



**International Institute of  
Health Management Research**



# ANUSANDHAN — 2018 —

**RESEARCH DAY  
JUNE 7, 2018**

**Abstracts of Research undertaken  
by Faculty (2017-18),  
Dissertations of PGDHM  
Students (2016-18) &  
Summer Internship of PGDHM  
Students (2017-19)**



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# TEAM IIMR



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**ANUSANDHAAN 2018**  
**Report released by**

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**Hon'ble. Dr Vinod Paul, Member, NITI Aayog**

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## FROM THE DIRECTOR'S DESK



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 "ANUSANDHAAN - 2018. 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.

Thank you 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 Research Day, organized by the International Institute of Health Management Research (IIHMR), New Delhi in its 10th year of establishment.

Through its continuing research conducted by Institute since 2008, the institute has not only benefitted the IIHMR faculty but has also been instrumental Strengthening their skills in evidence-based interpretation in 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.

The purpose of organizing second Research Day is to showcase the research done by students and faculty and disseminate the finding among students, faculty and other health professionals.

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

I thank all PGDHM students (2016-18) and 2017-19 batches and Faculty of IIHMR Delhi for research day and look forward to its success.



**Section 1**  
**Research work by IIHMR Faculty**

## **Workload Assessment of Auxiliary Nurse Midwives and Infrastructure Assessment of Sub Centers in Selected High and Non-high Priority Districts of Uttar Pradesh**

**Funding Agency:** UNICEF, Lucknow

**Team:** Ms. Divya Aggarwal (PI), Dr. Sanjiv Kumar (Advisor), Dr. Satish Kumar (Advisor), Dr. Anandhi Ramachandran, Dr. Preetha GS, Dr. Manish Priyadarshi, Dr. Dhananjay, Dr. B.S.Singh

In spite of concerted efforts to improve healthcare in UP, the health indicators of the state, though improving, still remain below national average (e.g. IMR 43/1000 live births compared to national average of 34; Source: SRS 2017). Health. / program activities need to be accelerated to improve the health indicators, achieve the unmet goals of Millennium Development Goals (MDGs) and recently adopted Sustainable Development Goals (SDGs). Hence availability of adequate human resource at subcentres level is crucial. The objectives of the assessment were: (i) to carry out workload assessment of the ANMs in selected HPDS/NHPDS of U.P. through time and motion analyses; (ii) to perform infrastructure assessment of the subcentres to identify the gaps and (iii) to document the key learnings from the HCL model subcentres. The assessment adopted a qualitative approach (with some quantitative components) that included a 'time and motion' assessment, facility survey for infrastructure assessments, in-depth interviews and focus group discussions of relevant stakeholders. Eight districts (four high priorities and four non-high priority) from each of the four zones of UP were selected for the assessment.

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## **Life Skill Assessment - Baseline Survey (Jointly with IIMR Jaipur)**

**Funding Agency:** Room to Read

**Team:** Ratna Kumayat, Anadhi Ramachnadrans, and Sumesh Kumar

Life Skills Education (LSE) is an important activity which enables children to identify the problems in their lives, think of probable solutions and practice them. Room to Read has included LSE as a part of its Girls Education Program in all their project countries. Ten dimensions of life skills such as self-confidence, communication, decision making, perseverance and others according to WHO framework are incorporated in the training provided to girl students from grade 6 to 12 using a pre-tested pilot tool. In India Room to Read conducts such programs in many states including Delhi, Uttarakhand, Chattisgarh. The purpose of this project is to complete a baseline measurement of a range of life skills among both participants and non-participants in Room to Read's Girls' Education Program in the three states in selected schools. This project will contribute to Room to Read's ability to measure our progress toward developing girls' life skills, share our successes to date, and continue improving our programs over the long term. A total of 1200 students in Grade 6 among 48 Secondary Schools across the three states were assessed.

## **Training Needs Assessment (TNA) of Medical Officers on NCDs in Maharashtra**

**Funding Agency:** Project Hope India, Delhi. India

**Team:** Sanjiv Kumar, A K Khokhar, Preetha G S, Vinay Tripathi, Sumant Swain & Shikha Bassi

Non-Communicable Diseases (NCDs) contributed to 61.8% of total deaths in India in 2016, compared to 37.9% in 1990. 55% of total disease burden in India measured as Disability Adjusted Life Years (DALYs) in 2016 was caused due to NCDs. This has substantially increased from 30% in 1990. Additionally, individual causes of DALYs in India has shifted substantially, with NCDs like Ischaemic heart diseases rising from sixth position in 1990 to first position in 2016, followed by Chronic Obstructive Pulmonary Disease (COPD, which was previously the eighth cause). The other NCDs that have risen in this list from 1990 to 2016 are Stroke (from 12th to 5th), Sense organ diseases (vision and hearing loss, from 17th to 9th), Diabetes (from 35th to 13th cause), Chronic Kidney Diseases (from 30th to 20th) and Depressive disorders (from 29th to 21st).

A similar trend is seen in the state of Maharashtra. NCDs including cancers, COPD, Cardiovascular Diseases, Diabetes constitute 66.8% (age group 40-69 years) and 70% (age group 70 years and above) of causes of deaths. However, most of the above programs run in parallel and there is a need to synergize them to inform each other. Risk factors such as Tobacco use, alcohol consumption, unhealthy diet and physical inactivity contribute to NCDs. As per the key guidelines for prevention and control of NCDs by the National Health Mission, Government of India, three steps have been envisaged to implement the programs- firstly, through questionnaire based approach at community levels, facilitated by ASHAs; secondly, by screening for NCDs in referred individuals who are at risk by Health Workers; and thirdly, by treatment of those suffering, by Medical Officers (MOs) and Specialists. This project wishes to assess comprehensively the training needs of Medical Officers in NCD in the state of Maharashtra. The information generated through this project will help in creating a detailed guideline for responsibility of the MO and also inform the training programs conducted for them.

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## **On Spot Monitoring, Assessment and Documentation of IEC- New Radio Drama Series “Sunherey Sapney Sanwarte Rahein”**

**Funding Agency:** State Innovations in Family Planning Services Project Agency (SIFPSA), Lucknow

**Team:** B.S.Singh and Madhuri Dutta

SIFPSA developed and aired Radio Drama Series " **Sunehre Sapne Sawarti Rahen**" through 12 primary channels of All India Radio (AIR). This radio drama series of 26 episodes was based on RMNCH+A components and schemes of NHM. Program involved ASHAs for generating awareness among rural masses. Radio serial was on air since 29<sup>th</sup> Sep 2017 to 21<sup>th</sup> March 2018 on weekly basis i.e. every Wednesday from 1:15 PM to 1:45PM. The objective of this study are: to monitored and assessed “New Radio Drama Series – **Sunehre Sapne Sawarti Rahen**” on a pre-structured schedule and documentation of entire program including Shrota Sanghs. Under this study, two Shrota Sanghs in each district (i.e

75x2=150) was to be monitored and assessed on a pre-structured schedule and two digital photos of each Shrota Sangh during the performance was taken for the purpose of documentation. Assessment was conducted in month of February and March, 2018. Out of 150 villages, the programme was running well in 127 vilages (85%) spread over 75 districts. In remaining 23 villages, programme was not running at the time of spot monitoring.

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### **A study on Effectiveness of Hausala Training Centres (HTC)**

**Funding Agency:** State Innovations in Family Planning Services Project Agency (SIFPSA), Lucknow

**Team:** B S.Singh, Dhananjay Srivastava, Manish Priyadarshi, Nitish Dogra and Anandhi Ramachandran

Purpose of Hausala Training Centres (HTC) is to develop a pool of clinical family planning service providers in various family planning techniques across the state by supporting and strengthening 35 Hausala training centres (33 District Women Hospital and 2 Medical Colleges). Objective of the evaluation study is to assess the effectiveness and contribution of HTCs for clinical FP trainings, Challenges faced & Scope of improvement at HTC and Documentation of best practices. Broad suggestive areas for the study is usefulness of support staff in implementation of clinical training; contribution made by TQM in improvement of Quality and FP services; contribution of support activities in project (Additional honorarium to service providers, mobility support to ASHA, IEC, Advocacy utilities) in clinical FP training & services, best practices and documentation and challenge and scope of improvement. Under this study, interview with state official, HTC staff, Divisinal PMU, trained personnel and ASHAs from 12 HTC are being taken.

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### **Longitudinal Ageing Study in India (LASI) Wave-1, Punjab and Chandigarh**

**Funding Agency:** IIPS, Mumbai

**Team:** Arindam Das, B S Singh, Nitish Dogra, Anandhi Ramachandran, Pankaj Talreja, Sumesh Kumar, Sumant Swain and Vidyasagar Trigun

The Longitudinal Ageing Study in India (LASI) is a national survey of scientific investigation of the health, economic, and social, determinants and consequences of population ageing in India. LASI is a nationally representative survey of older adults aged 45+ in all 30 States and 6 Union Territories that will be conducted every 2 years for the period of 25 years. LASI is developed as per the needs of the Indian's elderly population but at the same time it is internationally harmonized enabling not only cross-state analyses within India but cross- country analyses. The main goal of LASI is to collect credible scientific data on burden of disease, mental health, social and economic wellbeing of elderly population in India. LASI is designed to cover six major subject and policy domains of adult and older population of India namely: Demography, Migration and Marital status, and Housing and Environment, Health: Disease Burden & Risk factors (reported and measured), Health Care and Health Care Financing, Social: Family and Social Network, Economic: Income, Wealth, Consumption, Expenditure, Work and Employment, Retirement and Pension and Welfare Programs for Elderly.

## **Association Between Outdoor Air Pollutants and Childhood Asthma in Delhi**

**Funding Agency:** IIHMR In-house Grant

**Team:** Nitish Dogra

Asthma is a common pediatric problem in India. The link between air pollution aggravation and exacerbation of asthma is widely established. The problem assumes greater significance in Delhi due to extremely high pollution. Currently there are no studies associating air pollution and asthma in different locations over time. In order to address this gap, the current study is being undertaken by taking into account data from various monitoring stations in the city over the last 5 years and hospitals in the vicinity.

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## **Impact of A Community Based Intervention on Utilization of Health Services of U-PHC in Delhi**

**Funding Agency:** IIHMR In-house Grant

**Team:** B.S. Singh

In India about one –third of urban population is urban poor including vulnerable population such as homeless, rag-pickers, street children, rickshaw pullers, and other temporary migrants. National health policy prioritizes addressing the primary health care needs of the urban population with special focus on poor populations living in listed and unlisted slums, other vulnerable populations such as homeless, rag-pickers, street children, rickshaw pullers, construction workers, sex workers and temporary migrants. Under this study, objectives are to provide technical support to urban primary health centre (UPHC) for providing quality health services to urban poor and examine and Implement evidence-based program at the UPHC level to improve access to health services. These objectives will be achieved through following project strategies- 1. strengthening the community group, providing information about UPHS Service to community, convergence with other programme/other departments and technical support to UPHC; 2. NHM, Delhi will be involved in each stage i.e planning, implementation, monitoring and evaluation of project and 3. Through leveraging the resource of IIHMR Delhi such as time of students and faculty, infrastructure etc.

Four UPHC located near Dwarka, New Delhi is being selected and 4 Slums corresponding to selected UPHC covering approximately 4000 households (1000 households per slums), is being identified. We will adopt pre-test- post-test experimental study design which will be used to analyse the situation by comparing before and after intervention. Under this study, following research techniques are proposed: Mapping and listing of Slum, Quantitative household survey for utilization of services and barriers to access and information services, Secondary data analysis on facility indicator pertaining to area of concern of Quality management and Outcomes and Community Indicator such as No of MAS meeting, Fund utilize by MAS, no of UHND etc, Baseline Assessment of UPHC, Mapping of public & private health facility near by slum and Formative qualitative research, which was used to explore the facilitating factor and the information barriers for utilising UPHC service. Activity wise Indicators and its mean of verification will be developed at initial stage and will be tracked by students & faculty of IIHMR Delhi on quarterly basis. In addition, Baseline and end line evaluation of project will be done by students & faculty of IIHMR Delhi.

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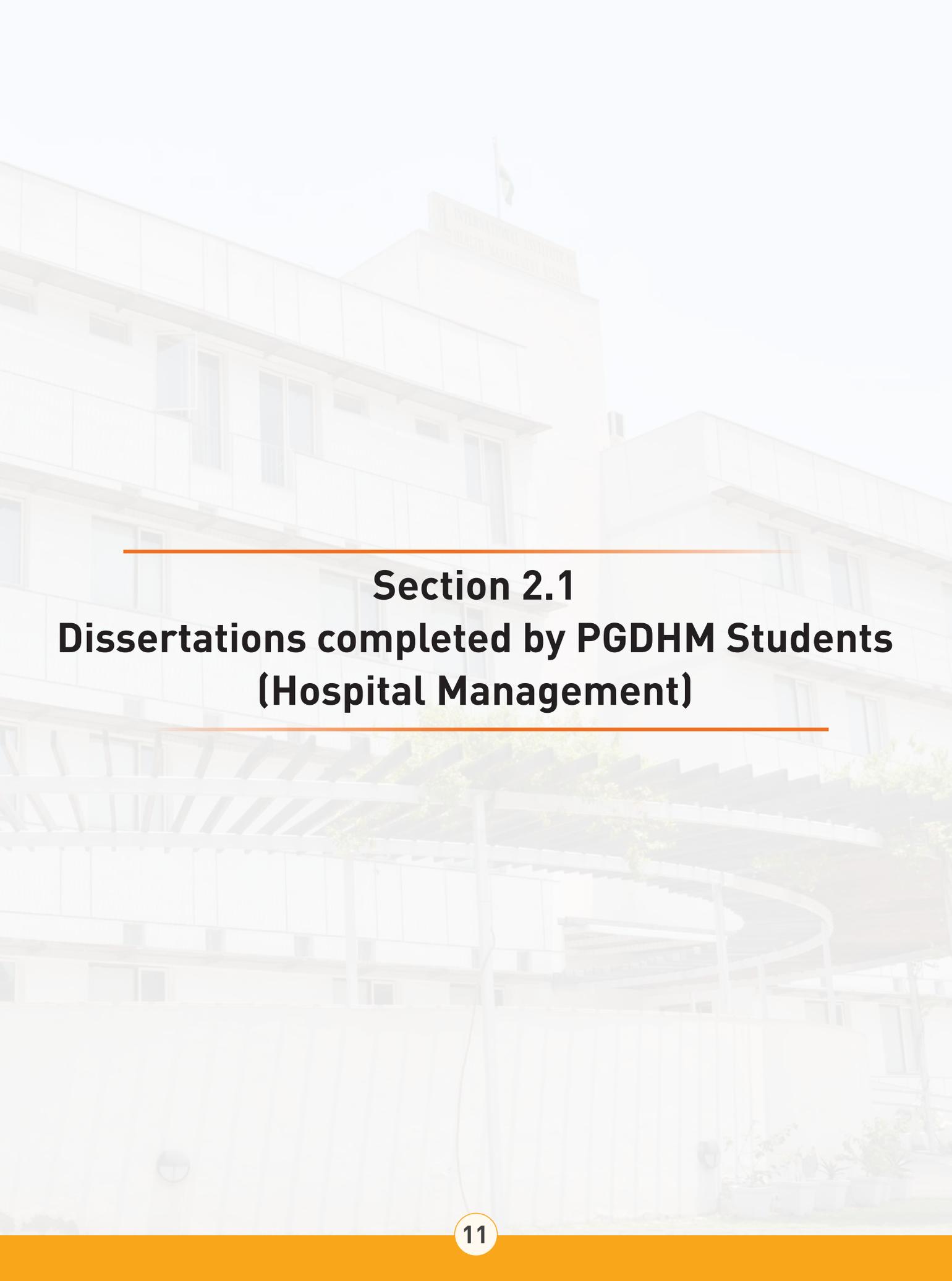
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### **Baseline Assessment of the Knowledge and Attitude of Urban Residents on Depressive Illness**

**Funding Agency:** IIHMR In-house Grant

**Team:** Kirti Udayai, Vinay Tripathi and Madhuri Dutta

Depression is a common psychological disorder effecting all cross section of population across the world. It leads to poor quality of life at individual levels, adding up to a huge social and economic impact at national levels and subsequently contributing to a significant disease burden. The disease includes a range of conditions that are disabling in nature and may vary in severity and duration. Depression often exhibits a chronic course that has a relapsing and recurring trajectory over time. As per Global Burden of Disease report 2004, as much as 13% of total DALYs occurs due to mental disorders, with depression being the leading cause. Therefore, the present study seeks to assess the knowledge level of community with respect to signs, symptoms and treatment of depression and to assess the attitude of community towards those who are suffering from depression in South -West district of Delhi.



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## **Section 2.1**

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

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## **Assessment of Quality of OPD Services at Lal Bahadur Shastri Hospital**

Col. Aditya Choudhary

**Background:** The outpatient department(OPD) as we know is the first point of contact between the patient, their relatives and hospital and its staff. The care provided in the OPD and the behaviour of the staff determines the image of hospital and is aptly referred as ‘Shops Window’ of the hospital, in private hospitals since each and every facility is paid for the quantity of patients is less, whereas in public hospitals overcrowding leads to chaos and total un satisfaction amongst the patients leading to scuffles. This study was carried with the aim to assess quality of OPD services in secondary level Lal Bhadur Shastri Hospital Khichripur, Mayur Vihar phase-2 Delhi. Method: On site observation, questionnaire, participative observation, SOP and OPD registers documents were reviewed and procedure monitored, average time patient was spending at each level was noted, questionnaire as feedback was taken from patients, A Pilot Intervention was initiated to monitor change in satisfaction level of the patient, Appropriate tables and graphs were used for representing various findings and results. Findings: Illiteracy, lack of guidance, poor facility, overcrowding, unscheduled OPDs of doctors, Delay in morning first OPD due to In patients department rounds by the concerned doctor, insufficient staff and local political interference were compounding to total un satisfaction amongst the patients visiting the OPD which to some extent was streamlined by recommended pilot intervention.

**Key words:** Waiting time, satisfaction, OPD

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## **A Study the Quality of Services in the Pathology Department at the Lal Bahadur Shastri Hospital, Mayur Vihar, Delhi**

Brig. Ajai Verma

A Descriptive Analytic Study was undertaken to study the quality of services in the Pathology Department at the Lal Bahadur Shastri Hospital, Mayur Vihar, Delhi. The study was conducted over three months from 1 Feb 2018 to 30 Apr 2018. Selected outdoor and indoor patients who were referred to the Pathology laboratory for different tests were included in the study by simple random sampling. Sample size of the study was 500. Data was collected based on a checklist validated by three experts. The data observed and collected was tabulated and analysed statistically. During the study, 17% of the samples were rejected to maintain quality assurance in the laboratory. Factors affecting quality services were studied of which presence of aseptic sample collection showed the highest percentage (97.6%) whereas maintenance of EQUAS showed lowest percentage (66.6%). Analysis of causes of registration failure showed incomplete requisition was the commonest cause of registration failure (38.57%). Causes of failure of aseptic sample collection revealed that lack of compliance among staff was the commonest factor (41.66%). Cause of failure of maintenance of pre requisites before sample collection was primarily due to lack of manpower at help desk for patient counselling (25.71%). Causes of failure of maintenance of sample adequacy showed that inadequate volume was the commonest factor (24.6%). Causes of failure of maintenance of regular equipment calibration revealed that negligence in regular running of calibrators was the commonest factor (44%). Causes of failure of maintenance of internal quality control showed negligence in running of internal quality control on regular basis was the commonest factor (41.67%). Causes of failure of External

Quality Assurance System (EQUAS) showed that negligence in timely reporting of the EQUAS samples was the only factor causing failure (100%).

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### **Assess the quality of Immunization Services provided to children below five years of age**

Col. Jaswinder Singh Hari

Immunization saves 2-3 million lives each year. Wherever children are not immunized, their lives and their communities are at risk. New approaches are required to be tailored to vaccinate every child in every community – no matter how remote or challenging. Unavailability of vaccines, poor awareness and difficulties in reaching the immunization sites show that there is a gap between the health care provider and the beneficiaries. There are also, issues of vaccine storage, cold-chain management and administration which contribute to success or failure of immunization. Given this background, it was decided to conduct a study to assess the quality services of immunization provided to children below five years of age at Lal Bahadur Shastri Hospital, Khichripur, Mayur Vihar, Delhi. The scope of the study included; awareness level of mothers regarding immunization, procedure to implement National Immunization Schedule 2018 Programme by the hospital, Cold-Chain management, percentage of children covered in East District of Delhi and Gap Analysis. Study Design was Cross-sectional; 210 randomly selected infants/children with their Mothers or Care-givers visiting for immunization were studied. Data Collection Tools and Techniques used were checking of Hospital Records, Immunization Cards, in-depth interviews with health-care providers (probed missed opportunities, health information delivery system or barriers to provide immunization) and interviews with mothers (probed their knowledge, attitude and barriers for not vaccinating their children). Through this study, we could understand the current immunization scenario and identify some of the reasons which prevent the people from providing full immunization to their children. We found that the level of full immunization is about 50% which is quite low. These findings may be useful for further planning and implementation of health services suited for welfare of the community.

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### **A Study of Medical Record Keeping Standards in Hospital and Retention**

Col. Jatinder Walia

Whenever a patient receives treatment, a record is generated and kept of the observations, medical or surgical, and treatment outcomes. Health care providers are required to generate a complete and legible record of the healthcare provided to their patients. Irrespective of the format the medical record must have comprehensive documentation of the clinical care provided to the patient. Medical records have data that the patient provides in respect to the discomfort felt, and previous history if any, diagnostic results, examination details, diagnoses, and course of treatment. These records are evaluated and organized by MRD staff. It is an important tool used by healthcare providers, as it increases the quality of care a patient receives. It has legal sanctity. In case of an EVENT the medical record will be scrutinized. Thus good medical records must be maintained so as to be able to give an accurate and complete detail of the Patient's medical history, Medical records meet all legal, regulatory and auditing requirement. Thus, self- auditing provides excellent learning, it also enlightens you so as to prepare for a review or an assessment. When

applying the following Standards - do your medical records meet each criteria or a need is felt for improvement? Do they provide answers to, patient registration, Is the archiving/ filing of medical records carried out and are readily retrievable, are record legible to all, is diagnostics requested (lab and X-ray investigations) properly documented and results seen by the consulting physician, are course of treatment and follow-up instructions noted, review of ongoing medication by physicians and entries authenticated, are the documents retained for the specified time frame? The study assesses the record keeping standards and retention policy, specifically the authentication of medical documents (Seven variables selected) and the retention policy to be followed.

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### **An Assessment of Job Satisfaction**

Dr. Namrata Lal Dahiya

Worker fulfillment is an attitudinal variable that measures how much representatives like their occupations and its different angles. It is a standout amongst the most looked into territory of hierarchical conduct, and an essential zone of research since it is trusted occupation fulfillment is associated to the activity execution, positive work esteems, elevated amounts of worker inspiration, reliability and lower rates of non-attendance, turnover and burnout. It's all about making the business more compelling in all angles. It's all about liking the job. It should be considered as more of a destination rather a journey. It helps the organizations to increase the employees' job involvement level and reduce the turnover. This has been a hot topic for all experts and researchers since many decades now. This research presents the findings of level of job satisfaction of various employees. The objectives are to distinguish the elements which impact the activity fulfillment of representatives, recognize the factor which enhances the fulfillment level of workers, know the worker fulfillment towards the offices, and offer profitable proposals to enhance the fulfillment level of representatives. This research measures the job satisfaction level of the employees of Polestar Solutions and Services India Pvt. Ltd. Three categories of employees, Senior Consultant, Consultant and Managers, were surveyed using Stratified Random Sampling method for the study. Further, a total of 66 respondents were surveyed randomly, 13 were Senior Consultants, 46 were Consultants and 7 were the Managers. The Primary Data was collected via Google forms. The results indicate that there are 11 main factors that evaluates the employee satisfaction. Also, Senior consultants were the most satisfied ones with their job among all the other employees that were surveyed. 'Motivation' and 'Growth' are the most significant factors of employee satisfaction.

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### **Employee Satisfaction Level Survey**

Disha Khanna

My study was the survey conducted to know the satisfaction level of employees working in Action Cancer Hospital. Employee satisfaction is the terminology used to describe whether employees are happy and contented and fulfilling their desires and needs at work. Many measures purport that employee satisfaction is a factor in employee motivation, employee goal achievement, and positive employee morale in the workplace. objective was to determine the overall job satisfaction level of employee in Action Cancer

Hospital, New Delhi for the year 2017. My study is a Quantitative observational and cross sectional study. I classified the employees under 4 categories: Nursing: Nursing supervisor, Assistant Nursing Supervisor, Staff Nurses.

Non-medical: Accounts, Billing, Panel, Front Office, Purchase, General Administration, MRD, General store, Medical Store. Paramedical: Laboratory staff, Technicians of OT, Nuclear Medicine, Radiology, Medical: Medical officers The data was collected through structured questionnaire. The questions were designed in an easily understandable manner that the respondents may not have any difficulty in answering them. Sampling Technique: Stratified Random Sampling, Sample Size was 170, Response Rate: 70.8 % (170 of 240 available employees of the hospital responded. Sampling Universe: The target population for this study comprised employee of Action Cancer Hospital. According to the scaling tool used, the maximum score could be 100 as there are 20 questions and minimum score could be 20. On the basis of that the following findings are obtained. 68.2% of all employees have good, very good and excellent score (71-100) and are most satisfied with their job. 18.3% of employees have average overall score (61-70) and 13.5% has poor overall score (less than 60). 61.8% of non-medical staff has good, very good and excellent overall score. 71.4% of medical staff has good, very good and excellent overall score. 85.4% of nursing staff has good, very good and excellent overall score. 61.8% of paramedical staff has good, very good and excellent overall score.

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### **Impact of Community Outreach Program on the patient inflow for a Tertiary Care Hospital in India**

Dr. Pratik Tyagi

Community Outreach Program (COP) for corporate hospitals has become a two-way channel: (a) to deliver on their Corporate Social Responsibility (CSR) to serve the wider community, and (b) to inform brand building of the organization. Instead of waiting for patients to arrive at the facility, hospitals are making an effort to involve community in its activities and become their primary healthcare provider at large. Thus, the objectives of this study were to understand the drainage pattern to a 230 bedded multi super-specialty hospital from its captive catchment area by analyzing footfall trends, devising a COP and analyzing its outcome in terms of volume. As part of the intervention, forty-seven health camps were conducted in the catchment areas within 5 kilometers radius from the hospital during March-April 2018. Informed by primary data collection from patients who attended the camps and service statistics from the HIS of the hospital, before and after the intervention, the results of the study indicate a substantial increase in awareness and patient footfall after the intervention. The study provides important insights on the current drainage and disease pattern from the captive catchment area that further assisted in drafting COPs. The study recommends that COP activities need to be intensified in regular intervals with a gamut of specialties (family medicine and internal medicine), after a thorough understanding of the disease pattern in the target communities.

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### **A Study on Assessment of Medical Records at District Level Secondary Hospital in East Delhi -A Case Study of Lal Bahadur Shastri Hospital, Khichripur, Delhi**

Brig Rajinder Singh

continue ....

Medical record is a systematized compiling and storing the required data, information and other relevant documents with the objective of making easy availability of the same at the time of its need. Over a period of time, Medical records have become very important to provide a new dimension in the field of global health care. The overall objective of this study was to study the Medical Records Management at Lal Bahadur Shastri Hospital, Mayur Vihar, Delhi. The specific objectives are (a) To study the functioning of medical record department and various steps involved in the medical records management, (b) To give suitable recommendations and suggestions for improvement in medical record retrieval system in LBSH. A review of relevant literature was carried out referring to various journals, articles, books, keyword search in various search engines and online referral sites. In addition, medical record management and retrieval system were assessed, and a checklist was used for collection of information based on Standards taken from two sources, NABH guidelines and NHS-UK guidelines. Accordingly, a gap analysis was performed. The results suggest that the strength of staff is inadequate and needs to be enhanced. The weaknesses and opportunities should be reviewed periodically, and continuous quality improvement of medical record department should be done accordingly. There should be a proper procedure for tracking the records after retrieval. Medico legal record should always be kept in safe custody i.e. under lock and key with responsible person. Computerization is the accepted mode of medical record storage. Computerization of medical records is being done by digitizing rather than directly entering into the computer. There is a need to have a proper HMIS.

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### **A study to evaluate the perception of District Child Protection Officers and Health Officials regarding training programme on Ensuring Food Safety and Maintaining Food Safety Standards in Supplementary Nutrition in ICDS”**

Dr. Anshu Rana

Food handling, food preparation, and storage of food in proper manner forms the basis of food safety which makes it safe and acceptable for our consumption. According to The World Health Organization gauges foodborne and waterborne dysenteric illnesses altogether affect around 2.2 million individuals every year. The purpose of this research is to evaluate the training program on Ensuring Food Safety and Maintaining Food Safety Standards in Supplementary Nutrition in ICDS. Keeping in mind the important aspects of food safety and to make sure that supplementary nutrition under ICDS is of best quality which is given to our future generation of our country a training programme was conducted at NIPPCD which made sure that DPO/CDPO's should be aware of safe food handling and should proper standards in supplementary nutrition. Keeping in view the challenges in handling Supplementary Nutrition under ICDS scheme, the training programme on “Ensuring Food Safety and Maintaining Food Safety Standards in Supplementary Nutrition in ICDS” is proposed to be organized at NIPCCD, New Delhi from 16-18 April 2018. Training aim to enhance the knowledge of the participants on food safety, food security, food fortification and their role in promoting food safety standards in supplementary nutrition. One of the main conclusions, which can be drawn from this study, is the fact that the training day was a great success. The result shows that participants were content and satisfied with the resource person, content of the programme and audio visual aids used, some of the participants even though felt that time period of the training was less. Most of the participants felt that objectives of the study were fulfilled.

## **A Study on Assessment of Human Resource for Health at a District Level Secondary Hospital in East Delhi**

Col. RP Cornelius

In Hospitals Human Resource is planning is done using various techniques and guidelines. The shortcomings in these traditional staffing norm methods, are forcing many countries to use more rigorous methods for determining staffing requirements. The Workload Indicators of Staffing Need (WISN) method is one such method. It uses a form of activity analysis along with measures of workload and utilisation to determine staffing requirements. The method provides a more realistic means for assessing staffing needs and which at the same time is different to traditional methods. At Lal Bahadur Shastri Hospital staffing was done keeping in mind all the then requirements of the hospital to provide basic primary, secondary as well as tertiary health care facilities at their door step. Increasing workload in this hospital in recent times due to increase in the number of functional units with the same number of sanctioned manpower is adversely affecting its smooth functioning. The intention of this study is to carry out assessment in Human Resource planning for Health contrast to the traditional method to an interactive one in which the determination of staff requirements is based on utilisation and workload. This study describes experiences in applying WISN method to Assess the Human Resource for Health at Lal Bahadur Shastri Hospital , Khichripur, Delhi

**Key words:** IPHS guidelines, WISN, Activity Standards, Workload, Hospital Staffing, Lal Bahadur Shastri Hospital , Khichripur, Delhi

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### **Patient Satisfaction**

Col. Sajeev Katarya

**Background:** Though the governments are trying to focus on healthcare but the quality of healthcare received by the patients remains a sour point. Impartial surveys/ inputs from the patients helps management to improve the organization as a whole. Once an audit is conducted and the results analysed, the organization can work upon its weaknesses to improve quality of patient care thus increasing the patient satisfaction. The aim of this study was to carryout survey on ‘Patient Satisfaction’ at tertiary care hospital in a semi-urban region of NCR. **Methods:** The study was conducted by reviewing the feedbacks from 100 OPD and 50 IPD patients using a structured questionnaire. Attributes of medical aspects of care and performance of service were measured separately for OPD and IPD patients. Exit interviews and informal discussions with the patients were also carried out. Microsoft Excel was used for analysing the collected data, which was based on Likert Scale. **Results:** The results of the survey showed that most of the patients were satisfied with the medical aspects of care and performance of service.

The satisfaction level of past visits was more than 90 per cent. The nursing care, visits and behaviour of the doctors, response time by the doctors and nurses as well as the general cleanliness scored more than 80 per cent satisfaction level. Nurse response time, behaviour of staff, room cleanliness scored 96%, 74%, 84% respectively. Privacy of patients, consultation time given to patients scored 72% and 74% respectively. **Conclusion:** The major satisfiers were doctor’s response time during visit to the wards, nursing behaviour, first impression about the hospital, general cleanliness. The dissatisfying aspects were the front desk staff

behaviour, registration time, consultation time given to patients, privacy, quality of food.

### **Situational analysis of work flow of Credihealth: an e-healthcare service**

Dr. Ashiya Mahran

Credihealth has one of the biggest applaud hospital network all across our country, it is introducing an innovative pioneering approach so that people can compare and make a choice from a complete and collective database of the various networked hospitals, with the doctors working at the different specialties and about the various diagnostic and treatment procedures. The Indian health sector is largely predominantly captured by the private players as the public sector do not have adequate resources and infrastructure to provide standardized health care services to its citizens. Currently, Healthcare industry is not easy to reach and attainable for the people. These services are not dependable & constant. The aim of this study is to understand the work flow to identify the concern areas that can be addressed to streamline the workflow. It is expected to increase the effectiveness and productivity of the medical team which gives assistance to the patients, hence enhancing the rate of conversion of the credit patients from the received requests for the help in some or the other form by giving them the right advice according to their requirement. The methodology includes working in association with the various teams and knowing the kind of the work they do, how it is processed and what are the difficulties and issues faced by the team which are affecting the results. The work is carried out at various level and proportions which leads to the conversion at each level. The study shows that the conversion rate of the OPD is 51%. It is approximate half of the total requests we receive, out of these only 13% gets sieved out of the funnel as IPD or admissions. The cumulative effort of all the teams can make the Credihealth: e-Health Company to be a pathfinder in the technologically driven healthcare industry.

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### **Identification of Incidence of Medication Errors in a Super Specialty Hospital**

Ms. Vaishali Sharma

Nowadays, any hospital's success is determined by quality of services offered by hospitals and also depends on patients' belief, interpretation, and decision. To meet the requirement and expectation of patients, the aim of hospitals is to provide quality care services. Quality embedment is needed in hospitals to achieve this important aim. In our country, patients have started looking for a Healthcare institution with top quality services. Patients admitted in the ward of Aakash Super speciality Hospital from Feb to April 2018 were studied. A total of 100 prescriptions were audited for the study and total of 100 Patient Safety Events were examined. Medication errors were highest in month of January. Reason for this increase could be sudden increase in number of patients. Again, there is increase in medication error rate because hospital was in process of shifting from manual medication writing to computerized medication order entry. The most common medication errors were during the administration stage (18), followed by transcription stage, (7). Errors during Prescription and dispensing were: 4The Medication error Rate was highest in January (7.16) followed by December (5.89), February (5.31), April (5.29), November (4.55), March (2.18), and October (1.93). According to report, administration errors have the highest error rate. More training of staff is required to avoid Medication Errors. Reporting system should be promoted so that more and more events should be reported, and corrective and preventive actions should be taken to avoid such errors in near future.

Prescription audit parameters such as Allergies not noted, and drugs should be noted in capital letters shows the lowest compliance percentage. This should be communicated to staff and more training should be conducted. EMR is already in place. Motivation of staff is required for fully implementing the system.

**Keywords:** Errors, Patient Safety, Prescription Audit.

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## **A Study on the Process of Discharge Summaries in A Tertiary Care Hospital**

Neeti Aggarwal

Patient discharge is a multi-step process involving several people and departments, processes of which influences and have impact on discharge process of the patients of any hospital. Discharges must be planned in coordination with all the departments and disciplines involved and timed in conjunction with other activities. A lengthy, inefficient process for discharging is a common concern of hospitals. It can lead to many factors such as frustration of patients and attendants and at the same time lead to delay in new admissions which are to be done against the discharges. In the discharge of patient from any unit/specialty from the hospital numerous other departments are involved. One way to standardize event is to establish a universal discharge time. In context an effort was made to study the discharge process in SBAMI and access it in terms of time. The study was conducted with the aim of studying the discharge process, focusing on the amount of time taken for the preparation of discharge summaries, followed in the hospital for three categories of patients, i.e. Cash, Panel and TPA, admitted in the hospital. The study was conducted in one wing of the hospital situated on the south side of fourth floor. During the course of study, a total of 235 patients were discharged from the south wing 4th floor of the hospital and were included in the study. The data was obtained using time motion studies where in direct observations of the discharge summaries were done. Out of 235 patients, 109 patients were of TPA; 91 were of Panel and 41 patients were cash paying. The average time taken in the preparation of discharge summaries is 1hr 15mins and the maximum time is 4hrs.

**Keyword:** Discharge Summary, Delay, Hospital, Patient satisfaction

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## **Patient Satisfaction Survey**

Dr. Nitesh Khare.

Precisely considering, quality assurance has become the much needed issue in any organisation for the up-gradation as well as for the sustainability in today's competitive world. This comes with the concept of contentment and satisfaction with the services received in any organisation. When it includes the healthcare services, the expectations are much higher. In such situation, the patient's satisfaction plays a vital role. Thus to discover the content share patient satisfaction surveys become an essential tool for the hospitals. This project deals with the patient satisfaction survey done at a multispecialty hospital in Noida. It is cross sectional study done with the sample size of 100 respondents. With the help of questionnaire as a tool and patients responses on a Likert's scale as a technique. I/OPD of the hospital as a study area. The questionnaire includes the basic seven parameters. The questions are based on these parameters. The result obtains the patients to be fairly satisfied with the overall 93.72% satisfaction level score. Along with this, the areas of improvements are also observed with various levels in the result. In the nutshell, there are areas of

improvement which may be considerable for the sustainability of the current level of patient satisfaction. Thus, this could be helpful to decide further to take step in the direction of continual quality improvement.

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### **Gap Analysis of the low performing UPHCs located in Different Zones in Delhi**

Rekhashree Dakua.

Quality is an important component in the Public Health System. Many Programmes and Schemes are being launched under the Ministry of Health & Family Welfare to improve the Quality of the Public Health facilities. The main flagship Programmes such as National Quality Assurance Programme, Kayakalp, and LaQshya mainly focuses on the aspect of Quality Improvement of the Public Health Care Facilities such as the UPHCs, CHC/SDH and District Hospitals. The success of the Programme and their strategy towards the attainment of National Quality Certification mainly depends on the facilities and their effective implementation of the standards within their premises. The National Capital Territory comprises of 11 Districts. The study was conducted on the five districts of Delhi namely: New Delhi, Central Delhi, East Delhi, South Delhi and North-West Delhi. The analysis of the gaps in the low performing UPHCs of the respective Districts was done with the help of Checklist and reports of the UPHCs. The study showed that 80% and above facilities of all the districts show low performance in Quality Management and Outcome and more than 50% of all facilities in Central Delhi, East Delhi show score less than 50 in all area of concerns. In South Delhi, almost all facilities scoreless in Patient Rights, Clinical services, Quality Management and Outcome. However, the facilities of South Delhi score more than 50 in Service Provision, Support Services and Infection control

**Key Words:** Flagship Programmes, National Quality Cerification, UPHCS, LaQshya Kayakalp, Gap Analysis.

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### **Medical Cost Management in U.S Health Insurance**

Dr. Swati Srivastava

Medical cost management of health services is the need of Hour. Medical cost management programs promise workers and their employees that health care benefits are only used for quality, medically necessary services provided in the most cost-effective setting. The study is a Prospective quantitative study which studies different prospect to describe the optimization opportunities for the payer in the U.S Health Insurance. The data has been collected through convenience sampling (Project data of the organization) for three months, the optimization opportunities is identified as Configuration Issue, Contract Optimization Opportunity, Requires Medical Documentation Audit, Scrubber Optimization Opportunity and System Issue. The maximum opportunity comes out to be in the case of Contract optimization by the Payer. The study identifies the management of increasing medical cost by optimizing the contracts between network providers high Patient responsibilities for Out of network provider, Prior Authorization with clinical documents should be encouraged rather than retro authorization to avoid dispute between provider and payer and thus cost management, providing incentives or rewards related to health prevention, for cost containment in future, placing limits on Dependents benefit sharing. The study concludes by proposing few

more areas for further optimization by underwriting a group or individually, to increase patient's responsibility and reshaping advantage configuration to meet the present requirement.

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### **Analysis of per patient revenue generated from OP Pharmacy Sale in a Super Speciality Hospital**

Ms. Vishaka Chadha

Discharging patients from hospital can be a time-consuming process and often results in patients waiting for their medicines and temporarily blocking beds. Pharmacists can help speed up the process of discharging patients from hospital. Waiting for discharge prescriptions to be written and medication to be dispensed takes time. This can delay patients leaving hospital as well as blocking bed spaces so that other patients cannot be admitted. Quality health care costs money. The more effective a medical office is, the more it is likely spending on care. A retail pharmacy is one way to ensure that some of the revenues come back to the source. The retail pharmacy can be used to reduce the cost of employee drug benefits. Patients will also comply more readily with a regimen from a retail pharmacy. In-house pharmacists can double check a patient's progress with easy access to electronic medical records. Having a retail pharmacy within reach also simplifies the process of consultation with primary care physicians. Confirmation is much easier, reducing distribution errors as well. The larger that a medical facility is, the more benefit it stands to gain from a retail pharmacy. The American Society of Health System Pharmacists surveyed hospitals of different sizes to determine the percentage that currently houses its own pharmacy. Around 70% of hospitals with over 600 beds have at least one pharmacy in-house. As the number of beds decreases, so does the percentage of hospitals that maintain this feature. Patients were counselled regarding discharge medicines and compliance of dispensing medicines at patient's bedside was 100%. Dispensing bedside medicines to in-patients proved beneficial and reduced the time of discharge process. It also reduced the queuing of patients and their attendants at OP pharmacy. Thus, increasing the revenue generated from OP pharmacy.

**Keywords:** Bedside Pharmacy, OPD Discharge

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### **Assessment of quality of life of patients on maintenance hemodialysis and determining the factors affecting it**

Daimee Sethi

A cross-sectional study was conducted to evaluate the quality of life (QOL) of maintenance hemodialysis (MHD) patients. An attempt was made to also determine the factors that affect the QOL in MHD patients. The factors taken into consideration were gender, age, employment status and effect of co-morbidities. The study was conducted at the DCDC dialysis center at Venkateshwar Hospital, Dwarka. The WHOQOL-BREF questionnaire was used to assess the quality of life. Statistical analysis was carried out using SPSS. ANOVA, Post-hoc tests and Pearson's correlation tests were used for analysis. Hemodialysis patients above eighteen years of age, of either sex, who had completed three months of maintenance hemodialysis (n = 75), were enrolled into the study. The quality of life of patients on MHD was found to be severely impaired, and QOL scores for all four domains, physical, psychological, social relationship and environmental ranged

between poor to moderate. Female hemodialysis patients showed significantly ( $P < 0.05$ ) higher quality of life than male patients in the environmental domain. Patients below thirty years of age showed significantly ( $P < 0.05$ ) higher QOL scores in all domains of the WHOQOL-BREF. Employed patients showed significantly ( $P < 0.05$ ) higher QOL scores in physical, psychological and social relationship domains. Comorbidities such as diabetes affected only environmental domain, hypertension affected physical and psychological domains significantly while cardiac problems had no bearing on quality of life of MHD patients. A strong negative correlation was seen between higher age and quality of life in physical and psychological domains. Thus, the quality of life of hemodialysis patients was considerably impaired with strong influence of age and employment status on it.

**Keywords:** Chronic kidney disease, maintenance hemodialysis, quality of life, WHOQOL-BREF

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### **Standardize the surgical kits for major orthopaedic procedures for commonly performed surgeries at Aakash Healthcare**

Sakshi Jain

Surgery is a very ancient form of treatment which has been prevalent since ages and with the advancement of time, these procedures have become standardized across the globe. Owing to the standardization the steps involved before, during and after the surgical intervention are more or less standardized. This leads to a standardized consumption of material not only for an independent surgery but for a particular type of case basis at large. The Objective of the study is to standardize the surgical kits for major orthopaedic procedures for commonly performed surgeries at Aakash Healthcare. The Study is descriptive analytical type of study done for orthopaedic procedures. An in depth analysis of all orthopedic procedures conducted in the facility was undertaken to understand the case load in terms of variety of cases being performed. A total of 84 varieties of cases were performed 192 times, out of which top 10 were considered as most frequently performed from which 3 cases- Implant removal large, Closed/open reduction and interlocking nailing of Tibia, and Unilateral Total knee replacement selected to make the surgical kits. The results show Old data analysis is done to find the number of consumables and drugs used in the particular type of surgery and average is calculated for each item. Final content and size of the surgical kit is decided after the discussion with the team of orthopedic surgeons of the hospital. Direct cost can be optimized using standard surgical kits. Varieties of items in terms of brands are lesser in standardized surgical unit. Replacing generic from branded gives a huge cost margin which benefits both the hospital and the patient. Purchase price and sale price of all products have been excluded from the study owing to the confidentiality of the organization.

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### **Comparative study on the cost of older & newer surgical approach in urological care**

Ms. Sandhyamika Devi

The objective of the study is to compare the older surgical approach & newer surgical approach in urological care in respect of different clinical parameters (study variables). This is a comparative study that no of patients who underwent urological surgeries between 2008 to 2018 conducted in Sanjevani Hospital, Guwahati were taken for the study. Comparison between newer surgical approach and older surgical

approach has been done on the basis of clinical parameters (study variables) such as charge of procedures, post op complication, operative time and length of the study. Data on cost of procedures, length of stay, operative time & post of complication were obtained from institutional database for patients underwent urological surgery of above said period. When we compare between the two newer surgical approach is more expensive. Cost of procedures performed by newer approach is higher than older method (11429 vs 60714,  $p < 0.01$ ), length of stay (1.2 vs 3.7,  $p < 0.01$ ), more operative time required to perform surgery by newer method (164 mins vs 117 mins,  $p < 0.007$ ) & less post op complication in newer surgical method (1 vs 2.6,  $p < 0.01$ ) respectively. Endoscopic, Laparoscopic and laser surgery is more expensive than open surgery. This cost difference may be due to more operative time, advanced and sophisticated instruments, equipments and supply costs since most of the time equipments, instruments are imported from abroad, but despite of higher costs the modern urology treatment has great impact in healthcare which helps to bring quality of life of the patients. For cost-containment purposes, efforts should be aimed at increasing productivity of instruments in our country may help equalize both approaches.

**Keywords:** Cost, length of stay, operative time, post op complication, Newer surgical Approach & Older Surgical Approach (Urology).

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### **Gap Map: Private vs. Public health care facility in line with NABH standards**

Dr. Surbhi Bhatia

Due to growth, needs and complexity in health sector large scale multispecialty hospitals have emerged in different forms. General objective of the study is to assess the gap present in the private and public health care facility in line with the NABH standards and the specific objectives are to assess the gap present in the private health care facility and public health care facility in line with the NABH standards and to study the differences of the gaps between the same. Study area is Govt. Hospital Agra, Mahatma Gandhi hospital, Jaipur. Methodology adopted for this study comprises of collection of primary and secondary data both with the help of checklist, hospital record and NABH self-assessment tool kit. It is conducted for the period of three months. Analysis and interpretation of the data collected is done with the help of excel through graphs. It is clearly evident from the study that Private hospital has better overall compliance in all the standards of NABH than the government hospital but the government has greater compliance in human resource management standards and information management standards. Limitation for this study is small sample size will pose a difficulty in generalization of the results and geographical variance and differences in number of bed is another limitation. Findings present in this study state that both the hospitals i.e. private and govt. have more number of gaps than compliances and does not meet the specific requirements in term of quality. So it can be concluded that for a hospital it is imperative to understand the quality concept as a whole because it is one of the most important component of the medical care being provided.

**Keywords:** NABH, Quality, Private, Public, Gaps

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### **Disaster Management Plan- ESI Hospital in New Delhi**

Col. Pankaj Sahani

Hospitals have a big role to play on occurrence of a disaster as they are among the first establishments to be

affected, whether they are victims themselves (internal) or catering to mass casualties (external). Since heavy demand is placed on their services at the time of a disaster, the hospitals need to be primed to handle such an unusual workload. This demands a comprehensive, documented and tested Disaster Management Plan (DMP) to be in place in every hospital. Alertness for disasters is a dynamic process, Indian hospitals rarely have a documented DMP and even rarely conduct disaster drills or publish the reports of such drills. The drills may be hospital disaster drills, computer simulations or other exercises. To this end, it was prudent to carry out the gap analysis of preparation level for Disaster Management of ESC Model Hospital, Basaidarapur. The study design was cross sectional study with secondary data review. The study employs both qualitative and quantitative approaches to data gathering. The data collection source for the study is secondary data source and observation. The methodology involves a descriptive type multiple case design study relying on documentation and standard operating procedures as the sources of evidence. The main sources of secondary data are the international publication on disaster management, NDMA guidelines, hospital records, and Hospital Safety Index by WHO. Assessing the hospital disaster drills to test various components viz incident command, communications, triage, patient flow, reporting, security and other issues without actual carrying out the drill can be done by just interpreting the hospital DM Manual. The Survey has highlighted that internal and external communications the key to effective disaster response was conspicuous by its absence; a well-defined incident command center if designated could reduce response time as well as confusion.

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### **A Study on Gap Analysis of the Commissioning of Super-Specialty Hospital in NCR**

Summy Kumari

To assess the gaps related to structure, processes of the Super-Specialty Hospital in NCR and to see if outcomes are maintained as per NABH standards. Objectives of the studies are to assess the existing service delivery standards of the hospital with reference to NABH, to indicate the gaps in terms of structure, process and outcome and to recommend corrective and preventive actions of the gaps identified. This study is a Gap Analysis which is initial step in the review of the available services. It is an efficient base to implement a modern management system. This study identifies the significant gaps in terms of structure, process and outcome observed on all the concerned departments. The gaps will be analyzed based on existing NABH standards. The study is descriptive and observational which is to be done in two parts i.e. present status of the department and compliance against NABH standards. All available services will be compared against the set standards and scoring will be done on a scale of 1 to 10 using NABH toolkit. Primary data was collected through Direct Observation, (convenient sampling) discussion with hospital staff and discussion with patients of the hospital. Secondary data was collected through Hospital manuals, policies and records/registers of various departments and HMIS. Overall study which include the preparation of checklist, gap analysis, filling of toolkit, score analysis and final conclusion.

### **Inventory Analysis in a tertiary care hospital**

Jyoti Pandey

This cross sectional study was conducted in 230 bedded Aakash Healthcare Pvt. Ltd, Dwarka, New Delhi

from 5th Feb – 5th May April 2018. The present study was conducted to see the consumption rate of available items in IP pharmacy, to identify the categories of items needing stringent management control based on FSN- ABC matrix and to establish safety stock level, lead time and re-order level for the available items in the pharmacy. Primary data was collected through observation and unstructured interview with the senior management staff, pharmacist, purchase manager and other hospital staff. Secondary data was collected through the hospital information system. The observational finding and the information collected were compiled, analyze on excel sheet as well as manually. The study showed total 2599 items available in IP Pharmacy, out of total 1654 items belongs to drugs category, 929 items belongs to medical consumables and 16 items are general items, the drug is further divided into two categories ‘Drugs’ and ‘Other drugs’. Total 778 Items belongs to drugs Category which includes only capsule and tablets. Remaining drugs belongs to other drug which includes- Inhaler, Injections, Ointment, Cream, Spray, Powder, Drop, Syrup and Gel. ABC analysis of drugs (capsule- tablet) category showed that out of 778 items listed around 13% of the materials were found to consume 70% of the cost (101items) and classified as A category. Another 23% of the materials (182items) consumed 19% B Category. While remaining 64% of materials 495 items consumed 10% of the cost. Same pattern is found in FSN analysis. Safety stock must be maintained in order to avoid stock out condition and help in continuous production flow.

**Key words:** Reorder level, Consumption rate, Safety stock level, Lead time, ABC & FSN analysis, Two bin system.

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## **Quality Assurance in Bio Medical Waste (BMW) Management at Ranjan Hospital, Vaishali**

Col. Satyaroop

Aim of the study was to find out various measures of BMW Management being performed in the hospital as well as the awareness of staff regarding the same (as per BMW Management and Handling Rules, 2016). Objectives of the study was to assess the implementation status of BMW management rules with particular emphasis on assessment of the awareness about BMW management amongst the employees, to study the existing process of the BMW management, to study the isolation of waste at the different points of occurrence of waste and to find out the collection of biomedical waste in the Hospital as per Biomedical Waste Rules. The study was carried out at Ranjan Hospital, Vaishali from 01 Feb to 30 Apr 18. It is an Observational study and Questionnaire was given to the hospital staff. The staff was put through a series of 26 questions testing their Knowledge, Attitude and Practice (KAP) questions including Multiple Answer questions. The analysis of answers was carried out to judge the staff’s compatibility and awareness with BMW Management Rules. The quality assurance was checked from the staff. Overall Quality Assurance in BMW Management in Ranjan Hospital was found to effectively implemented. However certain measures which do require implementation to make BMW management more effective deals with aspects like bar coding of segregated waste bags, periodic capsule of BMW Management Rules 2016 be carried out as a refreshment training for all, training of staff from accredited training centres, establishment of an inspecting body in hospital itself to check the violation of BMW rules, organization of time to time informative sessions about newer way of scientific, safe and cost-effective management of the waste and to sensitize them to the needs of BMW management in the hospital etc.

**Key Words:** BMW Management and Handling Rules- 2016, Knowledge, Attitude and Practice (KAP),

## **Review of Patient Medical Documentation as Means to Enhance Patient Safety and Physician Defensibility in a Super Specialty Hospital**

Col. Rajeev Khatri

Aim of the study was to audit the patient medical documents in In-patient wards, ICUs and MRD section for contributing towards patient safety and physician defensibility in a super specialty hospital. Objectives of the study was to establish role of medical documentation in the patient safety and physician defensibility, 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. The study was carried-out in a super specialty tertiary care hospital (Aakash Health Care, Dwarka) from 1st Feb to 30th Apr 2018. This cross sectional study has a sample of 530 patient medical documents folders. Non-probability convenience sampling technique was used. Existing patient medical documentation audit form was used as the study tool. Study revealed that many patient medical documents has illegible signatures, non-use of stamps, not mentioning the time and plan of treatment, non-endorsement of pain score, 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.etc. To conclude it is recommended to consider audit process as a method for positive behavioral change thus improving standards of medical care.

**Key Words:** Patient Medical Documentation, Patient Safety, Internal Audit, Non-medical Errors, Quality Improvement, Behavioral Change.

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## **Reviewing Completeness of Files in MRD in a Super Speciality Hospital**

Col. Rajesh Kumar

Incompleteness of medical records is a significant problem affecting the quality of health care services. Improving the completeness of patient's records is an important step towards improving the quality of healthcare. To identify gaps in medical record maintenance, it is important to carry out audit of the records, note the shortcomings and take corrective measures to rectify the identified problem. A Cross sectional study was conducted at MRD in a Super Specialty Tertiary Care Hospital. A checklist was prepared, as per study variables, to audit the medical records of all patients admitted in the month of January 2018 at the hospital. In total 342 files were audited. The MLC files for the given duration were not made available for audit. Convenience Sampling Technique was used for the study. The findings of the study showed that in general compliance level of medical records was quite high. Informed consent form, nursing records, Patient's rights and responsibilities form almost met the standards set by the NABH. The major deficiencies noted were in fact sheet, admission request form, general consent form, estimate of expense sheet, Signature of doctor's and consultant in initial assessment sheet and doctors progress notes. These need to be

carefully monitored and doctors made aware of their responsibility to completely fill each entry in these forms, which not only form the basis of documentation of care given and aids in the continuity of care, but also is an important document in case of any litigation. Regular medical record audits and an ongoing training to all the members of the healthcare team will ensuring complete and proper documentation of patient medical records.

**Key words:** Completeness of patient's records, quality of healthcare, identify gaps and shortcomings, corrective measures, full co-operation from all health care personal.

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### **Preparation of a module of different activities/ routine to be introduced to the mentally ill inmates of a destitute home with a view to enhance their quality of life**

Col. Sajjad Parvez Hussain

As per National Mental Health Survey 2015-16, a startling 13.7 % of India's population suffers some form of mental/ behavioural disorder. Homelessness is a serious problem among patients with mental illness. Poor mental health is a growing public health concern. Mental disorders are more common in people from lower socioeconomic backgrounds. Earth Saviours Foundation (ESF) runs a destitute home for about 250 mentally ill destitute persons, either rescued from society or abandoned by their families. Preliminary observations of the facility suggested significant scope for improvement in functioning, need to put systems in place and introduction of routine/ enabling activities. To evaluate existing systems, functioning, routine/ activities in the destitute home; recommend changes and prepare of a module of activities to raise quality of living. Destitute home of ESF at village Bandhwari, district Gurugram; housing about 250 mentally ill inmates. Systematic study of existing systems/ functioning of destitute home undertaken & inmates screened, classified in different categories based on their mental health and degree of dependency; their requirements, gaps in existing facility including routine identified. A non-experimental field survey method employed, wherein; participant's data collected using standard psychological assessment tools. Interviews/ FGDs with employees/ visiting medical staff conducted to understand functioning. Assessment tools MINI, Q-LES-Q were made use of. Destitute home totally lacked systems, SOPs. Existing facilities/ routine were woefully deficient to enable healing of mentally ill inmates. Detailed improvements in existing systems, functioning and introduction of a module of different activities to enhance quality of life of inmates have been recommended.

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### **Procurement plan of OPEX items for a hospital upgrading from 50 to 80 bed**

Lt Col. Tushar Srivastava

The health care in modern days has become more complex sophisticated and more expensive in terms of cost of drugs, surgical equipment and hospital stay. Competitive pressures and severe cuts in public healthcare spending force healthcare organizations to reconsider their business strategies and management practices. Thus we conducted the economic analysis of OPEX item expenditure in Malik Radix Healthcare, Nirvan Vihar, New Delhi and to identified the categories of items needing stringent management control. A matrix based on the coupling of cost (ABC) analysis and vital/essential/ desirable (VED) criticality analysis

was formulated for prioritization, to narrow down the group of OPEX items requiring greater managerial monitoring. Total of 152 OPEX items was identified for purchases during up-gradation of hospital which was to be done in two phases. Categorization of items by the ABC-VED coupling matrix model helped to narrow down on important items. The division of the inventory into three priority categories resulted in identifying the priority as only (14) items are in AV sub group which requires higher stringent control since they are most vital and carries 40.47% of total budget, (22) items comes in BV sub group requires tight control being vital and are just 17.30% of budget similarly there are AE, AD, BE, BD, CV, CE, CD sub groups. This emphasizes the need for planning, designing and organizing the expenditure in a manner that results in efficient clinical and administrative services. As resources are limited, it is essential that the existing resources be appropriately utilized. It is essential that health managers use scientific methods to maximize their returns from investment at a minimal cost.

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### **Gap analysis as per NABH standards (2015) in tertiary care hospital, Faridabad**

Dr. Poonam Mishra

Doctor's facility and medicinal services offices are vital component of human culture. The healing facilities should fill in as spots of well being, for patients as well as for the overall population. An examination was directed to comprehend the part of NABH models and its effect on nature of human services of a healing centre. Gap assessment is the underlying advance in the survey of the accessible administration conveyance framework. Aim of the study is to improve the quality of healthcare services and increase the patient satisfaction level and also achieve the international level of Patient safety goals in the hospital and the objective is to evaluate the gaps between current delivery system and also recommend the corrective and preventive actions to decrease the gaps in tertiary care hospital. The observational investigation gave the information which demonstrates the gap between the current administrations and the Standards of NABH in various branches of the doctor's facility. NABH self-assessment checklist is used and scoring Criteria was used for analysis. Essential information was gathered through perception, talk with staff and patients of staff and optional information was gathered from healing facility records in the frame manuals, strategies and strategy rules. A chapter wise list of findings has been presented. All the chapters had scores more than 8 except Patient Right and Education (PRE) and Continuous Quality Improvement (CQI). There are 3 chapters- Management of Medication (MOM), Hospital Infection control (HIC) and Facility Management and Safety (FMS) got equal scoring 8.2 and Human Resource Management (HRM) and Access Assessment and Continuity of Care (AAC) got equal scoring 8.9 and The Chapter Responsibility of Management (ROM) got highest score, 9.3. The investigation demonstrates that there are a few gaps in the healing facility according to NABH standards.

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### **Comparative Analysis of Maternal Health and Delivery Care Indicators between NHFS 1,2,3,4 at National level and selected States level**

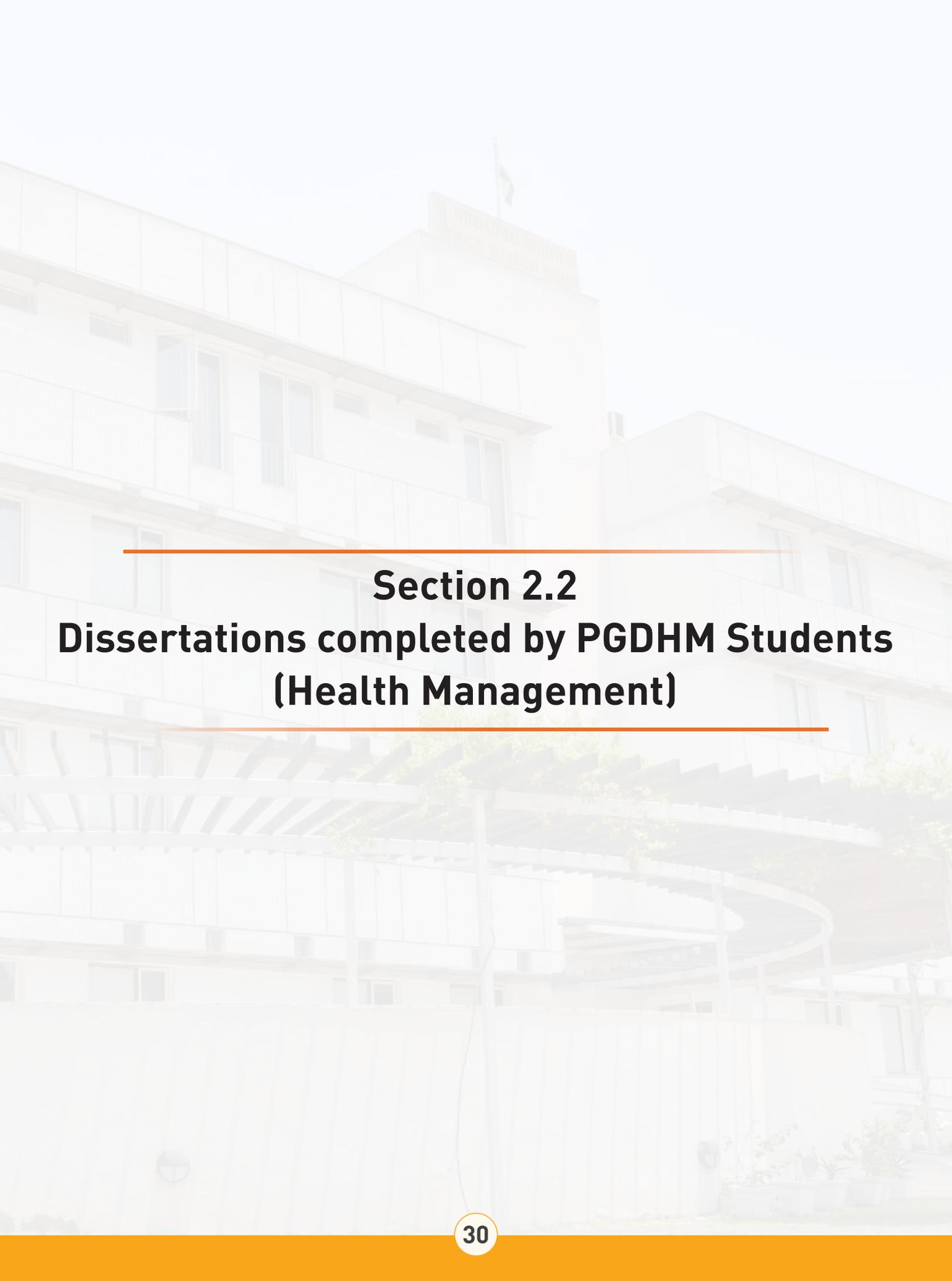
Supriya Agnihotri

Health care services during pregnancy and childbirth and after delivery are important for the survival and

wellbeing of both the mother and the infant. Antenatal care (ANC) can reduce the health risks for mothers and their babies by monitoring pregnancies and screening for complications. Delivery at a health facility, with skilled medical attention and hygienic conditions, reduces the risk of complications and infections during labor and delivery.

Several rounds of national health surveys have generated a vast amount of data in India since 1992 which help to highlight issues that need attention by policy makers and program managers to improve the usefulness of the surveys in monitoring changing trends in India's disease burden. The objective of the study was to compare Maternal Health and Delivery Care Indicators between NFHS 1.2.3 and 4 at National Level and State level (Rajasthan, UP, Gujarat, Karnataka, Assam and Orissa). External Secondary data from government websites was used for the comparison of the indicators and the analysis of the data was done using MS excel. Results of the study showed that NFHS-4 results for 2015-16 clearly indicate a major improvement in some of the crucial indicators as compared to previous surveys For instance, Institutional births: Increased by 40 percentage points and Utilization of antenatal care by mothers (at least four ANC visits for their last birth) increased by 14 percentage points between NFHS 3 and NFHS 4. This increase is consistent with the Government of India's initiatives of NRHM (now NHM), particularly schemes like JSY and JSSK which helped improve the coverage of ANC, PNC, and institutional deliveries in states in NFHS-4..

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## **Section 2.2**

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

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## **A Study of Perception and Factors affecting Work Life Balance and its Health Implications**

Pankaj Bajaj

Background: Work-life balance supports employees to split their efforts, time and energy between work and other important aspects of their lives. It is a daily effort to make time for family, friends, personal growth in addition to the demands of the workplace. The right balance of one today may be different for tomorrow. It also differs when an individual is single, married, if there are children and when one starts a new career. Methods: The study was performed among office employees at an MNC in New Delhi. Sample size was purposively selected as 58 office employees of a MNC in Delhi. Study Design is Descriptive cross-sectional. A semi structured questionnaire was administered to all office employees. The tool consisted of 20 questions related to Demographic details. Perception about work life balance, Factors affecting work life balance & Assessment of work life balance. Results: The results show that employee's feel that work life balance is important and can help them increase their efficiency at work. Specifically, the policies related to work life balance should be considered necessary. However, result shows that only 38% of employees have a comparatively better work life balance whereas major number of employees has unfulfilling work life balance. This shows that even though employees are aware about work life balance, they are still not able to achieve it in their daily lives. It was also observed that more number of females and married employees have a bad work life balance. The major factors that influence the work life balance of employees are superior support and family support. So, organization should try and make policies to improve work life balance of employees, majorly focusing on women and married employees.

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## **The Robot Kangaroo: The Technology Equiped Version of Traditional Kangaroo Mother Care**

Priyesh Sharad

Hypothermia is defined as a state where talking particularly about infants, the 'real' body temperature drops below 36.5 degree centigrade. Therefore, the infant becomes very prone to sepsis and neurological complications. BEMPU device is one of the most sought after hypothermia detection devices in the world. It has been supported by major biggies such as US-AID, UK-AID, Bill & Melinda Gates foundation and Grand challenges Canada and has been developed under the guidance of major institutions like Stanford University, Johnson & Johnson etc. It is typically in the shape of a watch made to wear around neonatal that enables us to know if the infant's body temperature has gone below 36.5 degree centigrade (hypothermia). The device is known for its function to alarm when a neonatal goes below the minimal range of temperature i.e.36.5 degree centigrade. The studies might have claimed its efficacy to reduce Neonatal Mortality Rate (NMR) around the world. We contradicted the study's methodology by pointing it to be an unsystematic approach towards the measurement of axillary temperature with a thermometer in every six hours and at the time when the device alarmed. In addition, most importantly, it does not measure the real core temperature. Therefore, devices developed with Helyxon Company in collaboration with Community Empowerment Lab, supported by Women Deliver, proved to be effective by 99.6% accuracy in a pre-study. Therefore, we wanted to develop an anabolic environment, which will prevent hyperthermia and coupled with proper nutrition help neonatal reach the normal birth weight of 2000 grams. Methods: The RCT was carried out at Avanti bai hospital where in experiment group, four mothers with infants were equipped with fever watch,

spo2 and pulse rate device for continuous monitoring. The nurses were pre trained to read and use the monitor and mothers were taught to provide an effective intervention in case of any emergency. The control group with four infants with mothers were using same old BEMPU device for intervention. Conclusion: At the end of 30 day RCT, all the experiment group infants reached normal birth weight of 2000 grams at minimum whereas under control group, only two infants were able to reach the normal birth weight while the other two still lacked in it. The post study assessment also reported that mother found it easy to use and it did not develop any complications.

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## **Impact of Implementation of ‘Kayakalp’ Initiative On Quality Certification of Public Health Facilities to National Quality Assurance Standards**

Dr Arpita Agrawal

Ministry of Health and Family Welfare (MoHFW) has developed National Quality Framework to assess quality of services for improvement and helps in certification of facilities while Kayakalp was launched to promote cleanliness and hygiene in public health facilities. Kayakalp is a sub-set of National Quality framework as they have common standards in their assessment checklist. We designed Retrospective study to gathered data for 32 Quality certified and 06 deferred/declined district hospitals under National Quality Assurance Standards (NQAS) between May 2015 to April 2018 by reviewing records. Data included their external assessment score, total no of facilities certified under NQAS and no of facilities scored more than 70% under Kayakalp in external assessment and National assessment scores of declined/deferred district hospitals under NQAS. Data were analyzed using SPSS version 22 for Pearson Correlation Analysis, MS Excel 2016 for Pareto and Statistical Analysis. Pearson Correlation Coefficient was 0.217, which means Kayakalp implementation have less significance on the Quality certification of public health facilities to NQAS. Since the inception of the program so far now only 3.4% DH, 0.12% SDH/CHC and 0.17% PHC have been certified under NQAS and under Kayakalp this year 31.71% DH, 13.34% SDH/CHC and 8.34% PHC have scored more than 70% in their EA score. Pareto analysis was done to identify major factors resulted in deferred/declined Quality Certification of district hospitals under NQAS, major area of concern Quality Management (49%) and Outcome (59%) were find out to be the responsible factors. Overall impact of implementation of Kayakalp initiative on Quality Certification of Public Health Facilities to National Quality Assurance Standards was significantly low, however this could be due to many possible reasons which needs further in-depth analysis.

**Key Words:** Quality, Kayakalp, NQAS

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## **Examining Out of Pocket Expenditure and its Contributing Factors in Urban Households of South West Delhi**

Dr. Dikshant Chauhan

Increasing prevalence of catastrophic health expenditure(CHE) in an urban household due to higher amount of out of pocket expenditure which may end up in poverty in the middle-income family as well as middle-income countries. This study aims to measure out of pocket expenditure and related factors in urban

households of New Delhi. A community based cross-sectional study among upper and middle category urban household. Sample size for Delhi is calculated as 358 (with the CI of 1.96, Error term is 0.05 and Prevalence is 63%). South West district was selected as it has largest share of population 30.9% and sample size was 134 for southwest district area of Delhi. WHO 8-point items used in global health survey 2002-04 was used to determine Out of Pocket Expenditure(OOP), modified kuppuswamy scale was used to capture socio-demographic status & based on literature review factors contributing to OOP were added and tool so formulated was used for data collection from urban households. Descriptive Statistics measures are used in the Socio-demographic characteristics and Out of Pocket Expenditure and incidence of CHE among study group. OOPE for Upper and Middle Socio-economic category was 79% and about 8.7% suffered from CHE. Hospitalization and Medication were major contributing factors to health expenditure. Treatment for Non-Communicable disease (32.3%) apart from minor illness is most sought for in urban households and having an elderly member and chronic disease in household puts household at risk of suffering CHE. Travelling expenses often neglected also are major contributor to health expenditure along with in patient hospitalization which is key contributor to Health Expenditure.

**Keywords:** Out of pocket expenditure, catastrophic health expenditure, Upper and middle-income household.

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### **Expert opinion on Gene therapy for Cancer treatment in India**

Dr. Savarnee Gangopadhyay

Cancer is becoming one of the most widespread and dreadful diseases globally. India, among many countries is also affected by cancer, which is one of major reasons for mortality in the country. Genetic mutation is one of the many causes of this disease, which can be treated by Gene Therapy. But developing Gene Therapy requires the necessary infrastructure to manufacture it followed by clinical trials to prove its efficacy and safety. The first Gene Therapy to be approved was in China, in the year 2003. Since then although many laboratories have come up in India, specifically for Gene Therapy, we still do not have one in the country. Hence this study is conducted to get an in-depth idea about the research, manufacturing and commercialization trends in Gene Therapy. Interviews were held with experts working in a Global Business Consulting Firm, which included physicians, researchers, consultants and marketing experts with sufficient experience and knowledge. Questions regarding Gene Therapy for Cancer in India were asked and their experienced opinions were noted. The prospect demands Gene Therapy for specific cancers with high incidence and mortality rates in India. Other factors, which play an important role in bringing a new product to the market, were also identified. These included targeting the right patient population, requirement of specialized sales team to market such a product and others. Challenges with respect to awareness and cost of therapy for stakeholders such as doctors and patients, were observed to be of major concern. Overall it was realized that it will take at least 5 -10 years for India to have its own Gene Therapy for Cancer.

**Keywords:** Expert opinion, Gene Therapy, Cancer, Manufacturing and commercialization, India

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## **A study on post-natal contraception & family planning in district hospital of kharghone district, Madhya Pradesh**

Monica Priya

Family planning administrations characterized as "instructive, extensive medicinal or social exercises which empower people, including minors, to decide uninhibitedly the number and dividing of their kids and to choose the methods by which this might be accomplished". Family planning may include thought of the quantity of youngsters a lady wishes to have, including the decision to have no kids, and the age at which she wishes to have them. This study examined factors that determine utilization of post-natal contraception and family planning services at district hospital in kharghone, Madhya Pradesh. Objective of this study was to assess the status of Post Natal Contraception & Family Planning in District Hospital of Khargone District, Madhya Pradesh and to bridge the identified gap. Sample for the present study comprises of 50 mothers having 6-8-month baby who were present in the District Hospita. A Cross-sectional Study Convenience Sampling was done on post-natal contraception and family planning trend in district kharghone, Madhya Pradesh as data were collected from primary sources as questionnaire was distributed. The study finding was that 35 women want to get pregnant because of culture believe but 10 women did want to get pregnant that time and 5 women say don't know out of 50 women. Maximum women/husbands are not using use family planning and only 30 women/husbands are using FP method out of 50 women/husband. women those are not using any FP method for another Child then we found that 6 women not decided, 9 women said yes and 9 Women said No out of 20 hence, 30 women are already using out of 50.

**Key Words:** Family Planning, District Hospital, Uninhibitedly, Post Natal, kharghone

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## **Assessment of Facility based new born care at various health care facilities in Banka District**

Monika Sinha

The first 28 days of life – the neonatal period – are the most vulnerable time for a child's survival. Children face the highest risk of dying in their first month of life, the global rate of 19 deaths per 1,000 live births. By way of comparison, the probability of dying after the first month but before reaching age 1 is 12, and after age 1 but before turning age 5 is 11. Globally, 2.6 million children died in the first month of life in 2016 – approximately 7,000 newborn deaths every day – most of which occurred in the first week, with about 1 million dying on the first day and close to 1 million dying within the next six days. The objective of the study is Assessment of facility based newborn care at various health care facilities in Banka District(Bihar). The study design is Cross-sectional and observational study. Total 50 health centers were visited including 1 Sadar or District Hospital, 3 Referral Hospital, 7 Primary Health Centers (PHC), 12 APHC, 27 Health Sub-Centre(HSC) for the assessment of health facilities. The results show only NBCC at district level and PHC level are functional. No NBCC in APHC and HSC. NBSU is present in one block as well as SNCU in District Hospital. Lack of Manpower and Very few doctors are trained in F-IMNCI and NSSK. No doctors and staff nurse is trained NSSK in SNCU. The health system needs to be Strengthen so that health facilities would be functional with every requirement such as Manpower, Equipment, Infrastructure and more. Establishment of Health facilities so that every newborn can be cared and save life of newborns to reduce neonatal mortality rate of the country.

## **A Cross-Sectional Study on Personal Hygiene and Sanitation Practices among School Children of an Urban Primary School of Delhi**

Pramod Dahitule

As per USAID report 2018, almost 60 percent of population in India lives in urban areas. The urban population is increasing rapidly, making it difficult for water and sanitation services. The personal hygiene is affected by lack of facilities, poor quality of education, low socio economic status and lack of skills. The sanitation practices are affected with similar factors in addition to non-availability suitable infrastructure. School being a stepping stone, it is prudent to assess the situation for inculcating acceptable health behaviour throughout the life of person. The objective of the study was to assess the personal hygiene and sanitation practices amongst the students of an urban primary government school of Delhi. This cross-sectional descriptive study was carried out in 2017-18 in a Government Primary School of Delhi. The sample (N=190) comprised of students from class three to class five, between the age group of 8-11 years who were present on the day of data collection. The data collection was done using a structured questionnaire and students were asked to tick the response most appropriate to their practice. A score of 1 for correct and 0 for incorrect response was given. The mean for each question/variables was then calculated and a 0 – 10-point scale has developed. Not washing hands after using toilet was one of the weakest area in hand washing practices. Majority of the students were found using plastic container for eating lunch, reflecting poor awareness and undesirable behaviour. Most of students had habit of brushing only once a day. Another area of concern was head lice among majority of the study population. The cleanliness of dustbin was one of the most neglected area under waste management. Non availability of appropriate utensils hampered portability of water severely.

**Key Words:** Personal Hygiene, Sanitation, School going children, Swachh Bharat, WASH

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## **A Study to Assess the Burden of TB Patients and Its Relation with HIV and Diabetes in Government Health Facilities in 2017, Indore District, MP**

Vineet Kumar

Tuberculosis (TB) continues to be a major public health problem in India, with over 1.9 million new cases annually, making it the highest TB burden country in the world. It accounts for one-fifth of the world's new TB cases, and two-thirds of the cases in the Southeast Asia region. For the second time, India has been ranked number one around the globe for leading TB deaths. In 2016 approximately 423,000 patients died from TB and this accounts for a third of the global 1.4 million deaths. There is a grave concern in India regarding the increase in HIV associated TB and the emergence of MDR-TB in both magnitude and severity of TB epidemic. People with a weak immune system, as a result of chronic diseases such as diabetes, are at a higher risk of progressing from latent to active tuberculosis. New data points were analyzed for period of last 6 months (June- December 2017). Common data points were analyzed for whole year of 2017. Data analysis was done using Microsoft excel and SPSS. The collected data was compiled and analysed using techniques of descriptive statistics through.

TB cases reported in city of Indore in public health facilities are unevenly distribute between different

reporting units and Aranya shows maximum burden of TB cases. Intervention in area of this reporting unit must be done on priority to improve status of TB cases in city of Indore and will help curb burden of TB cases. Age category reporting maximum number of cases was in age group 13-40 years. TB with HIV cases were 2.1% and no cases had triple burden of disease

**Key Words:** TB, MDR-TB, HIV

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## **Addressing early malnutrition in children of rural Rajasthan: A Literature Review**

Rashmi Dhoundhiyal

Malnutrition, a silent emergency is one of the India's greatest human development challenges. Over past 20 years, India has witnessed a strong economic growth but on the other side malnutrition in under-five year children continue to be among the highest in the world. The aim of the study is to review literature on burden of early malnutrition in rural Rajasthan and programs on addressing malnutrition in Rajasthan. Key findings suggest that in rural Rajasthan, 28.9% of children in 6-8 months' age group were receiving breast milk and solid or semi solid food and 3.3 % of total children in 6-23 months' age group were receiving adequate diet thus showcasing alarming nutrition level of early childhood. It is being observed that the proportion of undernourished women is higher in rural areas (29.9%) than in urban area (18.6%) in state of Rajasthan. In rural Rajasthan, among the mothers of children aged 0-35 months, 97.7 percent were aware of at least one out of six services provided from AWCs. Maximum awareness was about supplementary food (93.3 percent), followed by immunization (82.3 percent), preschool education (53.9 percent), and health check-up (24.7 percent). Only 4.4% percent mothers were aware of referral services and 7.1 % of mothers were aware about nutrition and health education. Thus indicating that more emphasis is needed to increase awareness of services as well utilization. Conclusion - At present, early malnutrition is one of the major challenges faced by country. Further understanding and appropriation of efforts is needed to tackle early child malnutrition in those states where the prevalence and urgency to address current shortfalls.

**Key words:** Early Malnutrition, India, Rajasthan, Maternal nutrition, SDGs

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## **Social Support and Psychological well-being among Office Employees of an MNC in Delhi**

Khushboo

The effect of mental health issues in the working environment has genuine results for the person as well as for the efficiency of the endeavor. Employee performance, absenteeism, rates of illness, staff turnover and accidents are all affected by employees' psychological well-being status. According to WHO 42.5% of corporate workers in India experience the ill effects of depression. The rate of depression and anxiety among corporate representatives has increased by 45-50 percent in the vicinity of 2008 and 2015 (WHO). Social help is a trade of assets between no less than two people apparent by the supplier or the beneficiary to be expected to improve the wellbeing of the beneficiary. It alludes to a social network's arrangement of mental and material assets expected to profit a person's capacity to adapt to pressure. A purposive sampling of 51 respondents working in an MNC company of Delhi was drawn. Questionnaires were distributed among all the employees working in the MNC out of which 51 were valid and rest 21 were in valid

responses. Social support in the respondents was evaluated using Interpersonal Support Evaluation List shortened version (ISEL) – 12 items and psychological well-being was assessed using Ryff’s standardized scale. Frequency and cross tabs between social support and psychological well-being was used. The different determinants of social support have different impact on the determinants of psychological well among employees. The results reveal that the employees have lower level of social support and also have poor psychological well-being. The outcomes demonstrate most respondents’ needs guidance, fraternity and material aid as social help and additionally maximum number of respondents experience issues in overseeing regular undertakings and unfit to change or enhance surroundings.

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### **An intervention study on personal hygiene habits and sanitation practices among students of an urban primary Government school of Delhi**

Raashi Gaur, Pramod Dahitule, Dhananjay Srivastava and Sanjiv Kumar

Hygiene and sanitation are two important aspects of a healthy life. Inadequate drinking water, sanitation and hygiene remains a leading cause of death. Due to unsafe water, inadequate sanitation and lack of hygiene, each year children lose around 272 million school days. Health education regarding important aspects of hygiene, environment and sanitation, as well as social customs is being imparted at school level. The teacher is the guardian of the child in school and plays a pivotal role in the whole process of overall development of the child. The primary objective of the study was to find out the existing personal hygiene habits and sanitation practices that the students follow and design an intervention based on the available data. Secondary objective was to see the effect of intervention as behaviour change among students. The study was carried out in an urban primary government school of Delhi in three phases. The first phase for baseline data collection and second phase for intervention designing, planning and implementing and third for end line data collection. Students from grade three to grade five were included in the study. All the students present on the day of data collection were included in the study. A tri-sectional questionnaire was designed for data collection. Analysis was done by developing a uniform scale of 0-10 and calculating the mean score of individual questions and variables. Upon comparing pre and post results, it was found that personal hygiene habits saw greater improvements in terms of behaviour change in comparison to sanitation practices. Audio-visual aids were found to be most effective in comparison to the other media.

**Key Words:** Hand wash, personal hygiene habits, sanitation practices, waste disposal

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### **Study on awareness of clinical vitals among the general population and design a promotional mix**

Dr. Anisha Gadodia

India Health Link Pvt. Ltd.(IHL) is a company having its registered office at Karnal, Haryana and Development center at Chennai, India. The company is formed with a vision to Educate, Aware and Facilitate healthy life style practices to Indian population irrespective of social and economic status. Providing easy access to vitals screening and educating them on the status of their health and the lifestyle changes that can reduce the NCD in India. The senior management recognized the potential for improvement in designing the health information to be displayed in the kiosk. In order to realize this long-

term goal, awareness among the general population about their health status and clinical vitals will be studied for enabling us to understand the target audience and improvement in updating the kiosk. The aim of the study is to identify the health factors that people are not aware about and provide them health suggestions. The objective is to study the level of awareness about the health vitals among the general population. Primary data was collected through a sample questionnaire using Google Forms. Randomized study was done where inclusion criteria was respondents above 18 years of age were taken. Metropolitan cities having the concept of nuclear families are more prone to health risk as considerable number of people are more inclined towards eating outside showing a greater market size of people requiring regular monitoring of their health statistics. Large number of respondents do rely on internet and peer review for gathering health related information both of them are not the authentic sources for the correct information, correct information backed up by data in order to promote a healthy living will be provided.

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### **Assessment of Labour Rooms and Maternity OT in Public Health Facilities of Bihar, India**

Juhi Kumari

LaQshya recently announced and launched by Ministry of Health and Family welfare, aimed at improving quality of care in labour room and maternity OT. The program improve quality of care for pregnant women in Labour room and, maternity OT. The Program being implemented at all medical colleges hospital, District Hospital, First Referral Unit (FRU), community Health Centre (CHC) and benefits every pregnant women and new born at facility level. LaQshya program aims at implementing ‘fast track’ intervention for achieving tangible result in 18 months. Under initiative, multi- pronged strategy has been adopted such as improving infrastructure up-gradation, ensuring availability of essential equipments, providing adequate HR, Capacity building of health workers and improving quality process in labour room and maternity OT. To strengthen critical care in Obstetrics, dedicated Obstetrics ICUs at medical colleges hospital and Obstetric HDUs at district Hospital are operationalized under LaQshya program. We designed cross sectional descriptive study to gather data for baseline assessment of Labour Room and Maternity OT. Convenience sampling method is used and the study was conducted in five facilities of Bihar. For the analysis LaQshya checklist is used and we tried to find out which area of concern scored less. Labour room and Maternity OT departments, the facility of Bihar score less in the department of Maternity OT and areas of concern wise Patient Right score more and areas which scored less are Outcome and Quality Management. Comparing the findings of the assessment with standard guidelines we see many gaps regarding infrastructure, availability of equipments, availability of drugs & consumables. Record and registers are not being maintained. Ensuring biomedical waste management and infection control practices needs special focus & must be adhered to.

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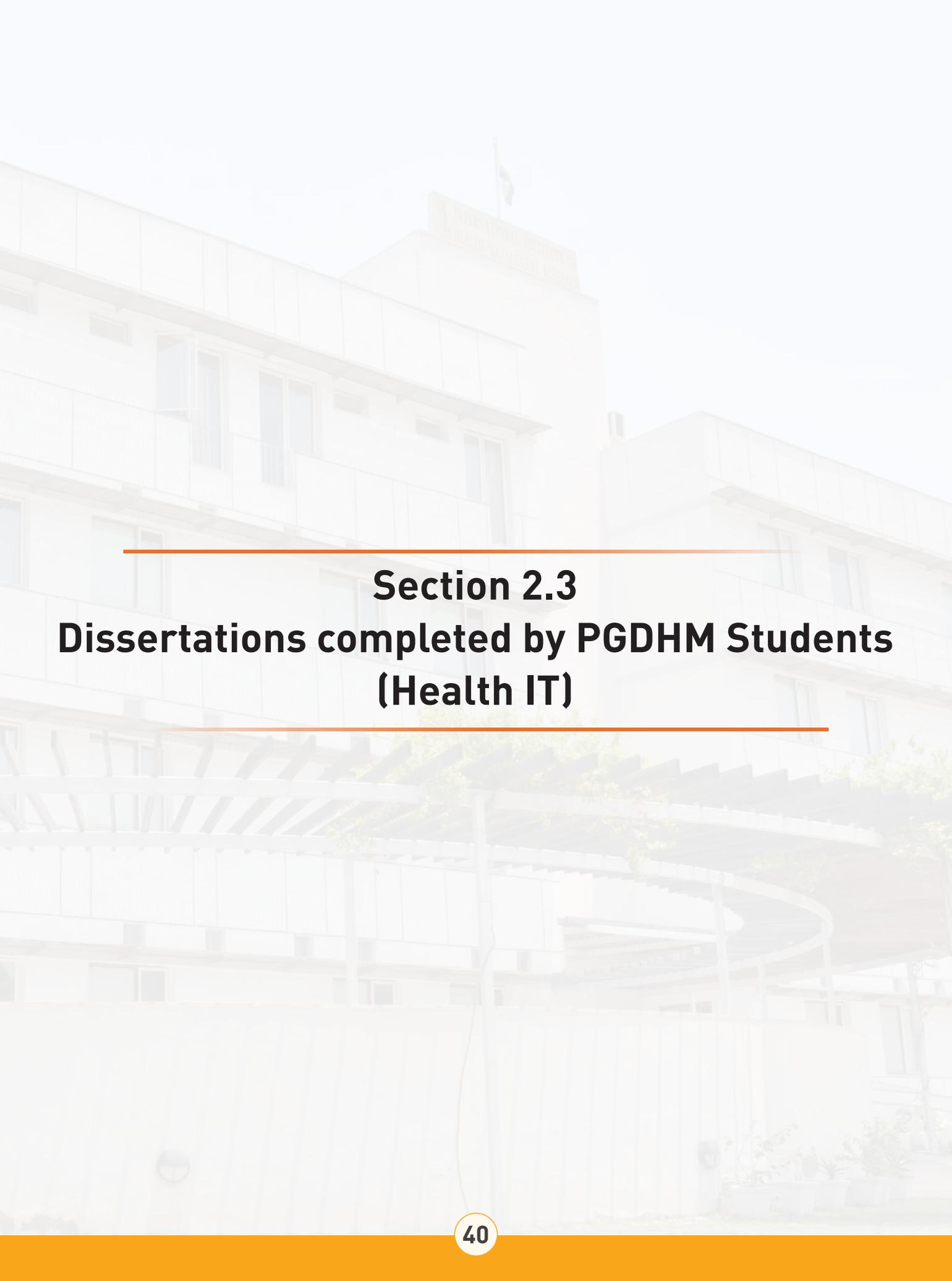
### **Standardize The Surgical Kits for Major Orthopaedic Procedures for Commonly Performed Surgeries at Aakash Healthcare**

Sakshi Tiwari

Surgery is a very ancient form of treatment which has been prevalent since ages and with the advancement

of time, these procedures have become standardized across the globe. Owing to the standardization the steps involved before, during and after the surgical intervention are more or less standardized. This leads to a standardized consumption of material not only for an independent surgery but for a particular type of case basis at large. Objective is to standardize the surgical kits for major orthopaedic procedures for commonly performed surgeries at Aakash Healthcare. Study is descriptive analytical type of study done for orthopaedic procedures. An in depth analysis of all orthopedic procedures conducted in the facility was undertaken to understand the case load in terms of variety of cases being performed. A total of 84 varieties of cases were performed 192 times, out of which top 10 were considered as most frequently performed from which 3 cases- Implant removal large, Closed/open reduction and interlocking nailing of Tibia, and Unilateral Total knee replacement selected to make the surgical kits. Old data analysis is done to find the number of consumables and drugs used in the particular type of surgery and average is calculated for each item. Final content and size of the surgical kit is decided after the discussion with the team of orthopedic surgeons of the hospital. Direct cost can be optimized using standard surgical kits. Varieties of items in terms of brands are lesser in standardized surgical unit. Replacing generic from branded gives a huge cost margin which benefits both the hospital and the patient. Purchase price and sale price of all products have been excluded from the study owing to the confidentiality of the organization.

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## **Section 2.3**

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

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## **Analysis of Satisfaction Levels of Patients Admitted in Economy Ward of a Private Hospital in New Delhi**

Aarushi Chawla

This study was conducted to analyze patient's feedback based on their experience and treatment during their stay at economy ward. Feedbacks forms must be analyzed and whosoever department is lagging that department should work on the outcome of analyses. This study was orchestrated with the aim of analyzing feedbacks filled by the patients on south wing 3rd floor of SBAMI, New Delhi. A total of 286 discharged patients were requested to fill in the feedback forms and henceforth the analysis was done using MS Excel. Patients discharged in the time frame of 1st March, 2018 to 15th April 2018 were included in the study. The results after study was completed it is found that in every phase the percentage of Excellent Grades is increasing as nursing care was 66.67% in phase 1 it raised till 68.46% in phase 2 and 73.33% in Phase 3 only after counseling the nursing staff with the help of ANS of the floor. Medical care started from 68.18% raised till 70.77% in phase 2 and 76.67% till phase 3. Dietary Services started from 54.55% in phase 1 till 60% in phase 2 and 64.44% till phase 3. Housekeeping services started with 57.58% in phase 1 and raised till 57.69% in phase 2 and 59.60% in phase 3. On the other hand, percentage of good grades was decreasing and it is good for us because patient found our services excellence in comparison to good. So, nursing care percentage of good grades in phase 1 was 33.33% decreased till 31.54% in phase 2 and 26.67% in phase 3. Medical Care was 31.82% in phase 1 decreased till 29.23% in phase 2 and 23.33% in Phase 3. Dietary Services started at 45.45% in phase 1 decreased till 40% in phase 2 and 35.56% in phase 3. Housekeeping services started at 42.42% in phase 1 decreased till 42.31% in phase 2 and only in this phase 3 it is increasing till 44.60%. But, it is has no negative effect on patient satisfaction level and increase on percentage of excellent grades.

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## **Perception of Doctors and Patients regarding ICT enabled Follow-Up after Bariatric Surgery**

Dr. Jyotika

WHO defines obesity to be a condition with Body Mass Index (BMI)  $\geq 30$ . It is a common and serious health problem that is tending towards epidemic proportions. The type of obesity involving BMI  $\geq 40$  Kg/m<sup>2</sup> is usually unresponsive to common medical treatments and bariatric surgery is the most accepted current treatment for it. Although bariatric surgery alone is not an appropriate treatment, lifetime follow-up after surgery has been found to be the key to long term success. This long-term follow-up involves extensive follow-up of patients for Nutrition, Activity, Vitals and other parameters, which impose a major challenge in management of process of follow-up. As technology is evolving day by day, ICT (Information and Communications Technologies) can act as a good means to ease the process of follow-up after surgery. The objective was to study the perceptions on long term follow-up with patients after bariatric surgery and to assess the perceived role of ICT in improving the process of post-op follow-up. The Study was conducted using Exploratory and Descriptive Research design, in some hospitals of Mumbai over 1 month. The study population were bariatric surgeons and patients who had undergone bariatric surgery. A total of five bariatric surgeons and five bariatric patients were part of this survey. The findings of the study indicate favorable perceptions of the role of ICT for better post-op outcomes in bariatric patients. The limitations of

the study were that it was a time bound study which involved very few participants, the responses of the study participants were prone to respondent bias and the results were limited to a particular group in each phase of the study. The study concludes that to attain better results of bariatric surgeries, there is a strong need to integrate digital applications with the standard post-op weight loss journey.

**Key Words:** Follow up of Bariatric Surgery Patients; ICT-enabled Remote Patient Monitoring (RPM); Excess Weight Loss (EWL)

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## **Study of Cyber Security Framework for Healthcare in India**

Col. Sanjeev Kumar Ahluwalia

**Objective:** To study cyber security issues related to healthcare; analyse gaps in existing and proposed cyber security framework; and formulate draft cyber security policy. Study Area: Cyber Security in healthcare. Type of Study: Descriptive/Qualitative. Study Design: A study of 9 national / International papers / Acts/ standards was carried out. Findings: 14 Gaps observed in the existing / proposed Cyber Security framework including 10 Gaps in Draft "Digital Information Security in Healthcare, Act (DISHA)" of MoHFW. Recommendations: Formulation of Cyber Security Cell and Computer Emergency Response Team- Health (CERT-H) by MoHFW; Formulation of Cyber Security Policy as per ISO 27001 & ISO 17799 by all organisations; Nomination of Cyber Security Officer by all organisations; Periodic Cyber Audit by internal and external agencies; Awareness training for all employees.; Amendment of proposed draft DISHA as per recommendations forwarded to MoHFW. Conclusion: Technical, procedural, management controls and legal aspects of cyber security must be ensured for effective security of Information Systems. References: (i) White Paper of "The Committee of Experts on A Data Protection Framework For India", Justice B.N. Srikrishna Committee; (ii) Draft "Digital Information Security in Healthcare, Act (DISHA)"; (iii) IT Act 2000; (iv) Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011; (v) EHR Standards 2016 of MoHFW; (vi) ISO 27001; (vii) ISO 17799'; (viii) National Cyber Security Policy 2013, Department of Electronics and Information Technology; (ix) Health Insurance Portability and Accountability Act (HIPAA) of 1996, United States.

**Keywords:** Electronic Health Record (EHR), Hospital Information System (HIS), National Digital Health Authority (NDHA), Digital Information Security in Healthcare, Act (DISHA), Computer Emergency Response Team- Health (CERT-H).

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## **Implementation Study of HIS Med-Mantra Digital at Outpatient Department**

Anubhav Mukesh Saini

My exposition report has in view of Hospital Data System. The Med-Mantra Digital of all tasks that happen at any of the medicinal focus. It keeps up single level of clients, overseer level. The manager level envelops the specialists. The heads can execute tasks on touchier and private archives/modules that contains diverse data about the staff to guarantee classification. The modules incorporate OPD. The system enables registration of new patients. The patient either continues to the treatment room or to the lab relying upon the

specialist's choice in the discussion. The objective of this study to implement and adopt the process of EMR at all functionalities of the hospital. Besides this there are specific objectives to determine are satisfaction level, performance and usability of the Med-Mantra Digital. The study was conducted at Apollo Hospitals, Indraprastha (New Delhi). The methodology was experimental (interventional study) adopted. The results show that the system is productive, less time-consuming, clear information, less system-crash, updated information etc. The implementation phase of HIS Med-Mantra at outpatient department is started well in the respective opds' that I have covered. The best opd out of 4 opd is Urology department where maximum number of doctors showing wonderful interest and great sense of excitement of bringing the change in the existing system. Then oncology is progressing gradually, showing improvement in terms of usage. The same course is being followed but with certain less degree in Nephrology and Rheumatology. We have achieved 12.6 % adoption rate from 8.6% till now which is a significant milestone. At last according to me the project for the implementation HIS Med-Mantra is overall going good in terms of adoption and disruption in the conventional system.

**Keywords:** HIS, Hospital Information System, Electronic Medical Record, Electronic Health Record

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### **A study to evaluate the training of District Child Protection Officers and Health Officials on Pradhan Mantri Matru Vandana Yojna (PMMVY) – and PMMVY-CAS software**

Ritika

India continues to face challenges in improving maternal health as about five women die every hour in India from complications developed during childbirth. Utilization of healthcare services is an important issue in India with significant proportion of home deliveries and mothers not receiving adequate antenatal care. The programme is called as “Pradhan Mantri Matru Vandana Yojana” (PMMVY). NIPCCD (National Institute of Public Cooperation and Child Development), an autonomous organization under the aegis of Ministry of Women and Child Development along with its Regional Centre's has been organizing trainings, either through cascade model or vertical training. NIPCCD has also included the PMMVY training in its regular job and refresher training courses of all field functionaries under the scheme. Objective of this study was to evaluate the training of District Child Protection Officers and Health Officials on Pradhan Mantri Matru Vandana Yojna (PMMVY) – and PMMVY-CAS software conducted in March 2018-April 2018 at National Institute of Public Cooperation and Child Development (NIPCCD), New Delhi. Sample for the present study comprises of 55 DCPO & Health officers belonging to 9 states i.e Karnataka, Telangana, Tamil Nadu, Kerala, Delhi, Himachal Pradesh, Haryana, Punjab and Rajasthan. The study findings highlight that 69% respondents had no response and 15% felt inadequate regarding hands on training on CAS software. In terms of perception regarding fulfilling of objectives of the training programme, 87% respondents said that the objectives were fulfilled. 89% respondents felt that the duration of the training programme was adequate.

**Key Words:** Pradhan Mantri Matru Vandana Yojna, maternal health, training programme, PMMVY-CAS software, maternity benefit programme.

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## **Assigning National Identification Number (NIN) to the health facilities of India**

Lt Col Manvir Singh

The Ministry of Health Family Welfare has initiated a process for assigning a unique 10-digit number to all Health Facilities of India, called the ‘National Identification Number (NIN)’. NIN will identify their geographical location and attributes based on MDDS (Meta Data & Data Standards). Post validation of the attributes of health facility, NIN is permanently assigned to a particular Health Facility. Health applications can use NIN in their databases ensuring inter-operability between healthcare IT systems in India. It will help in facilitation & tracking of Govt. of India’s Direct Benefit Transfer (DBT) scheme where patients get benefitted, help reduce fraudulent claims and have transparency in dealings. Also, NIN application will help in determining geographical concentrations of Health facilities through maps feature i.e. NIN will be able to show catchment area of health facilities in a selected region. General objective would be to Design an efficient and scalable process for assigning the NIN to the health facilities of India, whereas Specific Objectives were to Study the existing mechanism for Assigning NIN, gather requisite information for assigning NIN, design a format for NIN assigning, the process to be feasible and scalable one. Study was exploratory and descriptive, using primary and secondary data. A comprehensive review of literature was done. The other agencies model assigning the unique identifiers to health facilities were studied and incorporated in design. Interviews and questionnaire were used as tools to elicit perception, apprehension and expectation towards assigning NIN amongst the stake holders. The study on compilation is expected to highlight the road-map for creating a database for all health facilities and a mechanism for assigning a unique National Identification Number (NIN) based on the Meta Data.

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## **A study on Doctor’s user satisfaction with an electronic medical record system “DNA Med-Mantra” in Outpatient department- Apollo Hospital**

Dr. Pooja Singh

The objectives of this study were to determine the satisfaction level of the Doctor’s with the electronic medical records system named Med-Mantra and to submit recommendations to address the limitations. After providing EMR training to 100 Doctors of the outpatient department, these doctors were asked to answer a self-administered questionnaire. Advance excel was used to determine the overall satisfaction with the system Med-mantra. The Study Design was descriptive cross-sectional study and study duration was three months. Data is collected by reviewing of MED-MANTRA manual, polices, Digital Network Apollo (DNA) and interactions with hospital’s staff and consultants. Total number of doctors on boarded till the given time period were 91. It was found that out of 100 doctors 44% of the doctors were agree and 15% of the doctors were strongly agree with the EMR overall performance, while 15% of the doctors were strongly disagree, and 3% of the doctors were disagree with the overall functioning of Med mantra. So Med-mantra requires few changes to increase the percentage of user acceptance. It has been concluded that half of the Doctors were satisfied with the system. The scale to measure satisfaction among the acceptance towards internal stakeholders can’t be figured on the defined sets of parameters. This would vary accordingly with external and internal environment. Overall, the acceptability, compatibility, and the ease of using the application has covered a successful journey where-in the usability of application has seen the

positive approach. Continued evaluation of such systems and feedback from users should guide future selection and implementation.

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## **Artificial Intelligence in Healthcare in India- A Scoping Analysis**

Seavy Maggo

This study was conducted in order to map the current scenario of artificial intelligence (AI) in healthcare in India through a scoping analysis. The study aims at understanding the role of artificial intelligence in healthcare, identifying the potential stakeholders of artificial intelligence in healthcare and the healthcare applications utilizing artificial intelligence. It also aims at obtaining insights on the current industry scenario of use of artificial intelligence in healthcare in India. It is a literature based descriptive study. Through online retrieval of information, secondary data based on journals, reports, website articles was collected with the period from 2000 to April 2018. The findings suggest that clear plan models can help to give systems to guarantee protection, security, quality, and precision of AI arrangements and can address inquiries of morals and trust. Healthcare specific applications are diagnostics, biomarkers, virtual nursing assistant, remote monitoring of patients, precision medicine, medical imaging, robotic surgery, drug development and discovery; and health chatbots. IBM Watson, HealthifMe, Superleap, Your.MD, Touchkin Wysa, DeepMind health, Turbine.AI, Sensely, Recursion Pharmaceuticals, Verb Surgical and Bioserenity are some of the key applications for artificial intelligence in healthcare space. Five major stakeholders were identified- healthcare providers, research and industry bodies, application developers, government bodies, investors and funders. There are several challenges to growth of use of artificial intelligence in Indian healthcare. The major challenges are that India does not have a Regulating Authority for AI in medicinal services and also lacks clear plan models that can help systems to guarantee protection, security, quality, precision of AI arrangements and can address inquiries of morals and trust. There is a good scope for artificial intelligence applications in drug development and discovery in Indian healthcare space. Key words: Artificial Intelligence, Healthcare, Medicine, India, Machine Learning, Pharmaceutical, Applications

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## **To study VETSpa and its workflow in order to create Brand Awareness in European Veterinary Radiology Market by using Digital Marketing strategy**

Ms. Shreyshi Varshney

VETSpa is a Veterinary Radiology Information System meant for diagnosing the diseases in the animals. VETSpa is an integrated RIS-PACS which provides the solution to the veterinary radiologists to reduce the turnaround time and to make the imaging for the animals better. European Radiology market is the huge platform for showcasing the products like RIS-PACS which are especially into veterinary sciences. Telerad Tech Private Limited, Bangalore participated in BSAVA Event to create the brand awareness of VETSpa by using Digital Marketing, as Digital Marketing nowadays is a new kind of contacting to the potential leads in the concerned area. Social platforms like Facebook, LinkedIn, Twitter were used to create maximum impressions. Also, marketing automation tools were used to capture the leads for the event like ZOHO,

Lead squared. The global veterinary imaging market size was valued at USD 1.86 billion in 2016 and is expected to grow at a CAGR of 6.6% during the forecast period. Increase in demand for veterinary diagnostics is expected to fuel the demand as these devices are primarily used for diseases diagnosis.

VETSpa was showcased at the event between 5th April-9th April 2018 at London by the team of Telerad Tech Private Limited, Bangalore. To reach the potential customers, Europe was the right choice to do so because it is located centrally in the world to connect to the right audience. Growing expenditure on animal health and pet insurance are expected to contribute to increasing demand. In addition, growing companion animal segment due to high adoption of pets and increase in number of vet practitioners around the world are expected to propel the demand for these systems over the coming years.

**Keywords:** VETSpa, European Radiology Market, Digital Marketing, Brand Awareness, Healthcare, Zoonotic Burden, RIS-PACS, BSAVA Event

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## **Section 3.0**

# **Summer Internship Completed by PGDHM Students**

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## **Patient Satisfaction Survey in Remote area of Uttarakhand: CHIRAG HOSPITAL, SARGAKHET**

Col. Yogesh Dungrakoti

Patient Satisfaction Survey (PSS) is important to determine the quality of health care services delivered by any health care facility. From past few years, it is increasingly becoming an essential tool for identifying gaps and challenges to develop an effective action plan for improvement in quality of any healthcare organizations. CHIRAG (Central Himalayan Rural Action Group) is an NGO which is running curative health program in the Mukteshwar block of District Nainital since 1987 in response to the lack of health care facility in the region. The aim & Objective of the study was to assess the patient's satisfaction towards health care services provided by Chirag Hospital in remote area of Sargakhet, Uttarakhand. A randomly selected 50 patients were interviewed out of which 58% were males and 42% females. Majority of the patients were poor and illiterate. Data was collected by using a questionnaire at the end of their O.P.D. visits at Chirag hospital, Sargakhet. Questionnaire was grouped into categories like demography, availability of services, clinical care, cost of services, waiting time and Patient Suggestions. Survey was carried out over a period of 5 days from 20 Apr to 25 May 18. The overall opinion about the satisfaction with the hospital was extremely high in 94% of patients. 78% respondents felt that the communication by the doctors was good. 64% of the patients said that the time to get registered was under 10 minutes. 100% of the respondents felt that the explanation of disease and clinical care was satisfactory. 36% of the patients felt that time taken for investigations was too long. Analysis of the data of the survey revealed a high degree of satisfaction amongst the patients visiting the OPD of Chirag hospital. Patients were extremely satisfied with waiting time and various health care services provided by the hospital.

**Key Words:** Patient Satisfaction Survey; Health Care Services; Outpatient Department; Remote Areas

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### **Employee Satisfaction Level**

Dr. Sneha Singh

Employee satisfaction is how content or satisfied employees are with their jobs. A satisfied employee is one who is fully involved in and enthusiastic about his or her work and thus will act in a way that furthers their organisation's interests. The objective of the study was to determine and analyse the current satisfaction level of the employees in the organization. The survey was carried out at Sri. Balaji Action Medical Institute. This survey address topic such as compensation, workload, teamwork, resources, relationship with the supervisor etc. All these things are important to companies to keep their employees happy and reduce turnover. Employees thus are more loyal and productive which in turn affect the customer satisfaction and organisational productivity.

The sample size for the study was 30% of the target population. A total of 241 employees were included in the sample. Stratified sampling technique was used. Sample population was divided into 4 strata namely- Medical, Nursing, Non-Medical, Paramedical and then elements were selected from each of the stratum randomly. Data was collected through a structured questionnaire comprising of a series of 20 questions. The study showed that the overall satisfaction percentage of employees was 60% in Medical and Nursing. It was 81% and 84% for Non-medical and Para-medical respectively. Most of the employees are aware of the policies and procedures of the organization and what organization expect from them at work. Supervisors

are supportive and polite and help sub-ordinates to solve work related challenges. They do recognise and appreciate employees' effort and hard work. Employees are highly satisfied with the work environment. Employees expect more training and development opportunities. Most of the employees are satisfied with leave policy and medical facilities though some expect more percentage of medical coverage for their dependents.

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## **OPD waiting time**

Jyoti Yadav

Patient visit the OPD for various purposes like consultation, day care treatment, investigations, referral, admission post discharge follow ups etc. not only for treatment but also for promoting services, first impression of the hospital is formed basis OPD. The outpatient department is critical process for any hospital. Short waiting times and a positive experience represent important drivers of patient satisfaction. Meanwhile, inefficient processes can result in lost revenues and poor community image, not to mention concern over patient safety. Since OPD is frequently a patient's first experience with the hospital, improving the efficiencies is paramount to both patient satisfaction and hospital's bottom line. This study helps to understand avoidable delays in OPD for the management to take adequate measures to improve the function of the department. During this project a study was conducted on 298 patients under walk-in and prior appointment category for consultation in internal medicine, gynaecology and pediatrics department. The research approach adopted in this study is descriptive study. The study was conducted in a period of two months from 10th April to 31st May 2018. Out of various sampling techniques simple random sampling was used. Data was collected through observational checklist. Average waiting time of internal medicine OPD (54.98 hrs) is the highest followed by the gynaecology OPD (30 hrs) and pediatrics OPD (22.48 hrs) respectively. This study concludes that waiting time for patients in OPD is still higher in internal medicine department which sometime deals with emergency care. Although only few no. of patients are dissatisfied with the waiting time but they should be taken in more considerations as a single bottleneck of the hospital can affect the efficiency of overall functioning of the system. Study recommends creating standard operating process to streamline coordination, front desk staff training on medical terminologies, better queue management with options like token display system.

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

KMEkta

Aakash Healthcare at Dwarka is the flagship hospital of the Aakash Group, which heralds the group's noble intention to enter the healthcare space. This hospital has been planned and designed as a 230 bedded tertiary care multi-specialty facility and has commissioned 100 beds in the first phase. Aakash Healthcare works on the I CARE core value- I – Integrity, C – Compassion, A- Accountability, R- Respect, E- Excellence. Out 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 230 bedded hospitals across specialties on out-patient basis and suggesting necessary intervention to minimize

deviations. The methodology includes observation of the out-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 70%. 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 40%, Now an action plan has been set and the organization has a way formed to minimize the same in the coming 6 weeks both by strengthening of formulary & reinforcing the same to one consultants. The cumulative effort of OP pharmacy can make Aakash Healthcare to be a pathfinder in setting high quality of service and increasing the productivity.

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### **A study of collection of primary data, data flow, compilation and generation of the key indicators used by National Institution for Transforming India Aayog for District Hospital ranking**

Komal Mittal

With a goal to encourage competition for improvement of health services, the NITI Aayog and the Ministry of health have begun ranking district hospitals on the basis of their performance on health indicators. Poor performing hospitals can be identified and hospitals would be motivated to improve their care as the patients would also be more inclined to visit better ranking hospitals. In this study, the objective is to study the existing data flow process in the hospital, to identify the gaps and areas for improvement and to develop the recommendations. A qualitative study design was used. In this study in depth interviews (IDIs) were conducted with study participants from different district hospitals. In the present study, 20 IDI's were conducted from the selected departments of study hospitals along with the process of the flow of data. The present study revealed that there is a need for institutionalization of monthly reviews where the Data / Indicator can be used for reviewing the performance and the data sets for the following indicators not readily available-a. Stock-out rate. b.Surgical Site Infection Rate. c. Blood units issued against replacement rate. The study revealed that the data sets are available for certain indicators. The awareness and the importance of the use of data needs to be increases with periodical reviews and ownership for this must be right till the director level. Also, for new data sets collection mechanisms, trainings and formats have to be undertaken.

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### **Turn around time study of discharge process**

Malvika Paul

Time taken for the completion of discharge process is an important indicator of quality of care. As per NABH, the time taken for completion of discharge process should not exceed 180 minutes. Discharge process is the last stage of the patient journey in the hospital and is more likely to be remembered by the patient. So the delay in discharge process can be depressing and also increase the pressure on hospital beds .The present study was conducted in Venkateshwar hospital to analyse the time taken for discharge .The total time taken for discharge process was broken up into time taken for pharmacy return, discharge

summary completion, discharge summary writing, billing completion. Time taken for the discharge summary prepared contributed the most to the discharge process. Adequate staffing, proper communication among the staff and more requirement of system were some recommendations given to improve the discharge process.

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### **Analysis of Patient discharge process & maximizing Planned discharges**

Nazish Parveen Siddiqui

Aakash Healthcare at Dwarka is the flagship hospital of the Aakash group, which heralds the group's noble intention to enter the healthcare space. With the vision of becoming most deserved, caring and world class services. In the country where bed strength is too low to cater the masses it is always a challenge to make beds available for patients in time. Hence planned discharges plays a vital role in the same and implementation of proper discharge timings are important criterion. Aim of this study is to ensure that most discharges being processed in a given day shall be planned which is expected to increase the productivity and patient satisfaction. Hence enhancing the rate of planned discharges will help in minimizing In-patient TAT. The methodology includes observing and knowing the work of IP department and educating all the specialities to plan the discharges one day prior. The study shows that TAT is always to a minimum in case of the planned discharges. Overall discharges forecasting was increased by 33%, planned discharges which was only 18% in the first week gone up to 51% in the sixth week. With the effort made by all the specialities in order to increase the rate of planned discharges can help Aakash Healthcare Super Speciality hospital to provide high quality of service and patient as well as attendant delight.

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### **Review of Handouts of Two Week Course On Disaster Management and Review Article On Adolescent Health in India**

Col. Sandip Tripathi

The Department of Medical Care and Hospital Administration, National Institute of Health and Family Welfare, to which the author was assigned by the Ministry of Health and Family Welfare, involved the author in undertaking three tasks / projects viz critically reviewing the course content and handouts for a proposed two week course on Disaster Management for medical care and patient safety for CMOs of hospitals of PSU and Para Military Forces and for DHOs, formulation of the Ten Year Road Map for the Department to include the vision and mission as well as the short term, mid term and long term plans of the department, and to write a review article on Adolescent Health in India. In pursuance of the same, the author formulated the vision and mission as well as the short term, mid term and long term plan of the department of MCHA in consultation with the Department Head, which was approved by the Department Head. The author also critically analysed the curriculum content and the draft handouts of the course on Disaster Management. A team has been constituted now to make amendments as analysed and recommended. Besides, the author also wrote a review article on the topic of Adolescent Health which as on date is with the Department Head for approval before forwarding the same to the Editorial Board.

**Keywords:** Disaster Management, curriculum, handouts, Ten year road map, Adolescent Health

## **An Assessment on the Antimicrobial Resistance to Prevent Zoonotic Infection in Peri-Urban Small Holder Dairy Farms**

Sharpi Sharma

Objective is to capture the barrier and facilitators of the practices preventing no-prescribed usage in peri-urban small holder dairy farms. The qualitative study was conducted among smallholding dairy farmers in peri-urban areas of Guwahati, Ludhiana and Bangalore, between March 2018 to April 2018. We approached all 45 dairy farmers across three sites i.e. 15 farmers each at Guwahati, Ludhiana and Bangalore site, respectively. Interview theme guide was developed. The interviewer was a practicing public health researchers with over five year experience in qualitative data collection and trained in qualitative data collection at the time of field work. Face to face interviews with farmers were conducted at their homes. Local site partners help in facilitated the scheduling of interviews as per the time convenient to farmers. Most interviews with farmers were conducted in the local language. All interviews were audio-recorded, transcribed, translated into English. A total of 19 interviews (formal and non-formal) were conducted across the three sites. These included 6 farmers each at Guwahati and Ludhiana site and 7 at Bangalore site. Unable to practice safe dairy practice is due to Perceived risk and traditional practices, Financial stress, limited time, Risk factors, unplanned infrastructure and limited government support. Conclusion is the evidence from this qualitative inquiry clearly suggests that there has been a significant change in the knowledge and attitude of dairy farmers. Farmers across all three sites demonstrated willingness to adopt most of these practices but their inability to practise considering the legitimate barriers. In the context of small holding dairy farming, cultural issues, financial stress, labour and time constraint, and limited support from government both in terms of support schemes and infrastructural planning were reported in the study. Reference: 1. Ministry of Agriculture & Farmers Welfare. Total milk production. Vol. 17. 2012. p. 3–5. 2. Narain V, Anand P, Banerjee P. Periurbanization in India: A review of the literature and evidence. Rural to Urban Transitions and the Peri-urban Interface, SaciWATERs. 2013.

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## **OPD to IPD Conversion Rate: VENKATESHWAR HOSPITAL, NEW DELHI**

Shashank Malviya

Background: Out Patient Department (OPD) to In Patient Department (IPD) conversion is a very important factor in not only determining the faith of the patients in the doctors and the hospital but also is a crucial factor in determining the revenue in flow. Venkateshwar Hospital New Delhi was established in the year 2016 and has been a major player in providing health care services to the citizen and plugging the gap where government health facilities don't exist. This study was a part of the project given to the author by the hospital management as part of his eight-week summer training. Aims & Objective: To study the OPD to IPD conversion rate in Venkateshwar Hospital New Delhi. Material and Methods: Secondary data as provided by the hospital HIS was collected for the period 01-15 May 2018. The data was analyzed using Microsoft excel and the findings were accordingly conveyed to the hospital administration. Results: The overall OPD to IPD conversion rate of the hospital is 9.82 percentage. In term of department the highest OPD to IPD conversion rate was of 50 percent of Gynae Oncology department. The least OPD to IPD conversion rate was of 0.94 percent of Endocrinology department. Conclusion: OPD to IPD conversion rate

in Venkateshwar Hospital New Delhi was checked and found that 9.82 is the conversion rate. The result obtained was suitably conveyed to the hospital management for them to take necessary action and determine the causes and find ways to increase OPD to IPD conversion.

**Key Words:** Out Patient Department (OPD), In Patient Department (IPD), Conversion Rate.

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### **Reducing OPD Waiting Time: Tristar Hospital, Surat**

Dr Kavisha Bhatia

Aim of the study was to get an overall idea about the waiting time in outpatient department (OPD) and requisite measures to reduce waiting time. Objective of the study was to determine the flow of patient and the average time spent in hospital, to identify the factors which were responsible for higher waiting time and to recommend appropriate measures to optimize the waiting time in Tristar hospital. In Methodology the study was carried out at Tristar hospital, Surat from 01 April to 31 May 2018. It is a descriptive cross sectional study. Convenient (non- probability) sampling technique was used. Primary data sources includes direct observation, consultation with the employees of the Hospital and data collection from the OPD department. Secondary data sources includes study of data from hospital information system, analysis of data and registered records of particular departments. Major findings/ results related to various aspects revealed that there was lack of appointment system, shortage of staff at front desk, same room for electrocardiogram and dressing procedures, patient attendant was not present, inadequate training of staff, consultant doctors were not following their timings. Patient's average waiting time was around seventy minutes which ideally should not be more than twenty minutes. To conclude it is recommended to increase number of staff at front desk, consultant doctors should follow their scheduled timings, introduce appointment system, provide separate room for electrocardiogram and dressing procedure to reduce waiting time, provide proper training to staff to increase their efficiency and make them more effective. The loopholes in the said Hospital are minimal and when ever found they can be plugged on priority.

**Key words:** Waiting time, outpatient department, training, adequate staff, consultant's schedule & timings

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### **Primary Healthcare Delivery Under PHC Ukhimath, Rudraprayag District, Uttarakhand (With Special to Reference to General Area Kedarnath)**

Col. Aman Negi

**Introduction.** Project was undertaken to assess the Primary Health Care Delivery under PHC Ukhimath, Rudraprayag District of Uttarakhand. PHC Ukhimath was selected since Kedarnath also falls in the general area which witnessed one of the major disaster in 2013 which led to loss of many precious human lives. **Methodology.** CMO at Rudraprayag was visited and a consent letter for assistance by various functionaries at PHC and Subcentres for assisting the study was obtained. On site visits/interaction/interviews with the Doctors, ANMs, Pharmacists at PHC Ukhimath and its Subcentres(Kalimath, Ransi, Phata, Mansoona, Daira, Parkandi, Makkumath and Tilwara) was carried out including filling of a questionnaire. The infrastructure existing in the PHC and its Subcentres was compared with the standards of Indian Policy Health Statement (IPHS) which specifies minimum essential (assured) services that is expected to be

provided by this facility. As it is one of the most important components of National Rural Health Mission (NRHM) and National Health Policy is strengthening of Subcentres to minimum levels of IPHS. Further, Youth Foundation Uttarakhand and Vivekanand Charity Hospital and few State Allopathic Dispensaries were also visited and their contribution to Health care in the general area was analysed. A visit to Kedarnath was also carried out and healthcare/ medical assistance being provided to the Pilgrims going to Kedarnath to pay their homage was also analysed. Findings. It was observed that ANMs and ASHAs are the backbone of healthcare delivery and are doing a very good job inspite of limitations and restrictions posed by the topography and population distribution in the area. The study also reports shortcomings/gaps in the healthcare delivery in the area. Few recommendations have also been made with respect to sharing of infrastructure and certain good practices which can be utilised by healthcare providers in this area of Uttarakhand.

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### **Abstract of A Project Report On Curaco- A Nursing Care Bidet- A Complete Analysis**

Lt Col Shyam Singh

**Introduction.** As per 2017 source, 80 million people out of 1.25 billion populations in India are of age 65+ or more. According to Agewell Foundation (Bedridden Patients of Delhi & NCR), 4% of aged persons are bedridden and need round the clock care. Additional 5 to 6% aged person lives under threat of ailments, rendering them bed-ridden. These patients have a hard time adjusting to this lifestyle and may develop significant health problems. As a caregiver, it can be quite difficult to manage all the caring aspects like bathing, feeding, excrement care etc of someone who is dependent on you. Presently, in India diapers and catheters are used on a large scale to deal with toiletry issue which although are quite decent solution but can invite various health problems. **Objective:** To analyse the market potential for CURACO automatic toileting machine and recommend promotion strategy for marketing it in Indian market. **Research Methodology.** A primary research to identify major problems faced and to find the methods of addressing toiletry needs of bed ridden patient. Secondary research by literature review and previous studies were also used to find the complications associated with bedridden state. **Study Area:** Different hospitals spread across Delhi & NCR. **Research type:** Descriptive and quantitative analysis. **Results.** Curaco Carebidet is Automatic Toileting Aid System for the bedridden. It is beneficial to both caregivers and care getter ie bedridden/disabled patients. For care getter it provides physical comfort as it detects urine / faeces, automatically flushes, rinses, and air-dries, prevent bladder infection and/or urinary tract infection often caused by use of paper diaper and help relieve constipation and faecal incontinence. For care givers it eases pressure as the essential part of care is being handled by Curaco Carebidet, saves time and efforts as diaper change is not required (especially at night). **Conclusion:** This device is suitable for bedridden patients, elderly, ill and disabled. Hospitals where the device can be used are Joint replacement centre, Long term acute care, Neuro surgery and Geriatric ward. **References:** Bedridden Patients of Delhi & NCR (A study by Agewell Research & Advocacy Centre); Profile of Home-based Caregivers of Bedridden Patients in North India, Indian J Community Med 2011 by Puneet Bains and Amarjeet Singh Minhas; Practice of use of diapers in hospitalized adults and elderly: cross-sectional study, Rev. Bras. Enferm. vol.71 no.2 Brasília Mar/Apr. 2018.

**Keywords:** Bedridden, Curaco Nursing Care bidet, Automatic toileting machine, Diapers,

## **Evaluation of Health Status of Suryadhar Complex in Uttarakhand**

Lt 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. While carrying out an evaluation of Suryadhar complex the study area has been restricted to village Surydhar complex which holds a population of 670. A comparative assessment has been done based on a study carried by Prof. Anand & Mr. L. Martin Jerry, in year 1992-94. University of Calgary, Division of International Development Foot Hills Hospital Tom Cancer Research Center Alberta Canada. The internship study carried out to look into the changes over a period of time of various interventions by Govt. of Uttarakhand in rural public health sector. The main aim of this study and on ground visits was to see the difference in various aspects associated to health and socio economic indicators. (t0 – t1). Suryadhar complex is cluster of total of eight villages with a very merger population of 670. This population is spread over eight villages i.e. Snagaon, Suryadhar, Sinwal, Farti, Jhakar, Nahi Kalan, Kelwan and sateli in Uttarakhand. Most of the people of SURYADAR were superstitious and the villagers had no facility of health services, and health Education before the intervention of Primary Health Centre of HIMGRAVIKA. The second thing they don't believe in the modern techniques of health treatment. They use indigenous health treatment. The shortage of health care infra structure in uttrakhand has attracted many big health care institutes and private partners however the benefit of these hospitals is limited to higher income group.

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## **Medical documentation in OT includes OT notes, progress notes and counter sign by surgeons**

Akriti Mahajan

The study evaluated the quality of operation notes against the standards established by the Max hospital, Saket for refining patient safety by assessing the compliance of medical documentation by doctors in operation theatre complex. In this study I have retrospectively collected information from notes put in the CPRS by the physicians over a period of 6months and included all operations performed in the East wing first floor Operation theatre of Max hospital Saket, Delhi. Surgeries of cardiology, oncology, ENT and plastic surgery departments were performed in this OT. Sample size taken is 100 samples and used probability sampling technique i.e. systematic sampling. Important standard was nearly met i.e. entry of OT notes (84%). However important standards were not met i.e. entry of progress notes 2 per day (52 %) and counter signature of operating surgeons (65 %). Compliance of OT notes in the month of November is 77%, December is 87%, January is 88%, February is 71%, March is 94% and in April is 90%. Compliance of Progress notes in the month of November is 35%, December is 47%, January is 47%, February is 71%, March is 50% and in April is 65%. Compliance of Counter sign of operating surgeon in the month of November is 59%, December is 73%, January is 65%, February is 71%, March is 50% and in April is 75%. In cardiology department Compliance of OT notes is 78%, progress notes 2 per day is 54% and counter sign of surgeon is 78%. In oncology department compliance of OT notes is 94%, progress notes 2 per day is 78% and counter sign of surgeon is 50%. In ENT department compliance of OT notes is 88%, progress notes 2 per day is 33% and counter sign of surgeon is 50%. In plastic surgery department compliance of OT notes is

100%, progress notes 2 per day is 50% and counter sign of surgeon is 75%. The quality of operation notes reviewed across four departments in this time was variable. More importance on uploading the notes and counter signature of the notes by operating surgeon should be given. Following this study, more awareness of the standards may improve the quality of operation notes.

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## **Patient Fall Prevention**

Dr. Deepti Paiwal

A patient fall can be a tragic event for the patient, patient's family and hospital staff. This project aims to analyze the gaps and challenges leading to increased fall risk and to recommend the best practices and fall prevention tools in the hospital. The intent of this project is to provide knowledge and awareness of preventing patient fall to all the stakeholders i.e. Clinical, Non-Clinical hospital staff, patients and patients' family. Moreover, the goal is to create sustainable and achievable solutions to address the existing gaps & challenges. The overarching goal of this project is to design an environment which can aid hospital staff as well as patient and patients' family in the delivery of more patient-centered services and to communicate more effectively with one another to create a fall-proof environment. Clear communication and transparency about hospital falls should decrease fall rate which can save patients from the painful and traumatic experience of falling in the hospital. This can also build the healthy rapport, increased trust and better coordination between hospital staff and patients/patients' family to maintain a safe hospital stay. Besides, the emphasis has also been laid upon proper fall risk assessment and identification of patient at the time of admission to streamline the further processes along with multidisciplinary approach to maintain a safe environment for all patients, which includes environmental & infrastructural safety. However, there is no single way to achieve the prevention of patient fall successfully and it is not achievable without complete coordinated inputs from multiple people i.e. Clinical and Non-Clinical Healthcare Workers, housekeeping workers and not to forget, the consensus and efforts of patient and patient's family/caretaker, along with environmental and infrastructural safety measures.

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## **Step Down Tracking ICU Fortis Hospital, Gurgaon**

Dr Devika Thukral

**Introduction** Intensive care units are specialist hospital wards. They provide intensive care (treatment and monitoring) for people in critical and unstable condition. ICUs are also known as Critical Care Units or Intensive Therapy Departments. Objectives of the study are to understand step-down in ICU and to encounter problems with respect to TAT in transferring patients. Methodology the study was carried out in Fortis Hospital, Gurgaon from 1 April to 31 May 2018. It was an observational study was carried out within a time period of 60 days and TAT time was calculated for shifting of each patient. Primary data source was through direct observation of the processes & discussion with the staff. Secondary data source: Review of ICU mailing system and physical movement of the patient. Findings Causes of delay were mostly occur due to lack of staff, due to lack of time frame in which patients should be transferred, due to lack of communication between staff and bed manager. To conclude it is recommend that most of the delays happen

due to lack of staff so optimum number of staff should be recruited and present staff to be assigned strictly for particular work. Daily progress report and billing should be updated to the patient. Admission department should make criteria (time frame) for shifting of patients. Improve communication via:-as shift of the patient is advised by doctor, it should be updated in their system and popped up in floor nursing system. -one staff to be recruited to maintain the coordination between both.

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## **Implementation of In- House Pharmacy in RGCI**

Kajol Agrawal

Introduction of the Hospital Information System is an innovative system which gain its importance in the health care industry. The introduction of new invention and innovations in the facilities and makes HIS an integrated system to archive and manage all the clinical as well as administrative aspects in the hospital. The primary aim of this research was to implement In- house pharmacy at Rajiv Gandhi Cancer Institute through HIS application i.e. PARAS to dispense all its pharmaceutical drugs and consumables. While addressing various challenges and road blocks that hinder its successful implementation. Objective was to evaluate user's satisfaction level about the implementation, to anticipate the problems that may arise during implementation and to evaluate various steps to be taken for success of new In- house pharmacy. Methodology the study was carried out at Rajiv Gandhi Cancer Institute and Research Centre , Rohini from 1 April to 1 June 2018. A quantitative approach was used for evaluation. 6 departments of RGCI were involved which included a team of 5 doctors 30 nurses and 25 pharmacists. Each one were provided with questioners and went through personal interviews to measure their satisfaction level along with any changes in their efficiency and productivity.. Findings HIS applications proved to achieve best clinical outcomes, optimal finance performance and most importantly satisfaction for the PARAS user's. Pharmacists were able to keep track on the inflow of stock from different units at much ease. Also logistics became smoother. Patients were able to receive their medicines faster than previous systems. Even the doctors received predefined formats for subscriptions which resulted in better flow of information. Accessing patient files were easier and much faster. Conclusion the new HIS application of prescribed medicines were electronically transferred through ETP using a pull model and the whole implementation process showed that a consistent approach along with a clear vision and a predefined guideline can ensure acceptance of the application even among the most reluctant users.

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## **Understanding Discharge Process for TPA Patients, Problems and Recommendations**

Mahak Rana

The hospital discharge is often poorly standardized and affected by discontinuity and fragmentation of care, putting patients at high risk of both post-discharge adverse events and early readmission. The key principles for proper hospital discharge or transfer of care acknowledge that the hospital discharge is not an isolated event, but a process that has to be planned as soon as possible after the admission, ensuring that the patient and the caregiver understand and contribute to the planned decisions, as equal partners. Objectives: To map the discharge process in context of TPA patient and to calculate the average discharge time through HIS.

Methodology: the study was carried out in Venkateshwar Hospital, Dwarka from 1st April to 31st May 2018. It was an observational study of checklist, HMIS and In-depth interview with floor coordinator and nurses within a time period of 60 days and mapped the discharge process in the context of TPA, Corporate and Cash patient. Findings: Causes of delay were mostly due to delay in discharge summary preparation by medical transcription team and summary finalization by doctors, not updating the in-patient files on a daily basis by nurses, lack of manpower in medical transcription team. Conclusion: To conclude it is recommended that most of the delays happen because they don't prepare a care plan at the time of admission to predict the expected outcome and tentative discharge date. Nurses should update the inpatient files on a daily basis. There should be a separate Medical transcription team for each inpatient department floor. Doctors should prioritize the finalization of discharge summary of TPA patient as the TPA claim process takes time.

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## **Corporate Empanelment**

Pratyush Mishra

Corporate Empanelment is a kind of a corporate tie up between a Hospital and a Corporate Unit, in which we convince the corporate to avail our medical services. An online study and data research and data mining activity is done to collect the data of corporates to empanel them with the Hospital. We prepare a Proposal for the corporates and mail them, and if they give a positive response then the proposal is signed and then the corporate empanelment deal is done. After this we prepare an IOM (Inter Office Memo) and upload it in HIS (Hospital Information System) in order for the corporate to get attached to our HIS. After this they could avail our medical services. Corporates have to show an ID card in order to avail discount whenever they want to avail our medical services. Corporate Clients could either choose Credit, Cash and TPA methods to finance their health checkups. In Corporate Empanelment we also do SWOT analysis from Hospitals side and use marketing mix analysis like Product, Price, Place, Promotion, People, Process and Physical Evidence. We also provide free Dietician Consultation and Hypertension Consultation to our corporate clients and several health checkups including BMI, RBS and BMD on complementary basis. We also provide specialized Health checkups for our corporate Clients like ECG, Gynae, Ortho, etc. health talk is also done in order to improve the patient footfall. Basically Corporate Empanelment objective is to improve revenue for our Hospital and increase the patient footfall so that we could give proper medical services to the corporate clients.

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## **OPD to IPD Conversion Rate: VENKATESHWAR HOSPITAL, NEW DELHI**

Shashank Malviya

Out Patient Department (OPD) to In Patient Department (IPD) conversion is a very important factor in not only determining the faith of the patients in the doctors and the hospital but also is a crucial factor in determining the revenue in flow. Venkateshwar Hospital New Delhi was established in the year 2016 and has been a major player in providing health care services to the citizen and plugging the gap where government health facilities don't exist. This study was a part of the project given to the author by the

hospital management as part of his eight week summer training. The aim of the study was to assess the OPD to IPD conversion rate in Venkateshwar Hospital New Delhi. Secondary data as provided by the hospital HIS was collected for the period 01-15 May 2018. The data was analyzed using Microsoft excel and the findings were accordingly conveyed to the hospital administration. The overall OPD to IPD conversion rate of the hospital is 9.82 percent. In term of department the highest OPD to IPD conversion rate was of 50 percent of Gynae Oncology department. The least OPD to IPD conversion rate was of 0.94 percent of Endocrinology department. OPD to IPD conversion rate in Venkateshwar Hospital New Delhi was checked and found that 9.82 is the conversion rate. The result obtained was suitably conveyed to the hospital management for them to take necessary action and determine the causes and find ways to increase OPD to IPD conversion.

**Key Words:** Out Patient Department (OPD), In Patient Department (IPD), Conversion Rate

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### **A trend analysis of external aid to Indian health sector from 2007-16 dis-aggregated by 3 methods of finance, namely - grants, loans and miscellaneous**

Shivansh Verma

This paper examines the pattern of external aid to the Indian health sector (henceforth “total amount” and/or “total external funding”) from 1st January 2007 to 31st December 2016. Total external funding has been dis-aggregated into 3 categories – grants, loans and miscellaneous (usually common equity or interest subsidy). All data is taken from Creditor Reporting System (CRS) database of the Organisation for Economic Co-operation and Development (OECD). Data points were included in “health sector” based on the concept of “System of Health Accounts Boundary” (2011 version). Total external funding shows a zig-zag pattern, a decrease first, followed by an increase and so on. This is most probably due to the zig-zag pattern of grants which is the major contributor out of the 3 categories of finances. Total external funding has remained in the range 684.69 to 945.4 USD Million (when we exclude the year 2015, an outlier with total funding of 4615.45 USD Million). 2015 also saw the highest ever grants and loans at 3548.86 and 1061.21 USD Million respectively. Unlike grants, loans show a pattern. From 2007-11 there has been an increase in loans from 186.09 to 342.93 USD Million. Interestingly if we look at debt-to-GDP-ratio of Indian government in the same interval, it shows an overall declining trend from 74.5 % of GDP in 2008 to 69.6 % in 2011. During 2011-14 there was a continuous decline in external loans, and in 2014 it reached a record low of 58.53 USD Million. The Debt-to-GDP-ratio however remained stable during this period (69.6 % in 2011 to 68.5 % in 2014). There was some zigzag in external loans for the last 2 years (2015 and 2016). But debt-to-GDP ratio remained stable right until 2016 (it being 69.6 in 2016). This shows that flow of grants is uncertain. So India should not rely on grants and only consider them as contingency funds for global health initiatives. As far as loans are concerned, they can be taken in moderation (since debt-to-GDP-ratio is in control), keeping in mind predictable shocks to the Indian economy and keeping a margin for the unpredictable ones.

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### **Study On Medical Record Audit in Compliance with Nabh Guideline**

Dr. Vandana Baswal

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Medical document is a legal document providing chronological of patient's medical history and care. Physicians, nurse practitioners, nurses and other members of the health care team may make entries in the medical record. Medical record includes a variety of types of notes entered over time by health care professionals, recording observations and administration of drugs and therapies, orders for the administration of drugs and therapies, text results, x-rays, reports, etc. The purpose of medical records is to document the course of patient illness and treatment, Communicate between attending doctors and other health care professional providing care to the patient, collecting of health statistics, legal matter and court cases and insurance cases. Component of medical record audit are DOA, IPD no., unit, Consultant name, Facesheet, Discharge sheet, History sheet, Consent form, Progress note, Medication chart, Nursing assessment, Miscellaneous...operative form complete or not. Preanaesthesia complete or not. The study is interventional. A pre formed checklist was prepared and criteria chosen are based on NABH standards. The study was divided into two phases. Pre intervention and post intervention where in patient records were assessed. A sample of 50 records were taken for pre intervention study of different departments. The non-compliance were analysed in interventions. In form of counselling, training and informal interviews were done with all stakeholders, another 50 for the post of intervention study was taken to assess the improvements achieved. STUDY VARIABLES: A pre-defined criteria was set up as per NABH standards on which the medical records were analysed. The data was fed into Microsoft excel and analysed, a sample of 100 records were taken analysed. Data collection tools and techniques. TOOL; A CHECKLIST KEEPING IN MIND THE VARIOUS QUALITY STANDARDS. The results of the study showed improvement in the level of noncompliance in the records assessed in post intervention phase. However, the areas which need more focus are initial assessment filled by doctors, In patient history sheet, plan of care, consent form, pre-operative instruction, post sedation recovery scoresheet, post-operative charting. Hospital accreditation and licensing of the health care services is only possible when the hospital assures and provides and provides excellent services to the patient. This can only be achieved through the medical records of the patient. This can only be achieved through medical records of the maintained in the hospital. Regular medical record audits, ongoing trainings and cooperation from all stakeholders could go a long way in ensuring complete and proper documentation of medical records.

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## **Outdoor Air pollution in India**

Vandana Gautam

Outdoor Air pollution is a well-known risk factor causing human ill-health. India ranks tenth and thus is among the most polluted countries with an annual average PM<sub>10</sub> level of 134 µg/m<sup>3</sup>. Globally, air pollution caused nearly 7 million deaths, or 11.6% of deaths in 2012, making it the world's largest single environmental health risk. The aim of study was to carry out literature review of Epidemiological Studies of outdoor air pollution in India. We conducted a literature review to analyze the health problems and risk of mortality related to outdoor air pollution and steps taken by governments to address the same. The Finding of the study show that India contributed to 26% of mortality due to air pollution in the world in 2016. Air pollution is a risk factor for deaths and in India it resulted in 1.61 million deaths in year 2016. Particulate matter level in outdoor air contributed 1.03 million deaths and is responsible for 64.07% of deaths due to all causes of air pollution. Deaths due to air pollution and particulate matter in outdoor air have an increasing

trend over time. Deaths due to air pollution are increased from 1.41 to 1.61 million during 1990 and 2016 respectively and deaths due to particulate matter also has an increasing trend showing change from 0.70 to 1.03 million deaths during the same period. Several steps are taken by the Government like: Odd-Even Policy on Vehicles, Ban on Civil Construction and Strict compliance of Graded Response Action Plan, Public Transport Buses Increases Its Numbers, Ban on Entry of Trucks, National Green Tribunal Restricts Industrial Activities and Bans on Waste Burning in Delhi etc.

**Key words:** Outdoor Air pollution, respiratory diseases, particulate matter

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### **Aim - Optimizing The Discharge Process Timings And Patient Satisfaction**

Neha Yadav

The discharge process represents final contact between the patient and the Hospital health professionals, and the outcomes of all the procedures undergone by the patient are recorded at this stage. One of the factors on which the image of the hospital depends is the overall time taken in this process. Delay in the step results in longer waiting time for the next patient. Delayed discharge of patients has led to increased organizational costs. Thus, an observational study (Phase 1) was conducted over a period of 7 days, the primary data collected gave a sample size-n=235 (In-patients). Discharge tracking tool was designed and the nurses, patient affairs department and concerned pharmacy staff collected the data on a daily basis. Results of the study (Phase 1) were found out to be; prolonged discharge time, for self-payment patients-3 hours 15 minutes and for insurance patients-5 hours 10 minutes. Maximum time delay was found to be in signature and approval of discharge summary by physicians, in medication delivery of discharge drugs to the nursing station. Recommendations such as preparation of probable discharge list 12 hours prior shall be made. E-prescription & concept of e-discharge summaries were laid down. In phase 2 of study i.e. evaluation of the post interventions were carried out & results were matched. A tremendous change was seen & the recommendations given were proved appropriate & helpful for the organization. It was found that after applying the interventions the total time reduced to 1.5 hours which was earlier 3 hours 15 minutes. This project enumerates and describes the key reasons for the delay in discharge process of In -patient & evaluation, at Medanta Hospital, Gurugram. Improving the quality of discharge process therefore leads to an increase in patient satisfaction.

**Keywords:** Discharge Process, Observational study, Patient Satisfaction, Discharge tracking tool, Interventions

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### **Karnataka Milk Federation (KMF) Bengaluru, India - A Case of Positive Deviance in the qualitative inquiry to understand the drivers affecting uptake of health promotion interventions to reduce zoonotic infections and non-prescribed veterinary antibiotic use in peri-urban small holder dairy farms amongst selected sites across India**

Apoorva Mehta

Peri-urban areas contribute significantly to meet the rising demand of milk across India. However, as they do not fall under the jurisdiction of rural or urban municipal and civic bodies, lack stringent policy and

legislative provisions, they are rampant with questionable farming practices that adversely affect outputs and profits, and also place farmers, animals and consumers at a risk of health hazards. In order to better understand the dairy farming practices, zoonotic infection load and non-prudent use of veterinary antibiotics in India, a study was conducted across three sites viz. Ludhiana, Guwahati & Bangalore. An intervention package was developed and implemented - farmers were trained on zoonotic disease transmission, hygiene practices, biosecurity and rational use of antimicrobials. For this present post intervention survey, thematic guides for the in-depth interviews were developed using the intervention package. Barriers and facilitators to the uptake of practices were documented across each theme. Sampling was stopped once data reached saturation across all themes under inquiry. Data was analyzed using Atlas ti.v7. A total of 19 interviews were conducted across the three sites (Guwahati & Ludhiana- 6 interviews each, Bangalore - 7 interviews). Financial stress emerged as a major barrier in the intervention related to infection control as well for prudent use of antimicrobials. Perceived risk of disease, unavailability of trained veterinarians and lack of infrastructure in the peri-urban settings were others reasons for the non-compliance at Guwahati and Ludhiana sites. However, the Bangalore study site emerged as a case of positive deviance. Subsidized feed, easy availability of veterinarians and an incentivized system (all attributed to the robust cooperative system) were found to facilitate the intervention uptake. However, it remains imperative to revisit the infrastructural policies for the peri-urban areas, particularly waste management and to establish new veterinary colleges to bridge the existing human resource gap.

**Keywords:** Qualitative Study, In-depth interviews, Post-Intervention Survey, Zoonosis, Peri-Urban Areas

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## **Participate in State Level Training of Health investigators for LASI survey of Punjab and Chandigarh**

Jaswinder Kaur

India is undergoing rapid population ageing transition, with increasing no. of the 60+ population and the decreasing old-age support ratio. This Transition will be managed with the help of Longitudinal Aging Study In India(LASI), Large scale nationwide survey will provide evidence base for comprehensive policy making, long-term scientific research and Harmonization with other longitudinal studies. LASI, conducted by IIPS, Mumbai(under MoHFW), nodal agency has entrusted IIHMR University Jaipur(Field agency) for conducting LASI in the State of Punjab And Chandigarh. LASI Instrument has a part called Individual interview includes information about Demographics, family and social networks, social welfare schemes, etc. and the Biomarker Module. Objective was to attend the state level training of field investigators with emphasis on Biomarker Training for Health investigators. Study was conducted in IIHMR, New Delhi for Classroom training for the investigators and selected SSU(Rakhda) in Patiala for Field training. Methodology was Observation of the Classroom training and Field Practice along with participation in various biomarker measurements for practice. Key Learnings were Procedures, equipment use and Standardization for Various Biomarker measurements conducted(Physiological Assessments, Anthropometric and Performance-Based Measurements and Dried Blood Spot Test) and their uses for Policy making and research purposes. Learnt about Significance for each measurement like BP measurement as Raised BP being a risk factor for a number of chronic NCDs, Spirometry and achieving the Acceptable Graphs for diagnosing obstructive airways diseases(OAD), including asthma and COPD, Dried

Blood Spot to be sent to NARI for testing CRP, Hemoglobin(Hb), Glycosylated Hb(HbA1c), EBV antibody, Cytomegalovirus. Learnt about the Procedures to calibrate instruments like Weighing-scale and Spirometer every 15days in the HI monitoring tool and significance of Protocols like correct chair position, correct Body posture, Reading out the questions twice to the Respondent, verbal consent for every procedure must be followed to ensure standardization and Safety.

**Keywords:** LASI, Biomarker, Health Investigator, Protocol

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## **Assessment of Pharmacy Training Model on TB implemented by REACH**

S.Kirti

India's achievement in Tuberculosis (TB) control over the past decade has been remarkable. More than 90 million people have been tested, more than 19 million TB patients detected and treated, and millions of lives saved by RNTCP interventions and efforts. However, despite the efforts, India continues to have the highest burden of TB in the world in terms of the absolute numbers of incident cases each year. Pharmacies are often the first point of contact for common health ailments due to their ease of access, inexpensive services and lack of waiting time compared to public health facilities. REACH has been working to engage the private pharmacist in its FOUR project states (Bihar, Odisha, Jharkhand, Assam) under the TB Call to Action project. Our objective was to assess the knowledge of TB, status of HI Register maintenance, Counseling, Referral and notification of TB patients by trained pharmacists. A telephonic interview was conducted with all pharmacists consenting to participate in the survey to understand their perspectives about the program. In order to discover the participants' responses regarding the various aspects about the program; we conducted interviews by preparing a structured questionnaire for a sample of 30% of trained pharmacists from each state. Data was analysed based on the respondents' answers to interview questions. Results show 100% pharmacists know the prevailing symptoms. 90.28% of pharmacists identify the symptoms and refer the symptomatic of TB to government facility. 45.83% of the pharmacists notify about the TB patients that visit their pharmacy. Engagement of pharmacists is important, not only to improve early detection and treatment of TB, but also to limit the abuse of antibiotics and prevent disease transmission.

**Key words:** Tuberculosis, Pharmacists engagement, Counselling, Referral, Notification

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## **Aim - Identification of Gaps in Old Software in Pharmacy Process of Supply Chain at Eye Q Vision Pvt. Ltd.**

Nikita Grover

The Eye-Q hospital chain is committed towards providing best quality eye care at affordable cost. Established in 2007, it is today a chain of 44 super specialty eye hospitals with centers across India and Nigeria. As per FDI regulations, Eye Q has a separate company of optical and pharmacy named Pinnacle and every Eye Q hospital branch has one Pinnacle shop. HMIS aims to help clinicians access a wide variety of patient data in real time thus aiding in accurate decision making. There are specialized software applications built using various technologies. Eye Q ran on TCS Ophthalmic EMR. The base framework was architected to offer the ease of use and flexibility to the clinicians as well as providing scalability,

extendibility and high performance but the software had some gaps and was leading to decreased efficiency. Many processes were manual. Thus the study was conducted to identify the gaps in TCS Ophthalmic EMR in pharmacy process of supply chain and overcome those gaps in new software. Also the old and new work flow was to be deciphered. Descriptive Study was carried out wherein data was collected through personal interviews and workshops conducted with the stakeholders. Many problems were identified in the old software, TCS Ophthalmic EMR. Some of them included no bar code system, no automatic GRN, PO and debit note print. Procurement of medicines was not automatically (ROL) system generated while many functions in the procurement to pay process were manually driven. Expiry management was manually taken care. User interface to capture bill submission to commercial department, accounts and finance department was also not in defined tracker. These gaps were overcome in the new software, YaraGO. YaraGO has enhanced processes. The work flow became easier by reducing the number of clicks.

**Keywords:** Gaps, software, supply chain, EMR

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### **Study to Determine Laboratory Turnaround Time**

Dr. Vijeta Arora

The study aims to determine laboratory turnaround time and know the measures for improving turnaround time. the laboratory TAT can be defined as the time from physician's ordering for lab test until the result is reported. Managing lab test results is a complex process that is critical for patient safety, as rapid and earliest reporting of results is important both from medical and commercial point of view. The pre-post intervention observational study was conducted in laboratory department of MAX hospital, Patparganj from 2 April to 30 May 2018, 100 biochemistry lab samples for opd patients were tracked through direct observation of processes from sample collection to reporting. Average TAT was found to be 1 hour 35 minutes and out of 100 samples 16 samples delayed TAT. On analysis of 100 samples pre intervention 2 samples had TAT within an hour, 83 samples had TAT of 1-2 hours, 15 samples had TAT of 2-3 hours, and major reasons for delays were found to be longer waiting time for samples to reach lab, equipment downtime, workload at equipment (overproduction). Post intervention data collection after implementing improvement plan showed improvement in within an category from 2% to 21%, a significant achievement. References –journal articles, [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov), [www.msjonline.org](http://www.msjonline.org) (online publications)

**Keywords:** Laboratory operations, Turnaround time, biochemistry, opd patients, improvement areas

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### **Patient Satisfaction Survey at Sir Ganga Ram Hospital**

Lt Col Dheerendra Pant, Lt Col Gopendra and Lt Col Hirendra Pal

Three of us (Lt Col Hirendra Pal, Lt Col Dheenendra Pant and Lt Col Gopendra) on reporting to Ganga Ram Institute of Postgraduate Medical Education and Research (GRIPMER) at Sir Ganga Ram Hospital on 02nd April 2018 were directed to report to Dr Raja Joshi, Chairman, Pediatric Heart Surgery for further internship. On deliberations with Dr Raja, it was brought out that he wanted us to do a patient satisfaction survey of the heart surgeries carried out on infants (neo-natal included) and children below 12 years of age by his team to ascertain problems being faced by patients and their parents during the various facets of their

visit to the hospital.

What is Satisfaction? We three deliberated on what would be the terms of reference as far as satisfaction is concerned. Is it service experience? But then uniform satisfaction with all aspects of the care impossible. We decided it has to be based on numerous encounters, with a wide variety of individuals and locations. We thus formulated the patients satisfaction to be measured at following places: first encounter parking lot followed by physically accessing the facility the admissions process, encounters with surgeons, nurses, lab personnel, and other service providers while in their room the care they receive, the discharge process, finally, the billing/payment process. We identified ten elements that can be used to determine satisfaction: Accessibility/convenience , availability of resources , continuity of care , efficacy/outcomes of care , finances , humaneness , information gathering , information giving , pleasantness of surroundings , quality/competence., Reasons for undertaking this survey: The reasons for undertaking this survey are- ,objective judge of one’s own appearance ,people when receiving poor service don’t complain, just warn their friends and refuse to return. Unaware of any problem even exists. , means of measuring the effectiveness of health care delivery. , reflects care delivered by staff; tools for learning., Survey Method used: We used a combination of questionnaire and interview method to determine satisfaction levels., interviews ,concentrate more on revealing issues and underlying reasoning ,probe “why” they feel such issues, opinions and needs exist ,providing patients with a formal opportunity to express their views ,very time-consuming and they are resource intensive, questionnaire, standardisation, commonality of response. Results/ Findings. The results and findings of this patient satisfaction survey are being analysed and results being discussed with Dr Raja Joshi.

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## **National Quality Assessment in District Hospital**

Dr. Fajar Shah

NATIONAL QUALITY ASSESSMENT STANDARD is the operational guidelines for quality assurance which has been developed by the MOHFW. The present set of guidelines defines quality assurance and its different parameters. The present set of guidelines has been prepared comprehensively beginning with the area of concern, defining its standards, measurable elements. There is a prudent mix of technical, infrastructural and client’s perspective while framing these guidelines. The proposed system is all inclusive and captures all aspects of quality of care within the eight areas of concern. The Eighteen department check sheets transposed within seventy standards and commensurate measurable elements provide an exhaustive matrix to capture all aspects of quality of care at the public health facilities. The proposed system has been developed primarily for meeting the requirements of the public health facilities; since public hospitals have their own processes, responsibilities and peculiarities, which are very different from the Profit sector. They include NABH, ISO and JCI and quality improvement tools such as SIX SIGMA, LEAN and CQI have been consulted and their relevant practices have been incorporated. The standards have been developed after consulting vast knowledge resource available on the quality. Ensuring objectivity in measurement of the quality has always been a challenge. All three components of Quality-Structure, processes and outcome have been given due weight age. All efforts have been made to ensure that the measurement system remains transparent so that assessed and assessors have similar interpretation of each checkpoint. The main pillars of

Quality Measurement System are QUALITY STANDARDS. There are Seventy standards, defined under the proposed quality measurement system. The standards have been grouped within eight areas of concern. Each Standard further has specific measurable elements.

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### **Awareness Level of IPSG Amongst Nurses**

Shalini Singh

Background: Patients safety in health care organization is the most important goal that needs to be achieved and monitored on regular basis. In 2002, WHO member states agreed on a world health assembly resolution on 10 patient safety issues consisting of improving patient safety, harm caused by a range of errors, risk of health care associated infection (HAIs), hand hygiene to reduce health care associated infection, safety of medical equipment, infection due to reused needles, surgical safety, the economic benefit of improving patient safety, perceived higher risk industries had better safety record compared to health care and patient experience and their health. The objective of this study was to assess the awareness level regarding International Patient Safety Goal (IPSGs) and understanding of the six IPSGs amongst the nurses in BLK super speciality hospital, New Delhi. Methods: Non probability convenience sampling was conducted in the form of a self-administered questionnaire. Closed ended questions have been asked to 200 nurses at B.L. Kapur Super Speciality Hospital, Rajendra Place. Results: The overall compliance rate for IPSG was 63.6% & out of all the six goals of IPSG best result was seen for the compliance of 4th goal of IPSG i.e. Ensure correct site, correct procedure, correct Patient Surgery which was 72.5. The lowest performance was seen for the 3rd goal i.e. Improve the safety of High-Alert Medications which was about 50.5. The result indicated that most of nurses are aware of the IPSGs. Further work needed to close gap. The overall compliance rate for IPSG was 63.6% with 30.6% partial-compliance and 5.8% non-compliance.

**Keywords:** IPSGs, Patient safety

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### **Employee Satisfaction Survey at Action Cancer Hospital**

Simrun Sur

Employee satisfaction is typically measured using an employee satisfaction survey. These surveys address topics such as compensation, workload, perceptions of management, flexibility, teamwork, resources, etc. Having good relationships with the colleagues, high salary, good working conditions, training and education opportunities, career developments or any other benefits may be related with the higher levels of employee satisfaction. An employee satisfaction survey was conducted at the Action Cancer Hospital, New Delhi, for the year 2018, with the following two objectives: (a) to determine the overall job satisfaction level of employees, and (b) to study the measures to improve employee satisfaction level. A stratified random sampling technique was used, and the estimated sample size was 185 comprising of four categories of employees (Nursing - 68, Non-medical - 68, Paramedical - 41, and Medical- 8). A cross-sectional survey was conducted among the selected employees by using a 20-question employee satisfaction questionnaire, informed by Likert scale for each question. In addition, response was elicited from the employees regarding their suggestions for the future. The results suggest that the overall percentage of satisfaction of employees

are high among all the categories of employees – Doctors (78%), Nursing (75%), Non-medical (80%), Para-medical (70%). Overall satisfaction is almost more than 70% but there are variations in some aspects of the employees' satisfaction across employee categories. As regards, suggestions by the employee to enhance employee satisfaction in the future, Nurses emphasised on more 'monetary benefits', and 'appraisal and appreciation'; Non-medical staff emphasised on more 'hiring of staff' and 'training and development'; Paramedical staff focussed more on 'monetary benefits' and 'PF systems'; Doctors suggested that the 'leave policy' and 'appraisal and appreciation' process should be reviewed. Thus, the study recommends salary revision as per experience, provision of adequate staff, periodic work-load analysis, training and development opportunities.

**Keywords:** Employee satisfaction survey, hospital, monetary benefits, non-monetary benefits

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## **OPD Utilization and Optimization**

Deepanshi Kacharia

An OPD is a hospital department designed to be the first point of contact between the patient and the hospital staff. It is a place where non-emergent ambulatory medical care is provided under the supervision of a physician. Patients visit the OPD for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up. This service is not only for treatment but also for preventing and promoting services. The first impression of the hospital is formed from OPD and this is the area frequently visited by a majority of patients. The objectives of the project is to assess the utilization of OPD rooms and to estimate the number of hours a particular room is utilized by the doctor. It also aims to find out the average appointments and average time a doctor takes per day per patient respectively. The study was conducted at Max Super Speciality Hospital, Shalimar Bagh in the OPD facility for three weeks using primary and direct observation as a tool for data collection. The results indicate that out of the three OPDs (12 rooms) observed, Monday and Wednesday had the most utilized hours (80.6) out of a total of 138 OPD hours. Whereas, on Friday a maximum of 64.3 hours of the selected rooms were empty out of 138 allotted OPD hours. This type of data can be used to allocate hospital resources efficiently and to achieve a better insight of the functioning of the OPD facility.

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## **Removing Barriers to Universal Health Coverage (UHC) through the E-Health Route**

Lt Col Someshwar Singh

The primary focus for achieving Universal Health Coverage (UHC) for long has been generally on improving all facets of the Indian Health System (IHS), the traditional way. In view of the changing context, it is time now, to give a serious thought, to supplement the IHS with e-Health to overcome various barriers linked with UHC. The aim of this study was to explore if the e-Health route has enough potential to achieve UHC for the IHS by removing the barriers linked to it. The study had three specific objectives, to determine the barriers for achieving UHC, to understand the potential of e-Health to overcome UHC barriers and to assess the changing context impacting proliferation of e-Health in India. The study was a qualitative exploratory study based on secondary data. The main source of data was review of existing literature

available on the world wide web. Discussions with officials of National Health System Resource Centre (NHSRC), dealing with innovations for health-care were also carried out. Findings reveal the existing coverage barriers, the potential of e-Health to overcome such barriers and the changing context impacting proliferation of e-Health in India. It clearly emerges that the e-Health route has definite potential to overcome various barriers linked with UHC. IHS must go the e-Health route. This can be done by reinventing the IHS around the powerful e-Health technologies to leverage the benefits they offer. This study also provides valuable insights to those looking to tap the potential of e-Health solutions for health care. Further investigations and critical thinking are needed to develop the e-Health route for the IHS.

**Keywords:** Indian Health System, Universal Health Coverage, Barriers, e-Health

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## **The Prevalence of Depression Among Teenagers**

Sakshi Sharma

Many mental health problems emerge in late childhood and early adolescence. Recent studies have identified mental health problems - in particular depression, as the largest cause of the burden of disease among young people. The study is done to assess the prevalence of depressive symptoms among teenagers (14-18 years) of both gender and from different economic background. An anonymous survey was mailed in May 2018 that included the Patient Health Questionnaire depression module (PHQ-9). A total of 169 teenagers had participated in the survey voluntarily. About 42% of female and 40% of male shows depressive symptoms with majority (43%) shows minimal symptoms, 29% shows minor depression and 9% shows major depression (moderately severe). Only 18% has no depressive symptoms which is quite low. Moderate to severe depression scores are reported by a substantial portion of teenagers affecting equally both males and females. Poor mental health can have important effects on the wider health and development of teenagers. Enhancing social skills, problem-solving skills and self confidence can help prevent mental health problems such as depression etc. Health workers need to have the competencies to relate to young people, to detect mental health problems early, and to provide treatments which include counselling, cognitive-behavioural therapy and, where appropriate, psychotropic medication.

**Key words:** Teenagers, depression, mental health, survey

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## **Reducing OPD Waiting Time**

Dr. Kavisha Bhatia

Aim of the study was to get an overall idea about the waiting time in outpatient department (OPD) and requisite measures to reduce waiting time. Objective of the study was to determine the flow of patient and the average time spent in hospital, to identify the factors which were responsible for higher waiting time and to recommend appropriate measures to optimize the waiting time in Tristar hospital. In Methodology the study was carried out at Tristar hospital, Surat from 01 April to 31 May 2018. It is a descriptive cross sectional study. Convenient (non- probability) sampling technique was used. Primary data sources include direct observation, consultation with the employees of the Hospital and data collection from the OPD department. Secondary data sources include study of data from hospital information system, analysis of data and registered records of particular departments. Major findings/ results related to various aspects

revDealed that there was lack of appointment system, shortage of staff at front desk, same room for electrocardiogram and dressing procedures, patient attendant was not present, inadequate training of staff, consultant doctors were not following their timings. Patient's average waiting time was around seventy minutes which ideally should not be more than twenty minutes. To conclude it is recommended to increase number of staff at front desk, consultant doctors should follow their scheduled timings, introduce appointment system, provide separate room for electrocardiogram and dressing procedure to reduce waiting time, provide proper training to staff to increase their efficiency and make them more effective. The loopholes in the said Hospital are minimal and when ever found they can be plugged on priority.

**Key words:** Waiting time, outpatient department, training, adequate staff, consultant's schedule & timings

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### **Global Hunger Index of India: Analysis of all states, UTs and 114 Backward districts of India**

Dr. Ratan Shekhawat

Around 795 million people in the world do not have enough food to lead a healthy active life and majority of people live in developing countries. Among Asian developing countries India has a "serious" hunger problem. About 194 million people sleep hungry every day. According to 2017 global hunger index India is on 100th position out of 119 countries- behind North Korea, Bangladesh and Iraq. Factors responsible for this situation in India are different for different states and districts. So this study mainly focuses on huger situation in 36 states, UT's and 114 backward districts of India. To obtain the Global hunger index of all States, UT's and 114 backward districts of India and to discuss the general factors responsible for this serious hunger situation. A secondary data was collected from NFHS 4 and CENSUS 2011. Data entry was done in MS Excel and a new formula of global hunger index (GHI) given by IFPRI was used. There are wide disparities in hunger situation of all 36 States, UT's and 114 backward districts. Jharkhand, Madhya Pradesh and Dadar and Nagar Haveli are in Alarming state of hunger. As far as Districts concern West Singhbhum and khunti of Jharkhand are in extremely alarming state of hunger. Different states and districts have different reasons for hunger status, therefore require different or according to situations interventions to overcome the hunger.

**Keywords:** Global hunger index, stunting, wasting, India, NFHS4, Census 2011

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### **A Study On Ipd Patient Satisfaction in A Tertiary Care Hospital**

Komal Jingar

This is a study on patient satisfaction towards IPD services with a view to decrease dissatisfaction levels and suggest remedial measures in Fortis La Femme Hospital, Shalimar Bagh. The study comprises of services such as hospital admission process, pharmacy service, nursing care, physician care, F & B services, housekeeping services, discharge process, and facilities provided by hospital. The data was conducted from 1st May'18 to 31st May'18 at Fortis La Femme, Shalimar Bagh. Random selection of 120 participants from inpatients was done. The instrument of data collection comprised of a standard "patient feedback" questionnaire. The respondents were asked to rate the attributes based on quality of service they received from the hospital at various departments over a scale of 4, i.e. excellent, good, fair and poor. Also observatory rounds and daily verbal communication with the patient was done where complaints are closed

immediately. Fortis Operating System (FOS) i.e. operations research and Excel were used for data management and analysis. It was found that majority of the respondents 96% and were satisfied with the physician care and nursing care. Attention needs to be paid on the behavior of counter and support staff towards patients which showed a dissatisfaction of (20%), delay in discharge process (36%), delay in admission process (22%) and F&B service (15%). The study suggests that there is an imperative need to communicate effectively with the patients, it will help to remove anxiety and misconceptions. It is thus important to provide healthcare managers and professionals with measures that highlight issues in terms of daily patient verbal communication, counselling sessions were held for support staff and encouragement of planned discharges was there.

**Keywords:** Patient satisfaction, hospital services, inpatient, level of communication

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### **Assess the utilization of OPD rooms**

Simar Singh Wadhwa

An OPD is a hospital department designed to be the first point of contact between the patient and the hospital staff. It is a place where non-emergent ambulatory medical care is provided under the supervision of a physician. Patients visit the OPD for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up not only for treatment but also for preventing and promoting services, the first impression of the hospital is formed from OPD and this is the area frequently visited by a majority of patients. (Sharma S.K. Chowhan S.S., 2013). The objectives of the project is to assess the utilization of OPD rooms and to estimate the number of hours a particular room is utilized by the doctor. It also aims to find out the average appointments and average time a doctor takes per day per patient respectively. The study was conducted at Max Super Speciality Hospital, Shalimar Bagh in the OPD facility for three weeks using primary and direct observation as a tool for data collection. The results indicate that out of the three OPDs (12 rooms) observed, Monday had the most utilized hours (74) out of a total of 132 OPD hours. Whereas, on Saturday a maximum of 84 hours of the selected rooms were empty out of 132 allotted OPD hours. This data can be used to allocate hospital resources efficiently and to achieve a better insight of the functioning of the OPD facility.

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### **Perspective of Surgeons Toward Advanced Wound Care in Tertiary Care Community**

Dr. Laxmi Verma

Advanced wound care (AWC) is used to treat more complex wounds (diabetic foot ulcer (DFU), pressure wounds, venous ulcer, extensive skin burns & traumatic wounds). AWC products facilitates a moist wound healing environment and maintains a stable temperature around the wound facilitating oxygen flow, protecting the wound from infection and relieve pain during dressing changes. AWC is less labor-intensive and provide better clinical results than traditional dressings. Objective: To assess the perspective of practitioner toward Advanced Wound Care. Methodology: A cross sectional study was conducted on Tertiary care hospital in four cities Delhi, Bhubaneswar, Bangalore, Mumbai on sample size of 75. Study Instrument: semi-structured interview schedule. Findings: Most of the practitioners said that they treat only

40~60% of complex wounds with AWC. 63% of the practitioners said that difficulty to manage the main factor associated with less use of AWC. Indicating the advantages of AWC, 93% of the practitioner agreed that AWC reduces the time for wound healing. All practitioner said that Pressure ulcers & DFU require maximum time to heal & frequent dressing change per week but still most of them treat only 40~60% of these cases with AWC. Recommendations: Pharmaceutical companies should raise awareness by sharing scientific studies with clinical evidence on AWC and organize education camps for junior doctors. Emphasis should be laid on cost efficient wear time of dressings to address the myth of high cost. Associate with hospitals having specialized Diabetic Foot and Wound Management clinics such as Fortis Hospital. Hospitals should collaborate with leading Pharmaceutical companies for availability of products. Government should create a national body to make a protocol/guideline for wound and burn management.

**Keywords:** Advance Wound Care, complex wounds, tertiary care

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## **Employee Satisfaction Survey at Action Cancer Hospital**

Simrun Sur

Employee satisfaction is typically measured using an employee satisfaction survey. These surveys address topics such as compensation, workload, perceptions of management, flexibility, teamwork, resources, etc. Having good relationships with the colleagues, high salary, good working conditions, training and education opportunities, career developments or any other benefits may be related with the higher levels of employee satisfaction. An employee satisfaction survey was conducted at the Action Cancer Hospital, New Delhi, for the year 2018, with the following two objectives: (a) to determine the overall job satisfaction level of employees, and (b) to study the measures to improve employee satisfaction level. A stratified random sampling technique was used, and the estimated sample size was 185 comprising of four categories of employees (Nursing - 68, Non-medical - 68, Paramedical - 41, and Medical- 8). A cross-sectional survey was conducted among the selected employees by using a 20-question employee satisfaction questionnaire, informed by Likert scale for each question. In addition, response was elicited from the employees regarding their suggestions for the future. The results suggest that the overall percentage of satisfaction of employees are high among all the categories of employees – Doctors (78%), Nursing (75%), Non-medical (80%), Para-medical (70%). Overall satisfaction is almost more than 70% but there are variations in some aspects of the employees' satisfaction across employee categories. As regards, suggestions by the employee to enhance employee satisfaction in the future, Nurses emphasised on more 'monetary benefits', and 'appraisal and appreciation'; Non-medical staff emphasised on more 'hiring of staff' and 'training and development'; Paramedical staff focussed more on 'monetary benefits' and 'PF systems'; Doctors suggested that the 'leave policy' and 'appraisal and appreciation' process should be reviewed. Thus, the study recommends salary revision as per experience, provision of adequate staff, periodic work-load analysis, training and development opportunities.

**Keywords:** Employee satisfaction survey, hospital, monetary benefits, non-monetary benefits

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**To study VETSpa and its workflow in order to create Brand Awareness in European Veterinary Radiology Market by using Digital Marketing strategy Ms. Shreyshi Varshney**

continue ....

VETSpa is a Veterinary Radiology Information System meant for diagnosing the diseases in the animals. VETSpa is an integrated RIS-PACS which provides the solution to the veterinary radiologists to reduce the turnaround time and to make the imaging for the animals better. European Radiology market is the huge platform for showcasing the products like RIS-PACS which are especially into veterinary sciences. Telerad Tech Private Limited, Bangalore participated in BSAVA Event to create the brand awareness of VETSpa by using Digital Marketing, as Digital Marketing nowadays is a new kind of contacting to the potential leads in the concerned area. Social platforms like Facebook, LinkedIn, Twitter were used to create maximum impressions. Also, marketing automation tools were used to capture the leads for the event like ZOHO, Lead squared. The global veterinary imaging market size was valued at USD 1.86 billion in 2016 and is expected to grow at a CAGR of 6.6% during the forecast period. Increase in demand for veterinary diagnostics is expected to fuel the demand as these devices are primarily used for diseases diagnosis. VETSpa was showcased at the event between 5th April-9th April 2018 at London by the team of Telerad Tech Private Limited, Bangalore. To reach the potential customers, Europe was the right choice to do so because it is located centrally in the world to connect to the right audience. Growing expenditure on animal health and pet insurance are expected to contribute to increasing demand. In addition, growing companion animal segment due to high adoption of pets and increase in number of vet practitioners around the world are expected to propel the demand for these systems over the coming years. Increase in incidence of zoonotic diseases demands accurate and effective diagnostic tools, which is expected to fuel the industry growth. Demand for effective solutions to improve livestock productivity in developing economies is expected to drive the adoption in coming years.

**Keywords:** VETSpa, European Radiology Market, Digital Marketing, Brand Awareness, Healthcare, Zoonotic Burden, RIS-PACS, BSAVA Event

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## **Assessment of Turnaround Time (Tat) For Drug Administration at Fortis Hospital, Shalimar Bagh, New Delhi**

Radhika Uppal

**Aim and Objective:** The aim of the study is to evaluate the turnaround time in the process of administration of drug after prescription in Fortis Hospital, Shalimar Bagh and to analyse the opportunity if available to reduce the time. **Study Area:** The study was conducted in Fortis Hospital, Shalimar Bagh, New Delhi **Methodology:** A prospective cross sectional study was carried out for a period of 15 days in inpatient department of Fortis Hospital, Shalimar Bagh. This study was a time and motion study; the total sample size of 91 patients and 223 medications was collected. Sampling method / technique used was non-probability convenient sampling. Time was recorded at all necessary intervals for effective analysis starting from prescription until administration. Descriptive statistics were applied for data variables in Excel spreadsheet and a Box and Whiskers plot was drawn for the same. **Result/Findings:** Since there was absence of any notifiable guidelines, results were compared with the guidelines shared by Institute for Safe Medication Practices (ISMP) and Centres for Medicare and Medicaid Services (CMS) for Time-critical scheduled medications. The results demonstrated that there was considerable variance in the TAT for all Time critical medications and as well as for indent orders. **Conclusion:** Through this study the researcher was able to identify various points of delay, which were occurring in administering Time critical medications and in

delivering indents to the patients. Hospital policies and procedures must address the process for time critical medications, for time of indent after prescription and strictly adhere to standard policy of pharmacy for delivery of different type of indents. The results of this study helped in formulating a set of interventions that'll help in reducing the TAT significantly.

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### **Critical Analysis of Course Content of Hospital Administration for Senior Hospital Administrators**

Shyam Sharma

The task assigned by the Department of Medical Care and Hospital Administration for summer internship was to Critically analyse the module/course material of course on Hospital Administration for Senior Hospital Administrators .The Department conducts two X three weeks course on Hospital Administration for Senior Hospital Administrators in a year.For this purpose, the intern was tasked to critically analyse the module. Consequent to analysis of the module the amendments made will be compiled and forwarded for incorporation. Critical Analysis of the Module of a Course on Hospital Administration for Senior Hospital Administrators. A total of twenty-five chapters of written course content were analysed. The analysis was done by firstly handing the module over to the Intern and then these were rectified for grammatical, sentence formation and content flow errors. Thereafter, the Internet was searched to identify the origin of the content material and finally the content was checked against the original for errors which were rectified. At the end the content was checked for relevance to the target student group and the course and appropriate recommendations were made. Critical Analysis of the Module of a Course on Hospital Administration for Senior Hospital Administrators. The analysis of the module revealed that occasionally factual or more appropriate content, was missed out. The relevance of certain topics to the course objective was inexplicable moreover there were errors of script presentation and few spelling / sentence errors. The flow of the content was correct but the course content was too large for coverage within the course duration. The recommendations were that Course content be judiciously curtailed for comprehensible coverage in three weeks. Irrelevant/ less relevant topics be deleted and the course be split into two parts. Overview of Hospital Administration - Two weeks. On Ground Training – One week. Aspects essential to Hospital Administration should be covered in greater details. Addition or deletion of content within certain chapters. The tasks assigned was successfully completed. The Module of the course on Hospital Administration for Senior Hospital Administrators was analysed and various recommendations/ amendments were made which will be subsequently incorporated.

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### **Evaluation of St-Elevation Myocardial Infarction (Stemi) Protocol in Max Hospital, Patparganj, Delhi**

Dr.Nabila Khan

The aim of this study is to determine factors causing delay in attaining Door to balloon time of <90 min, and resulting in delay in management of STEMI patients, and to implement the strategies to reduce door to balloon time in order to improve quality of care. This study was conducted in Max Super Specialty Hospital, Patparganj, Delhi. This is a pre-post cross-sectional study conducted in Max Super Specialty Hospital,

Patparganj, Delhi. There were in total of 56 eligible patients identified between 1-April-18 to 30-May-18 study period. Retrospective Data of 32 patients with a diagnosis of STEMI was reviewed from 1-April-18 to 30-April-18, before the implementation of strategies, and then after the implementation prospective data of 24 patients from 1-May-18 to 30-May-18 was collected accordingly. Data collection tool used was a STEMI tracker sheet. Data was entered in Excel spreadsheet and analyzed. Before the implementation of strategies, percentage of patients whose door to balloon time was within 90 minutes was 66% and after the implementation of strategies there was steady increase in the percentage to 75%.

**Conclusion:** Through this study, the researcher was able to identify the gaps that caused delay in achieving door to balloon time of 90 minutes, and after the implementation of some recommendations, the study depicted better results. This result was obtained through careful preparation, training, and interdepartmental collaboration.

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## **A Review on Epidemiological Studies of Indoor Air Pollution & LPG in India**

Priyanshu Verma

Air pollution occurs when harmful or excessive quantities of substances including gases, particulates and molecules are introduced into the atmosphere. It may cause diseases, allergies and also death of humans. Pollutions can be generated by both human activity and natural processes. Indoor air pollution and poor urban air quality are listed as two of the world's worst toxic pollution problems. According to the World Health Organization (WHO) global air pollution database released in Geneva, India has 14 out of the 15 most polluted cities in the world in terms of PM 2.5 concentrations and 2014 report, air pollution in 2012 caused the deaths of around 7 million people worldwide, therefore, the impact of pollution on human health is fatal. Indoor Air Pollution and PM2.5 level is increasing from use of solid fuels for cooking which causes various respiratory health problems. Increased pollution has become serious problems in India majorly people living in cities. We searched the PubMed, Embase, IndMed, Hinari and government of India report from inception through to December, 2000 to identify reports of primary epidemiological research concerning the problems of Indoor Air Pollution and its effect of using solid fuels to the various health complications. Increased P.M 2.5 in air has decreased the quality of air and hence it is becoming serious issue. The major findings of this review is that Indoor Air pollution caused by use of solid biomass fuel for cooking is a major health hazard. It has a causative association with a number of diseases as brought out as, it is also associated with increased risk of cataract in women who do the cooking. Women and children in households cooking with kerosene were more likely to have respiratory symptoms and illness compared with those in households using LPG as a fuel for cooking may improve respiratory health among adult women and children in this population. Women who cooked exclusively with biomass fuel had alterations in immune defense compared with their neighbours who cooked with LPG. Use of LPG and improved stoves lowered the probability of ARI (Acute respiratory infection) among children younger than 5 years. Cooking with biomass fuel increases the risk for pulmonary tuberculosis. HRQL (Health Related Quality Index) is impaired among Indian women exposed to indoor smoke from wood combustion while cooking as compared to those with no pulmonary disorder associated with such exposure. Traditional biomass fuels like wood have adverse effects on pulmonary function.

**Keyword:** Air Pollution, Particulate Matter, Liquid Petroleum Gas, Indoor/Household Air Pollution, Cooking Fuel

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