Integration of Medical Education with Primary and Secondary Health care:

Mahatma Gandhi Institute of Medical Sciences, Sevagram, Maharashtra

Introduction

This is a documentation of the various innovations undertaken by the Mahatma Gandhi Institute of Medical Sciences (MGIMS) to inculcate moral values and a commitment to society among its students. Also included is a documentation of their efforts to connect medical teaching with rural healthcare. A brief review of their initiative to digitise hospital information systems is also included.

History

MGIMS is India's first rural medical college, founded in 1969. It adheres to Gandhian values and principles and is strongly linked to the Indian Independence Movement in India. In 1936, Gandhiji had set up an ashram in Shegoan now known as Sewagram. Dr Sushila Nayyar, in 1938 visited Sewagram where she was inspired by Gandhiji's ideals. She continued to live there and serve the community since there was a breakout of cholera and Gandhiji coaxed her to handle it. This was her first encounter with community medicine. In 1944, a small dispensary in the ashram was started. Followed this, a guesthouse was gifted by G.D.Birla which was built into Kasturba Hospital in 1945 in Sewagram. Dr Nayyar had made a name in public health as well as became the Union Health Minister in 1962. After Independence in 1964, Kasturba Health Society was formed, which was headed by her.

From her experience she felt that doctors were not oriented to working for rural health care. This was articulated by her in the Central Council of Health in 1965. Shri Lal Bahadur Shastri , the President then proposed the establishment of a rural medical college with a focus on

serving the rural population. Thus, the first rural medical college, MGIMS came into existence with an attached Kasturba Hospital. The first batch in 1969, admitted sixty students.

MGIMS was established as an autonomous institution and the financial expenses were to be shared by Government of India (50%), Government of Maharashtra (25%) and the Kasturba Health Society (25%). Also the guideline endowed by the Medical Council of India (MCI) and Maharashtra University of Health Sciences (MUHS) was followed. Additional to it, they have their own set of guidelines and criteria for admitting students.

MGIMS started with a 15 bedded hospital, now that hospital has 680 beds provides state of the art facilities. They have also founded a social health insurance scheme in rural areas where about 50000 families have availed of it between 2011-2012.

Defining the Case Study

This case study documents the various activities and processes undertaken by the MGIMS to inculcate in its medical students humanistic values, an orientation towards rural health and a commitment to upliftment of the health and well-being of the rural population. The case study focuses on the challenges faced in institutionalising the innovation and sustaining it. It explores the rules, regulations, financial provisions, structural arrangements and organisational processes necessary for the innovation.

Additionally, it documents the MGIMS innovation in the field of hospital information systems. (HIS) as a part of the overall effort to make medical care more accessible and equitable. This documentation is based on a review of the published and unpublished material on MGIMS, extensive interviews with key members of the faculty and management of the college, interaction with undergraduate students and postgraduate students of community medicine department and observation of the facilities and various activities of the institution. We also

interviewed staff at various levels of the public health system (primary health centre, sub-centres, district hospitals, district health administration) who interact with the faculty and students of MGIMS as part of formal and informal collaborations and partnerships. We also conducted field visits to nearby villages where the extension activities of MGIMS were being carried out. There, we interacted with the community members, volunteers and field staff of MGIMS.

A brief comparison between the curriculum and methodology adopted by MGIMS and CMC Vellore is presented. We did not make any physical visit to CMC Vellore, but the comparison is based on available material. There was a consistent response from the participants that a comparison between the two institutions is not meaningful because of the differences in scale, resources and context. Hence, that aspect of the documentation project has not been fully developed.

Innovation Context

MGIMS is located in Wardha district in the Vidharbha region of Maharashtra. Sewagram is approximately 10 kms away from the district headquarters. Wardha is predominantly rural. The proportion of urban population in Wardha district was 26.28 percent (as per 2001 census) as opposed to an overall rate of 42.43 percent for Maharashtra and 37.35 percent for Nagpur division, of which it is a part.

In terms of health infrastructure, Wardha district is relatively under-developed. It has only two major private hospitals in addition to the Civil Hospital. Both of these hospitals are attached to a medical college. One of them being Kasturba Hospital attached to MGIMS and the other being Acharya Vinoba Bhave Rural Hospital attached to the Datta Meghe Institute of Medical Science, located at Sawangi Meghe in Wardha. There is also a network of government health

institutions, including 27 primary health centres, 7 rural hospitals and 1 cottage hospital. Most of the private hospitals are concentrated in and around the city of Wardha. Other than that, Hinganghat is the centre where medical facilities are located.

MGIMS is a partially government aided medical college under the management of a non-governmental organisation. It has a particular history of association with Gandhiji and the Gandhian movement, as described above, which gives it a specific character. However, it is part of the mainstream of medical education, following the same curriculum and structure. This presents a potential to make its innovations replicable to other colleges. However, some differences are noteworthy. It has a core of faculty which consists of committed Gandhians, whose work is motivated by strong ideological and personal convictions, which may be difficult to replicate. Secondly, it is located in a rural, relatively under-developed district, where it automatically assumes a certain informal leadership and central role in the health sector due to the wealth of medical resources that it has at its disposal. This may not be true for many medical colleges which are located in urban centres or more developed rural centres, where there is more competition for resources and patients and more alternatives for its students/faculty.

MGIMS has the unique status of a government aided, but privately managed medical college. This sets it apart from the government owned and managed medical colleges and the private unaided medical colleges. It has a governing council, which has members from the Kasturba Health Society and nominated members from the state health bureaucracy. Additionally, there is also a local managing committee, which has a predominance of members from the Kasturba Health Society. There is also a standing finance committee which comprises of the chairperson of the Kasturba Health Society, the dean and the nominated members of the state health bureaucracy. This gives the college a modicum of autonomy in functioning, even while there is a

significant financial and administrative control of the state health bureaucracy. This creates its own set of opportunities and challenges.

The Innovation

The innovation in medical education that we documented has three parts. (1) A general building of environment of values, which is inculcated among students (2) ***teaching*** through structured workshops, which are aimed at building perspective and skills (3) **integration of medical education in primary and secondary healthcare** through the community-based extension of the activities of the medical college to actualise a different approach to health.

The specific innovation that MGIMS is notable for is imbuing medical education with values. This is particularly important in the given context where medical education has become more commercialised and technologised. The overwhelming emphasis on hi tech care and profit-making strategies of private medical colleges have created a crisis in medical education, where students are not receiving any value education, they do not have positive role models and the setting and methodology of clinical training gives them no exposure to the real-life problems of the poor, particularly the rural poor. At the present time, some attempts are being made to address this problem by making changes in the undergraduate curriculum. It is important to study existing models of medical education reform while formulating these changes.

Main objectives:

- Teaching

- Training

- Research

- Health Services Provision: Curative, Preventive, Promotive

Detailed Description of the Program

General environment building

A notable fact is that MGIMS has a clearly articulated vision and mission statement. It states, "*In the spirit of its Founder, the Mahatma Gandhi Institute of Medical Sciences, Sevagram today is committed to the pursuit of professional excellence by evolving an integrated pattern of medical education and it seeks to provide accessible and affordable health care primarily to underprivileged rural communities"*

For its three primary functions, it also lays out specific objectives.

MEDICAL EDUCATION

- To evolve an integrated pattern of medical education
- To provide value-based and cost-effective medical education with a community oriented approach
- To teach and train doctors with a focus on rural orientation

HEALTH SERVICE

- To provide state-of-the-art health care facilities at affordable cost
- To evolve a comprehensive health care delivery system consonant to the needs of the community
- To empower the community by involving them in their own healthcare
- To provide accessible and affordable health care, primarily to underprivileged rural communities

RESEARCH

- To conduct appropriate and community-based research on priority health issues
- To promote research in Indian systems of medicine along with allopathic medicine.

The significance of a vision and mission statement is that it gives every member of the staff and the student body a sense of common purpose. A constant reiteration of the vision and mission

is an important exercise for orienting newcomers into the institution and re-evaluating existing activities and programmes.

While most institutions do develop some kind of vision and mission statement, it was evident that in MGIMS that these were a meaningful guide to the everyday actions of its staff and students.

Some specific measures which have been taken to build the general environment of value-based education are as follows:

- For the entrance exam to MBBS, students have to appear for a paper on Gandhian thought.
- For postgraduate courses, there is a compulsory two year posting in rural service for all students prior to their admission. These students are placed either at MGIMS' own rural centres or with NGOs across the country.
- All students are expected to wear Khadi, they are encouraged to participate in shramdaan and attend all-religion prayer meetings.
- Abstinence from non-vegetarian food, alcohol and tobacco is practiced.

The campus has a certain environment of serenity and austerity. Wherever possible, trees and shrubs have been planted. The rooms are clean and simply furnished. Even the offices of the senior-most management and faculty are simply and functional.

There is a visible rapport between the patients and the staff at all levels. As MGIMS serves a particular catchment area, people who use the hospital facilities are familiar with the layout, people and procedures. Hence, despite its fairly heavy workload, the hospital does not seem overcrowded or chaotic.

Although there are user fees charged, efforts made by the hospital to obviate the impact through insurance schemes and the sale of generic drugs. This only demonstrates its social commitment, which is communicated to the students subliminally. We did not probe into the policy for fee waivers and subsidies, although these would also aid to this end.

Teaching

The medical college has community oriented medical education for undergraduates, postgraduates, Interns and for visiting students.

For Undergraduates

Orientation Camp

While reading past three years of the orientation camp reports, it was observed that it is well structured and planned. When medical students are enrolled in the MBBS programme, they have a fifteen day orientation camp. The camp is conducted within the Ashram.

The day begins at five in the morning to offer all religion prayer; after prayers, a session on yoga is conducted by the member/faculty of Arogyadham along with the students.


Students practising yoga

About an hour is spent in the morning by the students in performing shramdan. The importance of this is to make them understand dignity of labour and identify with people in various

occupations and respect them. They spin khadi yarn, clean toilets, help in kitchen, clean their own dormitories and ashram campus, cut grass, etc. From the spanned yarn handkerchiefs are made and gifted to the students as a remembrance.

Students spin yarn as part of their shramdan

A regular debrief session is conducted to keep track of the things done and its impact on the student. Classes are conducting within the ashram on Gandhian philosophy. Teaching of curricular subjects as per the MCI guidelines, Anatomy, Physiology, Biochemistry, Community medicine, Ayurveda, perspectives on public health are held on daily basis. The faculty visits the Ashram to take lectures as per their subjects. In this way, the camp is accommodated within the standard timetable of the 1st year M.B.B.S course.

Sports and cultural activity are also made an integral part of the camp. The students have session on physical education. They play game like cricket, volleyball, dodge ball, dog and the bone, etc. They have a cultural programme where they are free to perform traditional dance, folk dance, perform skit on social issues immediate concern to them like cleanliness, corruption, population explosion, hazards of mobile use, female foeticide honour killing, naxalism, etc.

a 

b 

c 

a) Role play on social issue b) Cultural performance c)Physical education session

An outing to a nearby village centre is also arranged for the students. A holistic approach is what is aimed for, so that the students are overall acquainted with their surroundings and there is development of the mind and soul. The camp also works as an ice breaker among the students before they go to the hostel.

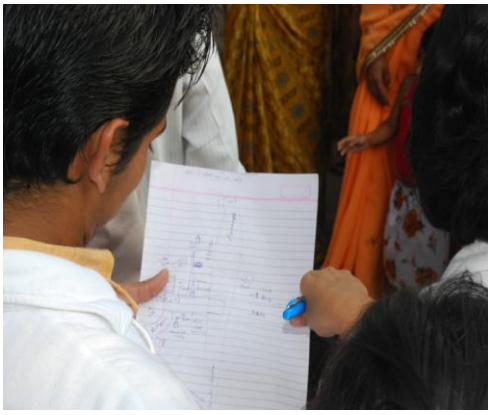
Since a difference in students attitude and sensitization cannot be a quick process and sustaining it is also an important aspect, it requires continues modelling of students where student mould themselves in such an environment and imbibe it as core values and ethics.

Social service camp

The social service camp is conducted anytime between Dashera and Diwali for about two weeks for the first year medical students. A new village is adopted and students are placed there for that duration.

Adoption of village

Since MGIMS has been working in and around Wardha/Sewagram for decades their work and credibility has grown over a period of time. Villagers send a request to the college for adoption as it provides a win-win situation on both sides. The college faculty visits the village and checks the basic necessity and safety that is required for the students to stay. Village mapping is done and a space is provided by the villagers for setting up a camp.

Mapping of the village done by villagers and doctors

Students are assigned two to three families each depending on the village size and number of students. The students will be in touch with their families and follow up with them until the completion of their undergraduate studies. Students are given a journal in which the protocol and activities are mentioned which is required by the students to be fulfilled and written. Health exhibition is held where the faculty members first explain to the students so that there is no miscommunication of information to the villagers.

a  b 

a) Health awareness exhibition b) student spreading awareness on health issues and concerns

Followed by which the students go to their respective assigned families and explain it to them. They also organise a free blood, urine and stool check up for the entire village. The students try

to convince them to get themselves tested. Also a general OPD (G-OPD) is set up in the village, if in need of medical treatment, they are treated free of charge. There is about 85% or more population coverage usually while conducting the camps. There is also an immunization drive for children.

In addition to curative services, preventive and promotive health activities like health education and counselling are also included in the programme of the camp. For e.g. There is also high incidence of filariasis, sickle cell disease and oral cancer in and around Wardha. There is a conscious effort to curb the prevalence by spreading awareness, having candle marches, covering the gutters, putting net on the chimney etc. They also do nutritional assessments of the families and provide inputs as per their needs.

They also organise cultural programme at the end of the camp which is similar to the orientation camp. After going back to the hostel, a timetable is made where every Saturday in rotation a batch of students visit their respective families and follow up with them. The students' marks are evaluated on basis of journal and a feedback by the families that they looked after.

But since they are mostly taught theoretical aspects of medicine and don't have enough exposure on treating the patients for the first two years of the degree, a Reorientation of Medical Education (ROME) camp is organised for this purpose.

Reorientation of Medical Education (ROME) camp

The Reorientation of Medical Education (ROME) camp is organised mostly in first part of 3rd year MBBS. Lectures are held in the village so that the student learns about the social, cultural and economical aspects as well as the treatment seeking behaviour of the community. Information education and communication (IEC) is conducted for schools by the students as part of the activity of the camp. Visit to Anganwadi, sub centre, primary health centre and rural

hospital are held to make them acquainted with the different levels of care delivery systems. They have experts' lecture arranged on specific topics. The students are familiarised with the community based organizations and it's working. They have interaction with the ANM, VCC, VHSC, etc. During this camp, students get both a theoretical as well as practical experience of the functioning of the different national health programmes. The ROME camp also becomes an opportunity to build linkages with the public health system. Several medical and health officers from the state health system are invited as resource persons for the ROME camp.

As the ROME camp takes place in the 3rd M.B.B.S, the students have much more medical knowledge and are able to apply the information received by them to their practice.

Medical Students addressing school children on health issues with use of visual aid and performing role play

Integration of Medical Education with Primary and Secondary Health care

The department of Community Medicine has integrated with district health system to serve the rural populations. The integration has taken place in two ways. Firstly, MGIMS staff and students provide clinical services through the government health centres. Secondly, MGIMS co-ordinates several community health projects which provide inputs to the government health systems by strengthening the village level health activities. In turn, this extension work of

MGIMS is critical to its effort to provide its students an orientation to rural realities and community health. The institute has developed an internal network with the healthcare centres and generated resources to provide overall care to the community.

This extension work of the MGIMS is co-ordinated through five peripheral centres, KRHTC Anji, RHTC Bhidi, GMLF/UHC Wardha, PHC Kharangana, PHC Talegoan. While the MGIMS has its own structures in Anji and Bhidi, in the rest of the centres, the government facilities are the base.

In addition to these centres, there is also a general OPD (G-OPD) within the hospital with a design of a Primary Health care Centre (PHC) to make the students acquainted with its working.

In common with many community health programmes across the country, MGIMS extension work consists of demand side and supply interventions. This includes mobilisation of the local rural community for undertaking health activities and enhancing monitoring of health facilities. Health education is imparted to specific groups such as adolescents, women and youth. On the supply side, the interventions include setting up of peripheral clinics, development of a cadre of outreach workers, capacity building of health personnel and provision of specialist services in government facilities.

Demand side interventions: Capacity building at Community level

Department of Community Medicine had led Community Led Initiatives for Child Survival (CLICS) project which was funded by USIAD and Aga Khan Foundation. The project was implemented in 67 villages of Wardha District started in October 2003 which focused on Reproductive and Child Health (RCH). The aim of this project was to ensure that the villagers take the ownership for having better health care and assisting in better delivery for the same. To involve the community; Village Coordination Committee (VCC) was formed. Similarly under the NRHM VHSC were formed with similar roles and responsibilities. The training was focussed

not only to enhance their awareness on health but also to provide health managerial skills to them.

At the time of CLICS programme recruitment and training was conducted. The structure and members of the VCC were as follows:

Representatives of Women Self Help Group - 1 or 2 from each W-SHG (maximum 10)
Representatives from Kishori Panchayat (KP)-2
Representatives from Kisan Vikas Manch(KVM)- 2
Representatives from Gram Panchayat (GP)- 2
Influential leaders (co-opted) - 4
Ex-Officio
Anganwado workers (AWW)- All
(Auxiliary Nurse and Midwifes (ANM) -1
Gram Sewak- 1
Community Organizer- 1
Total 25 (maximum) *(From CLICS Report)*

For any camp or workshop to be organised, the responsibility was handed over to the VCC. They organize the Maternal and Child Health Day in which immunization is also given to the children by the ANM but it was found that they had lack of interest in their work. Hence the VCC were educated on the importance of immunization and how to motivate women, mobilize and bring them for their children immunization on respective dates.

The VCC also managed the Kiran Clinics which runs once, and in some areas, twice a week in the community. The MBBS interns are usually placed in these clinics. Training was conducted by the institute for the VCC to help them maintain the case papers, buy generic drugs at nominal price

from subscribed dealer which they sell at 20-30% profit margin. They were also taught how to process and prepare drug indent list. To ensure quality of service a QA checklist was given to them.

As of now this community based organizations have been mobilised in almost 75 villages by the Department of Community Medicine. These villages are mostly in their catchment areas. Though the institute now act as catalyst once they have formed the group and try to make them self sufficient and independent by just supervising it's working. These community based groups are women's self help groups (W-SHGs), Kisan Vikas Manch, Kishor and Kishori panchayats, Accredited Social Health Activists ASHA / Auxiliary Nurse Midwife (ANM), Anganwadi Worker/ Integrated Child Development Services (ICDS).

Women Self Help Groups (W-SHG)

MGIMS understand that gender and development is integral to overall progress of the village. There are about 3-4 W-SHGs per village they are working in such as PHC Anji, Gaul, Kharangana and Talegaon. MGIMS provides a ready kit to them to record the activities and transactions conducted. The W-SHG meetings are held regularly. The institute workers educate the women in the SHG and motivate them to develop a health agenda in these groups. Some financial aid is also provided to the group as a whole to implement it.

Kisan Vikas Manch (KVM)

The institute has strategised to involve men from the community. Since just the health agenda would not be enough motivation to mobilise them they have combined it with offering them learning opportunities to enhance their yields which would, in turn, increase their financial grade.

Performing play on farmer suicide

Kishor (KiP) and Kishori Panchayats (KP)

The kishori panchayats in the village are aimed at bringing about change via behavioural change communications (BCC) messages. The adolescents are made aware of health issues and concerns which they help disseminate to their peers. The use of ORS and recipe are taught, reproductive health, environmental health, sexually transmitted diseases, etc. Five satellite libraries are made available at one of their centre, RHTC Bhidi during 2008-2009 for them.

Kishor panchayats has newly been initiated with similar agendas.

BCC Session with KP

Number of Community based organisations

Center	W-SHGs	KP	VHNSC	KVM	KiP
KRHTC Anji	53	24	20	7	5
RHTC Bhidi	17	15	10	-	-
GMLF/UHC Wardha	10	05	-	-	-
Kharangana PHC	52	21	11	-	-
Talegaon PHC	83	22	22	4	-
Total	215	87	63	11	5

From presentation made by Dr. Abhisheik Raut

Village Health Nutrition and Sanitation Committee (VHNSC) and Mahila Melawa groups take up task and responsibilities, like organising the village health and nutrition day in collaboration with the Department of Community Medicine on monthly basis. Activities such as immunization, weight and nutritional check-up of children of 0-3 years, ante natal care check up (ANC check up) and post natal care check up (PNC check up), nutrition and health education activities are held. The ASHAs, W-SHGs, Kishor and Kishori panchayats and their peers are encouraged to participate.

a  b 

a) Training of VHNSC b) Mahila Melawa day

Activities held with Community Based Organizations

Self Help Group	▪ Nutrition and balanced diet ▪ Menstrual hygiene and Personal hygiene ▪ Tuberculosis ▪ Safe water and Diarrhoea ▪ Safe Motherhood ▪ Vaccination ▪ Neonatal care ▪ Breast feeding and Complementary feeding ▪ Environmental sanitation ▪ Vector borne diseases ▪ Anemia ▪ Heat stroke ▪ Self oral examination ▪ Cancer prevention ▪ Addictions
Kishori/Kishor Panchayat	
VHNSC	
KVM	
Mahila Melawa	
Kishori Melawa	

	Non-communicable diseases

From presentation made by Dr. Abhisheik Raut

A handout of the calendar is made available to everyone with the dates and agenda are mentioned.

गाव आरोग्य, पोषण, पाणी पुरवठा व स्वच्छता समिती

आरोग्य दिनदर्शिका

- १ जानेवारी :- धुम्रपान विरोधी दिन
- ३० जानेवारी :- कृष्ठरोग निवारण दिन
- ५ फेब्रुवारी :- मौखिक आरोग्य दिन
- ८ मार्च :- जागतिक महिला दिन
- २२ मार्च :- जागतिक पाणी दिन
- २४ मार्च :- जागतिक क्षयरोग नियंत्रण दिन
- ७ एप्रिल :- जागतिक आरोग्य दिन
- ३१ मे :- जागतिक तंबाखू विरोधी दिन
- १ जुन :- बाल सुरक्षा दिन
- १९ जुन :- जागतिक सिकलसेल दिन
- २७ जुन :- मधुमेह जागृती दिन
- ११ जुलै :- सुरक्षित मातृत्व दिन
- ११ जुलै :- जागतिक लोकसंख्या दिन
- ५ ऑगष्ट :- हत्तीरोग नियंत्रण दिन
- २६सप्टेंबर :- जागतिक हृदय विकार दिन
- १ ऑक्टोबर :- स्वेच्छा रक्तदान दिन
- ९ ऑक्टोबर :- जागतिक दृष्टी दिन
- १५ ऑक्टोबर :- जागतिक हात धुणे दिन
- १६ ऑक्टोबर :- जागतिक अन्न दिन
- २१ ऑक्टोबर :- आयोडिन न्युनता विकार नियंत्रण दिन
- ७ नोहेम्बर :- राष्ट्रीय कैंसर जागरुकता दिन
- १४ नोहेम्बर :- जागतिक अस्थमा दिन (दमा)
- १ डिसेंबर :- जागतिक एड्स नियंत्रण दिन
- २ डिसेंबर :- राष्ट्रीय प्रदूषण दिन
- ३ डिसेंबर :- जागतिक विकलांग दिन
- ८ डिसेंबर :- मानसिक स्वास्थ्य दिन

आरोग्य सप्ताह

- १ ते ७ मे :- हिवताप नियंत्रण सप्ताह
- १५ मे ते १५ जुन :- जलजन्य साथरोग, जनजागरण अभियान
- १ ते ७ ऑगष्ट :- जागतिक स्तनपान सप्ताह
- १ ते ७ सप्टेंबर :- राष्ट्रीय पोषण सप्ताह, नेत्रदान सप्ताह
- ऑक्टोंबर आणि नोव्हेंबर :- शालेय आरोग्य तपासणी मोहीम
- ११ ते १७ डिसेंबर :- जागतिक सिकलसेल सप्ताह
- डिसेंबर आणि जानेवारी :- पल्स पोलीओ लसीकरण मोहीम

Calender of events

MGIMS involvement in National Programmes by Government

- Universal Immunization Programme (UIP)
- Revised National Tuberculosis Programme
- National Leprosy Elimination Programme
- Integrated Disease Surveillance Programme
- Integrated Child Development Services

- National Cancer Control Programme
- National Rural Health Mission
- Adolescent Health Programme
- National Programme for Control of Blindness
- National Vector Borne Disease Control Programme
- Emergency Obstetric Care (EmOC)

Through these programmes, they avail of human and financial recourses to meet the needs and demand of the community. At the Centre at any given point there is a senior faculty member, an intern, a Post graduate student, Community Officer or health educator and ANMs. Through these inter linkages and integration of community work with curriculum, building capacity through various programme has helped to provide preventive, curative and promotive facilities to the community as well as sustain it.

Village Health Worker

The Village Health Worker was appointed to link the public health care providers to the community. The Village Health Worker was mostly young married women in the village, who were selected to take up the responsibility and was provided an honorarium. They were also called as CLICS *doot* worker. Delivery of primary health care is done by her.

Research

In the undergraduate years they are briefed about research and during the camp they are given research projects to be conducted in the community. For masters dissertation they are

motivated to do the study in the communities they are working in. The faculty tries to regularly evaluate the programmes they conduct.

The Institute conducts funded as well as non funded research. The list of research projects are attached in the Annexure (available on the MGIMS website)

Financial Implications

As described above, the medical college receives 75% of its funding from the central and state governments. It raises 25% of its funds from fees, grants and donations. While the medical college and hospital have a regular funding source, much of the community based work of the MGIMS is dependent on project funds. Several of the staff who participate in the organisation of the activities such as rural internships, social service camps and rural camps are project-based staff. Thus, their presence is contingent on the availability of a project grant. As with most other non-governmental organisations, MGIMS has tried to give project staff some continuity by having back-to-back project and retraining the same staff for different roles. It has also attempted to consolidate the community-based extension work by taking some non-medical staff such as social workers on the core-staff of the community medicine department.

On the other hand, the presence of a large number of medical students and residents enables MGIMS to undertake a range of public health projects, which require considerable clinical care inputs. They are able to deploy trained medical staff wherever needed. The permanent faculty in the community medicine department also provides a stable leadership to projects.

Comparison between MGIMS and CMC Vellore

Mahatma Gandhi Institute of Medical Sciences (MGIMS), Sewagram and Christian Medical College (CMC), Vellore have been started as need was felt to train and expose doctors of the needs of the rural community. Both the institutes have tried enriching the curriculum with

community exposure and rural practice. The need to do so is that theory and practise go hand in hand to develop the skills and understand the community from where the patients belong. Both the institute work at different capacities they have developed a model in accordance which can be replicated or adapted by different medical colleges.

Features of MGIMS and CMC

Community Interventions	**MGIMS**	Dr Sushila Nayar in 1944 started a small dispensary in the ashram, Sewagram. The institute started in 1969 admitting first batch of students. Currently it has 660 teaching beds, 100 service beds and 20 private beds. In total having 780 beds. The hospital serves mostly areas around Sewagram covering mostly the villages. The clientele is mostly villagers around Sewgram and Wardha.
	CMC	Dr Ida in 1900 a one-room clinic in Vellore. In 1942 it got affiliated to Madras University for admitting students to a medical course. Currently it has 2,175 beds in the main hospital, 135 beds in community health and development (CHAD), 75 beds in Rural Unit for health and social affairs (RUHSA), 100 beds in Schell eye hospital, 46 beds in Low cost effective care unit, 98 beds in Mental Health centre, 24 beds in Nambikkai Nilayam and 83 beds in rehabilitation institute. In total having 2736 beds. CMC covers villages as well as caters to urban slums. The clientele is all from all over India and neighbouring nations who come to get treated here.
Source of Income	MGIMS	50% from the Government of India, 25% from Maharashtra Government and the 25% Kasturba Health society. Through research projects.

<table>
<tr><td></td><td>CMC</td><td>It is a minority institution; where about 97.81% income comes from patient's fees, 0.72% from student's fees and 1.47% from contributions from supporting churches and other organizations. Grants from PTP fund is Rs.1,11,11,119 through research projects</td></tr>
<tr><td>Number of students admitted in college</td><td>MGIMS</td><td>Undergraduates

<table>
<tr><td colspan="3">MGIMS</td><td colspan="3">CMC Vellore</td></tr>
<tr><td>2012</td><td>2011</td><td>2010</td><td>2012</td><td>2011</td><td>2010</td></tr>
<tr><td>100</td><td>65</td><td>65</td><td>60</td><td>60</td><td></td></tr>
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Postgraduates

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<tr><td colspan="3">MGIMS</td><td colspan="3">CMC Vellore</td></tr>
<tr><td>2012</td><td>2011</td><td>2010</td><td>2011-2012</td><td>2010-2011</td><td></td></tr>
<tr><td>61</td><td>61</td><td>69</td><td>205</td><td>69</td><td></td></tr>
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<tr><td>Community based education :Innovation in the undergraduate curriculum</td><td>MGIMS</td><td><u>Orientation Camp: 15 days</u>

The camp is the first exposure to the community. It's an informal set up where students perform various activities to understand dignity of labour, team work, develop communication skills and understand the cultural and social aspects of each other as well as of the community through various art forms. Gandhian ideologies and way of life are emphasised.</td></tr>
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in brief		*Social Service camp- 2 weeks* Residential camp to understand while experiencing it. Its major objectives are to live with the adopted families and look after their overall health care. Its gives them an opportunity to have practical experience with theoretical aspects taught to them. They have mentors who reside with them in the community and are there to help them. The students rule out the social issues and try to address them, trying to have a holistic approach toward development. Formally they conduct camps which provide counselling services, pathological investigations are conducted, diet survey done and assessment of nutrition needs as per families is conducted, school health programme, etc. Following the camp the students in rotation visit their families and follow up with them. *Reorientation Camp- 10 days* As the name suggests, its again emphasising on their community activities held earlier but also to help them develop clinical skills. Treatment seeking behaviour of community, health care delivery system available in the community is focused upon. As well as research training and use of software are taught. National programme by the government and interaction with resource personnel's as well as with community based organization workers are held to provide them with overall view of the system. *Rural placement scheme*

		It is mandatory for graduates to serve the rural community for minimum of two years under the rural placement scheme. The institute has developed relationships with 96 nongovernmental organizations where students are placed.
	CMC	*Foundation Course First 3 weeks* They have interactive session on functioning of rural communities, health issues, problems and challenges that the country is facing and orient them on ethical issues in medicine. They may also organize a community visit. *Integration of disciplines horizontal and vertical through Early clinical Exposure and Integrated Learning Programs* Under this theoretical aspects are integrated with practical applications with use of various methods of learning such as group discussions, videos, quizzes, etc. *Family Medicine Posting* held for two weeks in the second clinical year to understand the principles of family medicine and management of common problems as well as the circumstance of patient. *Clerkship* for students who are placed in Medicine, Pediatrics and Surgery for one month each as a sub intern. It takes place in the third clinical year Community Health and Development (CHAD) The aim was to let service and training go hand in hand. Care delivery to

		the community and community based training of UG and PG medical students, nurses and paramedics. *Community orientation programme*- is held for 3 weeks in the first clinical year. The aim is to familiarise students on rural community by acquainting them on socio-demographic profile, socio-cultural context of the village. Conducting basic test in village conditions. Use of social research methods and designing intervention based on the needs are emphasised. *Community Health Programme (I) is held for* 2 weeks in the first clinical year. Focus on epidemiology, health management and government health programs. Acquire methodological skills and knowledge of health systems. *Community Health Programme (II) is held for* 2weeks in the second clinical year. Focus is to assess the health conditions of the community and propose an intervention based on the information collected about the community keeping in line with social and cultural context and put it into practice. *Internship* for two months is held in Community health department for delivering primary care without the use of sophisticated equipments. Develop skills in assisting basic surgeries such as C-sections, tubectomies, laboratory investigations, and manage pre and post operative patients *Secondary Hospital Programs*

		Is conducted to sensitize students to working of the hospitals, management of the clinical problems in patients and understand the relevance and challenges of the hospital. The posting is for all the three years of the undergraduate students. (CMC-ppt and case study)
	CMC	Annexure- report of 2012

Other innovations

Use of generic medicines

Medicines are a considerable portion of the costs of healthcare. Typically, patients pay for medicines out-of-pocket. There is a complex inter-relationship between pharmaceutical industry and healthcare institutions. Pharmaceutical promotion, particularly with doctors, is a major area of ethical misconduct. Indirect and direct benefits are offered to doctors and hospitals to induce them to prescribe particular formulations. These benefits include sponsorship of educational programmes, sponsorship of doctors to travel from educational or professional programmes and donations in kind or cash for any programme organised by the institution.

At the time of implementation of CLICS project, a drug costing policy was implemented. A list was prepared as per the WHO recommended essential drugs. The drugs were classified as analgesics, antibiotics, anti-histamines, etc.

In 2010, the institute began the low cost drug initiative. To do so they listed 256 drugs out of 348 drugs list as per WHO which was essential as per the requirement seen in the area. The two cheapest brands that were available were stocked. There is a panel of approved dealers from whom quotations are obtained. Quotations are requested and stock taken from those respective dealers and the stock list is updated. The drugs are sold with 20% profit margin to the patient.

In order to promote use of generic drugs, doctors and residents had to be educated and their support enlisted. One danger is that patients or others may purchase large quantities of drugs from the hospital and sell them at a margin in the open market. To ensure that this initiative was not exploited, the HIS

was used. The patient's prescription is available online through the HIS at the drugstore. This ensures that the pharmacist has information about which doctor prescribed the drug, in what quantity and for what condition. Thus, the hard copy of the prescription with the patient can be tallied with the online prescription. This ensures that fake prescriptions cannot be generated and drugs cannot be hoarded.

They were made available at Kiran clinics with a standardised chart provided (annexure) on cost and prescription guidelines.

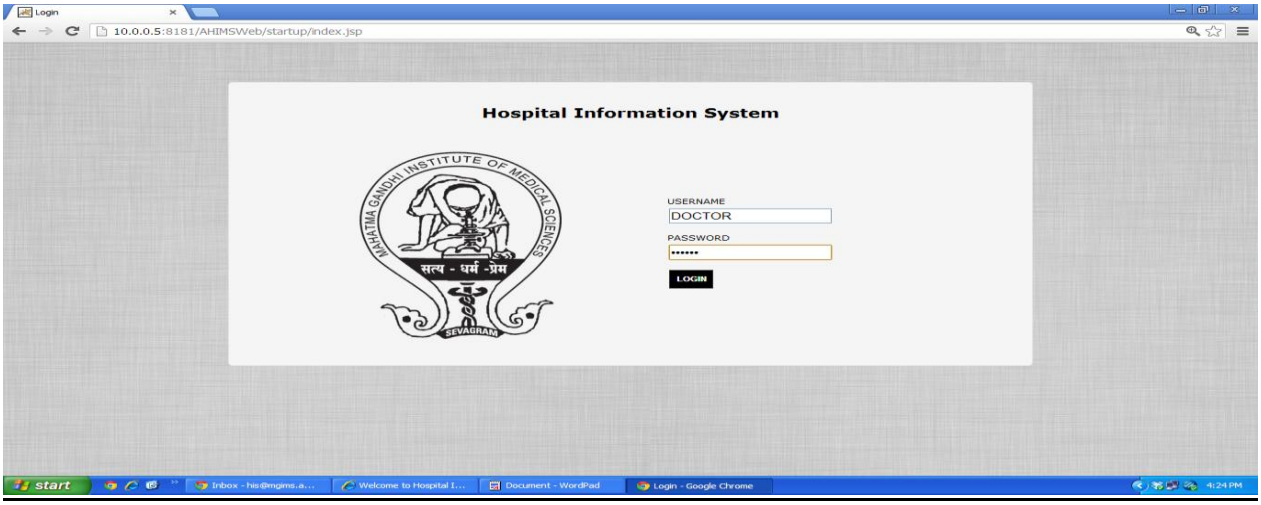
The stock of the drug was made available on the HIS system so that the drugs available is known by the doctors. When the drugs are about to run out of stock the pharmacist makes note and an indent of drugs which are to be obtained is prepared.

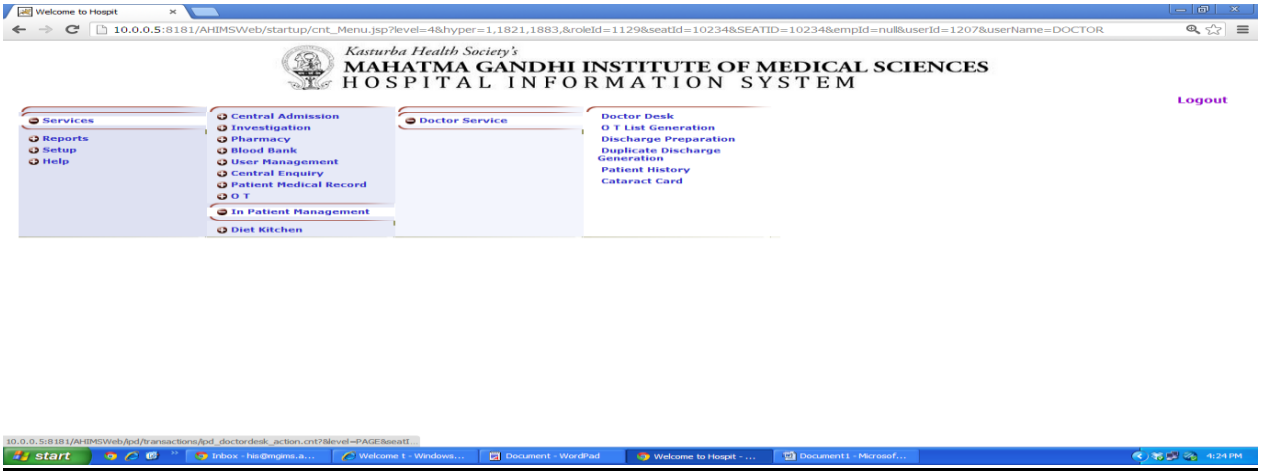
Hospital Information System (HIS)

The HIS is one of the main features of the hospital management which has helped the hospital in providing efficiency in care delivery. The working of the system would be provided in the following sections.

The hospital information system structure and description

The hospital has made available computers and I-Pads for the staff of the hospital uploaded with this software. The snapshot below is how it looks at the start of entering the system





Screenshot of HIS system at the time of login and after login

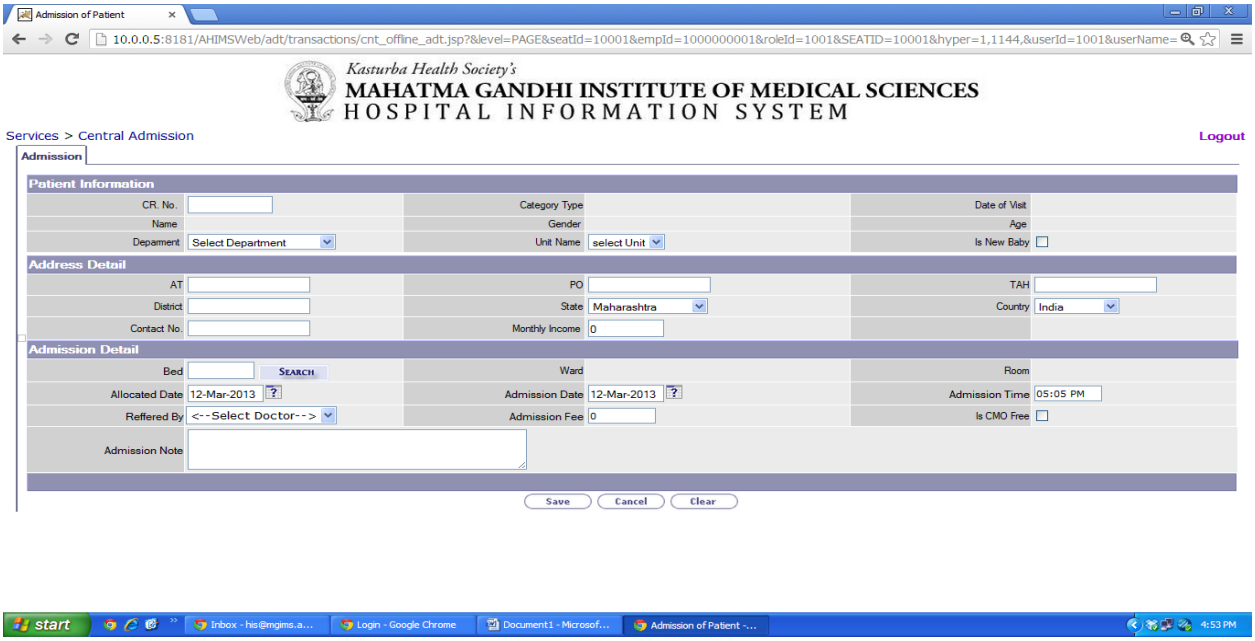
There are many users of the system and has 20 modules from which 254 roles branch into 1200 leaves in the software. The options are customised in accordance with the department it is being used in.

The main modules of the system are

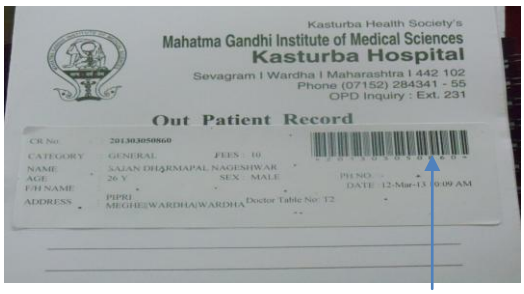
1) Insurance
2) Registration
3) Out Patient Management
4) Emergency services

5) Central admission
6) Investigation
7) Pharmacy
8) Blood Bank
9) Central Enquiry
10) Patient Medical Record
11) OT
12) Billing
13) In Patient Management
14) Transport
15) Student Management system
16) General Store
17) Diet Kitchen
18) Personal Information System
19) Payroll System
20) Account Management System

When the patient enters the hospital at the admin department the staff enters the detail of the patient and issues a case paper with a unique barcode on it. The patient/relative takes the case paper and goes to the cabin where stickers are issued of the unique barcode. The staff scans the barcode from the case paper and issues the stickers.



Screen shot of the profile of patient to be entered in HIS



The admin department *Case paper with unique barcode*

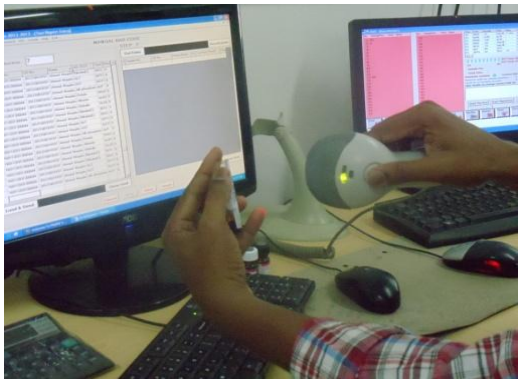
Stickers are generated on scanning the barcode from case paper

The patient the goes to the respective doctor for consultation. In the OPD, the compounder scans the case paper. The name is then displayed on the screen above the door, when the patient turns comes. In case the patient is not literate the compounder calls out the name. This has helped to decrease the chaos in the OPD during rush hours.

The compounder scans the case paper in the OPD area

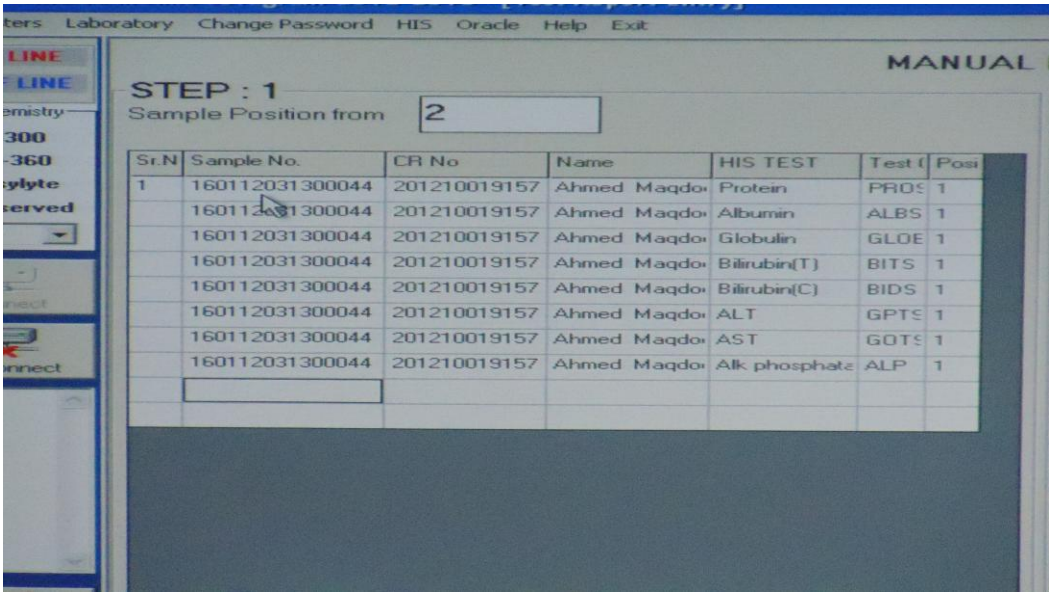
The doctor on examining the patient may request certain investigations on the HIS system as well as a hard copy is given to the patient. The patient goes to, for example, blood collection room. In case the patient is immobile; the sample is taken from the patient in the ward and handed over for the investigation in the lab. The barcode is stuck on the sample.

a 

b 

a) Barcode stuck on the patient's sample b) *The lab on receiving the sample scans the vial*

After the sample is taken it is sent to the lab for investigations that are required to be conducted. The lab technician on receiving the sample scans the barcode. On scanning; the list of test to be conducted, flashes on the computer screen. The lab technician adjusts the position of the sample, loads it and runs the test.



Screen shot of the test to be conducted

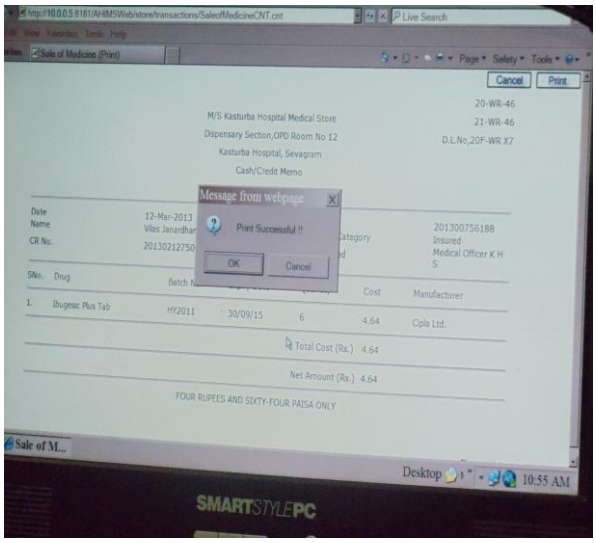
In case the patient has an X-ray taken, the results are made available on the HIS system before the paper reports are prepared. The digital image of the X rays are also available online. The

patient can again visit the doctor without awaiting the hard copy of the x-ray and continue with the treatment. All the reports can be taken from a single window in the hospital. This reduces the need for the patient/relative to go to various departments to take the reports.

a)  b) 

a)Resident discussing with faculty the x-ray of a patient on the Picture Archival and Communication System(PACS). b) Another screen shot of the image in PACS

If the patient has to get medications, the prescription is uploaded by the concerned doctor on the HIS system in the patient's record. A hard copy is also given to the patient since in some cases a particular medicine may not be available at the drug store.

a)  b) 

a) The pharmacist with the prescribed drugs of the patient b) Low cost initiative drug bill issued

If we consider a patient who has been hospitalised, the entire history of the patient can be seen in the HIS by the treating doctor. He can compare the progress of the patient and write the discharge note through his I-PAD/TAB.

A shot from I-PAD/TAB

The discharge summary given to the patient contains all the details. There are no separate test results and summary of different test conducted. The bill is also generated through the HIS system of the patient

Ipd Discharge Slip Print Page - Google Chrome

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MGIMS
Established in 1969 by Kasturba Health Society

Mahatma Gandhi Institute of Medica[Print]nces
Kasturba Hospital
Sevagram | Wardha | Maharashtra | 442102 | India
Phone: +91 7152 284341 to 284355
Fax: +91 7152 284220

Discharge Summary

Department of **Medicine** — **OPD Days:** [Thu, Sat]

CR No	: 201301013593	MRD No	: 20130110352	Insurance	: U1306481
Name	: Ranjanabai S Nagrale	Age/Sex	: 42 Yr/Female	Category	: Insured
Father/Husband	:	Phone No			
Address	: Selsura Wardha Wardha				
Unit	: Unit 4	Ward/Bed	: F M W/32		
Admission Date/Time	: 03-Jan-2013/07:04 PM	Discharge Date/Time	:		
MLC No	: **13-00114**				
Residents	: Dr Monika,Dr Atul Rajput,Dr Ajit Shrivastava				

DIAGNOSIS
Bipolar Depression
Pesticide Poisoning (Monocrotophos) with intermediate Syndrome
Ventilator associated Pneumonia
Crtical Care Polyneuropathy with ? OP induced neuropathy
Pressure Sores stage IV

CASE SUMMARY
Informant Son
This patient presented ingested about 30 ml of insecticide (Monowhip) at 5 pm on the admission date , a history she admitted to her son. She developed profuse sweating, excessive secretions from mouth and since stopped responding to commands.
no h/o vomiting
No h/o seizures, fasciculaions
She was immediately taken to Sawangi hospital where gastric lavage was done and was administerd Atropine 2 ml IV Stat.
Past h/o - She is known to have had psychiatric illness , and was on regular t/t T Olanzapine, T Lithium, T Sodium Valproate
No h/o suicidal attempt in the past.
O/E - E1V1M1 pulse 126/ mt, BP 220/ 110 mmHg, b/l pupils 3-4mm reacting to light, not pale, anicteric, no cyanosis, Excessive oral secretions present, Frothing from mouth present, axilla moist, sweating present, no pedal edema.
RS B/L normal vesicular breath sounds present. no crepts present.
CVS S1-S2 normal, no added sounds
P/A soft non tender, no organomegally.
CNS No focal neurological deficit. Bilteral planters flexor.

INVESTIGATIONS
Biochemistry

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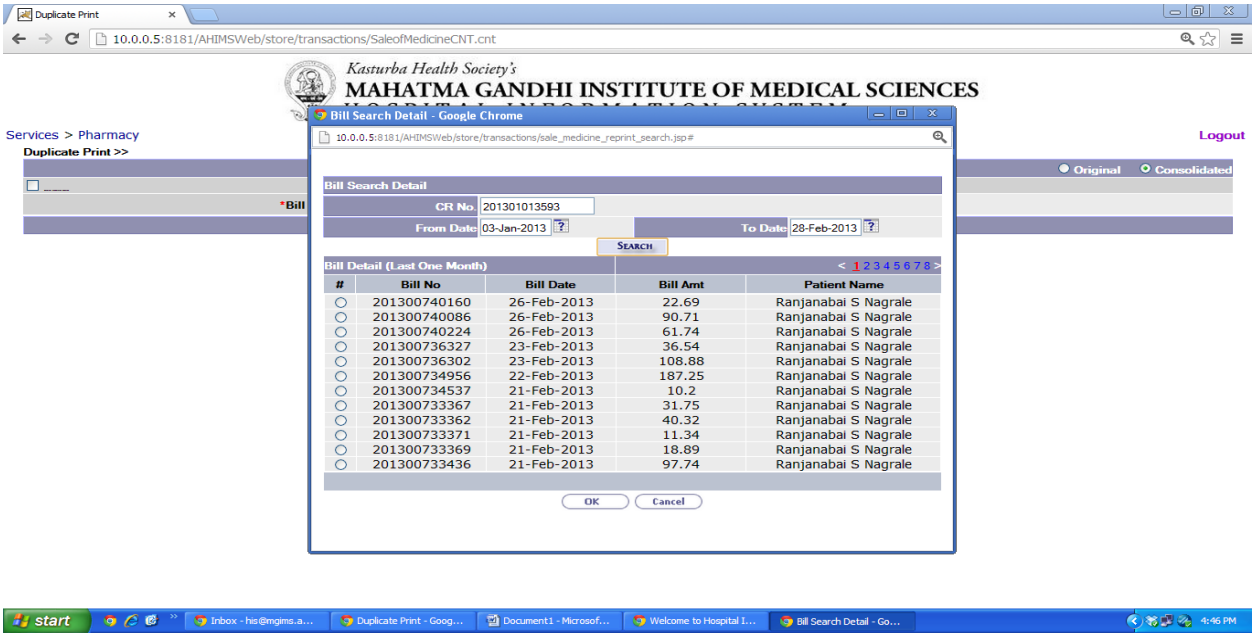
Discharge summary of the patient



Screen shot of the bill to be generated of the patient at the time of discharge

Pros:

- The patient/relative does not have to run around to get the hard copies of the reports to show doctor, so also in case of outpatients, through the unique code, the doctor can run through the history of the patient, even if records have been lost or damanged.
- It has helped reduce human error in terms of communication of tests results since everything is linked to the software.
- It is efficient and has reduced the usage of paper.

Cons:

- The entire staff of the hospital needs to be trained in the use of software, doctors need to get acquainted with the use of tabs. It was seen that several of the senior doctors were not comfortable with using tabs.

- The doctor's notes, which contain important information about the treatment process, the doctor's observations and opinions of the various physicians are not included in the HIS. Doing so would require doctors to type while taking history and examining the patients, which is not practical and would interfere with the doctor-patient interaction. This information is key for understanding the particular case as well as for educational purposes. However, no immediate solution is in sight.

Critical Assessment

The innovations in medical education implemented at MGIMS have emerged organically from its history and origins in the freedom movement. The principles and values that are sought to be inculcated among the students are universal (humanity, service, social commitment). Unfortunately, they have been much neglected in mainstream medical education in India, which has become highly commercialised following the establishment of private medical colleges and the growth of the medical industry.

Undergraduate medical education

In general, we also found that there was no conscious articulation about the small changes that MGIMS had made in the 'hidden curriculum', which were equally, if not more important, as the structured activities that it undertook. These include the building of an environment which is non-competitive, valuing social commitment and a connection with communities, emphasising the importance of service as a professional quality. The respect earned by faculty who devoted a significant part of their time to social service, the manner in which senior faculty behaved with patients, the example set by teachers before students are also a significant influence on students. Activities which are optional, such as daily prayer are also a part of this hidden curriculum. In our interaction with the faculty, the emphasis was almost entirely on the structured activities and the efforts required to carry them out.

In terms of enriching the activities themselves, there could be greater involvement of non-medical professionals such as social scientists, historians, artists, who would be able to provide a holistic understanding of community life and social processes to the students. There was an observation that the participation of the other departments in the planning and organisation of the camps was declining and a large part of the burden fell on the community medicine department and its faculty. This is likely to be a common problem in all medical colleges where community orientation is seen as the

responsibility of only the PSM or community medicine department, while other clinical departments such as medicine, surgery, paediatrics, etc are concerned only with technical training.

There is a greater value put on technical training, particularly that which involves the use of hi-tech. Consequently, PSM or community medicine specialists are viewed as lesser doctors. MGIMS itself is not insulated from these pressures as many of the undergraduate students expressed their concerns about 'falling back in the race' due to the additional perspective building activities that MGIMS expects them to undertake.

In our interaction, we found that they showed preference for those activities that appeared to have technical content such as the ROME camp (where they are given information about national health programmes, etc.) and were least appreciative of activities that were purely reflective, such as the orientation camp. This is in keeping with the current obsession in medical education to dominate information, rather than build skills.

Students are in the late teens when they join MGIMS and leave in their early to mid 20s. These are their formative years. Thus, it is quite likely that their views/opinions about the relevance of MGIMS efforts would change as they grow older and gain more professional experience. The importance of their training would become more evident to them at a later stage in life. A review of the experiences of alumni would be useful in order to understand this process.

Postgraduate medical students (community medicine)

Considerably more exposure to social issues and community work is received by the postgraduate students of the community medicine department. Their training is really quite unique as they get to be part of community health projects, are placed in functioning rural health centres and are involved in training of undergraduate students. Apart from performing clinical/public health tasks, they get involved in considerable non-medical work, such as organising women's groups, adolescents' groups, conducting training, overseeing operations of income-generation activities and liasoning with community leaders through the health committees. This grounding provides a very holistic understanding of community health with its varied linkages to economic, social and political factors at every level.

Another unique feature of MGIMS postgraduate medical training was the role played by social workers/scientists in the training of the students. There were social workers on the permanent staff of the department and they held lectures for the students as well. It is rare to see the consistent involvement of non-doctors in the teaching of medical students in any faculty.

An important learning opportunity provided by MGIMS was in health management, a field to which medical students rarely get exposure. As medical students were involved in project implementation,

they got some understand of its management. They were involved in the M&E processes and the senior students also had some responsibility of supervising field staff.

When we interacted with the students, we found that while they were appreciative of the experience that they were getting at MGIMS, they had some concerns. One the one hand, they were concerned about the low value placed on public health/PSM within the medical system. On the other hand, they felt that they did not have the kind of skills that those with, for e.g. an MPH degree were equipped with. They were aware that the practice in the field of public health was changing and becoming more multi-disciplinary.

The primary ambition among the students was to obtain a faculty position in the PSM department of a medical college for which there are very limited opportunities. Most had not explored the possibility of working in the development sector with non-governmental organisations or development agencies. These could be good potential career options for the graduates.

What would help MGIMS consolidate its innovations in medical education is the development of a formal curriculum framework based on its existing work. A conscious iteration of their approach to teaching community medicine and a sound theoretical analysis of their methods would help to showcase the programme better. They could draw upon a large body of work on medical education innovation world-wide where various techniques, both class-room and community-based, have been deployed to enrich medical training.

A more thorough analysis of the symbiotic relationship between the medical college and the primary healthcare system is also needed. While rural placements and postings in PHCs are commonplace, these rarely contribute anything to the delivery of healthcare. Also, students are rarely supervised well, faculty is not available, and, consequently, they gain very little insight from the exposure to the primary healthcare system. MGIMS is well placed to develop a blue-print for exposing students to the working of the primary healthcare system at each level (village, sub-centre, PHC, CHC, District) and also providing them with a conceptual understanding of the system. Such a blueprint could specify the kinds of activities, projects and assignments that are required for training undergraduates and post-graduates, along with the roles and tasks of the mentors/trainers/lecturers. Such an attempt will ensure that medical students are not looked on, at worst, merely as a burden for the health system staff or, at best, free and easily deployable human-power.