospitals are able to utilize only about 70% of OT capacity. These days the hospitals are eager for better and efficient utilization of OTs and are streamlining their key areas like designing, layout, scheduling of surgery and utilization of manpower etc. To evaluate the OTs in terms of utilization and efficiency of Venkateshwar Hospital cross-sectional study of the surgery cases which were scheduled in the OT in three months (Jan-Mar 2019) have been taken. In this retrospective and prospective study secondary data from the hospital records was utilized. Systematic Random Sampling has been conducted with a sample size of 180 cases (2 cases per day) to establish the relationship between Time Taken and Time Allotted for the surgery and for establishing relationship between Cancelled/Postponed surgeries and the total number of surgeries, all the cases of Jan-Mar 2019 have been considered. For analysis of the data, MS Excel has been used. The OT utilization and efficiency of Venkateshwar Hospital is of high level. Judicious scheduling of surgery is being done as only 3% of the total surgeries have been cancelled/ postponed. There is a difference of just 4% between time allotted and time taken for the surgeries. OT staffing is at par with medical activity and normally not subjected to multitasking. The work flow of the OT is also streamlined. Although there was no separate formal training was scheduled for the OT Staff, in these three months, for improving the utilization and efficiency the same is adequately covered in orientation training. The last part of this study is to report the findings and analyze the results. The basic objective of this project is to come up with different recommendations for Venkateshwar hospital for improvement in their OT utilization and efficiency.

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## **Patient Satisfaction with Respect to Discharge Process**

Dr. Diksha Kaushik

Discharge from the hospital is a step at which the patient leaves the hospital and returns home. It comprises of clinical, financial, legal and administrative and record keeping aspects and is a time consuming process. But if executed in an organized way with assistance from trained medical, para-medical and administrative staff, the discharge process can be completed timely and hassle free. The objectives of the study were to identify and study overall discharge process with respect to patient satisfaction and carry out analysis of feedback form collected from the patient during discharge process. It was a time and motion study involving observation and direct conversation with discharge patient of ground floor. Using simple random sampling 150 discharge patients from ground floor were taken into consideration for study. Secondary data captured from excel sheet covering period of 1st April to 20th May 2019 was also analysed. Comparing the data of April and May month, it was found that gap exist in timeliness and explanation of proper discharge process to the patients for both months. Due to absence of discharge tat, timeliness for whole discharge process cannot being calculated leading to many loopholes and decrease in patient satisfaction with respect to discharge process.

**Key words:** Discharge tat, Patient satisfaction, Questionnaire, Count of excellence, Timeliness of discharge process.

## **Study On the Satisfaction of Patients with Reference to Hospital Services**

Roopali Saxena

Patient satisfaction is one of the important goals of any health system, but it is difficult to measure the satisfaction and gauge responsiveness of health systems as not only the clinical but also the non-clinical outcomes of care do influence the customer satisfaction. Research Objectives; To find out the level of patient satisfaction among patients regarding OPD services in Yatharth Hospital. To find out patient satisfaction in OPD services on each parameter as contained in questionnaire already being used in hospital. To give suitable recommendation to the Hospital. Study Area- Yatharth Super Speciality Hospital. Study Design-Explorative and descriptive research design.the study use both primary and secondary data. Sample size -420 patients selected from hospital OPD on the basis of their convenience. Sampling Technique-all relevant factors were considered to make sample representative of various aspects. Upon an analysis of the hospital OPD, the average OPD load in each OPD was calculated, and due weightage was given each specialization of the OPD. Data collection tools- Structured questionnaire was used to gather information from patients. Data Analysis- Ms Excel. Data Analysis and Results 1. The data / information contained in the questionnaire were first transferred to excel sheet which facilitated tabulation of data in desired form. 2.The collected data then grouped into tables according to rating (Excellent, Good, Average, Poor) and analyzed using various statistical tools like four-point scale. Data Tools- Structured Questionnaire The information was collected through a pre-designed, structured questionnaire which is already being used by Hospital as a feedback form for OPD. To study patient's satisfaction level, it was required to examine the following aspects: Limitations of the Study-1. As the study was to be completed in a short time, the time factor acted as a considerable limit. 2.The information provided by respondents may not be fully accurate due to unavoidable biases. 3. Results are subjective and perception driven but nonetheless are very helpful in showing the state of satisfaction with OPD services of the hospital. Recommendations- In lab, issuing of the reports needs to be improved. Housekeeping staff should be trained for the desired cleanliness of the hospital. Need to improve online appointment process to avoid inconvenience for the patients. Training should be given on regularly basis to the staff. Reduce long waiting time in hospital. Increase counter for billing and pharmacy to reduce overcrowding.

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## **Identification of Gaps of Support Services for NABL Accreditation in Nayati Medicity, Mathura**

Dr. Anjali maheshwari

The National Accreditation Board for Testing and Calibration Laboratories (NABL) is an autonomous body under the aegis of the Dept. of Science & Technology, Govt. of India, and is registered under the Societies Act. NABL, which was initially established with the objective to provide accreditation to testing & calibration laboratories, later on extended its services to the clinical laboratories in our country. Potential increase in business due to enhanced customer confidence and satisfaction. Savings in terms of time and money due to reduction or elimination of the need for re-testing of products. Better control of laboratory operations and feedback to laboratories as to whether they have sound Quality Assurance System and are technically competent. Increase of confidence in Testing / Calibration data and personnel performing work. What types of laboratories can seek accreditation? The

laboratories should be legally identifiable & appropriately registered. Aim: To achieve the NABL accreditation for Nayati Medicity, Mathura. Objective- 1) Identification of Gaps of support services for NABL accreditation in NAYATI MEDICITY, Mathura 2) Addressing the gaps seen in the system Methodology: The research methodology adopted for the study is “Observatory and Prospective.” This study was carried out in tertiary care 350 bedded hospital in Mathura City; Total 5 Departments were taken: Biomedical engineering, Human resource, Purchase and supply chain management, Information technology, Feedback department; There are different variables in all the 5 departments. RESULTS; Information technology has highest compliance 75% as they are following their policies and they have authorized rights for every employee. Initially the lowest compliance of Human resource and feedback department was 33%. Gaps were identified and closed then over all analysis was done which shows total compliance is 84% and partial compliance is 13%, whereas no compliance is 3%. CONCLUSION; Initially overall compliance was 45% and partial compliance 52%. There were lots of gaps and all the gaps were identified and minimized, later on after completion of documents and certificates the total compliance and partial compliance is 84% and 13% respectively.

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### **A study to evaluate the degree of caretaker satisfaction in the IPD of Department of Paediatric Cardiac Sciences, Sir Ganga Ram Hospital, New Delhi**

Lt Col Dheerendra Pant

Introduction: In a situation where the patient is unable to speak, or, vocalise coherently any discomfort leaves the health care professional completely focused on the outcome and the rapidity of the recovery. This is an emotive, apprehension laden opinion which invariably goes unnoticed and this is the Caretaker/ Parent. As cardiac surgery is a visibly invasive, lifesaving action it is judged by these Caretakers at a point in time where the neo-nate is at the visibly vulnerable stage. Manifestation of satisfaction or dissatisfaction is invariably a hidden verdict. However, it is a scale which vital for realize “non-health needs” and match expectations to needs in delivering superior health care. Objectives: Objective 1: To carry out caretaker satisfaction survey on non-medical parameters affecting the caretaker. Objective 2: To use gaps in the information to identify emotive issues generally suppressed at the caretaker end. Methods: A Cross Sectional, Observational Study was undertaken in the IPD of Department of Paediatric Cardiac Sciences, Sir Ganga Ram Hospital, New Delhi from Feb 18th to May 17th, 2019. Initially the information was extracted Secondary data base (paper trail) for a period from 01 May 2018 to 30 April 2019. A total of 4,666 complete patient databases could be extracted and moved on to the computer on excel sheet. From these 235 turned out to be IPD cases. Questionnaires were framed and the information extracted via telephonic conversation regarding caretaker satisfaction issues in the IPD. The sampling was Convenience Sampling and the method of collation was Weighted Average Method. Results: Total 235 patients were interviewed through questionnaire. Average patient satisfaction rate was very high. However, for each segment of the IPD there were some points of improvements which could be addressed. Overall the data showed that Caretakers expectations were well met. Conclusion: Caretaker satisfaction is the indispensable gauge that mirrors medical care superiority of health service.

**Key Words:** Caretaker, IPD, Satisfaction, Hospital, Department, Cardiac

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**Key Words:** Caretaker, OPD, Satisfaction, Hospital, Department, Cardiac

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## **Severity and Outcome of Patients admitted in Medical ICU in a tertiary care hospital in western UP India- A Retrospective Study**

Dr. Devika Thukral

Healthcare services in India are mainly in metros, whereas India is representative of mainly rural India by population. Healthcare services are neglected in rural area in terms of services and in research. Patients are often referred to metros. We do not have the figure of Case mix and severity of disease burden of the rural society. This study will help us in identifying the different disease spectrum in the community. The primary objective of the study is to evaluate the severity and outcome patients admitted in MICU. The study will explore; Case mix of Patients admitted in medical ICU, Average length of stay of patients admitted in ICU and Mode of payment. The Study population collected from patients from our neighboring areas and these patients where directly admitted in hospital through emergency and ward. The study is a retrospective study for which the data is collected of the patients admitted in medical ICU from 01-06-18 to 31-03-19 and study is undertaken with the guidance and active participation of ICU Team. As it is a retrospective non-randomized study, data will be collected from all the

adult patients admitted in medical ICU from 0-06-18 to 31-03-19. This study Includes, all adult patients admitted in MICU with in the age range i.e. 18-90yr, directly admitted patients from community and Referred patient from community hospital. The study has evaluated the severity measuring APACHE score within 24 hrs. of hospital admission, and outcome is measured as 30 days' mortality and follow up the discharge patient till 30th day after getting discharge from hospital. In last one year we treated all level of critical care cases. Total number of cases we treated is 518, it included age range of 18 to 90 years. 77(14%) patient died either in the hospital or died within 30 days after getting discharge from the hospital. Around 46% patients could complete the medical treatment and discharge as LAMA (Left against medical advice). Mean Apache 2 (Calculated from Two Month) is 16.43. With mean apache2 of 16, our mortality is 14%. However, there is significant no of patient who went lama, so it may not represent proper death rate.

**Keywords:** Medical ICU, Tertiary care hospital, APACHE 2 and LAMA

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### **Identification of Gaps in Quality of care provided in an Outsourced Dialysis Unit based on NABH standards**

Nazish Parveen Siddiqui

The Aim of this study is Identification of Gaps in Quality care provided in Outsourced Dialysis Unit based on NABH standards. Objectives are to identify Gaps in Quality care based on NABH standards in the department by using checklist, revision of departmental quality standards, capacity building of all staff by training, and to develop and disseminate capacity building material for different categories of staff. The study area for this is an outsourced dialysis department associated with multi-specialty hospital (DCDC-Kalra Hospital) from 18 Feb to 18 May 2019. It is a cross sectional observational study. Entire staff of Dialysis department is audited by using in-depth interviews (Open and Closed questionnaires). Major findings are related to various aspects is that the staff was lacking awareness about the general topics that can be asked during NABH audit as well that are of very much importance for technicians and housekeeping staff who are directly or indirectly associated with the patient care. Quality standards of department is not fully maintained as per the norms of NABH, which creates hurdles in providing quality care to the patient, smooth functioning of the department and staff unable to work efficiently and effectively. To increase the awareness level of staff regular training done and by regular monitoring of department, quality standards brought up-to the mark to face NABH Pre entry level. It has been recommended to provide regular training to all staff and keep checks and control of quality standards of the department by continuous monitoring according to set checklist and take CAPA immediately as and when required which will improve standards of patient care and safety.

**Key Words:** NABH, CAPA, Quality care, Quality standards, Continuous monitoring

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### **Quality of Life of the Hemodialysis Patients**

Bibhudatta Satapathy

Last stage renal failure is an infection that applies an extraordinary negative effect on patients' wellbeing related personal satisfaction for the most part because of the went with impedance in practically all areas of patients everyday live. Haemodialysis comprises a methodology for patients that requires visit dialysis centre visits,



essentially two/three times every week, subsequently inferring significant changes in the ordinary method for patients' living. Evaluation of patients related personal satisfaction is result of the sickness just as a significant research instrument in surveying the adequacy of remedial mediation, patients' survival and hospitalizations. The point of the present examination was to investigate the personal satisfaction of Haemodialysis patients. Objective: General Objective: is to evaluate Quality of Life of the Hemodialysis Patients: Specific Objectives: To evaluate QOL of hemodialysis patients; To check patient comprehension regarding everyday lifestyle Methodology Study area: DCDC KIDNEY CARE Study design: Cross sectional study design Sampling method: Convenience sampling Sample size: 158 sample, out of these respondent sample 100. Data Collection Tools and Technique: Checklist, observation, interviews Data source: Primary data was collected from dialysis technician, hospital administrators and patients of the hospitals. Result: The results of the present study showed that the overall quality of life was correlated with age. A possible explanation is that patients of advanced age usually experience physical and cognitive impairment or may have lower expectations compared with younger individuals. Also, the results of the present study showed that participants of higher education had better quality of life, possibly because education allows deep understanding of the disease and compliance to the therapeutic regimen. Another alternative explanation is that higher education may reflect higher income and consequently ability to afford treatment. Other relevant studies have shown positive relationship between the level of education and quality of life. In addition, results demonstrated correlation between quality of life and patient information about their health problem. Interestingly, patients can not handle the disease adequately, if are not taught the basic principles of the treatment including dietary limitations, discipline, acceptance of machine and other necessary elements. Low quality of life had patients not following the instructions. At least one-half of haemodialysis patients are likely to be noncompliant. Health professionals should develop individualized interventions to enhance patient's adherence to the prescribed treatment regimen. Higher quality of life had patients not facing difficulties with family or social environment and those not concealing the health problem of the community. Conclusion As dialysis is a life time supportive treatment, patients need to properly aware about maintaining quality life and maintain hygiene to protect them selfs from various infections like HIV, Hepatyitis. The present study showed that sociodemographic and clinical variables are correlated to quality of life in haemodialysis patients. Deeper understanding of the factors affecting the quality of life in haemodialysis patients is useful to health professionals when developing individualized interventions based on their personal needs.

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## **Study to analyse the discharge process of intensive care unit patients**

Dr. Vijeta Arora

ICU is the most important and critical area of a hospital, Discharge process of ICU patients is more tedious process as involved with serious patients and utilization of expensive resources to produce better outcomes. The present study aims to find out the length of stay of ICU patients and exploring the reasons behind delayed discharge. Objectives of the study is to study the discharge process of ICU patients and criteria followed in transition from ICU to ward and analysis of the reasons for longer stay in ICU. The Present Study was done in Navin hospital in ICU department, 50 patients were selected through convenience sampling and descriptive study design adopted to understand discharge process from ICU by the collection of data in the form of date of admission in ICU, reasons for admission, date of discharge to ward and from hospital, number of discharge including deaths and average length of stay calculated. Tools used to facilitate the process were observation, structured questionnaire for ICU staff to know their awareness regarding the discharge process of ICU patients, checklist follow up analysed while transitions of patients from ICU to wards. Average length of stay for ICU patients was found to be 2.8 days and ALOS for hospital was 4 days. Out of 50 patients 20 patients directly got

discharged from ICU and 30 discharged after transferred to ward. By considering ALOS, reasons for delays in the discharge process sought in two groups controllable and uncontrollable. Controllable reasons for delays were non communication (prior intimation of discharge among ICU staff, accounts dept., billing etc.), wards unavailability (improper process flow), TPA claims taken longer time to clear the process, financial problems of patients to pay the bills and Uncontrollable reasons were medical condition of patients. Process mapping redesign is a useful strategy to improve the course of hospital discharge

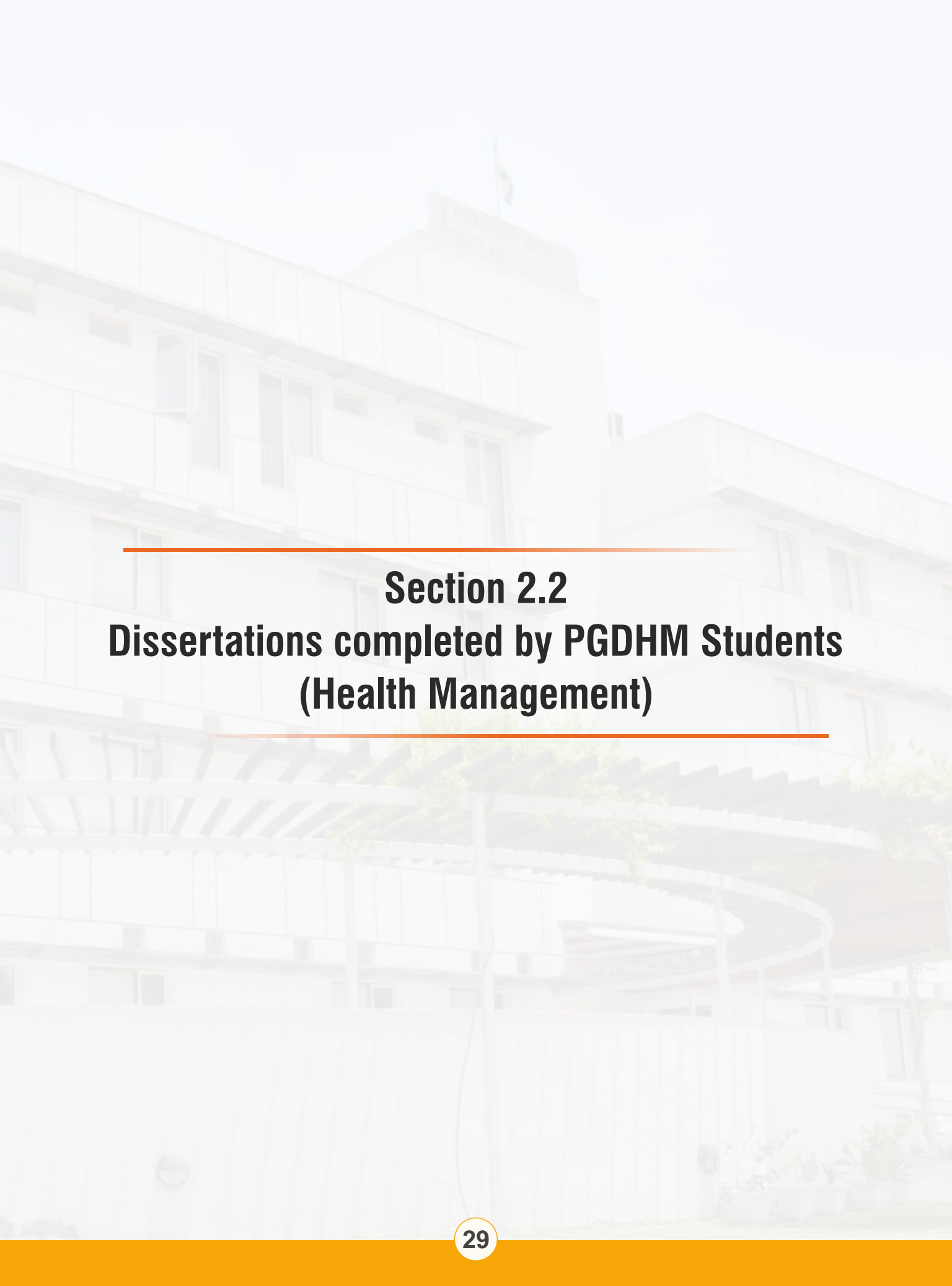
**Keywords:** ICU, Average Length of stay, Discharge process.

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## **Assessment of Knowledge and Practice of Biomedical Waste Management Amongst Nursing and Housekeeping Staff**

Rashmi

Hospitals have various departments to treat various illnesses and in treating these patients and providing them with quality care and fast healing hospitals generate lots of waste. The waste generated in hospitals can be divided into general and biomedical waste. The biomedical waste is future classified into Non Hazardous 70%-90% and Hazardous (Infectious 15%-18%, other Hazardous 5%-7%). If these waste products are not disposed in the right way, it will infect the internal environment of hospital as well as the surrounding environment. Thus the biomedical waste management rule has been generated to that is a basic standard procedure in the biomedical waste management. Objective – To assess the knowledge and practice of biomedical waste management amongst the nursing and housekeeping staff at Avadh Hospital Lucknow. Methodology- Study Design: interventional study, Analysis of knowledge and practice biomedical waste management is done amongst staff (nursing and housekeeping) is done. Location Avadh Hospital Lucknow, Duration: 01.03.2019 to 15.04.2019 (45 days), Sample size: 100 (nursing staff- 60 and housekeeping- 40), Sampling technique: convenience, Data collection: questionnaire and observation checklist, Analysis: Ms excel, Deliverables from The Study- Questionnaire Analysis- (Pre Training), Training- 40% of nursing staff has got formal training in comparison to Housekeeping which is 5%. Knowledge BMW- 40 % of nursing staff and 5% of housekeeping has knowledge of BMW process. Colour Code- 10% OF Nursing and 2% housekeeping staff remembers bin colour code. Knowledge of Segregation-10% nursing and less than 1% Housekeeping staff has knowledge of segregation. Personal Safety – 90% of nursing and 2 % of Housekeeping staff has knowledge of personal safety like hand washing, use of Ppe. Pre Training Audit Analysis – to analysis the gap in process flow and availability of resources. Only ICU/HDU reviled 76% of compliance and rest all other department had only 35% - 40% compliance on pre auditing. Gap Analysis: Lack of training to the staff. No proper committee to manage the process. Availability of resources. Lack of monitoring at each level. Lack of team work. Recommendation – Continuous and regular training of all staff especially (nursing and Housekeeping). Forming BMW committee to monitor and control the process. Regular auditing of the departments for all the process and resources, weekly initially and then monthly. Communicating reports of the audit to the floor staff. Rewarding the department members to encourage team spirit. Findings - Post Training Questionnaire Analysis, Training – 80% of both nursing and housekeeping have got training. Knowledge of BMW – 75% of nursing and 65% of housekeeping staff has knowledge of BMW. Colour Codes- 76% of nursing and 66% of housekeeping knows about colour coded dustbins. Personnel Saftey- 96% of nursing and 86% housekeeping staff was aware of importance and use of PPE. Post Training Audit Analysis - On implementing recommendation the results are ICU/HDU- shows increase from 76% to 83%. Other departments and floors- before it was from 35%-45% and now from 45% to 76%. Findings –From the above study it was found that regular training, constant monitoring and rewarding staff encourage and improves knowledge and practice of biomedical waste handling.



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## **Section 2.2**

# **Dissertations completed by PGDHM Students (Health Management)**

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## **A Study of the Process of Empanelment of Private Hospitals under Ayushman Bharat Scheme in Distt Navsari, Gujrat**

Shashank Malviya

The ambitious initiative by the Government of India called the Pradhan Mantri Rashtriya Swasthya Suraksha Mission (PMRSSM) or the Ayushman Bharat Scheme covers the health care costs of up to five lakh rupees for 10 crore households, thereby protecting them from impoverishment due to health-related expenses, and allows them to choose between public and private providers for any hospitalisation. The process of empanelment of various private hospitals thus assumes great significance as not only will it make the availability of quality and affordable care to the poor faster, but also ensure transparency in the whole system. The Objective/Key Research Questions are To study the Process of Empanelment of Private Hospitals under Ayushman Bharat Scheme, To assess the level of satisfaction with the empanelment process among the Private Hospitals of Navsari Distt. Study Design was Cross Sectional Descriptive Study. Study Area was Navsari District, Gujarat. The Study Duration was 01 Feb - 30 April 2019 Inclusion Criteria was all willing to participate private hospitals of Navsari Distt. Exclusion Criteria was hospitals who do not wish to be empaneled in Ayushman Bharat. Study Tool was Systematic Review of secondary data. Findings of the study was Empanelment process of scheme has been well received by most hospitals, Majority, however, feel that the process is complex and can be simplified. The software need to be upgraded to support all exceptions, Compulsory fields need to be reduced to make the process simpler & To make the process faster, DEC must visit the hospitals at the earliest.

**Keywords:** Ayushman Bharat, Empanelment, DEC

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## **A research study on self-care interventions for sexual and reproductive health and HIV prevention among vulnerable and marginalized communities in India**

Komal Mittal

This study examined the self-care practices, values and preferences with regard to sexual and reproductive health and rights and HIV prevention among marginalized and vulnerable communities in India. Sexual and reproductive health of vulnerable and marginalized communities is influenced by knowledge, attitude and practices. The objective of this qualitative study was to understand how these communities use self-care methods. The study focused on the knowledge and interventions they required, and how they use self-care products. In-depth interviews of key informants and leaders and focus-group discussions were conducted with men who have sex with men (MSM), long distance truck drivers and commercial sex workers (CSWs) in Delhi, India to understand their self-care practices. The study showed that there were gender differences in sexual and reproductive health practices, sexual behaviors, barriers and opportunities in all the three groups. These vulnerable groups faced violation of their basic reproductive rights. Self-care is important for vulnerable and marginalized communities as they are unable to access formal healthcare. Recent years have witnessed significant increase in self-care which has been propelled by the increasing availability and use of social media. The area of self-care, therefore, continues to gain importance as we attempt to achieve Universal Health Coverage (UHC) to attain the triple billion goals.

## **An Impact evaluation of a Lifestyle management program in a Multinational Corporation setting- A quasi experimental study**

Dr Laxmi Verma

India had shown an increase in the prevalence of risk factors contributing for chronic diseases. As prevalence of NCDs is increasing, Lifestyle programs like health coaching targeting the vulnerable group of the population is the need of the hour. Health coaching enables to build a partnership with coach, shared decision making, engagement, makes one in charge of their own health. Objective: To evaluate the impact of a lifestyle intervention program (health coaching) on Clinical and behaviors outcomes of lifestyle disease among the corporate employees. Methodology: A one group pre-post quasi experimental study was conducted among 261 employees of a multinational corporate setting at five locations (Delhi, Bangalore, Chennai, Kolkata, and Ahmedabad) from January, 2019 to May, 2019. Lifestyle intervention- Health coaching (10 sessions in 5 months) was given to the study participants. Microsoft excel and SPSS 16.0 was used for data analysis. Results: Of 380 consented patients, 261 completed the 10 coaching sessions; 37.5% were diabetic, 46.5% were hypertensive and 16.1% were both. Clinical outcome improved significantly as HbA1c decreased from  $6.96 \pm 1.63$  to  $6.37 \pm 1.18$  ( $P=0.00$ ), LDL decreased from  $142.6 \pm 25.7$  to  $130.7 \pm 24.8$  ( $p=0.00$ ), HDL improved from  $39.3 \pm 8.47$  to  $40.9 \pm 11.4$  ( $p=0.01$ ), Total cholesterol reduced from  $213.1 \pm 39.1$  to  $203.4 \pm 36.3$  ( $0.00$ ) and systolic BP reduced from  $146.3 \pm 18$  to  $140.3 \pm 19$  ( $0.00$ ) over the 5-month. Although for BMI and diastolic BP results were insignificant. All Behavioral measures showed significant improvement. Conclusion: In our study, it is evident that health coaching has significantly improved clinical and behavioral outcome in vulnerable population. It also led to significant improvement in self-reported behaviors of physical activity and healthy eating. Similar trends were also observed with self-efficacy measures. Key words: Lifestyle, management, Health coaching, Impact, Risk factors.

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## **Assessment of quality of essential care during childbirth at government facilities in Araria, Bihar**

Dr. Ruby Gloria Barla

Provisioning of quality care during labour and childbirth can reduce maternal and newborn deaths considerably. The objective of the study was to evaluate the quality of essential and improved maternal and new born care provided during institutional deliveries at government facilities in Araria, Bihar. This was an observational study, which was conducted in the labour room of nine government facilities of nine block of Araria district of Bihar between February - April 2019. Sample size of 225 deliveries were taken for clinical observation in nine government facilities of Araria district of Bihar. Data was collected on healthcare services for two major domains, namely, maternal and new born under ten headings (five for maternal and five for new born care). We then aggregated the headings into 44 care practices, i.e., 23 obstetrics and 11 neonatal. Check points were given for these practices and scored - 2 if fully covering the check points, 1 if partially covering the check points and 0 if no check points have been covered. Most of the practices had multiple checkpoints and some had only observing the case. Finally, summary scores for obstetrics and neonatal essential care based on 44 clinical care practices were calculated as the percentage of quality of care during childbirth. Overall poor quality of care- essential MNH care during childbirth was found to be lacking across our entire sample of facilities although Sub-divisional hospital



and one referral hospital the quality of care was quite better than the other facilities. Lack of skills in Basic emergency obstetric and newborn care, Poor infection control practices, Identification and management of complication is poor. Lack of prioritizing care during initial assessment of complication, no post-natal check-ups in most of the facilities, Lack of skills for new born resuscitation in birth asphyxia, Weak new born identification and essential new born care still needs improvement, Lack of counselling sessions by medical staff and lack of informed consent. Although many clinical practices were quite good like EBF (early initiation of breastfeeding), KMC (kangaroo mother care), STSC (skin to skin care) and AMTSL (active management of third stage of labour).

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## **Assessment of Cardiac Care Insurance Market**

Vanshika

Introduction- Apollo Munich Health (AMHI) Insurance operates as a standalone health insurer and offers innovative Health, Accident and Travel insurance solutions on a PAN India basis. It has unique insurance plans such as Energy for Diabetic patients, cancer-specific health insurance plan; named iCan and is in the process of setting up a sustainable cardiac care insurance plan. Objectives – (1) To know the level of satisfaction of customers towards “Apollo Munich Health Insurance Services”. (2) To assess the current health status of cardiac patients (Lifestyle Management-Exercise regimen, alcohol intake, eating habits etc.) who have already taken claims from Apollo Munich Health Insurance. (3) To assess the competition scenario: Key Players in cardiac care Insurance. Methods- Those who have taken claims for Ischemic heart diseases from AMHI in the year 2018 were telephonically interviewed. A total of 258 calls were made and completed responses recorded from 71 customers. A total of 38 respondents either gave very few responses or refused to participate in the telephonic survey. Customers of more than 65 years of age were excluded from the sample. Results- Out of all the customers 95% of them rated their claim experience as excellent and 61% of them rated the insurance products as five. 86% of the customers are involved in physical activity and 66% are under normal weight as per their BMI. Only 7% of the customers consume alcohol occasionally and 3 % of them consume pan masala in very limited amounts. Conclusion- Customers are quite satisfied with AMHI products and services. And the lifestyle management of cardiac patients also suggests that they can be offered insurance cover and therefore a cardiac care insurance product can be designed.

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## **Service Readiness and Utilization of Reproductive and Child Health Services at Public Health Center of Ukhimath, District Rudraprayag, Uttarakhand**

Aman Negi

Motherhood is the most important phase of a woman’s life; it is essential that all pregnant women across the country have access to high-quality obstetric care. This descriptive study is based on Mix Method Approach and utilises Facility Survey through structured Questionnaires/Checklist for assessment (IPHS Guideline) by collecting responses of Doctors/ANMs at PHC, four SADs and eight Sub-centers, interviews/FGDs/ exit interviews with ten Doctors/Pharmacists, 15 ANMs/ ASHAs and 28 community members (Pregnant women & mothers with children < age 2 years). This allowed identification of existing gaps in health care services provided at the PHC and Sub-

centers, coverage of RCH services, extent of ANMs and ASHAs involvement, barriers and challenges faced by them, use of technology and provide recommendations that address these gaps. The study found Inadequacy of human resource and infrastructure, non-availability of residential quarters, transport and communication facilities for the ANMs. At Sub-centers, only 87% of ANMs and 25% of MHW were posted. Only 14 % of the Sub-centers had a labour room. The study highlighted that ASHAs/ANMs are main support system for provision of RCH services and have done a commendable job to provide ANC and PNC within available resources. Youth Foundation, Uttarakhand was effectively using skype to get people treated at Hospitals in Delhi. The study recommends that physical and human infrastructure at PHCs and Sub-centers should be upgraded as per IPHS norms. Posting of Gynecologist at the PHC/CHC is a priority. Portable Ultrasounds need to be made available. Dormitory facilities need to be created at sub-centers for expectant mothers from inaccessible areas for safe and institutionalized deliveries. Facility for Telemedicine needs to be established in the region.

**Keywords:** PHC, Sub-centers, SADs, ANC, Maternal health

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### **Assessment of mortality among identified weak Newborn at Public Health facilities in Shiekhpora, Bihar**

Priyanshu Verma

Bihar is amongst the third highest populated state in India. With increasing population, healthcare needs are also increasing with same pace. Neonatal Mortality Rate in Bihar has decreased to 28 per 1000 live births and is major contributor to IMR & U5MR. Three major contributor to neonatal mortality are Asphyxia, Sepsis & Complication of Preterm birth. In which preterm birth children are most vulnerable to death from infection and are more at risk of death from respiratory distress syndrome and metabolic complications than mature children. A cross sectional descriptive study was conducted in Sheikhpura district of Bihar. Secondary data was collected from line list of Weak Newborn from WNB registers of all the government maternity facilities between August 2018 to January 2019 and Primary data is collected by interviewing the mothers of dead Weak Newborn. The data collection technique was survey-based using Questionnaire and collected data was analyzed using Microsoft Office Excel. Secondary Data Findings shows that Weak New born identification at the facility was poor & around five percent of total deliveries were identified as Weak Newborn. Primary Data Findings show that most of the deaths occurs at the early neonatal period within first week of birth. Major causes of deaths identified were Weak Newborn, Asphyxia & Sepsis. Around half of the cases were not referred to the SNCU and more than half of the mothers were pregnant at the time of interview while seventy percent of mothers were illiterate. To improve the Weak Newborn identification, Capacity building of Medical staff is necessary, for quality of care during childbirth facility should focus on essential weak newborn care. Counselling must be given to the mother and family regarding weak new born care.

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### **A Research study on KAP (Knowledge, Attitude and Practice) Analysis of “Plastic Food contact materials” among Health professionals and non-health professionals**

Drishya Pathak

Plastic is widely used in daily life especially as food and drink containers. But due to external factors and the

properties of food stored in a plastic container some chemicals are known to release. These chemicals have evidence showing adverse effect on the endocrine system of the human body. The current study aims to understand the KAP (Knowledge, Attitude and Practice) of "Plastic Food Contact Materials" among Health professionals and Non-Health professionals in Delhi NCR, India. The study comprised of a qualitative design with the help of mixed tool to collect the responses. In-depth interviews, key informants' interviews and focused group discussions were conducted for better understanding. The inclusion criteria of the study participants were based on their educational background and number of years of experience in the field. During the study it was observed that the knowledge of the interviewed professionals regarding the plastic food contact materials is very limited. Mostly the responses were that they are unaware of the difference in the type of plastic material. (36%) health professionals and (21%) non-health professionals despite of having knowledge of leaching caused by the plastic food contact material were using them to contain and carry food items. Dissonance in the attitude of the professionals was evident. Despite of having the knowledge of the EDCs released from the plastic food contact materials they were still using them due to the lack of awareness about the adverse effects these chemicals can cause and also the types of plastic available in the market to store food.

**Key Words:** Plastic packaging, Plastic food contact material, Endocrine disrupting chemicals, chemical migration, leaching.

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## **Socio-Economic differentials in contraceptive discontinuation in aspirational districts of India: Re-analysis of NFHS 4 data**

Dr. Jaswinder Kaur

The family planning programs of many developing countries haven't yet met their goals in spite of couples and individuals having the basic right to make decisions regarding the number of their children and the spacing between them along with right to be informed, educated and have the means to do so. Continuation of contraceptive methods is viewed as a mirror for the quality of family planning services. The major categories for discontinuation can be method related, method failure, reduced need and non-method-related reasons. In this study, we focus on 115 Aspirational districts identified by the NITI Aayog which are grouped as districts chosen by Ministry of Home affairs (35 districts), Central Ministries of GoI (50 districts) and NITI Aayog (30 districts). Objective is to examine the socio-economic and demographic differentials in discontinuation of spacing methods in aspirational districts in India, and understand the reasons for discontinuation. Analysis of secondary data (raw data from NFHS 4) was done using SPSS syntax. The reasons for discontinuation of contraceptives among the users of spacing method by socio economic groups will be examined and compared among three groups in Aspirational districts of India. With increase in age, educational attainment and wealth quintile, the usage and discontinuation of contraceptives increased. In terms of residence, discontinuation was more in urban than in rural areas. Scheduled Caste, schedule Tribe and other backwards class had very less usage of contraceptives and discontinuation rates. Major reason for discontinuation were need to become pregnant, side effects/ health concerns and menstrual problems for IUD, husband disapproved (for male condom), need for more effective method. Recommendations are to improve the quality of family planning and counselling services along with the monitoring the quality of contraceptives provided.

**Keywords:** Contraceptive discontinuation, Aspirational districts, socio economic differentials, NFHS 4

## **Review and Restructuring of Modules of First Year and Second Year (Health Stream) of Post Graduate Diploma in Health and Hospital Management at IIHMR, New Delhi**

Col. Sandip Tripathi

The healthcare manager is a key professional, who synergizes management skills with cost effective and qualitatively supreme health care delivery. This is feasible, if only his educational syllabus is up-to-date with the ever changing health care demands of the population and its complexities. Towards this end, the syllabus of PGDHM in Hospital and Health Management (first year and second year Health Management stream only) being imparted by IIHMR, New Delhi, is required to be reviewed to suggest addition/deletion of modules; identify overlapping topics; suggest addition and deletion of topics and suggest appropriate sequencing of modules. The review involved a web search for institutes offering a course on Public Health Management and comparison of their syllabus with that of IIHMR; interaction with placement agencies to understand the industry's requirements; interaction with students to ascertain their aspirations and interaction with the academia to obtain their views. Based on their inputs, an analysis of the curriculum at IIHMR was carried out. This resulted in identification of certain modules whose topics were being covered or could be covered in other modules. These along with ungraded modules which made no contribution to the growth of the students and topics which were found to be overlapping, have been recommended to be deleted. At the same time modules and topics which are in keeping with the global trend and emerging health care requirements, as well as, extensive use of pedagogical tools, which would enable the graduate managers in the execution of their task, have been recommended to be added. A re-sequenced schedule has also been recommended for better flow and ease of comprehension by the students. This review strives to ensure an updated syllabus through which IIHMR, New Delhi prepares enabled health care leaders. who can make a difference in the field.

**Keywords:** Healthcare, managers, up-to-date syllabus, module/topic deletion/addition, re-sequenced schedule

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## **Health Status and Awareness Among the People of Thano Ramnagar Danda Village and Adjoining Villages of Dehradun District, Uttarakhand**

Col Ajay Anand Bourai

Uttarakhand is the 27th state of the Republic of India and was carved out of Uttar Pradesh on 9th November 2000. Uttarakhand is one of the states of India having total area of 53,483 sq.km. Currently density per sq.km. in Uttarakhand is 189 per sq.km. which stand less than National average density of India, currently being at 382. A study on Health status and awareness among the people of Thano Ramnagar danda village and adjoining villages of Dehradun district, Uttarakhand has been carried out during march 2019 to May 2019. The study area has been restricted to few villages in Thano complex. A comparative assessment has been done based on a study carried out in year 1992-94 for a project evaluation of University of Calgary Canada. The study has been carried out to study Awareness level and Health status in the community and changes over a period of time of various interventions by Govt and community itself in rural public health sector. The project is a cross sectional study aimed at checking the Status and awareness about health issues amongst community. Researcher has used convenience sampling method to collect the primary data, with the help of structured questionnaire. The results of study show there is a mark of change in the health status and Awareness level of people.

**Key words:** Health, Awareness, community, Population, Density, change

## **A Study of the awareness of Janani Suraksha Yojana among recently delivered pregnant women in Morbi District of Gujarat**

Chanda Kumari

**Introduction:** The Janani Suraksha Yojana has been a safe motherhood intervention and modified alternative of the National Maternity Benefit Scheme (NMBS). It was launched on 12th April 2005, by the Honorable Prime Minister. This Yojana has been implemented in all states and UTs with special focus on low performing states. Under the National Rural Health Mission (NRHM) programme with the main objective and vision being to reduce maternal, neo-natal mortality by promotion of institutional delivery among the poor pregnant women of rural and urban areas. **OBJECTIVE:** To assess the understanding about Janani Suraksha Yojana among recently delivered women (2018) in the five talukas of Morbi district Gujarat: Morbi, Maliya, Wankaner, Halvad and Tankara. **Materials and Methods:** A cross sectional study conducted in rural and urban area of Morbi district. Out of 5 talukas in the districts, One PHC from each talukas was selected randomly. Two villages from each selected PHC were chosen randomly. And per village 10 beneficiaries were taken randomly as study participant. If less than 10 JSY beneficiaries were found in the village the village which was nearby was taken for study. Thus total of 100 beneficiaries were selected for the study purpose. **RESULT:** Majority of the JSY beneficiaries (61%) were in the age group of 20-25 and Awareness regarding JSY is 100 percent among the beneficiaries. ASHA worker (81%) was the main source of information. Ninety-three percent beneficiaries registered their name during the 1st trimester, Ninety seven percent beneficiaries have three or more than 3 Antenatal check-up, 86 percent beneficiaries have the consumption of more than 180 IFA tablets and if we talking about the PNC visits 89 percent have 3 Post Natal visit, this report shows that 89 percent of beneficiaries have practice of exclusive breastfeeding. They didn't give their child other than mother milk. Early initiation of breastfeeding is here 64 percent. 90 percent of the beneficiaries used their money for purchasing nutrients. **CONCLUSION:** This study shows that the awareness regarding the JSY scheme, importance of early registration, number of ANC's, having adequate amount of IFA tablets during pregnancy and after delivery postnatal visits among the beneficiaries of this area is better.

**Keywords:** Janani Suraksha Yojana, beneficiaries, institutional delivery, antenatal check-up, postnatal visit, early registration.

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## **An assessment of Congenital Heart Defects diagnosed in OPD and mortality rates in surgical interventions carried out in Department of Paediatric Cardiac Sciences of a Tertiary Care Hospital: A cross sectional observational study**

Lt Col Shree Kumar Nair

**Objectives:** To study the OPD profile, mortality rate for surgical interventions and compare the mortality rate for surgical interventions for the Department of Paediatric Cardiac Sciences of a Tertiary Care Hospital. **Study Area:** Department of Paediatric Cardiac Sciences, Sir Ganga Ram Hospital, New Delhi. **Methodology:** A secondary data based cross sectional study utilising patient case sheets and select data from Hospital Information Management System. **Study period** is from 01 May 2018 to 30 April 2019. **Result/Finding:** Study subjects were 3083 cases who presented themselves in the OPD and 235 patients who underwent surgery. 231 cases (7.5%) were admitted for either diagnostic or surgical intervention and out of them 141 underwent surgical intervention, depicting a hospital prevalence of 46 per 1000 OPD cases. 235 patients (males -161, females -74) underwent 257 surgical



interventions. The higher male-to-female ratio in IPD denotes male preponderance. Infants aged between 29 days to 365 days from birth constituted the majority of the cases at 41.7% and neonates constituted another 8.1% of the total surgery cases. The most common diagnosed CHD was VSD (26.8%) followed by Tetralogy of Fallot (19.6%). 14 males and 8 females expired after undergoing surgical intervention, indicating an overall mortality rate of 9.4%. A binomial logistic regression brought out that there is no statistically significant association between age and weight at the time of surgery and gender vis-a-vis mortality.

Conclusion: Male preponderance exists in cases diagnosed with CHD. The overall in hospital mortality rate was 9.4%, which is on the higher side.

**Keywords:** congenital heart disease, VSD, Tetralogy of Fallot, male preponderance, in hospital mortality

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## **A Study on Optimizing Cardiac Catheterization Laboratory Utilization**

Neha Yadav

Background: Cardiac catheterization labs (Cath lab) represent a significant capital investment for many hospitals. Realizing a return on this investment is increasingly challenging, given the introduction of advanced technologies and limitations in reimbursement. To meet the challenges and maintain fiscal health, hospitals are pursuing strategies to improve throughout, maximize equipment utilization and increase efficiency. Inefficient use of this limited resource increases costs and can compromise patient care. Objective: To study the workload and trends of Cath lab since inception. To study Cath lab time utilization, identify bottlenecks and recommend optimum utilization. Methodology: A two phase descriptive - observational study was conducted at Cath lab, Park hospital, Gurgaon. The data collection technique was based on review of records and observation. Analysis of the data collected was perused so as to obtain an overview of workload and utilization of Cath lab. Secondary research-Phase I -In the first phase, Cath lab records related to work load, process flow, and policies were methodically studied with following specific objectives. 1. To identify workload of Cath lab over the years since inception. 2. To assess patient profile in terms of elective/emergency, route of catheterization, mode of payment. 3. To study overall process flow of Cath lab patients and different phases involved in Cath Lab from Patient In to Patient. Primary research Phase II-In the second phase, Time motion study was done in Cath lab for the study period (Cath lab Utilization Study) with following specific objectives. 1. To analyze patient turnaround time in Cath lab. 2. To assess the functional bottlenecks in optimum utilization of Cath lab. 3. To evaluate Cath lab in terms of quality assurance i.e. patient safety, employee safety, documentation. 4. To propose key metrics for Cath lab. Results: Major underutilization of Cathlab was observed at studied hospital in terms of both elective and emergency time allotted to Cathlab in hospital. The bottlenecks for efficient utilization were unnoticed due to absence of key metrics for performance evaluation of Cathlab. There was a significant gap with respect to patient safety and radiation safety protocols. Conclusion: -Under scheduling, decreased number of cases, late starts and delays between cases are the main factors that account for inefficient utilization of Cath Lab. Accurate records, weekly analysis of recorded data, better financial counseling before procedure, and strict adherence to and enforcement of approved policies and procedures are essential ingredients for an efficient operation of Cath Lab. The correction of above mentioned factors would increase the available operating time in Cath Lab.

**Keywords:** Cardiac catheterization Lab, Patient turnaround time, Utilization, key metrics.

## **Sustainability of Quality Standards of Kayakalp Awardee Public Health Facilities of the year 2016-2017**

Palak badhwar

Objective(s): 1) To examine whether the Kayakalp Awardee facilities of the year 2016-2017 in five zones of India are sustaining quality standards 2) To identify the gaps in the non-sustaining Kayakalp Awardee District Hospitals of the year 2016-2017 Methodology: This was a descriptive, cross-sectional study for all the Kayakalp Awardee public health facilities of the year 2016-17 of eleven states of India with a sample size of 874 public health facilities (inclusive of District hospitals, Sub-district hospitals, Community health centre's, Primary health centre's, Urban primary health centre's). The study was conducted within a time period of three months from February to April 2019, using secondary data collected at National Health Resource Centre. The data analysis was carried out in Microsoft Excel using descriptive statistics and quality tools. Data of Kayakalp Awardee facilities were analyzed on these six thematic areas: Hospital/Facility Upkeep, Sanitation and Hygiene, Waste Management, Infection Control, Support Services, Hygiene Promotion. Findings: Even though the number of Awardee facilities is increasing by each year, the overall sustenance of the quality standards under Kayakalp Programme stands at 55% only with the North-East Zone at 84% and South Zone being only 6%. State-specific results showed Mizoram and Assam to be performing tremendously well with 87% and 79% sustenance of their quality standards even after two years. Further detailed analysis of the non-sustaining district hospitals revealed that 805 of the gaps were due to four thematic areas (Sanitation and Hygiene, Waste Management, Support Services, Hospital Upkeep). Furthermore, the specific causes were found to exist in 25 quality standards wherein these public health facilities ceased to perform. Conclusion: Within a short span of implementation Kayakalp Programme has definitely escalated the journey of public health facilities towards attainment of "Quality". It proves to be a stepping stone towards quality certification of these facilities as well. But successful quality programmes depend more on behavioural science than on technical solutions. So, to achieve sustainable change, quality improvement initiatives must become the new way of working rather than something added on to routine clinical care.

**Keywords:** Kayakalp, Sustainability, Quality Standards

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## **Assessment of Disaster Preparedness in Government Health Facilities Measured by Functional Capacity: A Comparison between Udaipur and Banswara Districts (Rajasthan)**

Fajr Rafiq Shah

Aim of the study was to assess and compare the functional safety and capacity status in Government health facilities in Udaipur and Banswara Districts (Rajasthan) in response to disasters and provide strategies to increase preparedness against emergencies. Objectives of this study was to analyze the aspects from the perspective of a health administrator and assess and compare the functional safety and capacity status in government health facilities in Udaipur and Banswara in response to disasters and to identify potential capabilities and recommend safety strategies for health care facilities for making their response effective and efficient in times of emergencies. In Methodology, the functional capacity was evaluated and calculated using the Hospital Safety Index (HSI) from the World Health Organization Checklist duly modified. The sum of the elements for each sub-module led to a total sum, in turn, categorizing the functional capacity into one of three categories: functional (High), at risk (Average) or, inadequate (Low). The study was carried-out in Government Health Facilities (District Hospital and Community Health Centre(CHC)) at Udaipur and Banswara districts respectively in Rajasthan. It is Cross Sectional Descriptive

study. The study period was from 01 Feb to 30 Apr 2019 in three phases. Purposive convenience sampling was used for the study. For data collection, WHO Hospital Safety Index checklist duly modified has been used. But for the purpose of this study, only the questions/elements related to functional safety in the checklist have been assessed. Major findings/results from the study suggests that post the identification of weaknesses and shortcomings in health care facility, disaster preparedness efforts need to be put to make them more responsive and effective in times of emergencies. Since largest number of patients receive their regular health care at government health care facilities, there is an urgent need to validate their disaster preparedness levels based on their functional capacity using WHO guidelines suitably modified. To conclude the Hospital Safety Index can be suitably modified and used for comparing the government health care facilities and post disaster risk reduction and rectification measures they are likely to function effectively during disasters.

**Keywords:** Functional Capacity, disaster risk reduction, hospital safety index, primary health care, interruption of services.

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## **Assessing Extent, Utilization and Experience of 108 Ambulance Services in Haridwar District, Uttarakhand**

Sharpi Sharma

Objectives of this study was to analyze to assess extent, utilization and experience of 108 Ambulance Services by pregnant women who have experienced medical emergency between March 2015 to March 2018 in Haridwar District, and to assess the factors determining and affecting utilization of 108 Ambulance Services. In methodology, the study was carried-out in the District Female Hospital, Haridwar, Uttarakhand from 01 Feb to 30 Apr 2019. It is a descriptive study. A sample size of 93 Respondents (pregnant women/attendant/family member) were studied out of which 60 people responded. 15 (05 each) respondents comprising ambulance drivers, EMT and call centre operators were studied. Purposive sampling technique was used. For study tool semi structured questionnaire, telephonic and face to face interview was carried out. For analysis, all the data was checked and entered in SPSS (Statistical Package for the Social Sciences) version 22. After entering data descriptive statistic (frequency) tool was applied to find out the frequency of responses. Major findings/results from the study suggests that the patient/attendant/family member experience was mostly fair and poor due to incomplete advice given by ambulance call centre about what to do till ambulance arrives, Ambulance takes more than an hour to reach the site which is quite late in case of emergency situation. There is lack of adequate ambulances in Haridwar district. Drivers and EMTs are not performing their job completely like carrying patients to ambulance, providing medical aid and stabilizing condition of patient etc. There are many factors which affects ambulance service, few of them are EMT and driver's performance, trips and distance travelled by ambulance, shortage of ambulance. Due to shortage of ambulance, there is burden on the ambulance driver as they have to take more than 4 trips per day and travel more than 120 km per day, thus giving rise to the need for more ambulances to serve the patients.

To conclude main issue of 108 ambulance service is shortage of ambulance due to which many times patients do not receive the care that they expect during emergency, which leads to lot of suffering, particularly to pregnant mothers and may lead to post-natal complications.

**Key Words:** Extent, Utilization, Experience, 108 ambulance service, pregnant women, EMRI service, quality of service.

## **An Assessment of Functioning of Mobile Health Units in Ramgarh Block of Uttarakhand**

Col. Yogesh Dungrakoti

Ramgarh Block of Nainital district is characterised by geographically hostile terrain having sparse and scattered population. Various NGOs working in Uttarakhand have taken several initiatives to improve access to healthcare. One such initiative is to provide healthcare services through the 'Mobile Medical Units' (MMU). 'Aarohi' a not-for-profit grassroots organization organises Mobile Health Camps through Mobile Medical Units on a continuous basis. The Objectives of the study were to study the rationale and implementation structure of the MMU, to identify and analyse factors which hinder or enable the better implementation of MMU and to assess the patient satisfaction. The study was questionnaire-based Cross-sectional Descriptive study, community-based patient survey, conducted by means of oral & assisted interviews, conducted personally by the investigator in Ramgarh block. The study population consisted of Block Program Manager, CHC Medical Officer, Functionaries of NGO and beneficiary or service seekers of MMU for a duration of 01 Feb - 30 April 19. The inclusion criteria was patients visiting MMU of Aarohi and the exclusion criteria was patients who could not speak or listen, patients who refused to give willing informed consent, Patients who were in severe pain and patients suffering from mental disorders. All patients were interviewed by using a semi-structured questionnaire at the end of their O.P.D. visits. A semi-structured questionnaire was used for interviewing Block Program Manager, CHC MO, NGO functionaries. The study provided an insight about the rationale for introducing MMU services, details about its implementation structure and services provided. Analysis of the data of the survey revealed that there is a great degree of satisfaction towards the various health care services being provided by the MMU of Aarohi, which is doing a yeoman's job in a very remote and mountainous region.

**Keywords:** Mobile Medical Units, Patient Satisfaction, Healthcare, Maternal Health

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## **Waiting Time in OPD at Life Line Hospital, Laxmi Nagar, New Delhi**

Mrs. Shabnam

OPD is the mirror of the hospital which reflects the functioning of the hospital being the first point of contact between the patient and the hospital staff. For Patient Satisfaction, empathetic communication, efficiency of health care providers and short waiting time are key factors. It is important to organise the patient flow in such a way that patient waiting time is reduced to the minimum in OPD. Less waiting time, in turn, will lead to patient satisfaction. The objectives of the study is (a) to determine the average waiting time of patients in internal medicine, pediatrics & gynecology OPD of the hospital, and (b) to identify the causes for longer waiting time at the OPD. This study was performed in life line hospital, laxmi nagar, New Delhi, during 15 March to 15 May 2019. A convenience sample of 500 patients (who visited the OPD) was selected for the study. Waiting time was measured as time taken from registration desk to final exit of the patient. Data was collected through observational checklist, and a patient satisfaction survey. The results suggest the following: (a) 45% of patients are waiting in OPD for 30 minutes to 1 hour for consultation, and (b) 9% of patients are waiting for more than 1.5 hours. To conclude, the waiting time is very high which is one of the reasons for patient dissatisfaction. Providing an environment of ease and comfort to the patient is the most important part of OPD management. To increase patient satisfaction and improve quality of care, the problem of long waiting hours should be addressed on priority. Result: - 40 % are waiting for 1-1.5 hour for consultation. 9.0% are waiting for more than 1.5 hour. The Above data shows the long waiting time in OPD that is recorded from arrival at registration desk to the exit from consultation room.

**Keywords:** OPD, Waiting time, Patient satisfaction, Hospital

## Cost of hospitalization in Indian children aged 0 to 59 months due to pneumonia and diarrhea: A subgroup meta-analysis

Shivansh Verma

About 17 % of total Disability Adjusted Life Years (DALYs) among children under five years of age for the year 2017 in India were attributable to Lower Respiratory Illnesses or LRIs. They were second biggest cause of DALYs. At least 81.3 % of LRI deaths in India in 2015 were in fact pneumonia deaths from 4 causative agents - Pneumococcus (58.7 %), Haemophilus influenza type B (14.9 %), Respiratory syncytial virus (6.0 %) and Influenza (1.7 %). About 9 % of total DALYs among children under five years of age for year 2017 in India were attributable to diarrheal diseases. They were third biggest cause of DALYs. There appears to be sufficient literature on epidemiological burden of these diseases but not enough on economic burden. Thus, the objective of this study was to estimate the cost of hospital treatment of an Indian child aged 0 to 59 months suffering from diarrhea or pneumonia for the period March 2019 by meta-analysing primary studies done from 2000 to 2019. PubMed was searched for studies, which were abstract screened and then full-text screened using inclusion criteria. Data was extracted out of studies that met full text inclusion criteria. The total direct cost (sum of direct medical and direct non-medical costs) was multiplied by an inflation factor to get estimated cost of disease in March 2019. This process also allowed for data pooling. A three by two table was created for total direct cost to a household from hospitalisation due to hospital treatment of their child below 5 years of age with one axis comprising type of hospital (government, non-profit and for-profit) and other axis comprising type of disease (pneumonia and diarrhea). If a child under five years of age was hospitalized for pneumonia in March 2019, the total direct cost to household was likely to be USD 14.26, USD 164.35 and USD 192.77 for government, non-profit and for-profit hospitals respectively. Total direct cost to an Indian household if one of its child below 5 years was hospitalized for diarrhea in March 2019 was likely to be USD 6.61, USD 124.12 and USD 198.46 for government, non-profit and for-profit hospitals respectively.

**Keywords:** Pneumonia, Diarrhea, India, Cost-of-illness, Meta-analysis

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## Assessment of Quality of Care of Facilities Assessed in Labour rooms under “LaQshya” Programme

S. Kirti

After the launch of the National Health Mission (NHM), there has been substantial increase in the number of institutional deliveries. It is estimated that approximately 46% maternal deaths, over 40% stillbirths and 40% newborn deaths take place on the day of the delivery. LaQshya is focused and targeted approach for improving intra partum and immediate post-partum care with high case load higher level facilities. The aim of the study was to determine the Quality of Care of facilities assessed in Labour rooms under “LaQshya” Programme in the financial Year 2018-2019. The objectives of this study was to identify High and Low performing standards in Labour room in the LaQshya implemented states and to measure the quality of care according to eight specific thematic areas. The analysis is based on data of the external assessments of the, District Hospitals (DHs), Sub-District Hospitals (SDHs) and under “LaQshya” across the states in the financial year 2018-2019. Also, the Hospital Score card and Report of the states under the “LaQshya” initiative were studied to analyze their overall score and standard wise score to identify the high and low performing standards and an overall pattern of quality certification of labour rooms under “LaQshya” implementation in the states. Collection of secondary data of all assessed Facilities under LaQshaya was carried out. The results suggest that at the Organisational Level (NHSRC), there is a requirement of regular training of assessors regarding facility assessment and certification under LaQshya programme, development of IEC and user friendly training material for the facilities and IT enabled



tools. At District Level, there is a requirement of orientation and mentoring of the Quality circles, monitoring of availability of point of care diagnostic services and blood transfusion services. At Facility Level, there is a need to focus on recruitment of optimal and skilled human resources as per case load. Trainings should be conducted to enhance proficiency of labour room staff for management of the complications through skill lab trainings, simulations and drills. Also needed are prioritisation and action planning for closure of gaps as per 'Maternal and Newborn Health Toolkit' and 'Guidelines for standardisation of Labour Rooms at Delivery Points'.

**Keywords:** LaQshya, Labour Room, Maternal OT, Quality, Standards

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## **Nasal carriage of streptococcus pneumonia among the community children and PCV Impact research**

Vandana Gautam

**Background:** Streptococcus pneumoniae is one of the most common bacterial causes of community-acquired pneumonia. Streptococcus pneumoniae is a major cause of pneumonia, meningitis, and other serious infection among children in India. India introduced the PCV-13 in several states in 2017 and is poised to successfully combat the burden of pneumonia in the country once scale up of vaccine introduction and sustained high coverage is achieved. India introduced the PCV-13 in 6 state in 2017-2019 (Himachal Pradesh, Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Haryana) with plans to additional districts and states beyond 2019. This study aims to evaluate the prevalence and dynamics of pneumococcal nasopharyngeal colonization in healthy children aged 5-59 months. **Methods:** A community based cross-sectional descriptive study among children aged 5-59 months was planned to be conducted in Somaarth DDESS Palwal, which is also a rural field practise area of the Inclen Trust International, New Delhi. It is spread over an area 251.7sqkm covering 51 villages and three blocks (hathin, palwal and hodal), where a population of 2 lakh people resides. Sample size was detect 25% impact on VT carriage in vaccine – age-eligible 9children aged 5-11 months swabbed at each site in each of the pre-and post -PCV periods for 2-tailed  $p < 0.05$  and 80%power. This corresponded to a change from 26% VT NP carriage post-PCV, which is the change expected if there is 50% PCV coverage in this age group. If coverage is higher (70%) in year1, no more carriage surveys are proposed. We have to explained the procedure to the parents for two nasopharyngeal swabs which have been obtained from the eligible children after informed consent. These samples have been maintained and transported in ice box to the lab within 4 hours of collection for culturing on site. The samples were properly transported to lab where they are kept under  $\pm 80^{\circ}\text{C}$  in deep freezer with their labelling on it in cryovial box and then they are stored till the transportation of the CMC Vellore and the further processing the CMC. **Result:** The prevalence of S. pneumoniae in the NP samples of the study participants was 70%. Among these S. pneumoniae positive study participants 55.7% were having PCV-13 vaccine serotypes, 41.4% were having non-vaccine serotypes and rest of 2.9% could not be serotyped.

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## **Analysis of Clinical Trial Registry Data: A Case for the Dengue Vaccine**

Apoorva Mehta

Clinical trial registries provide publicly available information on the registration of any clinical trial, its intended endpoints of study, it's progress, and ideally, it's results. The WHO maintains the ICTRP (International Clinical Trial Registry Platform), where all clinical trials are mandated to be registered before commencement. It also draws data from nine country specific Primary Registries, which maintain region/country specific clinical trial records. Clinical Trial Registry of India (CTRI) is the platform wherein all clinical trials to be carried out in India are mandatorily registered. India contributes to more than 1/3rd the global burden of Dengue fever. Although several vaccine candidates for Dengue fever have been evaluated in randomized controlled trials, none has been effective

and at early recognition of severe dengue and timely supportive care are the only means are used to reduce mortality. Currently, no vaccine is available for use in India and the global need for a more efficacious, safe and robust vaccine for dengue and the search for a universal Dengue vaccine remains elusive. This study was carried out to assess the development status of preventive therapies i.e. vaccines, for Dengue fever. Using clinical trial registry data from ICTRP and CTRI, a global dengue vaccine candidate pipeline was created. Dengvaxia® was qualitatively described on several parameters, in light of its recent approval for use by the US FDA (United States Food and Drug Administration). Further, recommendations have been put forth for drug development, particularly vaccine development, for India.

**Keywords:** Clinical trials, Clinical trials registry, Dengue, Vaccines, Health R &D

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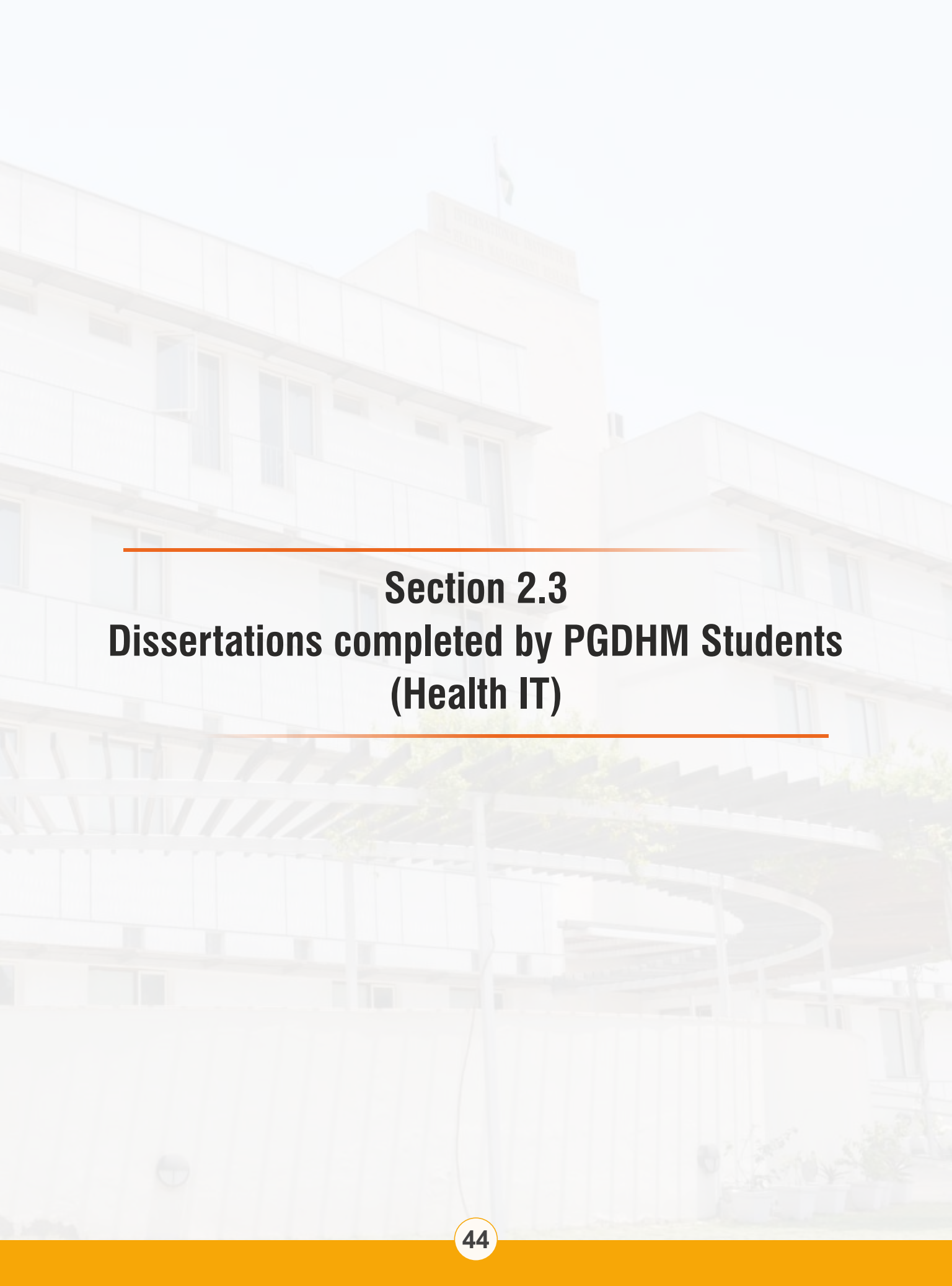
## **Management of Rare Diseases: Gaps, Challenges and Opportunities in India**

Shivangee Malik

**Background:** Rare diseases are a group of conditions that affect less number of people, hence the term 'rare'. There is no standard definition across the world that defines the maximum number of people a disease should affect, for it to be considered a rare disease. A disease is considered rare in US if it affects less than 200,000 people. India doesn't have a standard definition to classify rare diseases. There are more than 7 million estimated cases of rare diseases in India alone. Compared to developed countries, the management of rare diseases in India is dismal in terms of awareness, availability and accessibility of orphan drugs and policy initiatives. **Aim:** To assess the Gaps, Challenges and Opportunities in Rare Diseases Management in India. **Objectives:** To investigate the inherent gaps and challenges in management of rare diseases in India; To explore orphan drug development scenario in India as compared to other countries that have been actively engaged in orphan drug development; To list recommendations & way forward which can be helpful in overcoming the challenges identified. **Methodology:** This is a qualitative, descriptive study done using secondary data sources (research articles and news publications). Content analysis of the relevant data was carried out. **Key Results/Findings:** In developing nations like India, there is a lack of awareness at the grassroots level, which often results in late diagnosis or no diagnosis at all. The lack of legislation providing research and development incentives to pharmaceutical companies continues to fuel the negligence of orphan drugs and diagnostic procedures. High economic burden falls on the patients to access the diagnostic and treatment procedures. **Conclusion:** It is essential that rare diseases be seen as a policy priority in all healthcare systems. Patients with rare diseases should have the same right to treatment and care as patients with more common diseases. Improving care for patients affected by rare diseases should therefore be prioritized by national governments across the globe.

**Keywords:** Rare diseases, orphan drugs, drug development, challenges, drug regulation act, India

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## **Section 2.3**

# **Dissertations completed by PGDHM Students (Health IT)**

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## **Role of mobiHISTree application in better management of healthcare delivery in Hospitals**

Shikha Gill

Earlier healthcare providers were using pen and paper for prescriptions and orders. Today's systems like EHR (Electronic Health Record) and HMIS (Hospital Management Information System) are available in the chambers of doctors. But Physicians are in need of HMIS 'on the go'. Triotree Technologies came out with an innovative application called 'mobiHISTree' which helps physicians to use HMIS on the move. Under the study, challenges in the management of healthcare delivery pre-installation of mobiHISTree application and impact of 'mobiHISTree' application towards better management and automation were studied. A client satisfaction survey to include various recommendation to further improve the mobiHISTree application was also carried out. This cross-sectional descriptive study was carried out in Nayati group of hospitals. An online questionnaire was developed to capture the satisfaction level of doctors who were using 'mobiHISTree'. The study population included doctors who were using mobiHISTree in different departments and facilities of the hospitals. Approximately 85% of the clinicians surveyed stated that the application fully meets their need. Similarly, 91% of the respondents felt that the application is user-friendly. The result of this study showed that satisfaction was mainly due to the reduction of pen and paper usage and the ability to use the HMIS on the go. Indian health care consumers are getting ready to accept more responsibility for managing their health and conditions jointly with their physicians to achieve better health outcomes and better quality of life.

**Keywords:** Hospital Management Information System, Electronic Health Record, Health Mobile Application

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## **Evaluation of user satisfaction among hospital mobile app users in Artemis hospital using system usability scale**

Mahak Rana

This study examined perception of hospital staff and patients about hospital mobile app. The objective of this cross-sectional study was to evaluate the level of satisfaction amongst mobile app users in Artemis Hospital, Gurugram and to assess the possible barriers and facilitators for successful adoption of Mobile App in Artemis Hospital. In this study cross-sectional method was used with the users in Mobile App in Artemis Hospital, Gurugram. The sample size used is 100 which were divided into 4 groups i.e. Doctors (10), Nurses (60), Administrative Staff (10), Patients (20). This study was performed using primary data using collection tool as System Usability Scale Questionnaire and analysis tool as SPSS Software. The study showed that the users rated the mobile app at Artemis hospital, Gurugram as "Good" with a SUS score of 74.53. The top three rated variables of the system which satisfy the user needs to a great extent are Frequency of use, Ease of use, Confidence in use, Quick learning of the system. A total of 59% users rated the mobile system with a SUS Score of 68 and above, while the remaining 31% users rated the system below 68. Results indicated high degrees of satisfaction with the hospital mobile app among hospital staff and patients along with a strong motivation to use hospital mobile app in the future. Participants felt that mobile app allowed for quicker access to data and reports. Keyword: Mhealth, user satisfaction, cross sectional study.

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## **Personalised Medicine in Disease Management**

**Dr. Deepti Paiwal**

Genome sequencing technology, a key driver of precision medicine, has improved substantially in accuracy, speed, and cost. As a consequence, clinicians, health systems, and governments acknowledge that individuals

can have their genome sequenced and interpreted for better classification of their disease subclass and plan the treatment accordingly to reap the maximum possible benefit out of it. This makes obtaining genome sequence data for large numbers of individuals with and without known health issues possible. This can bring revolutionary upgradation in healthcare towards specific disease management in specific individuals. Healthcare Information Technology usage can boost and speed up the usage and acceptance of Precision Medicine in managing various diseases. The purpose of the study is to understand the awareness about Precision(Personalized) Medicine among the targeted population and to discuss precision medicine, the idea behind it, and its role in Chronic Disease Management. The study will include reviewing literature on Precision(Personalized) Medicine, its uses, benefits, challenges and barriers to the same. The study will also review perception and general awareness in targeted population regarding Personalised Medicine, its pros and cons and the level of their acceptance for the same.

**Keywords:** Precision medicine, precision medicine in healthcare, precision medicine in public health, precision medicine in chronic disease management.

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### **Concierge RIS/Pacs Workflow Automation in Emergency Reporting (Telerad Tech Private Limited, Bangalore)**

Kajol Agrawal

In daily radiological practice, report generation is a time consuming process which if get delayed can affect the initiation of specific therapy. So, fast delivery of these medical reports not only reduces the patient stay in hospital but also contribute in providing early diagnosis and treatment to many diseases. The conversion from analog to digital methods in the medical imaging world and the emergence of widely available mechanisms for the transmissions of digital data over large distances have fuelled the rapid growth of radiology in the healthcare field. RADSpa represents the technology that enables the radiologist to provide efficient care to the patient by reducing the report turnaround time thus permits the physicians to provide good quality of diagnostic and therapeutic services. AIM: The aim of this study is to analyze the impact of concierge workflow automation capabilities of RADSpa to improve TurnAround Time in ER reporting. OBJECTIVE The main objectives are to identify the turnaround time in report generation according to the workflow of radiology department. Methodology The methodology used to study was conducted in Telerad Tech Bangalore with the collaboration Teleradiology Solutions where the entire population of the teleradiology team participated to analyze the customer satisfaction level of the users for the auto-assignment feature on the basis of the feedback form provided to them. A total of 45 respondents consisting of 37 American Board of Radiologist, 6 coordinators and 2 PACS administrators were involved. To analyze the turnaround time in report generation secondary data of the medical reports before the implementation and after the implementation of the feature was collected from the database of the TRS and compared to measure the improvement in turnaround time in report generation. Secondary data was extracted from the generated medical report from the database of the TRS. FINDINGS that come out of the program were 80% of the respondents agreed that RADSpa's Concierge Workflow automation helped them to reduce the TATs and increase productivity. Statistical analysis of 6 months of logs before and after automation indicated improvement in overall TAT for emergency cases. Also an increase in productivity of Radiologist per case improved by 82% as every case is auto-validated for images prior it is assigned. Coordinators reported a massive reduction in effort which used to go in manually eliminating errors, and there by more time in hand for handling greater workloads. To Conclude it was concluded that the Radiology Workflow Automation has positively impacted timely patient care specifically in Reporting Emergency cases and thereby saving lives. While allocation time is reduced by 82%, TAT is improved 35% and RAD's productivity by 80%. The no of mismatches and other errors while assigning case to the radiologists by coordinators (assigners) was reduced to Zero error. Radiologists were



able to receive advance alert regarding their work list. Also assigners follow up process improved since they have better data of un-attended cases which they can easily re-assign to reduce patient's care time. The new system allows better segregation and prioritization of cases based on criticality by using color codes to define priority. These predefined SLAs help Radiologists in achieving the target mission of timely patient care.

**Key Words:** Turn Around Time, RADSpa, ER reporting, radiology workflow

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## **Assessment of Knowledge, Attitude and Practice of Diabetic Patients in Delhi**

Nikita Grover

A study was carried out in Delhi to evaluate the knowledge, attitude and practice of diabetic patients diagnosed within one year and age more than 30 years attending Government Hospital OPD. In this cross-sectional study 100 diabetic patients were selected by non-probability convenient sampling from Government hospital in Delhi and interviewed. Using MS Excel, descriptive statistics were applied to summarize the data and the data regarding the patient's knowledge, attitude and practice towards diabetes. Out of 100 individuals, 97% of the whole population reported that they knew that sugar level rises in diabetes while 3% were unaware. 66% of the subjects knew that prevalence of diabetes was increasing, 30% thought there is no increase while 4% didn't know. Only 23% of population was able to tell correct level of random blood sugar level and 64% were not aware. Only 7% people told all the asked symptoms of diabetes, 35% knew increased frequency of urine, 19% knew slow healing of wounds and 35% knew increased thirst and hunger. Only 25% had knowledge of the role of obesity and 11% physical inactivity in producing diabetes while 69% knew consumption of more sugar is responsible. 53% subjects knew that diabetes can cause complications in other organs, 9% were unaware and 38% didn't know. 71% subjects knew role of diet in controlling diabetes but only 59% modified their diet. 78% knew lifestyle modification is one of the factors in controlling diabetes. Though, 53% respondents knew the importance of keeping weight under control only 39% did regular exercises while rest 61% did not exercise. Knowledge about diabetes is a powerful predictor of the perception of people with diabetes concerning and their illness and the quality of services they receive. Significant numbers of patients, particularly, are poorly informed about key elements of diabetes care and are not receiving appropriate or significant education about it. Type 2 diabetes is a serious disease and tight glucose control reduces morbidity and mortality associated with diabetes. However, some patients have different health beliefs and perceptions of seriousness. The results of this study show that there is a need for a change in the attitudes of patients.

**Keywords:** Diabetic, Government Hospital, OPD, Delhi, KAP

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## **Evaluation of Electronic Medical Records Adoption by Doctors in Faridabad (Haryana)**

Shriti Singh

The purpose of the study is to understand the reasons of EMR non-adoption among doctors of Faridabad. The two main objectives of the study are to analyze the level of awareness of doctors towards electronic medical records, their use and benefits and to understand the perception of doctors towards the barriers and challenges in adopting electronic medical records in their work. The study will be conducted among the private doctors in Faridabad. In this study a mixed research design is proposed for the study as 70 doctors were selected from different clinical specialities were approached and interviewed. Using MS Excel descriptive statistics were applied to summarize the data. Among 70 respondents 65.7% were Graduate, 17.1% specialist and 17.1% super specialist. Only 12.9% had knowledge about EMR and 87.1% didn't know about it. Respondents who know about the benefits of EMR, only 50% respondent thought that information is easily accessible in EMR, 40% thought that clinical notes are

more eligible in EMR and 10% thought that it improves quality of care by reducing medical errors. The most important barrier for adoption of EMR shows that only 40% respondent thought that its initial cost is high for purchasing EMR, only 40% thought that it takes more time for learning new software and 20% thought that EMR takes more time to maintain patient health record. Only 57.1% agreed for using EMR if it is made available to use and 42.9% not agreed. Low adoption of EMR persists despite obvious benefits of EMR. An understanding of problems leading to low EMR adoption was key to finding solutions for improving the rate of EMR adoption

**Keywords:** Adoption, Awareness, Barrier, Electronic Medical Records, Perception

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### **Analysis of the data collected through Mobile Healthcare Units Using Management Information System for the assessment of health status of Population of India**

Akshay Sagar

**Aim:** To analyse the disease pattern among fifteen MHU (HelpAge India) served districts of India for the year 2018-19. **Objective(s):** To assess the status of the population on five major health issues at fifteen MHU (HelpAge India) served districts of India for the year 2018-19. To develop an efficient disease classification system used for data analysis at HelpAge India. **Methodology:** This was a descriptive, cross-sectional study for all the MHU beneficiaries in fifteen MHU served district of India. It was conducted in a period of three months (February 2019–April 2019) using secondary data from the MIS database of HelpAge India. Purposive sampling was done and a final sample of 296688 beneficiaries. All treatments/beneficiaries reported at the MHU site, were included. The data definite to this study was gleaned from the disease pattern of the areas covered under the MHUs. MS Excel was used to carry out the analysis using descriptive statistics. **Findings:** GI Disorder was maximum in May where as minimum in Feb though overall the disease's are under control due to the MHU intervention. The reason for high disease output seen in March can be because of the high no. of patients OPD, addition of Rain shadow Health Camps. Osteo-Arthritis/Joint Pain/ Rheumatoid Arthritis, Diabetes Mellitus are the 2 health issues which are prominent & can be seen in all parts of India. Diabetes is majorly seen in South with the probable cause of high rice consumption. In major change, Central & West India has the most cases of Respiratory disorders while East zone has the minimum. For hypertension Leh & Jorhat has the maximum cases, which is very high as compared to that of other 13 locations. Also, female population is more exposed as compared to male population, Arthritis & GI Disorder depicted a high increase can be seen from 9% to 14% each. A detailed study of Rohtak was done for the period of 4 year, for 15 separate disease's which showed that the MHU intervention has help control the disease under the selected MHU. **Conclusion:** Few Health issues cannot be resolved as they are due to the geographical & cultural conditions. But awareness sessions should be done more often keeping in view the Health issues. Though for curative care, the resource distribution can be improved keeping in view the pattern. More over a depth study can be done for seasonal disease & health issues.

**Keywords:** MHU, Mobile Health Unit, Disease Mapping, MIS, Management Information System

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### **A Quantitative study to understand the Barriers and Motivation of Specialist Doctors to work for the National Health Mission (NHM), Uttar Pradesh at remote locations**

Dr Sakshi Sharma

The shortage of specialists, especially in rural areas, is one of the major concerns in India, which in turn affects the effective delivery of health care services. 35 specialists from 3 specialities- Obstetricians (10), Anaesthetists (8) and Paediatricians (17) are being interviewed in public and private facilities by two methods i.e In-Depth Interview (17) and Online (18) through structured questionnaire to assess what are motivational factors and

barriers faced by specialists doctor to work for NHM, UP at remote locations. The 5 motivational factors which encourage specialist to opt for remote location are need & demand for specialists in the community (66%), greater exposure in a challenging environment (83%), job security (83%), work hours/day duties (91%), proximity to home (83%). The factors which are considered as barriers by specialists are the absence of two-way communication between supervisor and management (83%), lack of protocols (89%), cumbersome bureaucratic procedures (94%). The recommendations made are as per Maslow's theory of Organizational Behaviour. Meaning basic hygiene needs (house, money, education, family comfort etc.) is essential for all and cannot be compromised for anyone; but it's the self- esteem and social recognition, which motivates people to work on. Factors such as compensation structure; social and work environment; governance and management are few areas that need to be focused on more for encouraging specialist and most importantly retaining them.

**Keywords:** NHM, Barriers and Motivation, delivery of health care services


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## **Use of Convolutional Neural Networks (CNNs) for Monitoring Personal Care and Nursing Care of Bed Ridden Patients**

Lt Col Someshwar Singh

Old age and disabilities bring many challenges on various counts of Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). Bed ridden people require not only personal care, social care but also nursing care in home setting. Recently, many companies have mushroomed to fill up this space. To build and maintain client trust, the companies have to depend upon the good work of numerous Health Care Providers (HCP's) they employ. Care Managers placed over such employees face a daunting task of monitoring the activities of the HCP's placed under them. This thesis aimed to answer the question linked with this challenge. That is, if Convolutional Neural Networks (CNNs) can be used for monitoring personal care and nursing care being provided to people in the home setting. This applied research involved both research and development work. Seven basic use cases for CNN models had already been listed, even before work began on the research project. Literature review was carried out to identify existing suitable models and other contemporary material on the subject. Only, one existing model for face recognition was found. CNN models for the remaining six use cases were then developed and validated. The CNN models were developed as sleek yet efficient models for them to run on light resources in a home setting. Subsequently, multiple experiments were run using the CNN models so developed. The results were captured and analyzed using the confusion matrix and metrics like accuracy. Overall, promising results were achieved. Hence, it can be said with some degree of confidence, that, CNN models can be used for monitoring the nursing care and personal care being provided to the people confined to bed in home settings.

**Keywords:** CNN models, Monitoring, Nursing care, Personal care, home care.



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## **Section 3.0**

# **Summer Internship Completed by PGDHM Students**

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## **To Increase Patients Experience by Performing Time and Motion Study of the Housekeeping Attendants of IPD Floors**

Arundhati Borah

Objective of my study is the time and motion study of the housekeeping attendants of the IPD floors. Specific objective are: To increase the patients experience of the IPD floors by performing TIME AND MOTION STUDY. To find the time taken by the housekeeping attendants to perform the daily routine tasks. To find the work-break ratio of the housekeeping attendants. The study area were the 3rd and 4th floor of the IPD building of Fortis Escorts Heart Institute, Okhla, New Delhi. The methodology used was observational study, of a sample size of 75 attendants. The study was done to observe the time taken to complete the daily and additional tasks by each housekeeping attendant of the IPD floors. And by referring to this study, finding solution on how to increase the patients' experience of the given floors. Performing the Time and Motion Study of the housekeeping attendants, their efficiency was evaluated. And, it was found that the work- break ratio of the housekeeping attendants exceeded the ideal ratio, i.e. from 3:1 to 4:1. Which means that in a 8 and a half hour shift, the attendants have a 30-45 minutes break only. This can affect their efficiency to work better. A simple introduction of well-designed and defined roles for each individual rather than an approach to perform all tasks by one can help produce desired results. In the study it was found that the time which was spent in the upkeep of the housekeeping store of the IPD floors by one Housekeeping attendant per floor can be reduced to a runner. This one attendant will only pick and drop materials from one point to another for both the IPD floors.

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## **Understanding Factors Affecting Talent Management in Hospital Sector**

Col Sumit Pant

The objectives of the study were to conduct a comprehensive review of the factors affecting talent management in hospital sector. The scope dwelled upon the motivational factors of health workforce, initiatives for talent development and strategies for talent retention currently existing in the hospital/healthcare sector. This research is based upon secondary data sources obtained through voluminous literature references available through electronic media. A broad ranging literature review provided a strong pedestal for the study and an understanding in the wider context. This resulted in analysing the conceptual framework with relations to public and private players at National and International forums. Talent management essentially entails at attracting skilled resources, encashing and developing their inert talents, integrating them with the existing workforce, and creating a conducive environment for retention with an ultimate goal to meet the current and future business objectives most commonly referred to as Human Capital Management. The benefits occurred to the organization, employees know no bounds. The importance of initial and continuous learning programs coupled with leadership development throw light upon the various techniques available to nurture talent management. Motivating and retention of talent by way of recognition, rewards, incentives and opportunities go on to empower the organizational culture and subsequent organizational alleviation. An intensive insight paved way to elaborating on the plethora of activities and pursuits undertaken to achieve training and development methodologies and more importantly identification of gaps within those deliverable parameters. The inductive approach of evaluation led to a wide range of disconnect between the existing pronounced policies and the harsh ground realities. The recommendations endorsed are a broad vision drawn from the contents and cannot be necessarily templated.

**Key words:** Talent Management, Hospital Sector, Human Capital Management, Motivation and Employee retention



## Assessment of Maternal & Child Health Conditions of Urban Poor at Chanakyapuri Slums, New Delhi

Dr. Kamal Amu

Objectives of this study was to assess the maternal and child health conditions of urban poor slum dwellers. In methodology, the study was carried out at the Chanakayapuri slum, New Delhi between 25 March to 25 May 2019 by using semi structured questionnaire and face to face interview. It is Descriptive (Cross Sectional) study. A sample size of 85 respondents (pregnant women/mother) who were willing (consent obtained) were studied. Major findings from the study suggests that in RCH / RMNCH + A health programme, there is lack of awareness and women do not register pregnancies fully and they do not receive full ANC & PNC Services. 46% of women registered did not reach up to 3rd ANC checkup. 59% respondents did not receive special nutrition during pregnancy. Only 52% women gave their milk as first feed to babies. Lack of proper institutionalized deliveries were observed. Lack of FP awareness and increase in family size was found to be common. Mean age of delivery was recorded as 19.80 year which is prone to complications. There is no maternity ward at Charak Hospital nearby. Under JSY/ JSSK programme, 82 % respondents were not aware of JSY & its benefits. Not all pregnant women were receiving money in their bank account and difference in payment amount: Rural vs Urban lead to disparities. In ICDS health programme - only 58% children had received supplementary nutrition. Immunization was observed to be actively done, outreach services, and cards were existing with records. Health Checkups was sporadic and infrequent. Awareness & accessibility to health services were not satisfactory. 64 % respondents were not aware of causes of AIDS and 35% about Malaria, Dengue, Diarrhea. 54% did not wash hands after toilet, 80% did not have mosquito nets. 47% respondents were aware of FP measures. Lack of awareness leads to unsafe motherhood, child care & feeding practices. Immunization records were found to be encouraging. Role of Quacks/Bengali doctors was very prominent in the Chanakyapuri slum camp. Overall the maternal health remains an intimidating challenge to healthcare system in poor people in urban slums. Various schemes launched by the Gol have not translated into expected reduction in MMR possibly due to unaddressed issues of non-financial access barriers and suboptimal ANC, delivery and postnatal care (PNC). In addition, issues such as immunization, nutrition, sanitation, toilet facility water supply etc., faced by the urban poor dwelling in slum areas have not been addressed in the desired manner.

**Key Words:** Urban Poor, RMNCH+A, JSY/JSSK, ICDS, Health Services, Awareness & Accessibility

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### Designing and Development of EMR

Stuti Pathak

Electronic Medical Record is the computerized digital record used in health care organization that delivers patient care. EMR tends to be a part of health information system that helps in retrieval, storage and modification of records. It plays a major role in improving the quality of patient care. An explorative descriptive study was done to understand the design, development and Implementation of Electronic Medical Record. Implementation of EMR in India began when MoHFW (Ministry of Health and Family Welfare) notified the Electronic Health Record standards in September 2013, then India became the part of International Health Terminology Standards Development Organization in April 2014 to support the use of SNOMED-CT (Systemized Nomenclature of Medicine-Clinical Terminology) by health care providers. Implementation of EMR is a difficult task due to Lack of awareness of the benefits of EMR, Difficulty in modifying EMR according to user's need and Lack of IT infrastructure. Development and Implementation of EMR requires some health care IT standards to be followed like UIDAI (Unique Identification

Authority of India) Aadhar and SNOMED-CT. Introduction of Electronic Medical records in Health Care organizations has become essential as it provides an opportunity to health care providers to provide best quality healthcare services to patients but there are some issues which must be tackled like Patient privacy and Hardware/Software standard issues.

**Keywords:** EMR, Health Care, Implementation of EMR, UIDAI Aadhar and SNOMED-CT

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### **To Estimate the Rate of Compliance of Family Education in Intensive Care Unit**

Nitika

It is very critical to assess the patient's education needs (literacy level, physical, cognitive needs, etc.) including the readiness to learn for example Motivational level, any emotional barrier, etc. and also to educate the patient on identified needs with the help of handouts or verbally as required. The findings are documented in patient and family education documentation form. Education includes both the knowledge needed during the care process and the knowledge needed after the patient is discharged to another care site or home. Also, education can include information on community resources for additional care. In the study Purposive sampling was carried out, 300 active files were audited in the ICUs and the rate of compliance of family education form and its components which include Doctor, nurse, dietician, physiotherapist and patient were estimated, and ICU wise compliance was also analyzed. According to the observation, the maximum noncompliance was in case of Dietician i.e. 42.67% and maximum compliance rate was in case of the patient i.e. 93.67% followed by nurses i.e. 89.67%. As far as ICU wise compliance rate is concerned, the compliance rate is highest in OTICU followed by NSICU and SICU whereas the partial compliance is highest in ICCU1 followed by ICCU2 and MICU. The overall compliance rate in all ICUs is 35.33% and non-compliance is 3% whereas partial compliance is 61.67%. Irrespective of the needs all four of them play a crucial role in educating the patient and patients family, it is important for the family members and patients to know and get educated about the health problem, disease prevention and health promotion. So, educating nursing staffs about PFE standards and their privileges, Active involvement of nurses in the standardization process, Active participation of doctors, physiotherapist and dietician as well and Nurses' and managers' attention to the elements of the benchmarks and developing a continuous clinical audit system can improve the rate of compliance and increase in patient satisfaction.

**Keywords:** Patient & family education, ICU audit, JCI guidelines

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### **Impact of digital marketing on consumer buying behaviour with specific reference to pay per click advertising**

Ishwin kaur

As per WHO estimates there are about 2.3% people suffering from hearing impairment. Hearing loss worldwide is unevenly distributed. Males are slightly more inclined for hearing loss. About 15% people in south Asia (Which Includes India) are estimated to have some degree of Hearing impairment. In majority of cases the hearing loss goes undiagnosed as its very gradual phenomena & the sufferer does not realize same unless & until they have a profound loss & it starts impacting their QoL (Quality of Life). In India there are few multinational market players like Widex, sivantos, phonak, resound which are selling hearing aids via distributor's network across the country. And today Companies are taking digital initiative to start digital marketing to gather leads & manage brand equity. Qualified leads are passed to key customers as an add on service for them, this helps them Liquidate the stock & in turn helps companies command extra business from them. These digital initiatives include a major digital

element that is PPC which is easy to implement and increases traffic on the site that makes people aware about hearing aids and in turn helps companies to gain the business. In this study a descriptive research was carried out using Google AdWords PPC tool and CRM system, we were able to analyse and identify the consumer buying behaviour and how various keywords were chosen accordingly that were relevant to prospective customers and winning the bidding for the advertising on search engine and thus in getting the leads and turning them into conversions. But only PPC alone cannot benefit the company, SEO should be used in parallel in order to maintain the budgets of the organisation, should also focus on content marketing i.e., blogs, website documentation, social media marketing to reach the marketing goals.

**Keywords:** Digital marketing, PPC, leads, conversions, SEO

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## **Compliance of Handover Between Healthcare Providers, Levels of Care and Department & Services**

Jasmine Rajpal

Patient handover has been recognized internationally as a high risk area for patient safety. Handover is a “major preventable cause of patient harm and this project aims to improve the quality of handover within Medanta- the Medicity hospital’s department, resulting in the safe transfer of patient care to the receiving team. In Medanta, patient handover report for doctors and nursing TLs can be accessed through Spandan via “Ward Information system” and nurse’s handover is documented in their daily flow sheet. Whenever shift changes, patient handover should be done and documented between healthcare providers- nurses and doctors. Keeping in mind, an audit was carried to increase the handover compliance in Medanta - the Medicity Hospital, Gurgaon, India based on checklist in IPDs and ICUs was planned in consultation with the head of Quality. A meeting conducted to address the non-compliance to doctors and Nurse’s TLs. The objective is to increase in compliance by 5-10% and determine the effective and timely use of handovers and also check handovers components completely filled or not in patient service areas mainly IPDs and ICUs. In order to achieve criteria was followed, after auditing meeting was conducted and in last re-auditing done in this project and the results of audit and re-audit compared. For accomplishing this task patient files checked as per the checklist in 27 areas in the hospitals where majority handovers accounted. Handovers aim to reduce the risk of miscommunication, misunderstanding and the omission of critical information. The nursing change of shift report or handover is a communication that occurs between two shifts of nurses and it also helps in communicating information about patients under the care of nurses. This is done to ensure the continuity of care and patients safety.

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## **Waiting Time Assessment of Medical Outpatient Department in A Super Speciality Cancer Hospital**

Manvi Kaushik

OPD represent, the face of the hospital and are linked to the quality of healthcare provided and to patient satisfaction. Both of these are influenced by the waiting time in the OPD and hence need to be monitored frequently to maintain quality of healthcare provided. The current descriptive study was carried out with an aim to determine the average waiting time of the patients within the MOPD of Super Speciality Cancer Hospital. The study duration was for 20 days. Based on the average footfall of follow-up patients in the previous month (200/per day), a sample size of 788 (20%) was targeted. Observation method using checklist was used to assess the waiting time. A simple random sampling method was utilized to select the patients. Finally, 493 patients with appointment and 205 without appointment were observed. Also, feedback was obtained from 100 patients randomly to

understand the factors influencing the waiting time. The total waiting time was calculated as the difference between the in time to meet the doctor for consultation and the arrival time of the patient at the OPD. The results indicate that the average waiting time for the patients without appointment is 159 minutes in comparison to those with appointments (99 minutes). This is greater than the standard of 30 minutes as per the hospital SOP. The factors influencing such high waiting time were i) non – adherence of the patients to the allotted appointment slot; ii) non -availability of doctors during appointment time; and iii) average 56 minutes needed for file retrieval. It is proposed that there should be the synchronization between appointment time and doctor’s availability in OPD and dedicated personnel for file retrieval.

**Keywords:** OPD (Out Patient Department), MOPD (Medical OPD), Non – adherence, appointment and without appointment patients.

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## **A Study to Assess the Patient Centricity in Fortis Escorts Heart Institute, Okhla**

Neha Kumari Jha

Discharge from the hospital is a point at which a patient leaves the hospital. Emergency is defined as a condition determined clinically, failing which it would result in the loss of life. Medical emergency where a patient required a high-quality medical care on the urgent basis. The objective of the study is the patient centric approach of the hospital and the steps involved in the discharge process and timely and effective care in the emergency department. The payor category which is taken CGHS/ECHS, CASH patients. The Sample size of 238 Cash and ECHS/CGHS patients has been taken for discharge and 214 patients in Emergency department. Primary data is collected by observing the patients from 9am to 5pm by day to day interaction with the nursing staff and floor executive. In emergency department all the patients who came in between 9am to 5pm has been observed and time has been recorded manually for 2weeks. Study design is cross-sectional study. The total number of CASH patients are 132 out of which 98(74%) cash patients are getting discharged within 90 minutes and 106 are of CGHS/ECHS out of which 67% of CGHS/ECHS patients are getting discharged within 100 minutes. The problem identified is late doctor round, late preparation of discharge summary and delay in Bill settlement. On an average 214 patients visited to ER out of which 150 patients got admitted through ER, in which 35 patients have to wait more than 4 hours in triage bed, 34% delay because of Beds unavailable, 20% of delay occurs because of late arrival of consultant. The more number of patients are getting discharged within the standard TAT, but despite this when patients are told to shift in discharge lounge, some of them gets dissatisfied. In emergency, unscheduled care, advance planning is not possible.

**Keywords:** Discharge, Delays, TAT, Emergency department, patient

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## **Gap Analysis of Compliance If International Patient Safety Goals in Max Hospital, Saket New Delhi**

Dr. Nikita Sehrawat

Patient safety has received attention from international health organisations. IPSPG- International Patient Safety Goals helps accredited organizations address specific area of concern in the problematic areas of patient safety. The objective of the study is to study the GAP analysis of compliance of International Patient Safety Goals. Study area was MAX Hospital Saket. Study design: Descriptive, cross-sectional study design. Study Population: Hospital staff including clinicians, administrators, nursing staff, housekeeping and others. Sample size :120, Sampling technique: convenient sampling was used. Study Tool: checklist for each goal (IPSPG1-IPSPG6). Self-made

checklists were prepared under the guidance of mentor, taking into consideration standard elements and measurable elements given in JCI manual. Using the checklists study was conducted in the entire hospital including clinical, Non-clinical departments. Data analysis: EXCEL for data analysis was used. Findings shows that ID band are not used in dialysis department or, if used incomplete information was present Abbreviations were used in few departments or only first name was used. In doctor's handover notes abbreviations were used. Half of the information was not filled in the handover registers in most of the departments. In few departments list of high alert medications was not displayed properly. Different colour bins are not present in some departments like dental and dialysis. Family education forms was incomplete in some files. Conclusion is that this study has been beneficial for knowing the compliance of International Patient safety goals.

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## **Feedback Analysis of Emergency Department at BLK Hospital**

Nishu Rani

**Background:** Hospitals have evolved from being an isolated sanatorium to a place with five star facilities. The patients and their relatives coming to the hospital not only expect world-class treatment, but also other facilities to make their stay comfortable in the hospital. This change in attitude and expectation has come due to tremendous growth of techniques and its exposure, as well as commercialization and improvement in the facilities. The aim of this study was to evaluate the level of patient/relatives' satisfaction at tertiary care teaching hospital and feedback from them for improvement of the same. The study was conducted by distributing structured questionnaires amongst patients and their relatives to find out the factors, which satisfy them in a tertiary care super specialty hospital. **Methods:** The study was conducted by carrying out a survey amongst 210 patients and by using structured questionnaire set by organization and by analyzing the data using appropriate statistical methods. **Results:** A total of 210 Radio & sample collection and Emergency patients were included in the study to know their perceptions towards the health services providing by the hospital choosing health facility, registration process, basic amenities, perception towards doctors and other staff, perception towards pharmacy. It was found that most of the respondents were youth. Out of 210 patients 52% are not satisfied & 48% are satisfied .We have received 222 complaints,43% patient complained about waiting time ( billing , doctors , lift , reports , admission ) 19% patient complained about Non Availability ( parking space , beds in Emergency , medicine , GDA , Nurses ,equipment) ,17% patient are dissatisfied with staff ,8% patient are dissatisfied with doctors in that 56% dissatisfied with quality of consultation. 25% said that x-ray and ultrasound scan were not available sometimes. It was seen that the satisfaction level of the patients with the services delivered by the hospital was good on most of the parameters. Some difficulties were faced by the patients in respect of availability of medicines at subsidized rates, delay in radiology or pathology reports and availability of senior doctors. **Conclusion:** The five major less dissatisfiers were behavior of doctors, technical skill of staff explanation, cleanliness, waiting for admission, maintenance. The five major more dissatisfiers were waiting time (billing, doctor, lift), non-availability of resources (bed in ER), behavior of staff, quality of consultation of doctor, delay in reports.

**Keywords:** Hospital, expectation, patient's satisfaction, satisfiers, dissatisfiers

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## **Study On Medication Administration Error(S)**

Parul

**Objective:** To determine the types and nature of ME(s) and for DDI (drug-drug interaction), how it occurs and to



assess rationality of prescription orders in SITARAMBHARTIA INSTITUTE OF SCIENCE AND RESEARCH. Medication error is defined as any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in control of the health care professional, patient, or consumer, and this definition is given by NCCMERP. DDI can also increase of ME. So in that case self-medication, poor communication between the doctor and patient, and even of the patient for medicines for every symptoms unethical drug promotion increases irrational prescribing. The impact of ME effect the patients in various ways like morbidity, mortality, adverse drug events. It also increases costs for clinicians and health care systems. The aim of this study is to assess the magnitude and associated factors for medication administration errors among nurses. MAE is one of the most common types of adverse events for hospital admitted patients, and the most frequent cause of preventable death. Methods: A prospective, descriptive study was conducted in SITARAMBHARTIA HOSPITAL, NEW DELHI FROM APRIL 1st TO 31st 2019. Clinical errors were identified by comparing observational data with patients 'medication charts'. And i observed preparing and administering medication to 80 Patients. Result: only two errors i found in ME(s). There is 35% error in evaluation and 52% i error in right education. Conclusion: Error reporting and cause analysis are important tools to identify the major cause of ME.so medication error report system should be improved by removing barriers.

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## **To Evaluate Patient Satisfaction in IPD in Fortis La Femme, Shalimar Bagh**

Prannay Deep Singh

Patient satisfaction is an important and commonly used indicator for measuring the service quality in health care. It affects clinical outcomes, patient retention, and medical malpractice claims. The present study evaluates patient satisfaction in Inpatient Department where the data was collected by taking patients' responses for a series of questions. The study was aimed at determining patients' satisfaction levels across different parameters and suggest ways to improve overall patient satisfaction in Fortis La Femme, Shalimar Bagh. A questionnaire was designed on different parameters which includes Admission process, Front Desk, Medical Care, Accommodation, Nursing Experience, Food & Beverages, Attendant Experience and Overall Rating and this survey was administrated among the patients. In the survey patients and their guardians were asked to rate the services of hospital on a Likert scale. To remove the potential bias – data was collected for a period of 40 days (13 April, 2019-24, May, 2019) from 142 respondents who were willing to participate in the survey. The data was captured in an excel and tabulated. Each response was assigned a score. For every question either mode or median was selected as the right answer. It was found that 92% respondents were satisfied with Admission Process, 93% with Front Desk, 98% with Medical Care, 98% with Nursing Experience, 82% with Food & Beverages, 82% with Discharge Experience, 91% with Attendant's Experience. Attention needs to be paid on Food & Beverages and Discharge Experience which showed dissatisfaction of 18 % each respectively. This study suggests that there is a need to improve food quality, service, variety, timeliness and hygiene condition. Discharge process should be made hassle free and customer friendly by clearly communicating the steps and reducing the paper formality. TPA insurance procedure is very time consuming so it should be made quicker.

**Keywords:** Patient Satisfaction, Inpatient Department, Likert Scale, Parameters, TPA Insurance

## Assessment of Primary Healthcare Delivery and Use of Technology in Thrissur District, Kerala

Col. Ranjit K

Objective Primary healthcare delivery is the first point of contact of health system and is the vehicle for providing holistic, effective and continuous care to the population. It is well suited for adopting technology to enable care in the right place at the right time. Use of technology will be possible and effective only if the basic healthcare services, requisite infrastructure and manpower are available. The current study has been undertaken to assess selected primary health centers and subcenters of Thrissur District according to the Indian Public Health Standards (IPHS) 2012 guidelines and their use of technology. Methodology: The study was conducted in Tekkumkara PHC, Varvoor (24x7) PHC health and their subcenters. IPHS guideline was used to assess the health services in the health centers. Doctors, ANMs, Pharmacists and ASHAs were interviewed. Key Informant Interview with the District Health Officer In-charge of e-health was carried out to understand the healthcare services availability and use of technology. Desk review of the E-health applications in use has been carried out. Findings. It was observed that ANMs and ASHAs were efficient in ensuring healthcare delivery in the centers. They were pro-actively involved to make e-health, Kerala a reality. The study also identified shortcomings/gaps in the healthcare delivery in the area. Few recommendations have been made with respect to availability of infrastructure, shortage of staff and certain other good practices that can be adopted by healthcare providers in the district. The IT enabled e-health system is aimed at rendering healthcare delivery paperless. It is focused on prevention of NCDs, early detection and control of epidemics and better implementation of primordial and primary prevention measures in the state. Efforts are under way to address improvements to technology and its deployment.

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## Landscape study of major Information systems of national health programmes in India- Gaps and Challenges

Rimjhim Mishra

To measure health is a conceptual as well as technical task, which requires statistical, public health knowledge as well as analytical skills. The accurate measurement however depends upon availability and provision of reliable, complete, and comprehensive information about the coverage of the health services. This study focuses on the major health information systems of India like RCH portal, NIKSHAY, HMIS, IDSP, ICDS-CAS, etc. The objective of the study is to do a landscape analysis of health information management systems and assess their ability in public health decision making. Secondary research - in depth study of research articles, reports, and literature was done. An analytical framework was designed for evaluating efficient and effective IT systems namely user friendliness, quality of data, unique identifier, report generation, data standards, data privacy and security, feedback system and capacity building. Focussed group discussions amongst the health experts of Access Health International added a greater understanding on the capability of the IT systems. Various programmes/ schemes have developed their own technology-based information systems, however the data capture at first instance is largely paper based and in silos. There is no interoperability in place and the systems are fragmented due to lack of standards, proper governance, inefficient change management etc. In order to have a holistic view in healthcare system, it is important to have the horizontal as well as vertical integration of not just programmes but information systems as well. Tracking a beneficiary end to end along with support services is essential for systemic continuum of care and universal health.

**Keywords:** Public health, National Health Programmes, Health Management Information Systems, Interoperability, web portals, Standards, Unique health ID

## Smoking & smokeless tobacco and genitourinary cancer: review of a reviews

Satyanarayan Labani, Smitha Asthana, Anjali Khandelwal , Harshita Pathak

**Objective:** To study incidence and risk of developing neoplasms of urogenital sites and to review the literature on the relationship between smoking & smokeless tobacco and genitourinary cancer. **Study Area:** The epidemiological study is conducted at NICPR-ICMR considering the secondary data available on global population. **Methodology:** We carried out a literature search on PUBMED/MEDLINE/EMBASE of systematic reviews published as original articles in English, using the medical subject heading terms and free search terms about smoking & smokeless tobacco and genitourinary cancer. A total of 11 systematic reviews were included. Two reviewers independently screened search results, appraised each systematic review using A CASP tool and extracted data from reviews. **Results:** comparison group ever vs never smoker gives estimates OR for cervix cancer 2.26(1.89, 2.71), OR for bladder cancer 2.48(2.18, 2.81), OR for kidney cancer 1.45(1.27, 1.66) comparison group former vs never smoker gives estimates OR for cervix 1.26(1.11, 1.43), OR for bladder cancer 1.95(1.79, 2.13), OR for kidney cancer 1.17(1.02, 1.33), OR for ovarian cancer 1.20(0.90, 1.60), OR for lower urinary tract 1.72(1.46, 2.03) comparison group current vs never smoker gives estimates OR for cervix cancer 1.83(1.51, 2.22), OR for bladder cancer 3.50(3.16, 3.86), OR for kidney cancer 1.27(1.13, 1.42), ovarian cancer 2.10(1.70, 2.59) , lower urinary tract cancer 2.77(2.17, 3.54). **Conclusion:** The 3 different comparison groups ever smoker vs never smoker, former smoker vs never smoker and current vs never smoker showed a significant association of smoking and risk of cervix, ovary, bladder and kidney cancer. There is no evidence synthesis of smoking associated with prostate cancer. There is no relevant systematic review found on association of smokeless tobacco and genitourinary cancer.

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## Testing of Chemo Module of Paras, His and Analyzing Challenges in Its Implementation

Dr. Megha Bansal

Paras is the HIS (Hospital Information System) software used in RGCI, which is the product of a Bangalore based company named Srishti Software Applications Pvt. Ltd. RGCI is in the process of implementing chemo module of PARAS and the current descriptive study has been carried out to test the chemo module of Paras, HIS, to identify the software bugs before its actual deployment and identify the challenges faced during pilot implementation of the module in daycare ward for two MOPD of RGCI. Desk review and testing of the Chemo Module to identify bugs was for 50 days and end user survey to analyze challenges in pilot implementation of the module was for 10 days. Target population for the study was all the end users of the chemo module- doctors (10), nurses (30), clinical pharmacist (2) and cyto-mixing staff (13). Questionnaire was the method used to analyze the challenges. Finally, 30 users responded to the survey. The results indicated that bringing all the users to a common platform was a difficult task, as 60% wanted the software to be customized according to their own needs and requirements and there was less adaptability among users as it was a challenging job to convince users to switch from existing application to the new software. 45% of the users also suggested for a better user interface integration in the software. It is proposed that all the end users should be encouraged to actively use the software by making them aware of the benefits of this module implementation and initially handholding should be done by the IT department to make users more comfortable and to have a better understanding of the software.

**Keywords:** HIS (Hospital Information System), MOPD (Medical OPD), chemo module, bugs, testing

## Gap Analysis of Emergency Department According to NABH Standards - An Observational Study

Moosa Wahid

Emergency gap analysis is to be for identify the gaps in terms of structure and process in the emergency department at BL Kapur hospital Delhi to recommend alterations in structural designs, process of the facility to meet the requirement and to give recommendations on measures to be taken to fulfill the gaps. The role of emergency department in multi-specialty hospital is to provide timely health-care service to the patients. Emergency and OP department's are the pathway towards all the departments in the hospital so that it can be the first impression of a hospital for many patients in the zonal area. The patients are arriving at the emergency department for the immediate care like accident, trauma, referral, investigations, etc if the patient is getting negative experiences, inefficient processes that leads to revenue loss and negative community image. There was a cluster of opportunities that may leads to medical errors in ED to manage those there is chain of experts in different category to run the department without making any second delay in materials, man and equipments. My study was observational cross sectional study, it was conducted during April 10 to May 20, 2019. A total of 200 patients were observed purposively in the study. Non probability convenience sampling method was adopted for this study. Data collection- The data was collected through observation from the Emergency department, Patient arrival, Doctors and nurses emergency form documentation, medication- stocks and storage conditions, etc. were observed. meantime calculated the delays in documentation and consultation and recorded the reasons for delays(if any)also recorded all the findings in MS excel sheet on every day. Information for the study was collected during 9:30am to 4:30pm on all working days. The scores of each audit parameters mentioned in the self-assessment toolkit has been obtained and the result has been presented in the bar diagram after the analysis of those parameters. The overall quality score of the emergency and accident department is showing maximum number of compliance. and the result shows 17 %of NA cases,79% compliance, and 4%partial compliance and non compliance. After the study i recommend hospital to give regular training and assessment programs for the emergency staff must incorporate to improve the knowledge and skills of the staff. And second recommendation is formation of a separate ward to facilitate patients who are to be kept under observation or disposition is on hold (wait for reports), but are stable, to maintain a smooth flow in the emergency department.

**Keywords:** Gap analysis; NABH standards; healthcare delivery; Emergency department.

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## Root Cause Analysis Billing Error in OPD & IPD in Fortis La Femme, Shalimar Bagh

Navneet Kumar

Hospital billing process is a crucial component for hospital management. Due to the complexity of the hospital billing processes, billing errors may result in costly financial losses and disputes with customers. Accordingly, NABH developed billing procedures for hospitals in financing the healthcare needs of individuals. Hospitals need to comply with the standards set by NABH in order to prevent slippages. In Fortis Lafemme Hospitals', 95 % of the healthcare service payments are made by Insurance Company. Here, the aim is to minimize Fortis Lafemme Hospitals' billing errors in OPD & IPD. To realize this aim, problem solving methods of Define, Measure, Analyze, Improve, Control (DMAIC) are used. The billing process of the hospital is studied first and critical points are determined. After meetings with the hospital IT personnel and hospital administration, all data of billing errors are retrieved. The main billing errors & their reasons and the financial costs of the errors are analyzed with graphical tools. To solve the problems and remove the errors, work flow and standard operating procedures of the hospital

billing errors. It was found that there were billing errors (60%) majorly due to coding and wrong information provided to patients which affected the patient satisfaction. Hence, suitable steps need to be adopted to avoid / reduce the errors.

**Keywords:** DMAIC, OPD, IPD, NABH

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## **Patient Satisfaction with Services of the Outpatient Department**

Neha Mehta

**Background:** Patients' satisfaction is a useful measure to provide an indicator of quality in healthcare and thus needs to be measured frequently. Patient satisfaction affects clinical outcomes, patient retention. The aim of the study was to analyse and compare the level of satisfaction of patients attending the Outpatient Department of a Hospital. The present study was an attempt to assess the level of satisfaction of the patients about various aspects of health care in the hospital. **Methods:** The study was conducted by carrying out a survey amongst 894 patients and by using structured questionnaire set by organization and by analyzing the data using appropriate statistical methods. **Results:** Out of the 894 patients interviewed for the study, 520(58%) were males and 374(41%) were females. Majority of the patients (47%) belonged in the age group 41-60 yrs, followed by 44% in the age group 21-40 yrs. There were only 80 (9%) patients who were more than 60. **Quality of health services perceived by patients:** A total of 894 OPD patients were included in the study to know their perceptions towards the health services providing by the hospital choosing health facility, registration process, basic amenities, perception towards doctors and other staff, perception towards pharmacy. Out of 894 patients 66% are satisfied & 34% are not satisfied with OPD service in hospital. Out of 34% patients who are not satisfied with services, 23% patients complained regarding more waiting time for billing process and lift service, followed by 15% are not satisfied with dr, 6% are not satisfied with staff (nurse, gda, front office, security guard), 6% had issues regarding crowd management and parking facilities, and only 1.5% complained regarding non availability of resources in OPD area.

**Keywords:** Hospital, expectation, patient's satisfaction, satisfied, dissatisfied

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## **A Mixed Method Study to assess the Practices and associated challenges regarding Birth Weight Measurement and Documentation in Public-Sector Healthcare Facilities in Bihar”**

Nidhi Priyam

Birth weight measurement and its documentation is an important procedure to attain post-natal care of neonates. As there is a practice of doing the procedure of birth weight measurement and its documentation in public-sector healthcare facilities which enhance the mortality rate of newborn. This present study evaluates the patterns of recording birth weight data in 3 districts of Bihar and erroneous recorded birth weight influences the misclassification of infant weight leading to mismanagement of child health. The present study carried out in Patna, Arwal and Nalanda Districts. Study is conducted in two parts one is observation check-list which were filled by observing the 8 deliveries and In-Depth interviews were conducted with 10 healthcare service providers of Public-Sector healthcare facilities. Interviews were conducted in healthcare facilities using the local language. All the observations were recorded in check-list and IDIs notes and audio recording were transcribed and content analysis was done using Atlas-Ti software. Birth weight distributions were examined in detail and were calculated for data inconsistencies. The percentage rounding off birth weight and non-recorded birth weight both were higher in all 8 facilities of 3 districts of the study area. 3 instances were found in the analysis where birth weight was



recalled from memory at the time of recording in labor room register. The birth weight collated on 500-gram basis and whenever the birth weight is documented its always in multiples of 500 grams. The study states that Healthcare service provider is recording the weight improperly as well as on recording of weight is on the recall basis. If the government of Bihar really wants to improve the mother and child birth situation it needs to improve the healthcare system where it should focus on practices of healthcare service provider and correction of their practices.

**Keywords:** Neonates, Birth weight measurement, Documentation, Observation check-list, IDI, PNC.

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### **Waiting Time and Satisfaction Survey of OPD ECHS Patients**

Col Sanjay Chawla

Columbia Asia Hospital, Gurugram is empanelled by the ECHS for providing IPD care, specialist consultancy and diagnostic testing facilities to the retired personnel's of the armed forces and their dependents. These patients comprise 25- 30 percent of total OPD patients. A study was carried out to observe the waiting time of OPD ECHS Patients, impact of prior appointments & to know the overall impression of the hospital in the mind of ECHS patient by OPD survey using questionnaire. Study Design: Time & Motion study. Study Area: Columbia Asia Hospital, Gurugram. Tools: A checklist was prepared wherein time taken from entering the hospital, completing formalities till consultation to begin for OPD ECHS patients was observed. A semi structured questionnaire was prepared for satisfaction survey. Study Population: ECHS patients. Sample Size: 75 for waiting time & 50 for satisfaction survey. Sampling Method: Convenient. It was found from the study that most of the patients are not aware of appointments facility, App does not have the capability to upload requisite documents., doctors sometimes are late or have to attend patients in emergency department and IPD, some doctors either do not see the ECHS patients or have earmarked a ceiling as regards the No of ECHS patients they will see per day, there is only one counter established for ECHS patients during peak time, substantial time is taken in the counter to carry out Photostat of requisite referral documents & there is no token system to regulate the flow of patients. To obviate these it is recommended that soft skills of staff be enhanced, token system be incorporated ,technology must be leveraged, present APP be modified to accept copies of referral documents, list of empanelled Doctors for ECHS and their timings must be known, feasibility study of doing away with special ECHS counter and instead utilising it for all patients by changing its location to reception area, adequate scanners be provided and patients be educated to get Photostat documents & on carrying out appointment and usage of the App.

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### **A Study on Patient Turnaround Time in Endocrinology and Diabetes Outpatient Department**

Shagun Parasher

OPD in a hospital serves the facility for diagnosis and treatment of patients. As it is clear that, the patients coming to the hospital are already in grief and pain and OPD is their primary point of contact for diagnosis, increased waiting time can add to their grief. The study was divided into two parts: Pre Audit and Post Audit. Goals of the study were to determine the patient waiting time in OPD before and after policy formation and check any deviations from the hospital standards of not more than 60 minutes, to maximize the efficiency of the OPD and to enhance satisfaction among patients and workforce. A random selection study for 300 patients of 9 doctors to monitor the waiting time of patients coming for various check-ups and consultations, was conducted for a period of one month in Endocrinology and Diabetes OPD. A comparative analysis between the pre and post audits have

also been discussed in the report. In the first audit i.e. Pre-Audit, the average TAT was found to be 76 minutes for 150 patients. Increased TAT was because of particular issues in the OPD. These include patients arriving too early or too late than their appointment time, lack of co-ordination among counter staff and doctors and over-crowding of OPD by Walk-in patients. In the post-audit, after implementation, average TAT decreased by 10 minutes, to 66 minutes for another 150 patients. The policy that led to this change was to “Let the appointment patients go for consultation at their fixed time and no delays should be accepted in that”. Also, to make co-ordination better among counter staff, doctors and patients, it was decided that the next patient in que will be sent to wait outside the doctor’s room for their turn while one before him is still inside. This reduced the time taken by patient in walking from waiting area to doctor’s room. To reduce waiting time, some recommendations include, proper training sessions for management of patients should be given to front office and doctors’ co-ordinators, Scheduling Consultation timings with a gap of 15-20 minutes between two appointments, all the patients should be informed about the process they have to follow after registration and more number of co-ordinators for helping the patients out must be present in the OPD, especially on heavy footfall days. The project will help optimise patient’s flow and working of OPD that is necessary to understand how the system is currently working by reviewing existing process, and determine weak links in the system. This will help ensure patient satisfaction and in maximising profits.

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## **Time and Motion Study of Patients in Radiology Department at Max Smart Super Speciality Hospital, Saket**

Sonia

**Introduction:** Radiology department is an integral part of hospital and is central for patient treatment. Diagnostic imaging provides detailed information about structural anatomical or disease related changes and also helps to know the pathophysiological changes and progression of the disease. **Objectives:** The study aims to observe the elapsed time in between order and execution of imaging examination and to identify the bottlenecks in the process flow. **Methodology:** The study uses a cross-sectional study design wherein, convenient sampling technique was used. A sample of 90 patients (30 MRI, 30 CT, 30 USG) was observed. The bottlenecks in the process flow has been identified from the Turn Around Time of the patients and the average waiting time for patients. **Result:** It has been identified that the time taken for any investigation is different for each procedure. Average time taken for the MRI Scan is 1 hour 34 minutes whereas for CT Scan it is 49 minutes and 38 minutes for ultrasound. It has been observed during the study that there is no slot management done for IPD and Emergency patients. **Conclusion:** It has been observed that the time taken to complete the medical imaging varies from patient to patient, their source (IPD/ OPD/ Emergency), their type of radiology imaging and their health status. This leads to increase in patient waiting time thereby increasing the customer/ patient dissatisfaction. Accommodating slot for the IPD patients for the better management of time and optimum utilization of the bed can effectively decrease patient waiting time. Recruiting General Duty Assistant staff in radiology department can help physically disabled and geriatric patients while changing clothes.

**Keywords:** Radiology, Turn Around Time, Process Flow, Patient Dissatisfaction, Average Waiting Time

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## **To Determine the Fuzzy Boundaries in Health Governance That Impacts the Digital Health Implications**

Tamanna Sachdeva

Governance is the most critical lever to achieve universal health coverage. It provides the basis for the overall

policy and regulation. Governance in health is connected with issues surrounding accountability. It provides framework of right decisions and accountability that encourages desirable behaviour and utilization of scarce resources in the achievement of a shared objective. Some of the major bodies that are involved in the study include MoHFW, MeitY, IRDA, CDSCO, and ICMR. The study analyzes fuzzy boundaries of healthcare governance which impact the digital health implications. Exploratory research was carried out through literature based survey. Information was retrieved from various journals, articles, reports and research papers. Analysis was carried on how the level of interest and power of various governance and regulatory bodies can influence the digital health implications through power-interest matrix. Based on the analysis and discussion with experts, it could be perceived that the regulatory and governance bodies work in silos, which makes governance complex. As far as healthcare governance is concerned different bodies' regulate according to their own interests. This makes working on the technological developments and adoption difficult. Therefore integration of digital health solutions with clinical practices is still a challenge. To deal with such challenges well-defined digital healthcare governance is required which would ensure effective ICT for a well functioning health system and would maximize the achievement of positive health outcomes. To address the shortcoming of making the realization of full potentials of EMRs for example the US had to enact a law which enabled "meaningful use" of EMRs by compelling consistency in content, structure and vocabulary of the information by all medical practitioners. India needs laws like HIPPA and other similar laws that can regulate e-health related issues in India.

**Keywords:** Governance, Governing/regulatory bodies of India, information communication technology, digital health

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### **Factors responsible for long waiting time and its impact on patient satisfaction-A study on outpatient department of a multi- specialty hospital**

Umang Bansal

The waiting time of a patient in a hospital is defined as the average length of time measured from the time the patient enters the hospital billing area to visiting the doctors chamber and taking exit from the hospital. The time spent in the waiting area after the billing and before visiting the doctor is calculated. This study has been attempted to examine the patient satisfaction level through the time spent by waiting for the doctors' arrival to the exit from the hospital. Furthermore, it has also tried to explore the links between the satisfaction level between the staff members and the patients. Random sampling was taken out of the total patients walking in the hospital OPD. The study population comprised of all the female patients between the age group of 12 – 78 years. A sample size of 300 respondents was selected by means of random sampling from Fortis La femme Shalimar Bagh. To tap measures of the hospital and the patient satisfaction level in the hospital, a structured questionnaire was prepared and given to the patients after they exit from the doctors' chamber. The parameters are taken on the basis of the activities that patient do while entering the hospital till the patient walks out after the check-up. The measured waiting time on an average for a patient on appointment is about 15 -20 minutes. In Fortis hospital, the typical waiting time for patients on appointment was twenty-five minutes whereas those who were walk in patients were expecting over forty minutes rather than the suggested half hour. It was for this reason that never-ending quality improvement project at Fortis La femme hospital was planned to assess why patients were being delayed and thenceforth institute countermeasures aimed toward reducing the patients' waiting time at the ability and as a method of health service delivery and increase patients' satisfaction for OPD.

**Keywords:** Waiting Time, Satisfaction Level, Quality Improvement

## Access of IT rights and Data Security in hospital

Isha Narayan

A health information system (HIS) refers to a system designed to manage healthcare data. This includes system that collect, store, manage and transmit a patient personal data and information to a hospital operational management. It also includes those systems that handle data related to the activities and health organizations. As an integrated effort, these may be leveraged to improve patient outcomes, inform research and also influence policy makers. To maintain all these functions and large volumes of sensitive data, data security is a primary concern. The general objective of this study is to explore and provide a better understanding of data security aspects in HIMS, and also access of IT rights in hospital by doing standardization of the profiles of active users i.e authorized users and their roles assigned by HIMS in various non-clinical departments of Kims hospitals across all the nine branch of the hospitals. The study was descriptive and quantitative in nature. The mode of data collection was based on the secondary data which includes active or inactive profiles of users using HIMS in various department of all the 9 branches of Kims hospitals. The study tool was Ms Excel. After doing standardization process through excel, I found that there are total 83 non -clinical departments in all the 9 units of KIMS hospitals, and in each department there are few authorized active users who can only access to the data or information of that particular department. Their unique user ID and password is given by the Suvarna technosoft (software company) which provides HIMS software to kims hospitals. After analyzing the same, I found that there must be bio-metric or OTP login for users to enhance security aspects of the hospital. In the future, the security of data and information handle by the hospital administration will increase with a great pace because of immense involvement of new information and communication technology that will confront with several gaps and challenges in the field of data breaching and data storage for example cloud computing. Kims hospitals is also working towards the cloud access management to increase the security level.

**Keywords:** HIS, cloud access management, HIMS, data security

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## Impact evaluation of healthcare services of HelpAge India based on Beneficiaries Perception

Surabhi Pandey

Health care has been declared as a fundamental right. It is the state's duty to provide healthcare to its citizens. But, healthcare infrastructure is either dysfunctional or riddled with spurious drugs, inadequate manpower and it's completely inaccessible. Urbanization is the most challenging concern today in India. Some subsequent results of urbanization are slums and un-notified settlements, with pollution and its related health problems, water and sanitation etc. The Mobile Health Unit (MHU) Program Unit is structured to provide Healthcare at the door step of the ailing people. The objective to analyse the health status & diseases pattern of a population at one of the MHU served locations over 4 years i.e. Rohtak. This is a Descriptive Cross-sectional study. Data used in study was extracted from MIS database of Helpage India of MHU beneficiaries. Beneficiaries were interviewed after taking the verbal consent from them to assess the impact of MHU in their area. A detailed study of Rohtak which was done for period of 4 years has shown drastic changes in disease pattern as that of anaemia which went down from 2.24% to 0.99%. Hypertension, respiratory, arthritis, and diabetes show the same pattern due to the MHU interventions. Female population is more exposed to almost all the diseases as compared to male population which needs serious interventions. The pattern of disease reported at Rohtak shows the maximum burden of disease like respiratory, GI, arthritis etc. during 4 years. From analysis of the disease pattern, and the case studies has revealed MHU's maintenance of five important characteristics of a healthcare system, i.e. Accessibility, Affordability, Availability, Acceptability and Quality.

**Keywords:** Mobile Healthcare Unit, Rohtak, Health issues & Diseases, Urban slum.

## A comparative analysis of Health Insurance coverage in Delhi and Jaipur

Dr. Nupur Garg

Healthcare is rapidly evolving and with increasing advancement, the cost of healthcare has also been rising. It is expected that more Indians both in the rural and urban areas will take healthcare insurance policies to en-cash on medical treatments which is a provision for providing financial protection and a sub goal of goal 3 of Sustainable Development Goal. Understanding this need the government has also launched one of its major flagship programme “National Health Protection Scheme” in 2018. But are these efforts yielding any result? This paper is an attempt to assess the coverage of Health Insurance (HI) with a comparative analysis between Delhi and Jaipur. It was a cross-sectional study orchestrated in Delhi and Jaipur. A sample size of 108, 54 each, respondents were selected from Delhi and Jaipur using convenience sampling. The respondents were interviewed using a semi-structured questionnaire. Financial independency/ability to meet their own expenses is used as inclusion criteria. Analysis was done using IBM SPSS version 22. It was found that out of study population, 63% (59.3% in Jaipur and 66.7% in Delhi) had HI, of which 25% were employer provided (37.5% in Jaipur and 13.9% in Delhi). Of those who had HI, 36.8% still had their average monthly medical expenses of more than 2000/-. Despite 63% of respondents having HI, 45.4% (22% Delhi and 27% Jaipur) quoted “own savings” as their most used source of funding. It is assessed that though HI is covering about 2/3rd of population but still one fourth of population is being covered by employer provided HI. Further the impact of HI is not significant as one third of people are still incurring medical expenses from their own savings. Delhi comparatively is ahead of Jaipur in terms of HI coverage but in order to cover the rest of population, companies should offer schemes to provide some returns on investment.

**Keywords:** Health Insurance, Delhi, Jaipur, Insurance Providers, Healthcare Expenditure

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## A Study to Assess the Operational Excellence in Fortis Escorts, New Delhi

Aman Sharma

Discharge is the process where there is no need to receive inpatient care and can go home from the hospital. So, timely discharge and medications can improve the overall functioning of the hospital. The objective of the study is to assess the operational excellence of the hospital of discharge process and timely medications to the patients through FOS parameters. FOS (Fortis Operating System) defines and standardizes all ‘non clinical’ patient facing processes to make them patient-Centric, Efficient, Consistent and Reliable. The TPA payor category is taken. The sample size of the study is 200 in discharges and 545 in indenting. The study is quantitative in nature. In this study, primary data is collected by observing activities and day to day interaction with the nursing staff and floor executive. Secondary data is also taken in indenting by the software TRAKCARE. The problem is that there are more delays because of the shortage of GDA’s (general duty assistant) and MT’s (medical transcriptionist) and doctors are busy with other critical patients which cause delay in starting discharge process. The result of the discharge study shows that there are more number of planned discharges and patients are getting discharge within standard TPA timing which is 240 minutes. In pharmacy, the study found that 5% of new admission and 39% of urgent indents were delayed. In addition, the average time to deliver new admission indents was found to be 15 minutes, for urgent indents it was 30 minutes. In this, in the 1st week TAT of new admission was 20 minutes and in the 2nd week that was 10 minutes. Thus, compared to 1st week there is an improvement in TAT of new admission. Average time of Urgent indents in both the week was more than that of its standard time.

**Keywords:** Discharge, Medications, Pharmacy, Indenting, Delays, TAT, FOS



## **Job Satisfaction Survey of Nurses: A Study at Fortis Escorts Heart Institute, Okhla, New Delhi**

Anupama Bharti

Job satisfaction refers to the attitudes and beliefs people have about one's job. Dissatisfaction is an important parameter because it creates hindrance to productivity. Job satisfaction is one of the most focused aspect by behavioural scientists as it directly impacts the organizational effectiveness and efficiency. Nurse's job satisfaction is directly linked to their turnover which is affected by professional status, positive attitude, independence and peer support. The current descriptive study was done with the aim to determine the job satisfaction levels of nurses and to identify factors associated with dissatisfaction. Primary data was collected with the help of a structured questionnaire. Random Sample of 100 nurses was taken and data was analyzed using Microsoft Excel. It was found that 54% of the nurses are satisfied, only 20% are dissatisfied whereas 26% are neither satisfied nor dissatisfied. Also it was seen that around 60.57% of the nurses think positive of their organization, 26.72% speak negatively and 12.71% of them are neutral. The major factors that are found to be contributing to dissatisfaction are salary, annual leave and sick leave provided by the organization, shift rotations, pay for extra working hours, double duties and their involvement in decision making. It was proposed that there must be a revision in the current salary structure, their involvement in decision making must be increased and they should be given more acknowledgment and recognition for their work.

**Keywords:** Satisfaction, Productivity, Positive attitude, Turnover

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## **A study of awareness of Biomedical Waste Management among Nursing and Housekeeping staff of hospital and to do Gap analysis Vis-a- Vis Biomedical Waste Management Rules, 2016 and 2018(amendment)**

Debashreeta Das

Hospitals which are meant for treatment of patients, and are custodian of healthcare, they themselves have become the force of spreading infections. If biomedical waste is not properly treated, disposed, handled or segregated in the hospital then it can cause adverse effect to the health of patients or even to the staff working in the hospital. Following the biomedical waste management rules has become a statutory requirement for hospitals in India. The objective is to assess the knowledge regarding Needle stick injury, color-coding, collection, segregation, handling and transportation of biomedical waste among housekeeping and nursing staff and to do gap analysis by comparing current situation at the hospital with the guidelines and provide necessary interventions for ensuring its compliance. A hospital based cross-sectional study was conducted in Sitarambhartia institute of science and research for over a period of two weeks and total of 100 questionnaires containing 20 questions related to segregation, color-coding, handling, transportation and collection of Biomedical waste were prepared for 50 nurses and 50 housekeeping staff who were selected purposively. There was separate questionnaire on needle stick injury which comprises of general 10 questions related to it. Personal interview of the staff was taken to assess their knowledge on the Awareness of biomedical waste management. Results were expressed as number, percentages. For gap analysis, check list was prepared and data was collected through observing the current scenario in the hospital and to see whether the management is following the Biomedical waste management Rules, 2016 & 2018 (amendment) and checklist was reviewed by Head of infection control committee and Housekeeping manager who provided me the data whether the hospital is compliant to guidelines or not. The results showed that nurses have 72% and Housekeeping staff have 84% of good knowledge regarding segregation, collection, handling, transportation and precautions while handling the waste. In case of Needle stick injury, 95% of nurses and 83% of Housekeeping staff have proper knowledge regarding it. After observing the

present BMW management scenario in the hospital for nearly 2 weeks, it was noted that the hospital follows the 2016 guidelines and certain clauses are added to the BMW management regulations, 2016 (BMWM 2018 amendments) that must be introduced in the hospital. It can be concluded from the study that the staff of hospital specifically the nurses and housekeeping staff have good knowledge about the workflow of bio-waste collection, segregation, transport and disposal and the hospital is following the BMWM 2016 rules and recent amendments are in progress and will soon be implemented in the hospital. However, Hand-on training should be organized for nurses and specifically the housekeeping staff to improve their knowledge and separate training sessions for new joiners should be organized immediately after their joining.

**Keywords:** Biomedical waste management, Segregation, Questionnaires, Checklist, knowledge, Needle stick injury, Guidelines.

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## **Out Patient Waiting Time in different Departments at Sitaram Bhartia Institute of Science and Research**

Deepali Saini

It is an acknowledged fact that more waiting time for patients during consultation in a hospital is very dissatisfying. Long waiting time leads stress for both patients and doctors and also acts as a barrier to utilisation of healthcare services. Thus, a need was felt to understand the extent of waiting time experienced by patients at Sitaram Bhartia hospital in New Delhi. The objective of the study was to find out the waiting time experienced by the patients and the difference in waiting time between different specialties. The two different specialties were General Medicine and General Surgery. The methodology used in the study was cross sectional observational study. The total sample size was 200 patients, 100 from each department. The sampling technique used was purposive/ convenience sampling. The source of the data collection was Literature Survey, Records of Hospital, HIS of hospital, Personal observation – direct & indirect. The study showed that in General Medicine majority of cases (57%) took less than 15 minutes waiting time for consultation which seems to be comfortable waiting time. On the other hand, 21% of patients had to wait for more than 30 minutes which is considered as long waiting time. In General Surgery, 35% of patients waited for less than 15 minutes, on the other extreme 35% patients waited for more than 30 minutes that can be considered long waiting time. The study also showed that General Surgery waiting time was more than General Medicine. Although, the observed overall waiting time does not convey a bad picture but still in view of healthcare to healthcare competition and customer-centric approach, they should try to reduce the waiting time further to enhance patients' overall positive experience and satisfaction in the hospital. The doctors and staff should also be empathetic towards the patients to increase patient satisfaction. Therefore, the hospital should implement some strict rules and policies to reduce waiting time by patients.

**Keywords:** Customer – centric, General Medicine, General Surgery, Cross sectional study

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## **A study on Gap Analysis between patient expectation and perception of services provided by Preventive Health Checkup Department of the Sitaram Bhartia Hospital**

Harsheen Kaur Arora

Preventive Health Checkup Department is the doorway to almost all of the hospital services. Provision of service in this particular area has an important role in the general impression of the patient of hospital hygienic and treatment services. This research was done with the purpose of investigating the expectations and perception of preventive health checkup receivers of Sitaram Bhartia Institute of Science and Research in order to analyse the difference between Patient's expectations and perceptions regarding the services provided and identify various gaps in the functioning. A qualitative cross-sectional study was conducted on Preventive Health Checkup

Receivers of Sitaram Bhartia Institute of Science and Research. A convenience sample of 50 patients were selected as sample size. Respondents answered the questionnaire two times. Once they expressed their expectations prior to availing the services from the Hospital and once for their perceptions after availing the services. A modified Service Quality (SERVQUAL) instrument was adapted to collect information from the respondents within the period of summer training. The instrument comprised 22 pairs of questions assessing 5 dimensions of the Preventive Health services provided to patients during checkups. The mean patient expectations and perceptions as well as the gap score values for each dimension of PHC were tested for differences. SPSS (Statistical package for Social Sciences) and MS Excel was used to analyse the data. Also, the t-test was used to check whether data was statistically significant or not. The gap score for all of the 5 dimensions of PHC services were: tangibles -0.6465; reliability - 0.514; responsiveness, -0.35; empathy-0.32, and assurance, -0.251. This result indicated that patients were mostly satisfied with Preventive Health Checkup service quality in relation to all dimensions. 'Tangibles' had the highest gap score in terms of cleanliness in the diagnostic rooms as well as availability of keys to lockers in the changing room. While the lowest score was for 'assurance' dimension, in which the statement about knowledge of PHC Executives had the smallest gap score. The study showed negative gaps for the 5 PHC service quality dimensions evaluated. This could provide PHC Department with information about the aspects of services that promote more positive patient outcomes and satisfaction. But, overall satisfaction score of respondents was good. Various measures have been suggested which can improve the complaints that were encountered and in turn would increase patient satisfaction.

**Keywords:** PHC-Preventive Health Checkup, Expectations, Perceptions, Service Quality Instrument (SERVQUAL), Tangibles and Assurance.

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## **Medication Reconciliation: A Study of Fortis Flt. Lt. Rajan Dhall Hospital Vasant Kunj, New Delhi**

Dr. Gininder Kalia

Quality of patient care is the most important aspect for a hospital and the biggest challenge as well. The first step in this is preventing the patient from any kind of harm done by a medication is Medication reconciliation . It is the process of creating the most “accurate possible list of all medications” a patient is taking — including drug name, dosage, frequency, and route — and comparing that list against the physician’s admission, transfer, and/or discharge orders, with the goal of providing correct medications to the patient at all transition points within the hospital. It is a strategy for reducing the occurrence of medication discrepancies that may lead to ADEs (Adverse Drug Event). The objective is to study the problems in documentation of Medication Reconciliation Chart and to give recommendations for improvement in 150 bedded multi-specialty tertiary care Fortis hospital. This is Concurrent, Retrospective study. Convenience sample collection was carried out for 6 weeks (pre-phase-2 weeks, intervention-3 weeks, post-phase-1 week), during 2nd week of April to 4th week of May 2019. Data source is Medication Reconciliation chart.100 samples for pre-phase and 50 for post-phase. The results suggest that average Nurses Compliance improved from 81% to 86% during pre- and post-phase. Average Doctors Compliance improved from 28% to 90%. To conclude, Medication Reconciliation is an essential aspect of patient safety. Eventually, improved compliance was reflected on part of doctors and nurses. In some instances, there is therapeutic duplication found in discharge summary for which doctors were sensitised in Validation meeting. Modification of MAR charts was done and will be incorporated till the current stock is exhausted.

**Keywords:** Medication Reconciliation, Adverse Drug Event, patient safety, compliance, MARchart.

## Patient identification errors

Dr. Priya Vyas

Objective; Identification of patients and matching is one activity which is the crux of effective treatment and patient safety. Patient identification is the most important and vital step in Health-care management, one has to be vigilant enough so no error should transpire anytime. To evaluate the frequency and accuracy of health care workers verifying patients identity before performing any task given. To provide the solutions to minimize the errors occurring in patient identification. Study-area; 150 sample size including hospital sisters and admitted patients. Methodology: This Research is Based on Prospective study, in which Primary Data collection was done, on patient identification errors, using patient and sister questionnaire for venkateshwar hospital IPD. Results; This study shows that patient identification is happening on every IPD floor of venkateshwar hospital. 3% sisters are using wrong identifiers to identify patient, 5% sisters documented during study period that, they misidentified patients, 30% sisters missed to provide wrist bands to patients, 8% sisters applied wrong id bands to their patients, 2% sisters drawn blood samples from wrong patients. Conclusion; Robust training to all Health-care staff regarding, what all parameters to look for before each encounter with patient. Adopt wristbands that include patient photographs as well as barcodes to be scanned. Use Biometric verification to identify patients. (to deal with clerical-human errors). Provision of a meditation and recreational room for all health-care staff, which can assist them to forgo all the anxieties, depression and tensions of daily life and help them in improving their quality of work.

**Key words:** identification, prospective-study, biometric-verification, recreational room.

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## May Measurement Month 2019: An analysis of raised blood pressure screening in Delhi NCR

Priyanka Sepat

Raised blood pressure continues to be the biggest contributor to the global burden of disease and global mortality. This study tries to evaluate blood pressure screening among people aged  $\geq 18$  years and to provide solutions and treatment for newly diagnosed patients with hypertensive blood pressures. A cross-sectional survey was carried out amongst the respondent's age group 18 years and above in Delhi NCR region. Convenience sampling was undertaken at two different locations; one at a public place (south city society) and the other at a work place (PHFI). BP was measured and recorded using an Omron automated blood pressure monitor. BP was measured in a seated position with the back supported and legs at resting position without crossing. Three blood pressure readings were recorded on the left arm (preferably) or right arm with 1 minute intervals. A questionnaire was used to collect additional information from each participant. Out of the 124 screens for whom all three BP readings were available, 27 (21.8%) had hypertension based on the mean of second and third reading or and currently on hypertensive medication, even if they presently don't have high BP. A total of 11 participants are presently on hypertensive treatment. Remaining 16 participants with hypertension are not receiving any treatment for hypertension. Among 11 participants who are receiving treatment for hypertension five had uncontrolled BP. The results from the study inferred that hypertension is highly prevalent in males then females with very low level of awareness about hypertension. Despite of Population-based Screening of common NCDs like Diabetes, Hypertension and common Cancers is being initiated under the umbrella of National Health Mission (NHM), awareness level is unsatisfactory.

**Keywords:** May Measurement Month, Raised blood pressure, control, treatment, Delhi NCR

## Succeeding Supply Chain Integration of Healthcare Provider & Supplier by Using Industry 4.0 Standards

Rajat Jain

The objective of the study is based on the Supply Chain Management in Healthcare provider and suppliers by using the new industry standards and technology. The complexity in healthcare industry is increasing at a very rapid rate. Majority of the healthcare facilities are combining with different kinds of healthcare providers SCM exercises incorporate acquisition, Product lifecycle Management (PLM), Supply Chain Planning (SCP), coordination and procurement management Integrating Healthcare facility data with verified vendors who are already supplying the parts/consumables for the devices with are placed in the facility. Using prediction system and advance system analysis we venture out for the future demand for the consumables based on the past ordering pattern of the consumer. The study area was at the Healthcare Marketing and Sales department at Siemens Healthineers. The study was majorly based on primary data which included in-depth interviews and secondary data. A cloud based supply chain system can help decrease inconsistency in information, reduce degrees of uncertainty, eliminate problems in collaboration and help integrate interactive processes. Regression Analysis, Cognitive computation for SCM Risk Analysis, Spike Charts, CPFR model are the tools which we can use to strengthen our SCM and be more efficient. This study inspected the healthcare services inventory network and talked about the collaborative practices right now set up. The most up to date arrangements, for example, Internet of Things, Big Data and Industry 4.0 make changes to address the issues of clients and furthermore add to the advancement of coordination and supply chains the executives. Based on the analysis the vendor can carve out a customized Customer Relationship Management system where it can have data separately and use the customer's data and can supply the materials having buffer of time to run the customer's business smoothly without any scarcity of materials.

**Keywords:** Supply Chain Management, Big Data, Industry 4.0, Computational Analysis

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## Testing of His Module and Designing Wireframe for OPD

Sonali Kumari

The study was undertaken with the objective to analyze the work flow of the four different projects running in RGCI&RC and eventually improving it. It is an observational study through the data collected from the system. Mode of data collection was online and offline testing of the work flow of three modules-chemo module, nursing module and Lab Information System module. The fourth project is a Wireframe of OPD Clinic which I have designed by understanding the needs of the consultants for recording and viewing the clinical record in the system, to reduce the time consumption and manual work. In chemo module dose entry needed to be mandatory for the further process, headers were missing in the prescriptions, special instructions at the time of protocol generation were not visible even after saving, EMAR functionality was not working. In Nursing order module errors were showing in the flow of bill receipt/bill discount approval, lab order with urgent flags were not listing, the lab technician screen was crashing while accepting the specimens, test units were not reflecting in the report, services were not loading under service dropdown and therefore the user was not able to process order by nursing staff for live and radiology. From the analysis it was found that initially the end users were reluctant to accept to change in the system but later on they started adapting the change.

**Keywords:** EMAR, LIS, Chemo module, Nursing order module, Wire frame



## A Telehealth Case Study on ChARM Health

Isanaka Sai Josree

World's doctor to population ratio is estimated to be 1.4:1000 by World Health Organization (WHO) and India's doctor to population ratio is estimated to be 1:11039 as per National Health Profile, 2018, with maximum doctors choosing urban areas for practice. However, as per 2011 census of India, 68.84% of the population lives in the rural areas. This huge gap in the infrastructure raises a question on the quality and accessibility of the healthcare services to the public. Telehealth is one of the best and promising solution to enable face-to-face consultation avoiding distance and time barrier. Objective of the Study is to understand and explore the Telehealth Scenario globally & nationally and the solution offered by ChARM Health for rural India. An Exploratory Study using Secondary data was done to gain knowledge on Telehealth at both Global and National level and to understand the implementation of ChARM Telehealth. Data have been collected from Published reports, News articles, Press Releases and ChARM Health official site. Various tools like SWOT Analysis and Flow chart are used as part of the study. With fast changing technology and enormous opportunities, Telehealth is the rapidly evolving field in Digital India. Telehealth is implemented in an exquisite way by ChARM Health addressing the urban public with an integrated Patient Portal software application and the rural public with the help of a Remote Facility set up, equipped with Telehealth Kit and Kiosk. Reduced delivery costs, superior Patient care, effortless patient's data access and exceptional Patient experience have added greatest value to ChARM Telehealth. Their integrated cloud-based product suite can be a one-stop solution for both urban and rural setups of Indian Healthcare.

**Keywords:** Telehealth, Telehealth Kit, Telehealth Kiosk, Remote Facility, Patient Portal

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## Infection Control in Operating Room Pertaining to Housekeeping and Maintenance Department

Simran Narang

The objective of the study is to control infection in operating room in pertaining to housekeeping and maintenance. As we know that infection can be easily spread in hospital and operating room is the most common place of spreading infection and by this study the gap has been seen. The area of the study is operating room of the Sitaram Bhartia Hospital of Research and Science. The methodology used to conduct the study is by checklist which was prepared by seeing the CDC guidelines and JACOB guidelines and also by looking the checklist of housekeeping and maintenance which was followed by the hospital, the observation of 10 days was done where we have noted down the gap and the things are done according to the guidelines or not and then on the daily basis the observation were done and noted down and suggestions has also been noted down to improve the infection. The result of the study is to control infection in the OT pertaining to Housekeeping and maintenance the Observation for 10 days was done in OT to check whether the work done in OT is according to the CDC and JACOB guidelines or not and then the parameters which are not followed by the staff has been marked as NO and then compliance have been made for data analysis and graph has been prepared. The conclusion of the study is all these things should be checked regularly and proper action should be taken by the supervisors and training of the housekeeping staff should be done first so that the chances of infection can be controlled.

## International Patient Safety Goals (IPSG's), Goal 1- Identifying Patients Correctly

Akansha Gupta

The objective of the project was to study and analyse the process on the compliance of the patient identification events during five different moments. The data collection was primary. The study was based on observational pattern which included nursing staff before the beginning of any intervention and procedure. A proper formal checklist was given which was used data collection of the raw data which helped in analysing the compliance of patient double identification process in IPD wards, Chemo-Day care and Surgical Day care of the hospital. In both the months April and May, Patient Identification process through arm banding was 82.3% and 90.3%. The compliance for moments of patient identification events was as following during both the months respectively 60.7% and 74.5% patients were identified through arm banding before medication administration, 80% and 85.7% patients were identified through arm banding before taking any blood sample or other sample for clinical testing, 78.4% and 87.5% patients were identified through arm banding before performing any treatment or procedure, 75% and 83.3% patients were identified through arm banding before shifting out of patient from one unit to another. Patient Safety must be the first concern for every healthcare facilitator as the motto of healthcare is to provide outstanding care, better treatment and facilities. Every healthcare facilitator should cross check the patient identifiers during any medication, diagnosis, testing or procedure to avoid patient harm and medical error.

**Keywords:** Arm Banding, Patient Identification, Medication administration, Shifting out, Clinical testing, Procedure

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## Audit of Consent Forms At Dr. B.L.Kapur Memorial Hospital

Dr. Aitan Naim

Practicing standardized consent taking procedure and documentation is an essential aspect of patient care. As per Joint Commission International (JCI), consent is associate agreement or permission in the course of full notice concerning the care, treatment or services that are the topic of consent. A patient should be apprised of nature, risk and benefits of procedure or treatment before the physician or any other staff begin any such process. Hence the project titled Audit of consent forms was done at Dr. B.L. Kapur Memorial Hospital with the aim to assess the current consent practice and determine the rate of completion and adequacy of record by different specialties within the hospital and to identify areas of potential improvement. Total of 240 consent forms were audited. 20 forms each for Informed Consent, Anaesthesia Consent, and Blood Transfusion consent were analyzed for four specialties. The audit was done with the help checklist prepared according to the quality standards of consent form completion of the hospital. Out of all the audited forms, the completion rate of form category wise was found to be 31% in Anaesthesia consent forms followed by Blood transfusion consent forms (20%). Informed consent forms had 15% completion rate. The audit revealed incomplete documentation and gaps in various quantitative parameters of consent form completion for the selected specialties. A need to conduct training and sensitization session for doctors and nursing staff along with regular auditing checks is highlighted from this audit.

**Keywords:** Audit, consent, Documentation, Anaesthesia, Informed consent

## **Tobacco use during pregnancy and its determinants: Findings from National Family Health Survey (NFHS-4)**

Dr Akriti Jamwal

**Objective:** To study the prevalence and determinants (socio-demographic and economic) of tobacco use among pregnant females and to observe the cessation support received by them. **Methods:** The present cross-sectional study utilizes data from NFHS-4 (National Family Health Survey – 4). The relationship between tobacco use among pregnant women and socio-demographic and economic factors were assessed using Bivariate logistic regression. **Results:** Overall, 6.39 % of women reported tobacco use during pregnancy. The mean age of pregnant women at tobacco use was reported to be 24.70 years. Tobacco use during pregnancy was significant in women with no education [OR-CI, 3.31(2.69-4.08)]. Similarly, increased tobacco use was seen among pregnant women belonging to poorer socio-economic status (SES) [OR-CI, 3.03(2.52-3.66)]. Pregnant women who were advised against tobacco use were less likely to continue tobacco consumption [OR-CI, 0.80(0.56-1.16)]. Also, women who tried to quit tobacco in the last 12 months were less likely consume tobacco [OR-CI, 0.93(0.76-1.14)]. **Conclusion:** Since tobacco use is significant among pregnant women, healthcare professionals and policymakers need to give special attention to the issue to curb maternal tobacco consumption.

**Keywords:** Pregnant Women, Tobacco Use, SES Factors, Tobacco Cessation, NFHS-4

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## **Time motion study in emergency department in MAX, Saket**

Atul Malik

Emergency Department is one of the most important departments of the hospital. The aim of Emergency department is to immediately attend the patient in need to borrow the consultant time to save/treat the patient within the golden hour period. The objective of my study is to evaluate the performance of ER department of the hospital. Provide timely health-care service to the patients. To provide speedy service, there should be availability of every resource on time. Every step should be completed within standard time. To understand the distribution of time for various steps, time study is required. The ED thus needs a systematic analysis of its services consisting procedure for its efficient management and function. **Methodology:** The project is a cross-sectional observation study. Convenient sampling method is used to collect data through observation and checklists, Study period-10th April 2019 – 25th April 2019, study population-Patient visiting MAX HOSPITAL ER. The sample size of my study is 30. **Findings:** Delayed filling of assessment sheet in by the doctor and staff due to overcrowding of patients. OPD patient movement. Samples kept for more time after barcoding. Lack of housekeeping staff. Due to this TAT of doctor, TAT of speciality Doctor, TAT of nursing staff increase. **Conclusion:** As per the findings of the study, TAT of ER is not within the range of the benchmark set by the hospital. It is important for the department to continue working towards these issues so as to improve its performance and thereby increase its patient satisfaction for the betterment of the hospital.

**Keywords:** TAT-Turn-around time, ER- Emergency

## Current Status of Public Health Insurance Schemes of India

Raghav Bhardwaj

The current health expenditure of the country is 3.9% of the GDP, out of which 1.4% is done by public spending. This shows that India's contribution towards healthcare is very low compared to other developed or even low-income countries of the world. It has created a serious burden on the population of the country to spend money out of their own pockets for their healthcare needs. The OOPE amounts to be 60% of the total health care Expenditure of the country which has led to a heavy burden on families and have pushed many of them below the poverty line. Such a situation creates an ever-increasing demand of health insurance for the people, especially the poor, in order to prevent them from catastrophic expenditure during the time of hospitalisation. To tackle this the Indian government has come up with a number of health insurance schemes at both the state and the national level, in order to provide financial protection to the poor. The objective of conducting this study is to understand how the various health insurance schemes (like MJP JAY, CMCHIS, RSBY and PM JAY etc.) work and what have they planned for reducing OOPE, analyzing these schemes on various parameters and understanding the gaps and challenges faced by the schemes. This study is carried out by descriptive secondary research from various literatures and reports. The findings of the study included a lot of challenges and gaps that have not led to the achievement of the desired objectives of the scheme like lack of awareness, tsunami of claims, non-availability of quality hospitals, lack of standards to name a few. Recommendations to improve this situation can be making beneficiary aware about the schemes, increasing the coverage to by including OPD services and extending it to Non-Poor population. This study will help in understanding the current situation so as to improve the future state.

**Keywords:** Health Insurance, Out of pocket expenditure, RSBY, PM JAY, Financial Protection.

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## Time and Motion Study: Discharge Process-IPD, RGCI&RC, Rohini

Divya Nepal

Objectives of our study are time motion study of current discharge processes in IPD and a parallel dipstick study, with changes in the current discharge process. Specific objectives are to calculate Turn Around Time (TAT) for each discharge sub-process, find factors leading to delays in discharge process and find feasible solutions to reduce time lags between discharge sub-processes. The study area was In-Patient Department (IPD) wards 3C and 4C of RGCI&RC. The methodology used was Observational Study, with convenient (random) sampling with a sample size of 302 discharge patients. The tool used for primary data collection was a checklist, which was analysed on MS-Excel. The study found out that maximum discharge TAT was for credit patients with same day discharge and indenting medicine from in-house IPD pharmacy showing an average TAT of 5:52 hours, reason being time taken by third party approvals. The minimum discharge TAT was for cash patients with advance discharge summary and self-purchase of discharge medicine showing average TAT of 2:17 hours. The most feasible discharge process was advance discharge summary with medicine indent from in-house IPD pharmacy with average TAT of 2:36 hours. Since maximum wait time was for discharge summary and getting discharge medicine, a dipstick study was done in parallel to the existing process, with a few of the sub-processes like

indenting of medicine and getting discharge summary done simultaneously and, in this case, the average turnaround time was 3:08 hours. Conclusion of the study was that increase in planned discharge with preparation of advance summary would decrease the total TAT, increase the purchase of in-house discharge medicine and increase in patient turnover per bed, thereby increasing the efficiency and revenue of the organization. For cases where planned discharge is not possible, clubbing of sub-processes would decrease the total TAT.

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## **Role Based Access Control Model in Data Security (Krishna institute of Medical Sciences (KIMS), Hyderabad)**

Komal Bharti

The essence of Role-Based Access Control (RBAC) is that system permissions are assigned to defined “roles” rather than to individual users. Users acquire these permissions by virtue of being authorised to act in a categorised manner known as a “role”. The driving motivation for RBAC is to simplify security policy administration while facilitating the definition of flexible, customised policies. The development of new modeling concepts and techniques is required to support large-scale, enterprise-wide, distributed systems. Role languages are needed that can simply modify constraints associated with roles thereby permitting dynamic response to enterprise policy changes in a transparent fashion to applications. Role definition and management thus becomes a process with high trust requirements. Role-Based Access Control (RBAC) is very useful for providing a high level description of access control. It enables a better understanding of the security problems in an institution because it bridges the gap between their technical aspects and their managerial descriptions. Several models have been devised to describe RBAC. The model is also refined by supporting the concepts of active roles and private permissions. The major objective of RBAC Model is to facilitate security administration and review sophisticated variations of RBAC include the capability to establish relations between roles as well between permissions and roles and roles between users and roles. The study area of my project was at Krishna Institute of Medical Sciences, Hyderabad (IT Department). It was a quantitative study and the study tool was Microsoft Excel. Secondary data was the method of data collection which includes active or inactive profiles of users using HIMS in various department of all the 9 branches of Kims hospitals (secundrabad, kondapur, Ongole, Rajamundry, srikakulam, Vishakhapatnam, Nellore, Ananthpur, kurnol). All the departments of KIMS Hospital are using HIMS software i.e SUVARNA Technosoft pvt. Ltd. The records of patients are kept both manually and on the software. The key components of Role-Based Access Control were formalised in order to be sharp, precise and prevent their multiple interpretations. In this work, an approach is presented to design an RBAC model for healthcare systems.

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## **The Use of Abbreviations in Consent Form**

Kumar Saurav

The consent form is an important document for the hospital as well as for the patient rights. It is a legal document that is dated and signed by the healthcare providers that explains the purpose, benefits and potential risk to the patient about medical or surgical intervention. As abbreviations improve the speed of note keeping and simplify



patient notes. But studies have shown that this can reduce clarity, increase mistakes and cause confusion in patient management plans. Here the use of abbreviations in Informed consent and anesthesia consent forms have been taken in the study. Objective of the Study is to identify the number of consent form with use of abbreviations and total number of abbreviations used in Consent forms. To do the comparative analysis of abbreviations used in various departments of ICUs and to give the recommendation to reduce the use of abbreviations. Study was conducted in Dr. B. L. Kapur Memorial Hospital. This was retrospective study in which 240 sample size was taken for Informed and anesthesia consent each through Simple random sampling between the time period of 21st April to 21st May and Excel sheet was used to do the analysis of data. After doing the analysis of data the result showed that 169(70%) in Informed and 104(43%) in anesthesia consent forms abbreviations were used. Overall 559 abbreviations were used in which 394 was in Informed consent and 165 was in anesthesia consent. The maximum number of abbreviations was used by BLK Heart Centre and minimum was by HaematOnco and BMT. There were clear forms in which no abbreviations was used and the analysis showed that 71(29%) forms was for informed and 136(56%) forms for anesthesia out of 240 forms where no abbreviations was used. The maximum number of clear forms was found in HaematOnco and BMT and minimum was found in Orthopedics. It is clear from results that the abbreviations are being used regularly and often inappropriately. Only some of the forms were found without any use of abbreviations. Based on the study analysis and conclusion some recommendations were given that can be undertaken to reduce the use of abbreviations in patient right documents.

**Keywords:** Abbreviations, Consent, Anesthesia, Informed

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## Medication Management in Different Areas of Hospital

Dr. Mansi Bhola

The objective of the study was to check the compliance of medication management in different areas of the hospital according to the guidelines. It includes, observing medication storage practices in medication room, refrigerators and to check medication errors in In-patient files. Storage and receiving of drugs in IP Pharmacy was also taken into account. The study was done in Medanta-The Medicity, Gurgaon in 54 different areas. It was an observational cross-sectional study and the sampling method used for this study was convenience sampling. The tool used was observation and checklist for the study to be conducted. It was found that, non-compliance was there in ward stock, patient's bedside medication lock, storage of medication in refrigerator, placement and verification of narcotics and LASA medications, monitoring of refrigerator temperature, cleanliness of medication preparation area, usage of saline labels, appropriate filling of patient details, medication order and stoppage of the dose filling by the doctors, administration and documentation time signature by nurses, verification and administration of high risk medication by nurses, prescription and administration review of medications by pharmacist. From the above findings it can be concluded that for wards and ICUs, some strict policies must be laid down so that there can be proper accounting of all medication error due to storage practices and medication administration record. The workload of nurses should be minimized so that they can concentrate on other important work activities. Hence, the hospital needs to take important steps towards these issues so that patient safety can be maintained.

## **Digitalization of CIMS Book**

Mansi Chauhan

Digitalizing healthcare is the most important enabler for expanding precision medicine, transforming care delivery, and improving patient experience. The development of CIMS database resulted from an annual drug reference guide popularly known as CIMS book which contains information about different drugs, their adverse drug reactions, dosage, and variety of salts depending on the salt variance. The software development of CIMS and digitalization of the CIMS book will help the physicians in efficiently looking for medicines and their substitutes as per the need of the patient. The general objective of this study is to understand the backend and frontend of the CIMS database and digitalizing it for its use by physicians and healthcare professionals. The methodology involves digitalizing ten groups of drugs as a pilot project and highlighting the strengths and weaknesses of the software by using a checklist. The main variables of the checklist were functionality check, single user performance-testing, code review & unit testing. Findings- The front end and back end refer to the separation of concerns between the presentation layer (front end), and the data access layer (back end) of a piece of software, or the physical structure or hardware. In CIMS, for front end- Java script for language which can manipulate, calculate and validate data. Java script layer has been used (TS layer which is a type script), HTML for content. The angular HTML layer has been used for this, CSS layer STYLUS has been used for visualization. While, for backend- Apache Cassandra for scalability and high availability, PHP to write server side scripts and PostgreSQL for database management. The issues that were faced while using the software were with the input of drugs. The group once made couldn't be removed. There was also a problem in searching the drug initially. Conclusion- The software can furthermore be integrated with EMR for using it more efficiently by the physician and also will be very beneficial in Clinical Decision Support System (CDSS) in the near future.

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## **Evolution of Health Insurance Schemes In India And Analyse Ayushman Bharat (Pm-Jay)**

Dr. Priya

In India Low Socio-Economic Status and Poverty Is One of the Main Reason Due to Which People Are Not Able to Receive Adequate Basic Health Care Services. More Than 30 Million People Lapse Below Poverty Line in India On Account of Expenditure On Health Related Issues This Further Leads Medical Impoverishment. Total Health Expenditure in India Is About 4% Of GDP of This Only 1.3% of GDP Is Public Spending. NHP 2017, Recommends Country Should Spend 2.5% Of GDP On Health and Should Further Increase to Reach the Goal Universal Health Coverage (UHC). The Insurance Schemes in India Have Had Low Population Coverage and Has Low Impact On OOPe. Government of India Has Launched Ayushman Baharat in 2018 To Provide Health Care at All of Three Levels. This Study Based On Analysing How the Health Insurance Scheme in India Has Been Evolved, Its Progress and Analysis of Ayushman Bharat Scheme Using Secondary Data and Literature Review. After Study, It Is Identified That Ab Scheme Aims to Target Over 10 Crore Families Belonging to Poor and Vulnerable Population Based On Secc Database. It Will Cover of Rs. 5 Lakhs Per Family Per Year, Taking Care of Almost All Secondary and Tertiary Care Procedures. Thus It's Concluded That by Ab Government Is Targeting to Achieve Universal

Health Coverage (UHC) And to Eliminate a Major Source of Poverty Afflicting the Nation. But There Are Challenges That Need to Be Overcome to Enable These Benefits to Be Realised by The Indian Population and Ensure That the Scheme Makes a Sustainable Contribution to The Progress of India Towards UHC.

**Keywords:** Universal Health Coverage, Ayushman Bharat, Secc Database, NHP 2017

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### **Testing of CRM (Customer Relationship Management)**

Abhishek Jain

Hospitals are becoming very competitive; patients want to protect their privacy rights. Patients demand service and are ready to exercise their rights. Patients want to take second opinions and ready to switch providers. Hospitals are developing “customer outreach” databases and are moving from mass advertising to target direct marketing. Hospital is developing patient relationship management solutions to achieve customer expectations and cement customer loyalty within the demands of time. CRM is a concept concerned with creating, developing and enhancing relationships with carefully targeted customers and customer groups for maximizing the total value for the customer and the provider. Hand on training immediately prior to going live has been documented to be of great significance as the training is fresh in the minds of the users. Web based HIS and EMR is already running successfully in Medanta. Now, it's going Testing CRM (Customer Relationship Management) Module to be used by Coordinators in OPD in First Phase. The general objective of this study is to know the challenges faced while testing the CRM Module in Medanta - The Medicity, Gurugram and how to get rid of them. Software testing is really required to point out the defects and errors that were made during the development phases. The study was descriptive in nature. It was based on primary data. The sample technique was Convenient sampling. The study population were the Coordinators and the study area was the seven specialities of Medanta. The expected issues that might be facing are: Coordinators facing problem in searching the entire patient list, creating RFA, booking appointments for Ct-Scan, MRI, Admission Follow up etc. It is running successfully in the hospital and after changes in phase 1 coordinators start using CRM with filling minimum required details.

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### **Patient Safety Process: Patient Identification, Dr. BLK Memorial Hospital, Pusa Road**

Aishwarya Tolani

The Objective of the assignment is to study the Patient Identification Process and its Compliance Rate. Specific objectives include: to determine the Percentage Compliance of Patient Identification in ICU, IPD and Emergency and to give suggestions to increase the compliance of patient identification process across the hospital. The study area were In-Patient Department (IPD), Intensive Care Unit (ICU), and Emergency ward of Dr. B. L. Kapur Memorial Hospital. The methodology used was Observational Study, with convenient sampling with a sample size of 60 patients from emergency department, 60 patients from wards and 60 patients from ICU. A checklist was used for data collection. Data was analysed using MS-Excel. The study found that, in IPD, there was 75% compliance in patient identification process, maximum compliance was seen in yellow band (allergic patient identification). In ICU, there is 85% compliance in patient identification process and maximum compliance was

seen in blue band (for all patients). In Emergency ward, there was 70% compliance in patient identification process. On the basis of analysis of different colour bands, 92% compliance in blue band and red band, 94% compliance in yellow band, 87% compliance in orange band 78% compliance in grey band. Maximum compliance of patient identification was seen in ICU's and minimum compliance of patient identification was seen in Emergency. The study concludes to determine the patient safety process: Patient Identification and to provide the suggestions to increase the compliance of patient identification process across the hospital. Identifying patients accurately forms the first step of patient safety and providing the right care. Failing to correctly identify patients can compromise the patient's situation. Patients should always be identified using two identifiers. The hospital should pay special attention to new born and unconscious patients. Implementation of new and improved strategies and intervention should reduce the incidence of patient misidentification to a large extent.

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### **Analysis of Renal Transplant Recipient Pathway**

Sharon M Mathew

At Medanta, a certain Clinical Pathway is followed for Renal Transplants. This clinical pathway acts as a guide which includes instructions for Nephrologists, Urologists, Anesthetist, Nurses, Dietician and Physiotherapists. According to this pathway patient should be admitted 1 day prior to the transplant and should be discharged on the 8th day post operation i.e. the pathway is of 10 days. The Recipient is given a package according to category he/she falls in prior to the transplant. For some reasons the patient's length of stay is extended and the expenditure goes beyond estimated package. A retrospective study was conducted with a sample size of 115, from population of 123 samples of past 6 months, through convenient sampling method to find out the reasons for above stated. Data was collected through SPANDAN (HIS-Medanta) and patient files. After analyzing the data, it was observed that compliance of clinical pathway was low i.e. 0%, people in different categories had different package, also it was seen that recipients who were going beyond the package (93.9%) and whose length of stay increased (34.7%) had some or the other morbidities and co-morbidities and diabetes was the most common in all. Thus, patients with/without morbidities and co-morbidities should be placed in different categories, with different packages. These packages should be designed keeping in mind all the items that would be needed for the management of the morbidity and co-morbidity recipient has and package should include some common items which can be used if needed, which can be deducted from the bill if not used. Recipients should be educated about the package's inclusions/exclusions. The pathway should also be revised and its compliance should be made compulsory.

**Keywords:** Renal Transplant, Clinical Pathway, Package, Increased expenditure, Length of Stay

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### **Review of patient record and need for EMR implementation at Quaternary care hospital**

Aditi Kumari

Electronic medical records (EMRs) are a form of storing patient's documents. EMRs enhance patient care, authorized access to clinical information, convenience for doctors to make better decision with the history available, prevent loss of clinical information and reduce documentation error. This study presents a descriptive

study on the review of patient records that was done at Secunderabad and Kondapur units in Hyderabad at Krishna Institute of Medical Sciences (KIMS) Hospital. It presents the patient records that are done on paper at the two units. The objective was to review the clinical documents used in each department and to understand the steps of pre, during and post-implementation of EMR. The literature was reviewed to identify the challenges faced during the implementation and to evaluate the precautions to be taken for successful implementation of EMR. In methodology, data was collected through a structured questionnaire answered by the professionals involved in attending the patients. Supplementary questions were asked where required. The collected data showed that at both the units, the number of pre- printed and from system documents in out-patient department were same. Most of the manual documents were scanned and saved in the system. The number of manual documents in in-patient department was relatively higher than those on system. The consent forms were kept only on paper. Some of the clinical forms were only used at one of the two units. At Cuddles- Mother and child centre, Kondapur, some of the doctors used digital prescription while others used manual prescription. There is a need to understand how documentation should be performed based on the workflow. The EMR system should support rather than allowing dependency on paper records to control the workflow. When planning, implementing, and evaluating EMR, it is important to consider a holistic view encompassing the various characteristics affecting the outcome i.e. technology, users, and organization. The complete implementation of EMR into KIMS can result in better data management and easy access of records. The logistics can be highly improved along with better patient care satisfaction.

**Keywords:** Electronic medical records, patient records, implementation, challenges, precautions

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## **To review and assess the National Health Protection Scheme in terms of No size and age of the family and it's reach out to lower strata of the society**

Anup Choudhury

Background: The limited access, insufficient availability of, sub optimal or unknown quantity of health services and high out of pocket expenditure are key challenges in India. These challenges exist alongside a global discourse to achieve UHC -- increasing access to quality affordable cost by all the people and in times of fast economic growth of data. So government launched the National health protection Scheme with aim at making intervention in primary, secondary and tertiary care system, both preventive and promotive health to address healthcare holistically. This scheme subsuming multiple scheme like RSBY. Earlier RSBY was offering a sum of INR 30000/- for a family of 5 people. Now this scheme completely does away from any such number of the family. Objectives of the study 1. To examine the no cap on the size of the family or age of the family members help to achieve better coverage of the scheme. 2. To understand the other component along with the no cap on size of family go to bottom of Society 3. To know the challenges and satisfaction of the scheme. Methodology: Study Area: Kamrup district of Assam is taken up as study purpose as there is little study of this scheme. Study Design: An experimental observational study was done at various part of Kamrup district who are designed as beneficiaries Sample Size: 200 beneficiaries between 1st April to 30th May month 2019. Source of data: Data was taken from IQVIA, who work for implementation of National Health protection scheme. Data Analysis: The collected data will be analyzed manually as well as by using statistical methods. Expected Outcome: Increased target beneficiaries



due to simplifying enrollment norms, shift in targeting of social sector from “Poor only” to expand approach of vulnerable and deprived population (Increased target beneficiaries significantly), Implementation experiment from RSBY could be utilized for rapid Scale up for better health system.

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### **Manpower Planning of an Urban Hospital with Forecasting of Future Staffing Requirements**

Lt Col Vikrant Singh Billawaria

The human resource requirement for any organization depends on the number of customers it has or the number of products sold by it. For an organization like a hospital, the number of personnel required depends on the number of patients it has and for designing the future manpower requirement, the basic criteria is the percentage increase in the number of patients which is found by comparing previous years data and projecting it for the current and coming years manpower requirement. Venkateshwar Hospital, Dwarka is a 325 bedded Multi Super-Speciality hospital (35 Specialities). The objective of the summer internship was to carry out study / re-evaluation of manpower planning of manpower intensive Departments of Venkateshwar Hospital, Dwarka to include projection of future staffing requirements, with focus on non-clinical Departments. After discussions with the HR Department, a Questionnaire was approved to obtain manpower versus volume of load details for the past two years and likely requirements based on trend analysis for the next year. The HoDs from each identified Department were interviewed and necessary information obtained. Some information was very precise while some lacked clarity of data. The same was corroborated with data available with HR Dept. The methodology of study was Observational and Structured Interview of eleven HoDs. The information obtained was analysed using MS Excel. The Findings of the Study indicated that the manpower of seven Departments had satisfactorily increased with increase of patient footfall / volume of workload whereas manpower of four Departments had not seen corresponding increase, while one Department had excess manpower. The Hospital Management was recommended to increase the required staffing of four Departments based on forecasting and reduce staffing from one Department.

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### **Reducing length of stay: IPD, RGCI&RC, ROHINI**

Priyansha Saxena

The study is done for the initiation of chemotherapy treatment in IPD to reduce the length of stay by calculating the turnaround time (TAT) in IPD. To find out the factors that can reduce the time lags between the patients reaching ward to initiation of chemotherapy treatment. The study area was IPD wards, 3C and 4C of RGCI&RC. The methodology was Observational study. The sampling technique was convenient (random) sampling. The study population includes 63 chemotherapy patients of IPD. The tool used for primary data collection was the check-list and it was analyzed with the help of MS-Excel. This study helped to find out the time lags where the time can be reduced, which helps in reducing the length of stay of chemo patients. The total time taken from system admission to initiation of treatment is 3hours 54minutes and the maximum time taken for the initiation of treatment is 5hours 22minutes for those patients whose chemo protocol is not written in medical file. Another finding was when the patient purchases the medicines by themselves it takes around 4hours 37minutes which increases the

patients' length of stay time. The most feasible option with minimum time of length of stay and initiation of treatment of chemo patients is when the protocol comes written in medical file (online/offline). The conclusion after observing for specific period says that there is need for change management when it comes to reducing the length of stay. It is highly recommended that each doctor should give online updates of all the OPD notes so that treatment can be started as early as possible and the medicine reaching ward time should be reduced, concerned authority should work efficiently which would results in early initiation of treatment reducing the patient length of stay.

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## **IPD Admission Process and Documentation**

Mamta Sinha

The main objective of the study was to learn the admission and documentation process in (In-Patient Departments) IPD. The study was based on observational pattern which included admission process of patients, checking of the refund declaration form, confirmation of uploading of data in Electronic Patient Record (EPR), preparation of Fortis Operating System (FOS) data, checking of corporate desk documents and different categories of patients in terms of billing. In corporate desk, it was observed that in many cases documents were not complete. While preparation of FOS data, it was checked whether the estimated amount is equal to the final amount to calculate the variation. Patient Care Service (PCS) department has 3 main quality indicator parameters for patient's satisfaction out of which main is FOS data analysis to find out the variation between estimated and final bill ( $\leq 5\%$  in any case). In most of the cases, there was no variation, however in some cases the variation was between 0-3%. The other two parameters are admission timings ( $\leq 20$  minutes) and no patient should be denied of admission. I conclude that IPD admission process is very crucial for any hospital functioning since it is the first interaction and impression of the hospital when the patient enters into the hospital.

**Keywords:** Fortis Operating System data (FOS), IPD Admission, Refund Declaration Form, Electronic Patient Record (EPR), Quality Indicators

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## **A Study on the Analysis of 360-Degree Feedback Mechanism for NABH Assessors**

Tamanna Mittal

One of the biggest challenges faced by businesses today is retention & engagement of their employees which are crux of every organization. Therefore, organizations invest more in Performance management to have better business results. 360-Degree Feedback are one of the most widely used evaluation tools used by the organizations has gained attention as a HRM Method. The National Accreditation Board for Hospitals and Healthcare Providers (NABH), provides accreditation to Healthcare Organizations also conducts a 360-degree Performance Evaluation of their Assessment team with objective to improve the quality of assessments as well as assessor competence. The aim & objectives of this report includes the study of NABH current Assessor's Performance Evaluation Feedback Mechanism, analysis of Assessors' Performance using existing 3600 Feedback Mechanism and tries to identify any shortcomings in the Performance Evaluation Feedback Mechanism and eliminate those by formulating a new feedback mechanism. To analyze the assessor's performance, feedback

forms were collected from the Principal assessor, co-assessor & hospitals for a particular assessor after the completion of assessment on NABH portal. Feedback forms were collected from Jan 19'- Mar 19.' from around 138 hospitals for which an assessment team has been planned by NABH secretariat. Therefore, around Feedback forms of 184 Assessor were collected. Total of 253 feedback forms were collected. Out of which a sample of 74 feedbacks has been selected through convenience sampling method. After analyzing the sample responses, results were found to be unreliable, over reported to further confirm that results obtained are valid or the measurement procedure is unreliable or simply involves error a comparative analysis is done where data from past surveys is considered. The results obtained were same as previous one. Therefore, it was concluded, that the problem lies in the current feedback mechanism and its measurement procedure as it is outdated and a new Feedback mechanism is needed for that Secondary data review, field observation & surveys were conducted and a new upgraded version of Feedback mechanism is constructed, approved by CEO of NABH and which is currently under pilot testing for three months.

**Keywords:** NABH, Performance evaluation, Assessors, 360-Degree Feedback, Healthcare Organizations

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### **A Study on Inventory Management regarding bounce prescription in Out Patient Pharmacy at Columbia Asia Hospital, Palam Vihar**

Dr. Toshi Shekhar

Hospital exists to provide diagnostic and curative services to patients. Pharmaceuticals are an integral part of patient care. Pharmacy department, under the direction of a qualified pharmacist, is responsible for the procurement, storage, and distribution of medications. There are various factors that contribute to availability or non-availability of the drugs in the out-patient pharmacy. The stock at out-patient pharmacy at any given time shall be in sync with the hospital formulary. A hospital formulary is a very dynamic document and needs updating periodically. If the unavailable drugs are out of the formulary they are called as bounce. Objectives: 1) To analyze & capture deviations from formulary medicines on out-patient prescription. 2) To analyze data with respect to specialties & consultants. 3) To share the details with pharmacy team & consultants to make required amendments in the formulary. Methodology: Study Design: Observational Study, Study Area: Pharmacy, Columbia Asia hospitals, Palam vihar, Study period: Formulary adherence in out-patient pharmacy during the (April 2019-May 2019) summer training were included in the study. Study Population: Prescription from out-patient pharmacy in Columbia Asia hospital, pharmacy department were taken, from 04 April till 20 May 2018 were observed and tracked during the study. Sample Size: 250 Prescription, Sampling Method: Purposive sampling, Data Collection Tools and Techniques: For Data Collection following plan was undertaken. Primary Data Collected through: Direct observation in out-patient pharmacy. Expected Outcomes, ensuring proper monitoring and maintenance of the stock are done. To know every department are providing drugs which are in the formulary or not. Ensuring that the orders are placed early in the morning and everyone is prompt. Minimizing the unavailability of drugs and bounce prescription.

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### **Analysing key performance indicators and turnaround time of radiology department for improving its quality performance**

Akshit Jain

Objective(s): To analyze the past twelve-month key performance indicators of radiology department with the past

two months Turn around Time of radiology department. To find the gaps in the quality performance of radiology department. To Give recommendations to improve the quality performance of radiology department using the given data. Methodology: This was a descriptive cross-sectional study conducted for the radiology department of Columbia Asia Hospital, New Delhi. The study was conducted within a time period of two months i.e April and May 2019, using secondary data collected from Hospital Management Information System (Care 21), Calims and PACS and also, by detailed discussions with the departmental head and staff. The data analyzed was pertaining to the quality indicators of the Radiology department and the selection of KPI's were based on the continuous quality improvement and improving operational excellence. The data analysis was carried out in Microsoft Excel using descriptive statistics to represent the results. Findings: A total of three KPI's were finalized: Number of Reporting Errors/1000 investigations, Turn around Time (TAT) and Percentage of Re-do's. The analysis identified Typographical error, Urgency in reporting, particularly during busy schedule, reported signing off the reports without cross checking as the leading causes for reporting errors in investigations. The reasons due to which the radiology department missed to achieve its targeted TAT were identified as Non-availability of doctors especially on Sunday, Issues with PACS (technical glitches) and Non-availability of transcriptionist. Furthermore, the percentages of Re-do's were increasing due to reasons such as improper positioning of the patient, cassette and metal artefacts and non-adherence to the instructions by the patient. Based on the observed gaps, cause-specific recommendations were suggested for the Radiology department's improvement and functional efficiency. Conclusion: In order to continuously improve its operational excellence and finding current gaps in the system an organization follow certain indicators for certain tasks. The positive impact of performance measurement is that it contributes to continuous improvement of quality and safety of healthcare delivery, helping to identify the quality of care that one organization provides against similar organizations, promotes accountability to service user, and helps in stating objectives or targets for the organization. Also, it has the potential to identify the variations in service quality directing the organization towards achievement of Excellency.

**Keywords:** Key performance indicators, KPI, Quality, Radiology

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## **The study of admission process in ER and calculating the turnaround time**

Vaishali Goyal

An emergency is sudden illness or injury requiring immediate physician's attention to prevent the danger of disability or death. It is a part of hospital which is staffed and equipped to provide emergency care 24 hours a day on all days. There are 2 types of admissions: planned and unplanned admissions. Planned admissions are the admissions in which patient has once visited the hospital and is diagnosed with a certain medical condition, in this case doctor recommends the patient to get admitted on a certain date in the hospital so that his/her treatment could be done. Unplanned admissions occur in the case of sudden illness where patient reaches the emergency area of the hospital directly where his primary treatment gets started immediately and gets admitted in IPD later, according to his condition. Admission processes, itself, consists of many steps in which patient firstly is given an Admission Request Form (ARF), various documents, and required bed is requested from the bed manager. All these processes could take some time, and cause delay in admissions. Admissions getting done in less than 20 minutes are considered as the ideal time admissions. During all these procedures, time is tracked to determine the

loop hole in admission procedures. At this time turnaround time is calculated which is the difference between the time when ARF was received and the time at which admission got done which helps in improving the entire system. Patients are categorised into 4 categories depending on their payer modes- Government panel patients, Cash, TPA and EWS. Government panel patients are further divided into Credit and cash patients, in which credit patients are the pensioners who can get their treatment done on cashless basis while cash patients are given admission on discounted rates. General objective- To study the admission process in ER and calculate the turnaround time. Specific objectives- To find out the average time taken in admission processes of various categories of patients. To find out the various causes responsible for the delays in admission. Methodology: Sampling method – The method adopted is descriptive observational study. Data from 1st April 2019 to 18th April 2019 is compiled and used, in which total admissions done were 145 which is the population size. Sampling size- Since the population number itself is very less, population study has been done. Data collection plan- Primary data was obtained through Time motion study, Direct observations of the admission processes and tracing patient's each step from the entry point in emergency room till the admission is done- at the admission counter. Interaction with the doctors, nurses, users and patients involved in the admission process. Tools: MS excel 2011 was used for the collection and analysis of data. Exclusive criteria: LAMA cases are not a part of this study. Outcomes: From the analysis and interpretation of the data, it is found that, out of 145 admissions observed in first 3 Weeks, 84 were GP patients, 31 were TPA, 21 were cash and 9 were EWS patients. About 95 patients took 30 or less than 30 minutes in getting their admission done, 44 patients took 30 min-1 Hr., 5 patients took more than an hour and 1 patient took more than 2 Hr. Over all 27.37 minutes remained the average time of the patients in getting their admission done. According to the data, week days- Monday and Friday proved to be the maximum rush day with average 10 and 13 admissions, respectively, whereas Wednesday found to be the least no. of patients getting admitted day with 7 as the average number of admissions. Among the four categorised payer modes, the maximum patients were of GP while the minimum were EWS. Among the various GPs, CGHS patients outnumbered any other panel.

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### **A Qualitative Study to understand the information delivery process, translation into action and associated gaps in informing mothers about the birthweight of new-born and related care, in rural Bihar**

Ritika Kumari

The NMR is the main measure for newborn care and represents prenatal, intrapartum, and neonatal care directly. Moreover, as infant mortality rates decrease, the percentage of infant deaths typically rises over the neonatal period. Awareness among the mothers plays a crucial role in neonatal care and hence in reducing neonatal mortality rate. In Bihar, neonatal deaths account for of all infant deaths. Birth weight is associated with a higher risk of death during the neonatal period. Failure to recognize birth weight / low birth weight and inappropriate home care practices increase the risk of morbidity and mortality in this high-risk group. This study explored mother's knowledge, perception and practices about the birthweight of new-born and related care. The present study was carried out in & around Patna District. In-depth interviews were conducted with 8 mothers who delivered in health facilities and had neonates of less than 10 days. The interviews were conducted at mother's homes using the local language. Interviewer's notes and audio recordings were transcribed and content analysis



was done using Atlas-it software. Majority of the Mothers were not aware of the utility of birthweight related information. On doing the ground level study, the real scenario of the communication gap between the providers and beneficiaries, their perception level, their understanding and how much they were aware of their child's birthweight came into picture. Awareness about birthweight of newborn is still poor. This leads to inappropriate home care practices for these high-risk newborns. Mothers' knowledge and care practices can be improved through health education.

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## **To Estimate the Turn Around Time of Bed Clearance Post Discharge by Housekeeping Department and Ways to Reduce It**

Ankit Kumar Dabra

Discharge time, a crucial quality indicator is dependent on several factors like clearance time and patient-related issues. Delay in providing the beds in admissions can be due to various reasons which include bed clearance time by the housekeeping department. A housekeeping department plays an important role in bed cleaning in hospitals and are responsible for sustaining a sterile environment, and they are the front line for infection control. The study was carried out keeping 3 parameters of cleaning which include regular, thorough and deep cleaning as per protocols of the hospital. The current study aims to estimate the turnaround time (TAT) of bed clearance post discharge, updating in HIS, dead bedtime and analyzing the difference between the time when the bed was handover to the front office and the time when the bed was actually ready for the next admission as per observation. The study was based on primary data and the data is collected as per the observation. The major findings included late handover to housekeeping department i.e. Lack of timely information, there is a lack of communication between nurses and housekeeping supervisor with regard to timely handover for cleaning, information is passed manually which wastes a lot of time, HIS is not so proficient at times, etc. The process could be more streamlined and the turnaround time could be reduced by Training concerned staff, HIS accessibility to be given to HK supervisor, the indulgence of floor manager, fixing of a centralized bed management system and internal audit by the HK department.

**Keywords:** Bed clearance hospital, Dead bedtime, Infection control, TAT Housekeeping, Discharge delay

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