Challenging Trauma

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Abstract

Essential to the task of transforming organizations are constant innovation, strong entrepreneurial leadership, shared vision, the capacity of the participants to take risks and to make interventions a resolute commitment to achieve a common vision. Service organizations need to be intensely consumer focused and their processes must be oriented to the ongoing improvement of delivery systems.

The emergency unit of King George Medical University (KGMU) in Lucknow (India) has a strong public interface, and required major interventions in terms of upgrading the infrastructure, skills and organizational culture in order to fulfil the very sensitive needs of people in distress. This case reflects how critically ill/injured patients are carefully handled under a new transformational leader and a paradigm change into an institution that could arguably be called a "centre of excellence".

Still in the transition phase, it is an example of performance under uncertainty, driven by "intrinsic motivation" and ready to become irreversibly institutionalized.

***Keywords**:* Process & Service Innovation, Innovative practices, Transformational Leadership, Emergency Services, Health Care

The Business War: A Competitive Innovation Velocity

Global innovators create increased wealth by making a jump from the existing arrangements, bestowing new value on old assets and creating entirely new sources of capital and social value. Global enterprises like Apple, Google, 3M, Toyota, Microsoft, GE, Procter & Gamble, Nokia, IBM, Virgin, Samsung, Sony, Dell, BMW, Intel, Wal-Mart, Honda, etc. have been pioneers in their respective areas for continuous Innovation. Reliance, Infosys, Satyam Computers, HCL group, HDFC

bank, Wipro, Bharti enterprises, Tata Group, A V Birla Group, Hindustan Lever, ITC, ICICI Bank, Mahindra & Mahindra, Nicholas Piramal, Larsen & Toubro and many more who have produced wealth with barely any base are good Indian examples. SME's like Metal Seam, PTC, RTAP, Butterfly group, Precision Gears, etc. are young enterprises that engage in this process more frequently than the older and larger counterparts. Thus, it is necessary to research why some enterprises, sectors and nations are able to create more value than other.!

"**Strategic innovation**" is the answer because such innovations have perpetual impacts on the survival and growth of the enterprise. Strategic innovations may result from the use new technology such as computerized information systems or the discovery of new and more convenient location in retailing. They can come in the form of new raw materials or the discovery of new sources of raw material, like fibre optics, alloys, new energy sources, or in the form of novel products or services such as new credit cards or mobile phones, new forms of organization like strategic alliances or horizontal structures and marketing practices including new customer-management relations. Giant enterprises suffer from bureaucratic complacency, a disease that harms many of them in the short-run and can prove fatal. "Start-Ups," in the alternative can be exquisitely sensitive to their environment and the importance of recognizing that their customers are the driving force for the enterprises that are committed to growth through innovation, while manoeuvring through uncertainties.

For survival, an innovative enterprise must constantly to rethink its practices. How to reinvent its customers, change its total mind-set, add value to its products and services, identify and develop its core competencies, be prepared to jettison elements of its business that have outlived their usefulness, capture niche markets and create distinctive long term competitive positions.

Such enterprises have to re-enforce "Innovation Velocity" and find ways to use creativity by offering new platforms, inventive solutions to customers' problems customization, addressing changing customer experiences, value-capturing, creating new products and processes, fresh organizational strategies, more efficient supply chains, a more prominent public presence, effective networking and attractive branding (Sawhney et al, 2006).

One such transformation was successfully accomplished by Dr M. Bhandari, erstwhile Professor and Vice Chancellor of KGMU during his tenure, an achievement for which he shall be remembered as a charismatic and transforming leader.

Historical Background

The King George's Medical College was established in 1911 and, by an act passed by the Government of Uttar Pradesh on 16 September 2002, was upgraded to the status of a Medical University. Dr. K. S. Nigam became the first Hewett Medalist of the college. Col. W. Selby w as the first Principal and Professor of Surgery and Lt. Col. C. A. Sprawson became its first physician. The original faculty consisted of five professors and two lecturers.

The KGMC facility began in 1914 as a 226-bed hospital. It was formally transferred to the University of Lucknow in 1921. In due course, it added a children's hospital, a general surgery as well as departments of orthopedic surgery, E.N.T. and anesthesia. Neurology, cardiology, psychiatry and plastic surgery became specialty centers. The surgical super specialty departments of urology, cardiothoracic and vascular surgery and surgical oncology emerged out from the Department of Surgery in 1998.

KGMU is situated in the heart of the historic city of Lucknow, the capital of Uttar Pradesh. It is spread over an area of roughly 100,000 sq. meters. It is mainly comprised of the Emergency and Trauma Centre, the Scientific Convention Centre and the Centenary Hospital Complex. Prof K. M. Singh took over as the first Vice Chancellor. Padmshri (the highest civilian award conferred by the President of Republic of India) Professor Mahendra Bhandari, M.Ch., took over as Vice Chancellor, KGMU in May, 2003, and the seed for radical transformation was conceived at this time.

His Excellency Dr. A. P. J. Abdul Kalam, President of India graced the occasion of the University's annual convocation in January, 2005. Two Nobel laureates – Richard Ernst and Dr. Kurt Wuttrich were made Causa Honoris (DSC) while their "Nobel Lectures"' were presented.

Status of the Out Patient Department

At the Out Patient Department (OPD), patients are treated for a nominal amount of Indian Rupees (INR) 1/- on all weekdays. In addition, special clinics for diabetes, hypertension, gastrointestinal ailments, allergies, scoliosis, arthritis, paediatric care, neurology, etc. are also in place. Routine pathological tests are done with prescribed charges for OPD patients. Vaccinations are provided daily in Childrens' OPD. The Surgical OPD runs a Minor Operation Theatre where day surgery is also carried out. The annual OPD attendance is 500,000, of which the average number of new cases is 300,000 and the old ones is 200,000.

The Emergency Services and Trauma Centre

This new centre was inaugurated on 24 December 2004, and started functioning on 9 January 2005. It not only moved from its old building, but was radically transformed as an organization. It is now a completely self-contained unit wherein all the requirements for a complete trauma and emergency services are available under one roof.

It is comprised of fifty beds and six operation theatres – five for general surgery and one for orthopaedics, and has five ventilators in its post-operative ward. Six ambulances have been commissioned for patient transportation within the campus, at no cost. All emergency and medico-legal cases are treated. Other than cardiology, psychiatry and obstetrics & gynaecology, emergency admissions to all departments are routed through this centre. The average numbers of cases seen daily is one hundred and twenty-seven and average numbers of admissions through this centre daily is ninety-five. On admission to the hospital, patients (except the destitute) have to pay INR 35/- as an admission. Two attendants are allowed to stay indoors with each patient.

Plight of the Emergency Centre (Prior Transformation)

Perhaps, the most imposing challenge that came up before Professor Bhandari during the Summer of 2003 was to identify potential areas of excellence within the institution that had somehow been neglected over time. For the team under his stewardship, social justice to critically ill patients was the top priority, even if uncertainty and other constraints were very high.

The Critical Emergency Unit was identified as the key area, since this unit not only happened to be the "show window" of the institution, but was also the most frequented public utility. Any further negligence would obviously have a direct bearing upon the state's commitment to "affordable" health care in general and the image of the hundred-year-old institution in particular.

In order to be a non-partisan, the services of a handpicked team of four students from the Indian Institute of Health Management and Research (IIHMR) Jaipur were obtained to physically verify and take stock of the basic realities, as a first step. The facts were stunning. The system needed a complete overhaul. It seemed a "syndicate" existed to exploit the poor and the needy.

Emergency services were being manned by a complement of three Casualty Medical Officers (CMO), one of whom had been side-stepped as a faculty member. He was hardly ever available to attend to any emergency calls. In addition to the CMO, there were a pharmacist and a consultant with a flourishing private nursing home. Somehow, under psychological pressure as students and trainees, the resident doctors under the guidance of on-call consultants were managing the emergency casualties. Owing to poor infrastructure and management, the critically ill patients were shunted from one place to other to complete the difficult paper work before the first aid could be administered. Hygiene was pitiful and the entire environment was depressing. Under such dismal conditions the only patients who would continue to stay, were either medico-legal cases or those who were too poor and ill to be managed anywhere else. The syndicate would effectively transfer patients to lucrative private nursing homes with the help of touts and brokers.

Radical Transformation

With this as a backdrop, it became essential to revitalize the available resources. The previous experience of Professor Bhandari with the Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGIMS) came in handy. The requirement was to make everything needed for handling an emergency patient available within easy reach, preferably under a single roof and to obviate wastage of critical time, an indispensable factor in managing a serious casualty.

Henceforth, emergency service were shifted to the new building that was partially completed and had been lying idle for some time. The other key decisions that were implemented to transform critical care, particularly with a view to bringing about a qualitative change in the existing work culture, were as follows:

1. Employment of contractual services for housekeeping, custodial cleaning and security management'
2. Restriction on movement of attendants;
3. Strict Control over hitherto unchecked spitting of food and sundries;
4. Strict regulation of traffic (vehicular and pedestrian) within the premises;
5. Promotion of philanthropic activity/charity for running of low-cost canteens for the patients and their attendants;
6. Creation of an automated drug distribution system;
7. Establishment of an in-house blood bank;
8. Provision of a pool of residents from all specialities, to be available in the emergency complex around the clock, with nominated senior consultants to remain on call.

The Discovery: Smooth Patien(ce)t

Personal observations along with detailed interactions were carried out with the persons in charge of various activities, and subsequently facts were verified from patients. The data was collected over a period of hundred fifty days. The task was a challenging one, as most of the hospital staff mistook this research study to be a media decoy.

Physical verification of the environment was carried out for all the key players and stations involved in the "execution loop." The work process and time study were also taken into account. Each construct (i.e. process, people and services rendered) was simultaneously identified. The patients, attendants, contractual service providers, permanent employees including nursing and paramedical staff, team of physicians and surgeons were also quizzed. Station checks were carried out. The point where patients were received, admitted and given their first medical advice was closely monitored. Details regarding investigation procedures such as CT-scan, X-Ray, ultrasound and pathological tests were obtained directly from the respective stations. The process of

drug distribution at the drug retail outlet contracted to M/S Neptune Pharma by the Welfare Society was scrutinised. Spot interviews were conducted on patients leaving the premises to assess the efficacy of the newly evolved system. In other words, the entire stay of the patient at the Trauma Centre was independently observed, in order to obtain a holistic picture on the status of patients requiring critical care.

The new trauma centre replicated an assembly line, as in a manufacturing enterprise. Its processes and practices reflected the importance of "time management principles" – an imperative factor for a patient "Challenging Death".

Observations

Reception & Enquiry Handling

Lt. Col. (Retired.) Fasih Ahmed, the Deputy Medical Superintendent of Gandhi Memorial and Associated Hospitals (GMAH), was initially given the responsibility of organizing KGMU's contractual services through various outsourcing agencies. Employing ex-servicemen contracted through UP Sainik Kalyan Nigam for various in-house tasks such as patient orderlies and transporters (stretcher-bearers) was an immediate step. In addition, adequate security and housekeeping, responsive to the specific hospital environment, were also outsourced with due consideration to the sensitivity of the trauma centre and the kind of patients with whom it would be dealing.

A brief list of duties to be outsourced including the following:

1) All patients were to be carefully and courteously treated;
2) Overcrowding was to be reduced with only two attendants allowed with each patient;
3) Security of the medical staff on duty was to be maintained on a 24-hour basis;
4) Patient were to be speedily transported to the casualty room. (Less than a minute has been the practice to date);
5) A centralized system for incoming/outgoing telephone calls for the Doctors/Consultants on duty was established;
6) Proper instructions were to be given for dealing calmly yet firmly with attendants;

7) Individuals carrying medicines without proper prescriptions were prohibited;
8) Orderlies hired from Sainik Kalyan Nigam were posted in the wards to keep a close watch on the hospital property, while simultaneously assisting doctors and patients and.

During the transition process, reception was given top priority and is now manned round the clock by ex-Junior Commissioned Officers from the Indian Army. They handle the inqueries with a smile; though at times encountering rude behaviour from the patients' attendants. However, they are well trained to handle awkward situations. In light of the tremendous pressure of work on these young doctors, certain isolated incidents of rough behaviour by the residents on duty, both with the outsourced staff and the patients' attendants, have been witnessed. Nonetheless, regular counselling is provided by the senior faculty. The saying "transitions encounter resistance to change," is appropriate in this case.

It may be prudent to mention here that Dr. Bhandari, as a frontier leader, spent a great deal of time each day at the Trauma Centre, not only to monitor the progress of patients, but also to render professional advice to the teams. Often, spot decisions on matters meriting his intervention were made. This, to a great extent, has reduced the time-consuming internal bureaucratic channels, a phenomenon largely termed as "red tape" that exists in most government-driven systems.

It has been noticed that the daily inflow of patients on an average ranges between seventy-five to one hundred and forty, with 70% being critical emergencies. The average male to female ratio of patients was recorded as 80:20.

The Reception Centre acts as a hub of information, and is flooded with inquiries from patients. On-line patient records include registration details and current medical status. This system did not previously exist, and it was difficult to track patients' records. Additional improvements are anticipated, and very soon all information related to patient treatment will become automated and available on demand. Standard operating procedures for various contingencies have also been framed. They serve as a guiding tool for each department, providing monitoring and process mapping for all patients.

How Transportation Services Function?

This service has also been completely outsourced in the new business model. Operating in three shifts with four staff members and nine drivers hired on contract, the team is geared to provide timely transportation to patients being shifted to the respective wards for further treatment, investigations or specialist department of GMAH. Additionally, hearses have also been put in service to transfer deceased patients to the mortuary. All such transportation is provided free of cost, a solace to the needy.

Ambulances have been provided and maintained by KGMU. Proper documentation for each vehicle is maintained and checked periodically. Usually there are three drivers in a shift of eight hours. For transporting discharged patients back to their homes, a nominal fee in accordance with the existing rates authorized by the government is charged. The amount is deposited in the hospital account and utilized to offset expenditures incurred for providing free internal transport to the patients.

Regulations and Security Services

This service has been outsourced to a premier security agency "ISPAK". While its primary task is to protect hospital property, it also provides collateral security cover to the medical and support staff working inside the complex. It also aids in checking patients from entering the premises with medicines that are not prescribed, controlling rowdy crowds, especially when cases of major accidents and gun-shot injuries arrive. The security personnel also keep an eye on the housekeeping cleanliness and hygiene of the premises, a function that did not previously exist. At times, people accompanying "VIPs" get into unnecessary altercations with the security staff, but tactful handling is what matters. The other critical task is to monitor the movement of patients, and to keep track of touts loitering inside to lure away the patients to private nursing homes. This is one of the most unfortunate activities whereby a syndicate has been operating to persuade patients to enter private nursing homes.

Here the team under the new leadership took strict and stern action against the culprits. While writing this article, the author witnessed a paradigm shift to a new culture comprising faith and trust.

The First Encounter

On arrival, the patient is taken to the emergency room for medically examination and an initial diagnosis is made by a team of CMOs and a junior resident. The patent is then categorized according to the severity of ailment. If only first aid is required, it is administered and the patient is discharged. However, if the ailment/injury is of a serious nature, the patient is prepared for a subsequent and thorough medical intervention. It is a smooth process, unlike a government-driven mechanism full of buck-passing and sloth.

Emergencies have been broadly classified as burn injuries; gun-shot wounds/stab injuries, falls or injuries resulting from accidents. Each case merits specialized intervention, which is promptly assessed and the patient is wheeled on to the relevant station. In certain cases of multiple injuries, a multidisciplinary intervention may be needed. In this case, a team of specialists analyze and prioritize the required interdisciplinary intervention. In the event of complex cases, the services of an on-call consultant are obtained.

Patients are normally monitored at the Trauma Centre for a period of twenty-three hours. Those who stabilize and found medically fit are discharged, while those requiring further medical attention are shifted to the respective hospital wards. The hospital wards are classified as follows:

SW1: Oncology;
SW2: Orthopaedics;
SW3: Surgical;
SW4: ENT;
SW5: Cancer, (Treatment);
SW6: Ophthalmology + Burn (male);
SW7: Surgery + Burn (females);
SW8: Surgery (females).

The other important associated wards are:

NS for Neuro Surgery, Isolation, Head Injury, Skin;
NS4 for New-born babies;

CHDS: Children up to 12 years of age;
SBCU: Child Surgery.

Emergencies Encountered

On average, the daily intake of critical emergencies is broadly classified as:
Road accidents: 70%;
Fights & Brawls: 10%;
Gun-shot Injuries: 10% (mostly from neighbouring districts);
Burn Cases: 10% of which half the cases are sent to the Isolation Ward.

An assortment of innovative practices have been introduced for speedier and more efficient handling of emergencies. While handling any critical patient, the psychological trauma of the accompanying attendants is never ignored. Efforts are made not only to provide efficient medical care to the patient, but also to reduce the anxiety of the attendants. Constant counselling is carried out with the patient and the attendants.

Despite various constraints, superior patient care, hygienic surroundings and public utilities have resulted in a noticeable rise in the satisfaction levels of patients, particularly those belonging to the economically disadvantaged. There is a constant effort to improve and upgrade this facility.

The Surgery Unit

The surgical unit is composed of a team of surgeons. Within the shortest possible time a patient requiring immediate surgery is wheeled into a fully functional operating theatre that is kept ready at all times. Regular drills are carried on in anticipation of critical situations. Thus, during real time situations they are handled in a timely manner and executed with utmost care, empathy and precision. All factors are imperative for exigency situations. For the patient it is a matter of survival.

The common cases requiring surgical intervention range from accidents to referred cases that may have deteriorated with time due to inadequate or improper medical care. It was also observed at times that certain critically ill/injured patients were discharged or forcibly evicted by the former clinics/nursing homes, including medical

cases that had gone "beyond revival," but were directed to the trauma centre. These were typically cases of patients in grief and agony who were ill-treated, harassed by private treatment centres and, when their medial condition deteriorated beyond repair, turned out to the Trauma Centre for help. Such facilities would decline further treatment or even accept responsibility, since these cases would turn out fatal and lead to "black listing" of these clinics/nursing homes/private practitioners. This has been yet another challenge encountered by the management of the Trauma Centre.

Alert to the constraints of money and medicines, the Trauma Centre's medical residents have devised a novel method to help the poor patients. Each time medical representatives visit a doctor, they would be asked to donate samples to a designated team leader. The leader would then maintain the buffer stock and keep records of the sample pool and transactions. These medicines are then used during extreme exigencies. The buffer stock is subsequently replenished through similar means. Likewise, in the case of destitute patients, the Welfare Society provides medicines free of charge. Some well-known philanthropists are being encouraged to donate medicines to poor and underprivileged patients. Patients who are well-off and can afford treatment are requested, at the time of discharge, to leave the unused medicines for distribution to the needy, provided the medicines are not tampered with and match the prescription. In crisis situations, the resident doctors donate their own blood on humanitarian grounds. This has been a regular and touching experience.

In all, there are six fully functional surgical teams. Each surgical team comprises a combination of a senior resident and a junior consultant, one chief resident, a set of two Junior Residents (III) & (II) and a back up of two Junior Residents (II). Each day, one team is assigned to perform the operations. The job of these surgeons does not end there. It is the duty of the performing surgeons to monitor the condition of their patient, until they is out of danger. The surgeons' duty may even last forty-eight to sixty hours at a stretch. The other major team is comprised of six anaesthetists. The pressure is always high, with each one getting to assist four to twelve cases per day. Says a surgeon calmly, "we operate on floating stocks, innovative practices, spot decisions and the well wishes of our great teachers, who have taught us to be a part of this social service".

The Vice-Chancellor, looking to the arduous nature of the services rendered by this dedicated group, created a soothing lounge for them to relax during their hectic thirty-hour-plus schedules. This proactive approach is an example of dedication, intrinsic motivation and a passionate entrepreneurial desire to perform.

The Orthopaedics

The team comprises a chief resident, one junior resident (III), two junior residents (II), two house officers and five nursing staff at any point in time. The orthopaedic ward and the operation theatre are both located on the ground floor. The movement is so scientifically designed that it takes less than five minutes for the patient to be attended. Once wheeled from the casualty unit into the ward, the investigation commences. If it is a case of first aid, the patient is treated accordingly and relieved. In case of an emergency orthopaedic procedure, a call is made to a surgeon, while the anaesthetist is already on the job. The patient is managed and kept under strict observation for a day and shifted to SW 2, the orthopaedics department. The capacity of the Orthopaedic ward is seventeen beds. In case of increase in number of patients (particularly following a major vehicular accident), the beds of the Casualty Wing are temporarily used. Bed availability here is tight, perhaps due to the enhanced reputation for excellent critical care management. Somehow, the radical transformation has witnessed a quantum leap of incoming patients.

Bone injury cases that came in during the survey period were largely crush injuries (usually during cane crushing season from April to July). Some were so severe that amputations had to be carried out. Simple and complex fractures from accidents, mandible fractures, spine injury (four to five per day from tree falls), paraplegia and neck injuries are also referred here. What is surprising to see is that the performance of the doctors and the entire system is never affected, despite constraints and uncertainties.

The Investigation Wing

The creation of a composite diagnostic imaging facility within the complex is undoubtedly the most noteworthy achievement in the new system. The availability of CT-scan, X-Ray and ultrasound under one roof has considerably reduced the unnecessary movement of the patient. In addition, the installation of a state-of-the-art

tomography machine has further strengthened this facility. All investigations are carried out under specific reference. Investigations related to head injuries are most common, followed by gun-shot wounds. Usually, such referrals range between ten to twenty cases per day. However, there is a built-in capacity for handling up to a hundred such referrals per day. This investigation facility has been acquired on a lease arrangement, keeping the charges well below the market rates. The cost of X-ray and ultrasound has been fixed at half the market price. This was only possible as a result of a good relationship, a willingness to serve a noble cause and effective communication between the Vice-Chancellor, his core team and the vendors.

Pathology has been set up within the premises. It functions under a senior faculty member of the department. The laboratory is functional around the clock under a senior clinical pathologist. The present infrastructure supports all investigations needed for emergency services. Since the reporting time is an important element of the process, continuous efforts are made to reduce the "down time.". In this regard, an analyser and spectrometer have also been procured to facilitate quicker generation of reports. Efforts are made to augment the facility by procuring a blood gas analyzer and other paraphernalia to increase productivity. On average there are ten cases per shift and this may go as high as twenty-two per shift. There is provision to undertake fifty cases per shift, which can be accomplished with an additional technician per shift. The process to hire qualified technicians is underway.

The Incredible CSMMU Welfare Society

Without proper fund flow and cash management, any entrepreneurial venture would not succeed. The formation of an independent society was seen as an essential solution, in order to support a cash-strapped system that required complete independence by the very nature of its business. It was an daunting task, a situation normally experienced with most of the Start-Ups. How to get the seed capital and manage a continuous in flow of money, with minimum government intervention, was the first hurdle to clear.

Drug supply, X rays and ultrasound services were made available at significantly lower charges compared to open market rates. Destitute patients, at management discretion have been provided free treatment. This has been possible through a

mechanism created by the CSMMU Welfare Society. The members included were as follows:

1) Dr.M. Bhandari - Vice Chancellor & President
2) Dr. S. C. Tewari - Professor Psychiatry & Vice President
3) Dr. Shradha Singh – Professor, Physiology
4) Dr. O.P. Singh – Professor, Orthopaedics
5) Dr. R. Pradhan – Professor. Dental University
6) Dr. Diwaker Dalela – Professor, Urology & Treasurer
7) Dr. Abbas Mahdi – Director, Trauma Centre & Secretary

To provide transparency, the Society originally took the tenders of SGPGIMS, Lucknow, as the basis for deciding contract rates. However, after gaining experience, the society has initiated open tendering, and has been reviewing them every three months. This is to ensure that the patients get the drugs at prices significantly lower than the MRP/Market rates. The centre procures only 'patent medicines' from original manufacturers. Thus, supply of genuine drugs at discounted prices is ensured. A minimal mark-up is added to cover the costs of Society, which include wages of an accountant, three cashiers, one in each shift and three helpers for residents, as well as the expense of two computers. Services of a chartered accountant have also been retained by the Society to ensure that accounts are audited in a transparent manner. These drugs and consumables are available at subsidized rates round the clock at the Trauma Centre. During the period ending on 31 March 2004, 05 & 06 the Society passed on an average 48%-50% discount on MRP to the patients. The Society has also initiated procuring generic drugs, wherever available from reputable manufacturers, thus further reducing the cost to patients.

The Society has also arranged X-ray and ultrasound facilities through private agencies, extending the services at rock bottom prices. INR 41.00 is charged from the patient for the X-ray and INR 201.00 for the ultrasound. Five percent of the amount collected for X- ray and twenty percent for ultrasound is credited to the Society. CT-scans are possible for INR 500.00 and the receipts go to the University accounts. The open market rates for such services are considerably higher (i.e., INR 100.00 for X-Ray, INR 300.00 for ultrasound and INR 1500.00 for a CT-scan). This was a great relief to patients from medium/low income groups.

Cleanliness has been given top priority, and has also been outsourced to a private agency. The linen is changed each time a patient vacates a bed. A low-cost kiosk has been set up next to the reception and attendants' waiting area. However, greater surveillance is required as the Trauma Centre is spread over a large open area, which makes it susceptible to brokers and touts.

The Day Statistics

Though there has been a steady increase in the number of patients following the reforms in the Trauma Centre, there remains much to be done. The Trauma Centre has shown considerable improvements in patient handling, care and monitoring. The mechanism, however, merits total automation to further streamline the functioning. A data base has been compiled from the inception of the Trauma centre on 25 December 2003 to 31 March 2007:

Table 1: Patents Data

Attendance of Patient	127
Admissions of Patients (including wards)	95
Death in wards of GM AH reported through ECTC	14
Death informed to the police for post mortem	06
Magistrate information of patient	01
Patient brought dead	05

(Note: The figures represent daily averages)

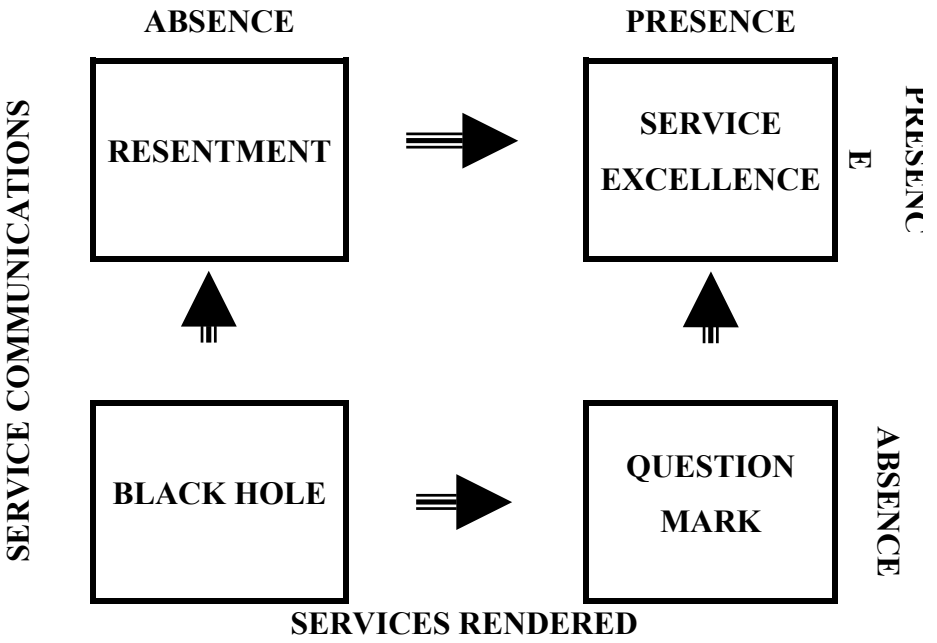
Highlights and Learning

The successful transformation of the organization is attributed to accepting challenges and utilizing appropriate and optimal resources. The best surgeons/physicians available have been recruited. The factor of "wilful performance" was absent until the new leadership took the initiative in driving change through innovative practices. The team efforts have helped in transforming the medical services into a centre of excellence through constant innovation, strong leadership, shared vision and capacity to undertake risks. The leadership has also helped in making innovative and transparent interventions.

The organization has also demonstrated the value of intrinsic motivation, opportunity orientation and recognition as supplements to growth in medical services with "quality at an affordable price to all." Time management has been crucial to the success of the overhauled system for patients needing emergency medical services. For the poor and needy, the formation of the Society has been a blessing, and aided them with branded medicines at discounted prices. Genuine certified medicines, sourced directly from manufactures, have completely eradicated any duplicate drugs. The market of spurious and duplicate drugs is well known around the world, and is illegal. We must accept it as a parallel "criminal entrepreneurship" existing and thriving, especially in the unrestricted area of the Third World. In order to arrest this, a medical counter has been set up within the internal boundaries of the premises, next door to the OPD, which gives an immediate relief to the needy patients. It is "one-stop shopping."

When expectations are low service delivery are low, separation ("Black Hole") occurs. When the expectations are high and the delivery is low, resentment is inevitable. When expectations are low but delivery is high, it leads to the patients' delight. When the expectations are high and delivery is also high in terms of a well treated patient with an "Aha!" experience, it is a win-win situation. Professor Bhandari and his team have clearly understood the power of service communication, and have been constantly endeavouring to achieve a win-win situation. Thus, creating and managing excellence in medical services via outstanding communication has been the hallmark of their achievements.

Matrix 1: Service Communications versus Services Rendered



The Service Mantra

This case reflects the fact that if you do not know your patients, and also do not know what medical services they require, the chances of losing the customer and the market are 100%. If you do not know your patients, but know what medical services they require, the chances of attracting the patients and market are 50-50. If you know your patients, and do not know what services they require, chances of losing the patient and market are 50-50. Finally, if you know your patients, and know what services they require, chances of acquiring, retaining and multiplying their number is 100%.

The team has mastered how to manage communications in medical services. "If you can manage service communications, then you can measure it too!" says a healthy outgoing patient.

Hence, we can conclude the proactive involvement of the innovative and entrepreneurial leader is directly responsible for its performance. In case of "social entrepreneurship," passion and intrinsic motivation are essential to achieving success.

Going by the age-old saying that "change though never welcome is yet inevitably

linked to growth", the system undergoing change has to overcome resistance. Hence, despite initial hiccups, the Trauma Centre is a functioning reality today. And its credit must go to the entire KGMU team for initiation and performance.

About the Author

Manoj Joshi is BE, MIE (Mech), PGDFM, MBA, MIMA, and Chartered Er. His Doctoral Thesis is on Mapping Innovative Practices. He has been associated with industry in senior positions and has researched innovation for 15 years. He is currently Assistant Professor, Strategy, Entrepreneurship and Innovation with Sahara Arts and Management Academy, Lucknow. Widely travelled internationally, he is an active life member of the Institution of Engineers (India) and the Lucknow Management Association. He is a member of the All India Management Association, Indian Economic Association, and Society of Entrepreneurship Educators (at Indian School of Business, Hyderbad). He founded the Association of Knowledge Workers, Lucknow.

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