Operations Management for Effective Eye Care Services

A workshop by VISION 2020: The Right to Sight - INDIA

March 8th & 9th 2013

Godrej Hall, L V Prasad Eye Institute, Hyderabad

"Operations management refers to the complex set of management activities involved in planning organizing leading, and controlling an organization's operations. At one time, operations management was considered the backwater of management activities – a dirty, drab necessity. This view has changed in recent years, as more and more managers realize how operations can be a "beehive" of activity with major financial consequences for any organization

Operations management is important to an organization's managers for at least two reasons. First, it can improve productivity, which improves an organization's financial health. Second, it can help organizations meet customers' competitive priorities." Excerpts from an article by SREE RAMA RAO

Looking at the importance of operations management for the efficient working of an organisation, VISION 2020: The Right to Sight – India organised a two day workshop **'Operations Management for Effective Eye Care Services'** at LVPEI, Hyderabad on 8 & 9, March 2013.   VISION 2020: The Right to Sight - India expresses its gratitude to Dr. G. N. Rao and his team at LV Prasad Eye Institute, Hyderabad for hosting and taking the lead in organising this workshop.

The workshop aimed to obtain inputs on a cross section of topics critical to running of a hospital from experts. The workshop was broadly divided into 7 sessions:

- **Blending Of System Management for Effective Hospital Operation**
- **Strategic Benchmarking**
  Business Operations
- **Corporate & Government Case Presentations / Strategies For Effective**
- **Resource Optimization**
- **Hospital Management - Hospitality & House Keeping**
- **Financial Management, Forecasting, Budgeting And Financial Monitoring**
- **Role Of Hospital Information Management System (HIMS), Electronic Medical Records (EMR) & It Applications For Effective Hospital Management & Outcome Assessment**

Day 1: March 8th 2013

Introductory Session

The workshop commenced with the Col (retd) Dr Deshpande, President, VISION 2020: The Right to Sight – India's welcoming address. Welcoming the participants to the two day workshop, Dr Deshpande said that the workshop was part of a series of workshops organised by VISION 2020: The Right to Sight – India to create a pool of information for our members. Earlier in the year two workshops – one on costing of eye care services and the other on media's role in eliminating of avoidable blindness were held. Outlining the need of a workshop on 'Operations Management' Dr Deshpande said that currently only 5% of the existing resources were being used towards eliminating avoidable blindness: "But we have the potential to enhance the quality and quantity of services with the help of professional management." Highlighting the importance of the theme of the workshop for eye care, Dr Deshpande defined operations management as analysis, scheduling, designing systems to manage demand and supply. But to best benefit from the workshop, these components have to be combined with comprehensive eye care with highly skilled workforce, well organised and deployed effectively and have to focus on changing needs of the patients.

Delivering the key note address, Dr GN Rao, Chairman, LVPEI traced the genesis of VISION 2020: The Right to Sight – India that was launched from LVPEI's another campus where representative from major NGOs and INGOs in the country, WHO and the government of India made a commitment to make VISION 2020: The Right to Sight – India programme as success in the country. Dr Rao was confident that going by the track record our country has in the past five decades in tackling the problem of blindness that we will achieve success by the year 2020.

From left: Mr Parvez Billimoria, Dr GV Rao, Dr GN Rao, Dr TP Das, Dr Deshpande, Dr Usha Gopinathan and Prof SKP Matwankar.

Charting out the progress made in the country in the field of eye care Dr Rao said that while work has been done for some challenges, but there are "so called" newer challenges including as simple a problem as refractive error which has to be dealt with along with more complex problems of glaucoma, DR, childhood blindness, corneal blindness and developing low vision centres.

Outlining a possible solution to deal with the challenges, Dr Rao zeros in on three main areas that need strengthening: Infrastructure, Human Resource and Operating Systems. From among the above mentioned three elements, infrastructure, points out Dr Rao has significantly strengthened in the last ten years or so across all the sectors, however much works needs to be done in the field of human resource and operating systems.

For strengthening human resource "Team approach and not total dependence on ophthalmologists" should be the approach in eye care. An ideal scenario would be ten people for one ophthalmologist all the way from administrator, nurse, technician..all different categories. Then our task becomes easier but "we are nowhere near our requirement. Dr Rao emphasised creating more training centre and strengthening existing training ones as "a number of them lack quality."

Efficient operating system is the third area that needs strengthening. Dr Rao applauded the efforts by Col Deshpande and Dr GV Rao for "deciding to focus on this important theme" for the workshop "because one of weakest link on our healthcare systems is operations management."

Giving an example of a simple aspect of operations management - cleanliness in a hospital should be the basic requirement but remains a challenge in our country, Dr Rao suggested one necessarily does not have to get into complex issues but deal with simple aspects of operation management to strengthen each component in the entire network in our country so that unusual should become usual. And that should be our goal by year 2020 because unless we do that as a first step to tackle and develop and promote the concept of comprehensive ophthalmology from a single disease centre focus it may become difficult to attain our goal.

Towards tackling the massive problem that we have in our country in eliminating avoidable blindness, Dr Rao was emphatic that even from a secondary level we should be equipped to tackle glaucoma, corneal problem, DR; to institute low vision services. "If we leave it to the tertiary level, it becomes increasingly difficult to access and also it becomes much more expensive," elaborated Dr Rao. "Only when we cascade down to secondary and primary level and whatever can be done at that level is done can we gave cost effective way of delivering eye care."

Dr Rao was positive that with the talent and the brains available within the VISION 2020 network, it will not be difficult task. Affirming India's uniqueness in finding solutions to problems Dr Rao sounded a confident note by saying that India will be able to control the problem of cataract significantly by year 2020 and that we will have a strong framework of tackling of problems like glaucoma, childhood blindness, corneal blindness and DR and low vision services by then. Looking from a global perspective, India is looked upon as the leader among the

Workshop in progress

developing countries and "we have the best chance of making VISION 2020 a success and lead the developing countries in the world."

However there is one area where Dr Rao feels we fall behind other countries and that is research. But things are looking up as "we have just begun the culture of inquiry in our country. In our field more and more centres are participating so research is getting better so we have some chance there also."

Concluding his address, Dr Rao said that we should be optimistic about what we can achieve. Achieve the aspiration of fundamental right to sight to all in our country.

Setting the tone of the workshop and introducing the topic, Dr GV Rao, CEO of VISION 2020: The Right to Sight – India said that the aim of the workshop was to provide an understanding of the management, techniques and ideas of operations management and to see how all can take these lessons and apply it in the context of respective hospitals. We also want to learn from each one of the participants. "At the end of the workshop we will collate all the recommendations and share it with all our members to see how we can ensure quality eye care through these management issues," said Dr GV Rao.

Following is the key recommendations from session held on both the days

Session 1: Blending of systems management for effective hospital operation

Speakers: Dr. T.P. Das, Vice-Chairman, LV Prasad Eye Institute; Mr. Bharath Balasubramanium, Head – Information Systems Sankara Eye Hospital, Coimbatore

Moderators-Dr GN Rao, & Col (retd) Dr Deshpande

Rapporteur: Dr Padmaja Rani

- **Recommendations -- First session**

Dr T P Das, Vice President, VISION 2020: The Right to Sight - India

- We need to identify constraints in the system.

- We should also think how this constraint can be modified or supported to improve the efficiency of the system

- We need to look in to key system processes like throughput (rate at which system generates sales) and Inventory (The material system intend to sell)

- Leaders should be able to choreograph all the processes in the system and be able to visualize the data and make changes in a dynamic environment

- We need to develop a comprehensive system of hospital operations linking clinical data, financial data, people and processes

- Having a clearly defined goal for an organization is of utmost importance for example : Safety is Most important goal for Airlines – For us patient is first and we develop all systems necessary keeping this goal of patient first in the mind

Mr Bharath Balasubramanium, Director Operations, Sankara Eye care

- Sankara eye care journey of three decades evolved from developing a system based on loyalty in 70s, transparency in 80s, accountability in 90s and finally a system based on ownership in 20th century

- System approach is crucial for developing an effective service delivery model

- System should be able to face and manage challenges like escalating costs, funding from agencies, support from government agencies

- System should have clearly defined key performance indicators for all the departments

- There should be a feedback and feed forward mechanism for all employees about their annual targets/ performance and periodic appraisals to develop a sense of ownership

Workshop in progress

Key points from Interactions of first session

Q. Dr Deshpande's: How to convince investment of money into changes in a system that the change is going to show improvement/benefit?

Ans. Dr Das described examples of providing ambulatory vs. hospital stay for cataract surgery in terms of providing benefit and cost effectiveness to the patient, or an expensive laser machine (even though initial investment is high) can reduce patient frequent hospital visits and in turn result in an effective service delivery model.

Dr Matwankar described about opportunity costs and also need to look at quality of life improvement costs while looking at an intervention. Even though there is no clear cut outcome analysis of interventions by organizations there are many tangible and intangible benefits and a gut feeling that an effective system works is there …that is why we are here.

Dr GN Rao elucidated that there are limitations of both practitioners and policy makers in putting into practice the current understanding of health economics research regarding the various causes of blindness.

- All participants agreed that we need to develop a series of key performance indicators for an effective eye care service delivery model by the end of work shop.

Session 2: Strategic Benchmarking

Speakers: Col. (retd.) M. Deshpande, Medical Director, H.V. Desai Eye Hospital, Pune
Mr. Vasantha Kumar, Access Health International, Hyderabad
Dr. Ramamurthy, Chairman, The Eye Foundation, Coimbatore
Mr. Ramesh. S. Ve, Assistant Professor (Selection Grade), Department of Optometry, Manipal College of Allied Health Sciences, Manipal University, Mangalore

Moderators: Dr.T.P.Das & Lt. Gen.Venkatesh Patil

Rapporteur: Ms Asha Latha

Speaker : Col. (retd.) M.Deshpande, Medical Director, H.V.Desai Eye Hospital, Pune

• This session was majorly focused on what is bench marking, different approaches of strategic bench marking and how to implement   at the institution level/community level

• Benchmarking has a   long history going back to the early days of evolution. It is still an integral part of our daily lives. An activity that tells your position by comparing you to others. When comparisons are done correctly it is called benchmarking

• **Example:** How materials are purchased; How suppliers are paid; How employees are trained

• **Major benefits of bench marking:** It catalyses performance improvement and breaks the paradigms. It achieves break through innovations and helps to make better informed decisions

• **Methods:** Current practices are to be shared and do a gap analysis based on MIS data. Conduct pilot studies based on the previous learnings and develop documents. Share the documents to disseminate information to all concerned

• **Approach to Benchmarking:** Define the team; objectives of the program; criteria for success and identify the examples of interest. Gather information and review the existing documentation. Develop an improvement strategy based upon bench marking

• **Strategic benchmarking:** Reflect the mission and vision of the organization; Lead care by excellence in research and education; Values to guide action and behaviour; Achieve operational excellence; Streamline business process; Identify and adopt best practice; Promote culture of continuous sharing

• **KPI Benchmarking in an Eye hospital:** Vision threatening complications in operated patients; Post operative infection rate: Number of endophthalmitis cases identified in the total number of patient surgeries during this period-Benchmark figure <0.08%; percentage of patients for whom the routine consultation time was above 2 hours; Charity services; OT starting time; Inter-operative time; Equipment utilization; Patient satisfaction; Post operative follow up rate; Staff satisfaction

- **KPI benchmarking for quality monitoring**: Tracking tool may be developed to review the performance from different aspects like attrition rate, post op infection rate, etc.,

Speaker: Mr Vasantha Kumar, Program manager, Access Health International, Hyderabad

- Service delivery component and health financing are two important key issues to be considered in benchmarking. Identification and documentation of good practice is essential.(www.center for health market innovations.org)

- **Need for benchmarking:** To gain better understanding of your performance in a holistic method, -efficiency, productivity etc. and to improve your current standards and measures it is important

- **What can be bench marked in eye care -**

- **Resource utilization –** OP:IP ratio; Surgeries per ophthalmologist; Ratio of ophthalmologist to support staff; **Clinical services:** Surgery **MIS**: percentage phaco, percentage SICS; Acceptance rate; **Quality:** Complication rate; Percentage of vision improvement; Patient satisfaction rate; **Financial viability -** Percentage of paying vs. subsidized; Percentage of expenditure towards salary and Percentage of expenditure towards medical supplies

- **Model for improvement:** Developed by IHI-Institute for Health Care Improvement (www. ihi.org) is meant for bringing fundamental change in the system. Model emphasizes on What we are trying to accomplish; How will we know that a change is an improvement; What changes can we make that will result in improvement

Speaker: Dr.Ramamurthy, The Eye Foundation, Coimbatore

- Importance of understanding the time to time requirements and bringing in advanced technologies is very much essential in any eye care setting. This results in an incremental improvement in giving quality service to the patients. While investing in getting advanced equipments, old equipment is well utilized so that the old investments are equally valued and used. Quality always comes out with price

- Retaining talent is highly important, treating customers with utmost care and concern is very important, just as important as it is to ensure that every patient and employee is highly satisfied

Speaker: Mr.Ramesh S.Ve, Assistant Professor

- The session was focused on different aspects associated with optometry and benchmarking strategies.

Discussion was focused on

- Clinical practice; Community/Public health and Regulation, academics and research in the context of optometry

- Well established practices of USA, UK and Pacific may be brought in to emphasise comprehensive eye care. Community based outreach programmes, Lessons and challenges of vision centres and establishing vision centres in rural and urban models

- Academic growth in optometry

- Research and development in optometry

Conclusions

- Benchmarking helps development of business;

- Better means of service delivery to the community

- Helps to develop key performance indicators

- Helps to adopt best practices and improve the productivity

- Can be used for support of policy making for clusters, regions, countries. Further useful to develop benchmarking indices

Session 3: Business operations (Floor management/schedules and Management /trouble shooting in OPD/OT/Outreach management)

Speakers: Mr. Mohammed Gowth, Faculty, Aravind Eye Hospital, Madurai; Dr. Raja Narayan, Consultant, LV Prasad Eye Institute, Hyderabad; Dr.Hemanth T Karad, Latur; D.S.Karad Eye Institute, Latur.

Moderators : Dr.Padmaja Rani & Dr.Rama Murthy

Rapporteur: Mr Anjaneyulu

Presentation 1: Social Mobilisation: Outreach operations Management: an Aravind Experience by Mr.Mohammed Gowth, Faculty, Aravind Eye Hospital, Madurai

- Salient points: 3 dimensions of Operations. Management of outreach programs, individuals, community and eye care providers

- Positioning of outreach : part of mission, leadership support, recognized as integral part of work

- Learning Experience : 1980-1990,1990-2000,200-2012 in terms of community participation, HR & Volume of work

- Change in prevalence of blindness in cataract population

- Aravind's outreach pyramid –Access to all, Age segments (6-50yrs),Disease priorities & approach
- Strategies: Service delivery, Business plan, HR, Community engagement, Policies & procedures standardized, Finance & continuous monitoring

- Key Indicators to measure outreach performance: out patients registered in the outreach?, Cataract admission in the hospital

- Performance indicators in outreach: Screening eye camp, DR screening camp, other indicators & outreach performance of AEH, Madurai 2012

- Applying operations management system to outreach : 60% free, 40% paying and the savings on sales of optical will reimburse the transport expenses of the outreach team

Presentation 2 : OPD& Floor Management at L.V.Prasad Eye Institute, Hyderabad by Dr.Raja Narayanan, Head, Clinical Services, L.V.Prasad Eye Institute, Hyderabad.

Salient points: Patient satisfaction – Benchmarking 80% & above

Check time to the first point of contact

- Total time – Bench mark SIW -120mts, New – 180mts

- Initial examination

- Literature on impact of variety in services – Variability factor

- Outpatient services - 96 patient types & 90,000 patient visits

- ISB Operations management project – a measure of time spent by patients -25%having -2hrs
- Options : Increase capacity, Increase cost

- Reduce Variability, impacts specialization, Flexible resource allocation, Increase redundancy

- Separate facility for Walk-ins & emergencies

- Increasing specializations, trade off –comprehensive ophthalmologists, family physician

- Waiting time is a perception

- Patient satisfaction ; Psychological war

Presentation 3 : Dr.Hemanth T Karad, Latur, D.S.Karad Eye Institute, Latur

Presented on the outreach activities of their centre activity using the ASHA workers and empowering them in the participation of eye care activities.

Session 4: Corporate & Government case presentations/strategies for effective resource optimization

Speakers: Col Dr. Prof SKP Matwankar, former Professor and Head, Department of Hospital Administration, Armed Forces Medical College, Pune; Dr. Anand Vinekar, Head, Dept. of Pediatric Retina, Narayana Nethralaya, Bangeluru; Lt. Gen. (Retd) Venkatesh Patil, Pune.

Moderators: Dr. Ramamurthy & Dr. Shankariah

Rapporteur: Dr. Santosh Moses

- *Col Dr. Prof SKP Matwankar, former Professor and Head, Department of Hospital Administration, Armed Forces Medical College, Pune*

- Shared his experience in the health sector

- Should focus on quality, quantity, continuity and efficiency. This will lead to effectiveness

- Quality vs. cost: Cost effectiveness + Quality = Value for culture

- Identification of need is a must to succeed

- SAVE (Science, Administration, Value & Efficiency vs. CARE

- Dynamic staffing and multi-tasking is the need of the hour. This can lead to optimization

Speaker: Dr. Anand Vinekar, Head, Dept. of Pediatric Retina, Narayana Nethralaya, Bangeluru

- 'Born too Soon' report states that India has the highest number of pre-term births and deaths in the world

- 2 million infants need screening

- The programme integrated with the Govt. services is able to screen and treat children

- Main problems – awareness, financial compensation is underutilized, Average Length of Stay ALOS in NICU <1week

- ROP incidence 35.6%

- 4% of screened babies had other eye problems

- FOREVER programme is being piloted in 3 districts

- Light of the eyes video on the programme can be viewed on youtube

Speaker: Lt. Gen. (Retd) Venkatesh Patil, Pune

- History of the corporate sector in India has grown exponentially only since 1991

- Corporate governance: men, money, machines, method and material

- Core values of ethical business

- Key principles should be followed

- Safety and environment

- Frauds and scams put not only the person into the well but also the whole organization

- High level of satisfaction to five constituencies

- CSR – All companies who have invested 100 crores or more are involved in CSR. 27,000 crores was spent by the corporate sector last year

- Challenges: Labour unrest, no integrated development, corruption and joint ventures (no involvement from the MEA)

Discussions:

- Corporate culture in ophthalmology needs to be discussed and a balance needs to be found.
- What is missing is the model of corporate governance

Day 2: March 9th 2013

Session 1: Operational Management for Effective Eye Care Services

Speaker: Dr N. Ravichandran, Director, IIM Indore

Rapporteur: Dr Padmaja Rani

Key Points of Dr Ravichandran's speech

- There is a need to have systems thinking approach in operations management of hospitals

- One needs to have a balance of provider centric and consumer centric approach.

- Hospitals should be sensitive to patient waiting times as well as discharge times

- One needs to see both macro and micro picture while managing operations

- One needs to see patient as a whole

- Benchmarking is an essential tool which helps in goal setting, leads to simplification of processes leading to efficient operations

Four essential points in having efficient operation systems

• To have hybridization of two models of operations – customized way of operations (Job shop environment) based on effectiveness with assembly line of operations (based on efficiency) – thus blending efficiency and effectiveness

• To identify bottlenecks in the system and smash them in order to improve systems throughput leading to cost effectiveness

• Modularization and multiplication of efficient operating units

• Changing fundamental cost structure from fixed cost approach to variable cost approach

 Session 2: Hospital Management - Hospitality & Housekeeping

Speakers: ***Dr.S.S.Sudhir, Senior Consultant, SN ,Chennai***

Moderators: Dr.Abhishek Dagar

Rapporteur : Mr.Anjaneyulu

Presentation 1 : Hospital Management – Hospitality & Hospitals- Sankara Nethralaya (SN) Experience by *Dr. S. S. Sudhir, Senior Consultant, SN, Chennai*

Salient points: 8 dimensions of patient centered care : Respect for patient values, co-ordination & integration of care, Information & education, Physical comfort, Emotional support and alleviation of fear and anxiety, Involvement of family & friends, Continuity of & access to care

Hospitality - Behaviour of employees – Environment - Material product – Emotional labour

Theme park example: Basic factors: Service Experience, service operation, Service Outcome, Service value

Hospitality at SN : communication confirmation, security, parking, enquiry, SMS& E-mail, reminder letter, information & signage (Mayo Clinic), SWAN (Women auxiliary network),consultant secretaries, optical service – within 1 hour for simple prescription, courier service for outstation orders, counseling, canteen, food court, shuttle service, cloak room, washrooms, resource management system, early reporting & late reporting, buffer slots, hospitality & customer satisfaction, service process & their importance, controlling service process, pareto chart on complaints of patients, service recovery, patient centered approach.

Presentation 2: Hospital Management – Hospitality & Housekeeping by Mr.Rahul Nama, GM, ITC Fortune Vallabha, Hyderabad.

Salient points : Guests Management protocol, common factors in hospitals & hotels, housekeeping importance-focus area, usage of equipment, cleaning & disinfectants, laundry management, hand hygiene kiosks, non-slippery floors, uniform, body hygiene, bio-medical

waste disposal, hospital design ,one point of contact, prompt response, front office manager, support services also equally good, trained & qualified housekeeping staff, food service to patients by F&B managers.

Session 3: Financial Management, Forecasting, Budgeting and Financial Monitoring

Moderators: Ms. Mani Mala and Colonel Dr. Prof. SKP Matwankar

Reporter: Sashi Mohan (L.V. Prasad Eye Institute, Kallam Anji Reddy Campus)

Speakers :Dr. Gaurav Singh Chauhan, IIM, Indore; Mr. Surendra Kumar, LVPEI & Mr. Parvez Billimoria, HV Desai Eye Hospital

Speaker: Dr Chauhan: Dr. Chauhan discussed the following topics: Financial Management and Value Creation; Healthcare Industry Attributes; and Financial Management in Healthcare Industry. On the first topic, Financial Management and Value Creation, he touched upon people, systems and processes, and command on critical resources. During this discussion, he talked about leadership and execution, value of transformation of resources into products, and marginal cost of retaining talent. He also mentioned financial constraints and the need to showcase strengths. With regard to Healthcare Industry Attributes, Dr. Chauhan listed innovations and drug development, drug manufacturing and marketing and core medical support as the main issues. He focused on the last issue, as it was pertinent to the audience and the meeting, and talked about need versus want, management of productivity and pricing mechanisms for services. Particularly for non-profits, he said that issues such as cross-subsidization, potentially conflicting objectives and productivity management (high volumes and capacity utilization) were pertinent. Lastly, he addressed the issues of operational efficiency (through cost allocation, design of systems and processes, working capital and cash management, and asset utilization), investments (with return on capital being greater than cost of capital), financing of capital, and value based management (Economic Value Added or EVA, Market Value Added or MVA, etc.) related aspects of financial management.

Q&A and Discussion: In response to a question on assessment of value added, Dr. Chauhan said that value should be calculated in economic terms based on the hypothetical capital invested in the organization (even if part or all of the capital is donated). He also said that the marginal utility of a project or an organization can be measured to assess the value contributed by it. Ms. Mani Mala said that, other than depreciation (to account for all capital needs), an organization should earn more than the rest of the expenditure involved to be self-sufficient and sustainable.

Speaker: Mr Surendra Kumar: Mr. Kumar started off with the definition of financial management and its impact on the fiscal discipline of the organization. He then defined forecasting and budgeting and discussed their implementation. He stressed on the following aspects – components of the budgetary control system and review, objectives of the budgetary control system (planning, communication, coordination, motivation and control), requirements of a good budgetary system (for example, goals should be realistic and budget should be monitored), and analysis of budget variations (comparison between

actual and budgeted figures, analysis of favourable and unfavourable variations and categorization and investigation of controllable and uncontrollable variations). He closed his presentation with examples of zero based budgeting (or without reference to the previous budget) and value analysis (by comparing with vision/mission and customer expectations).

Q&A and Discussion: Dr. G.N. Rao said that even small bleeders can bleed an organization to death, giving a few examples (in response to a similar example by Mr. Kumar on value analysis). Ms. Mani Mala reiterated that definition of a budget is important and should cover all relevant aspects of revenue and expenditure. She added that budget analysis should include comparison of portion of work done versus percentage of corresponding budget utilized. She also said that, after accounting for direct costs, the contribution of each product/service should be considered.

Speaker: Mr. Billimoria: He made the presentations by showing implementation of the following aspects at HV Desai Eye Hospital in Pune. He initially began with definitions of financial management, forecasting, budgeting and monitoring, and then moved on to examples of surgical expenditure budgeting (with percentage growth and percentage share of expenditure), costing of different types of surgeries, budgeting analysis of surgeries, department wise budgets, budgeting of revenue (with percentage growth and percentage share of revenue), capital expenditure budgeting, analysis of free versus paid surgeries and management information systems. He also added a few points on FCRA regulations based on his assessment that this information was due.

Q&A and Discussion: Dr. G.N. Rao said that VISION 2020: The Right to Sight – India should negotiate prices for equipment used commonly by its members on their behalf and lower prices using the leverage of collective bargaining and the volume of purchases required by its collective membership. This idea was seconded by Ms. Mani Mala and Dr. G.V. Rao. Several others also appreciated this approach. Dr. Padmaja Kumari Rani raised the limitations of projections and costing in certain situations. Ms. Mani Mala said that such aspects constitute the key factors described by Mr. Kumar in his presentation. She also said that the depreciation amount of the budget can be allocated for purchasing the replacement of the corresponding equipment. Mr. Kumar added that the same amount can be placed in a bank account as a sinking fund to purchase future capital equipment.

Session 4: Role of Hospital Information Management System, Electronic Medical Records & IT Applications for effective Hospital Management and Outcome Assessment

Rapporteur : Ms Sheela Devi

Speakers: Dr.RR Sudhir, Senior Consultant, Sankara Netralaya, Chennai;
Dr.C.Shankaraiah, Joint Director, Directorate of Health Services, Andhra Pradesh;
Dr.Abhishek Dagar, Consultant, Pediatric Ophthalmology &Strabismus, Venu Eye Institute and Research Centre, New Delhi

Speakers: Dr.RR Sudhir:

- Paperless hospital

- Evidence based medicine requires data for providing effective treatment. Data helps in streamlining the continuous work flow, timely patient service, feeder for clinical research recruitment and warehousing etc.

- The essential requirement for paperless system is to integrate all the three key functional areas: Hospital Management Information system, electronic medical records and diagnostic modalities to avoid redundancies in information collection and recording.

- The Need for EMR

- Increase in patient volume demands more storage space

- More human resources for file retrieval and coordination resulting in wastage of human resources.

- It is easy to access the record when patient visits between the centres are managed by a single institute in different location and avoids any delay in patient care and costs involved in transferring files

- Data mining supports measuring the quality of care, measuring quality of life, service outcomes and identification of patients eligibility for different clinical trials , generate case series and most importantly for file auditing

Advantages

- Reduce the cost and time saving

- Initial investment is huge however the true saving occurs after 5 – 10 years

- Eliminate costs for paper charts

- Reduces the Cost of employees

- Eliminate medical transcription cost

- Cost benefit analysis with paper alone – in one year approx 25 lakh could be saved

- Storage space – 69 lakh per annum

- Time saving – accessing the record to locating the record, dictating referral letters , prescriptions etc

- The time taken for preparing paper record or the EMR is almost the same.

- Drawing pads attached to the monitor is easy compared to the tab for using

- Patient real time monitoring is possible with EMR

- Live status at the back end to constantly help the patients

- Search options is available to know more about particular patient or about particular condition

- Simplified mechanisms to make it easy

- Java search

- Template based entry

- Model class prescriptions

- Drug store

- Case summary automatically available and it can be sent as an email or print immediately

- Patient health record – secured passwords where the patient can access their own information

- Integrated system into store and equipments

- Availability of record time

Telemedicine

1. Send SMS to clinical research team

2. Send SMS to patients to improve compliance

3. Performance monitoring

4. National registries disease specific automatic registration

- Implementation is challenging

- Hands on training is important

- EMR training on the demo server, once they are comfortable they will be certified before implementation

- Step wise conversion is recommended

- Champion to drive this process

- Similar features like popular email sites to help in easy navigation

Speaker: Dr.C.Shankaraiah, Joint Director, Directorate of Health Services, Andhra Pradesh,

Ways and means to reach the goal of reducing blindness.

- Understanding burden is the first step

- In 2013, 11 lakh operations done

- School children were examined and 1.2 lakh specs were issued

- 6000 eye balls were collected

- 45% utilization for keratoplasty

- No backlog for cataract surgeries in AP

Speaker: Dr.Abhishek Dagar, Consultant, Pediatric Ophthalmology &Strabismus, Venu Eye Institute and Research Centre, New Delhi

IT application in hospital

Challenges

- Rising consumerism

- Management cost

- HR crunch

Need

- How to enhance services without placing additional burden

- Cost efficient treatment

- Efficient use of resources

- Streamlining operation

- Improving patient care

What does Hospital Information Systems or HIS DO?

- Integrated services for various service points at the hospital for continued patient care

- It combines electronic copies of all documents

Advantages

- Reduce labour

- Eliminate loss of files

- Improve access to authorized users

- Increase security

- Quick access

- Facilitates better care delivery

- Improve costs control

- Enhance operation efficiency

Ex: Health Management Information System or HMIS in Venu

- Scheduling

- Calculate productivity

- Paper less

- Patients movement at various points

- Manage the patients at VC

- Smart phone applications

- 24/7 continuous care and emergency care

Inventory management

- Store management, pharmacy and optical shop

- Cost cutting and efficiency

- Payroll

- Functional areas – administration, finance, patient management, ancillaries

Electronic Medical Record

- Consolidated medical history

- Provides real time information

- Improves chronic care management

- Redundancies are minimized

- Finger print reader and photograph for identification purposes

- Medical insurance/ TPA – for claim

- Checking the approvals for claim

- Status of claims

- Smoother clearance

- Improve patient care

- Customized and flexible

- Teleophthalmology – linking vision centres

- HMIS can be used for academics

- Patient safety checklist as part of EMR. Automated alert system helps to ensure patient safety.

- Financial aspects are exportable to tally to avoid duplication. Indigenously developed optics which is attached to the mobile camera for screening DR at the vision centre.

Recommendations and Action Points

Moderators: Dr GN Rao, Dr Deshpande, & Dr GV Rao

Concluding Remarks: Dr Padmaja Rani

To enhance systems management for hospital administration, Dr Taraprasad Das discussed points regarding the need to identify the lacunae and improve systems as is done in business operations. For effective hospital management, it is important to build capacity to change data in the dynamic environment of the outpatient and surgical areas. Interlinking the critical areas of functioning, viz., clinical data, financial data, people and processes, can serve the goal of patient care. In the health care arena, the non-negotiable (or focus areas of one's mission) agenda points are best tackled by adopting the 'Patient First' approach.

Mr Bharath Balasubramanium suggested that the 20th century paradigm has shifted away from the hospital ownership model of earlier health care programmes to the community ownership model. To develop a sense of ownership among all the participants/players in health care projects, one must identify the key performance indicators for all the departments including the adoption and facilitation of personnel motivating factors such as a periodic performance appraisal. It is also essential for economic managers to gear up by learning how to respond to systemic challenges such as escalating costs and scarcity of public and/or private funding.

Discussion was carried out around the point that tangible and intangible benefits that accrued to the users of the system must be measured to prove its effectiveness and thereby contribute to further improvements in the existing model. These measureable benefits must also be publicised for gaining widespread acceptance in the community. It was agreed by all that the key performance indicators must be listed and shared for the benefit of the group. Benchmarking is an established method to help achieve excellence and is applied in health care to improve the quality of services while retaining cost effectiveness. Col Deshpande explicated how strategic benchmarking can help in streamlining business processes, in identifying and adopting best practices, and most importantly, in promoting a culture of continuous sharing. Electronic tracking tools are useful in this endeavour.

As Mr Vasantha Kumar added, benchmarking helps ensure that all resources in the inpatient and outpatient services are optimally utilised, and one is also assured financial

viability. The model recommended by the Institute for Health Care Improvement is commendable.

Dr D Ramamurthy stressed on the importance of adapting to new technologies and Mr Ramesh Ve presented the benchmarking strategies in the field of optometry.

Discussion was around the clinical practice, research and academic career paths in optometry. The process of rendering comprehensive eye care through community-based eye care programmes using urban and rural models of vision centres was also debated.

The mnemonics SAVE (standing for Science, Administration, Value and Efficiency) presented by Col Dr Prof Matwankar were useful to the group. The four variables, quality, quantity, efficiency and continuity are our watchwords. Dynamic staffing and multitasking enable optimisation. Ownership of the model by the government and escalation to the next level has made the programme successful. Corporate governance involves money, machines, methods, material and men and following the Infosys example, wealth can be created with minimal limiting parameters. Dr Karad's calculation of Rs 4.26 saved from every Rs 1 invested may be usefully applied to eye care too. Having transparent labour laws for the benefit of workers can help in employee retention. So too, adopting corporate governance in eye care service delivery may be useful provided we are aware of the pitfalls of corporate investment and values. Dr K Ravichandran elucidated how operational management allows a hybrid model to emerge for effective and efficient functioning by strategically combining custom-made operations and assembly line operations. By cloning modular units, it is possible to introduce efficiency into the systems. There is a need to have systems thinking approach in operations management of hospitals. One needs to have a balance of provider centric and consumer centric approach

Speaking on the role of hospitality in hospital services, Dr Sudhir elucidated the role of open communication with patients and staff for optimal hospital management. Presenting the highlights of food hygiene and waste disposal in hoteliering, Mr Nama from ITC hotel industry alluded to the importance of cleanliness in overall hospital image management.

In his presentation, Dr G S Chauhan stated that financial management in the health care industry is implemented in part by efficient marketing and core medical support. Operational efficiency (through cost allocation, design of systems and processes, working capital and cash management, and asset utilization), investments (with return on capital being greater than cost of capital), financing of capital, and value based management (Economic Value Added or EVA, Market Value Added or MVA, etc.) contribute to efficiency in financial management. Sustainability depends on earning more than the total expenditure.

Mr Surendra Kumar explained that value analysis could reveal crucial information on where we stand vis-à-vis customer expectations. During the discussions that followed, he spoke of creating a sinking fund to purchase future capital equipment.

Dr R R Sudhir pointed out that Information Technology in Hospital Management systems has now been translated as Electronic Medical Records for real-time access of patient records. Making a case for Data Mining, he enlisted the advantages of accessing such data for measuring quality of care, quality of life, and service outcomes. Data Mining is a most useful tool for file auditing and case series identification, and in patient recruitment for clinical trials.

Dr Shankaraiah suggested that blindness could be reduced through adoption of a multi-strategy approach such as performing cataract surgeries without allowing a waiting list to build up, school vision screening programmes and spectacle distribution, and collecting eye donations.

Dr Abhishek Dagar spoke of the application of Telemedicine for remote patient condition diagnosis and treatment, and the example of early detection and treatment of Diabetic Retinopathy in patients in remote or rural areas that has come to be a reality.

All in all, the exercise of this workshop in Vision 2020 has illumined the participants regarding the various highlights of operations management for effective eye care services.