National Consultation Workshop on Patient Safety

10th to 12th May 2010

At

Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow

(Technical Report)

Organized by

Directorate General of Health Services
Ministry of Health and Family Welfare
Government of India

&

Department of Hospital Administration, SGPGIMS, Lucknow

In collaboration with

WHO India Country Office
Contents

Agenda .................................................................................................................................................. 4

Inaugural Address by DGHS .................................................................................................................. 8

Introduction ........................................................................................................................................ 10

Objectives of Workshop ....................................................................................................................... 11

Summary of Presentations

Global and Regional Perspective and WHO initiatives on Patient Safety ......................................... 12

WHO Resources ................................................................................................................................... 15

Patient Safety Initiative: Indian Perspectives ..................................................................................... 16

Hospital Associated Infection (HAI) & Patient safety ........................................................................ 19

Promoting Surgical Safety .................................................................................................................. 23

Safe Injection Practices in India: Policy & Programme Options .......................................................... 26

Blood Transfusion Safety for Patients ................................................................................................. 30

Biomedical Waste Management with Special Reference to Sharps (NSI) ............................................ 32

Experience of Patient Safety Committee in DR.RML hospital and PGIMER ....................................... 34

Patient safety measures at V.M.Medical College & Safdarjang Hospital ............................................. 36

Experience on Patient Safety Committee at Lady Hardinge Medical College & Associated Hospitals ........................................................................................................................................................................................................................................................ 37

A Practical Method for Improving Patient and Staff Safety Practices and Reducing Adverse Events. ........................................................................................................................................................................................ 39

Medication Safety ................................................................................................................................ 42

Adverse Event Reporting Systems ....................................................................................................... 46

Patient for Patient Safety .................................................................................................................... 50

Safety In Critical Care .......................................................................................................................... 55

Patient Safety, Quality and Accreditation ........................................................................................... 57
Risks and Patient Safety in Radiotherapy ................................................................. 59
Capacity Building & Training Curriculum in Patient Safety ........................................... 61

Outcome of The Workshop

Group Work: Guidelines for implementation of patient safety priorities ......................... 65

  Clinical procedures Safety and Hand Hygiene............................................................... 66
  Safe Surgery.................................................................................................................. 67
  Medication Safety.......................................................................................................... 68

Group Work: Guidelines for implementation of Patient Safety Priorities......................... 70

  Injection Safety............................................................................................................. 71
  Blood safety.................................................................................................................. 71
  Bio-medical waste Management.................................................................................. 72

Group Work: Guidelines for PS Surveys Indicators and Establishment of AER Systems......... 74

Group Work: Proformas for Patient safety ..................................................................... 79

Follow up....................................................................................................................... 87

Summary of the workshop, Outcomes and Way Forward.................................................. 90

Annexures

Annexure 1 List of Participants.................................................................................... 92

Annexure 2 Photographs (1-7).................................................................................... 99
National Consultation Workshop on Patient Safety

10-12 May 2010
Venue: Auditorium of Telemedicine Department, SGPGI

**Agenda**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>TIME</th>
<th>TOPIC</th>
<th>RESOURCE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09.00 hrs.</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>09.30 hrs.</td>
<td>Welcome and Introduction of Participants</td>
<td>Dr. Anil Kumar, CMO, Dte. GHS</td>
</tr>
<tr>
<td>3</td>
<td>09.45 hrs.</td>
<td>Inauguration and Address by Chief Guest</td>
<td>Dr. R.K. Srivastava, DGHS</td>
</tr>
<tr>
<td>4</td>
<td>10.00 hrs.</td>
<td>Address by Director SGPGI</td>
<td>Dr. R.K. Sharma</td>
</tr>
<tr>
<td>5</td>
<td>10.10 hrs.</td>
<td>Vote of Thanks</td>
<td>Dr. Hem Chandra, SGPGI</td>
</tr>
<tr>
<td></td>
<td>10.15 – 10.45 hrs.</td>
<td>TEA BREAK (High tea)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>10.45 hrs.</td>
<td>Global and Regional Perspectives of Patient Safety Initiative</td>
<td>Dr. Geeta Mehta, WHO SEARO</td>
</tr>
<tr>
<td>7</td>
<td>11.00 hrs.</td>
<td>Patient safety Initiative: Indian Perspectives</td>
<td>Dr. Anil Kumar, Dte. GHS</td>
</tr>
<tr>
<td>8</td>
<td>11.30 hrs.</td>
<td>Prevention of Health Care Associated Infections</td>
<td>Dr. Charoo Hans, Consultant Patient Safety, and HOD Microbiology, RMLH</td>
</tr>
<tr>
<td>9</td>
<td>12.00 hrs.</td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>12.15 hrs.</td>
<td>Improving Hand Hygiene in Health Care</td>
<td>Dr. Geeta Mehta, WHO SEARO</td>
</tr>
<tr>
<td>11</td>
<td>12.30 hrs.</td>
<td>Promoting Surgical Safety</td>
<td>Dr. S Joseph,</td>
</tr>
<tr>
<td>S.No.</td>
<td>TIME</td>
<td>TOPIC</td>
<td>RESOURCE PERSON</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>09.00</td>
<td>Experience of Patient Safety Committee in Dr.RML Hospital</td>
<td>Dr. T.S. Siddhu, M.S. Dr.RML Hospital</td>
</tr>
<tr>
<td>2.</td>
<td>09.15</td>
<td>Experience of Patient Safety Committee in Safdarjng Hospital</td>
<td>Dr. N.K. Mohanty, M.S. SJH</td>
</tr>
<tr>
<td>3.</td>
<td>09.30</td>
<td>Experience of Patient Safety Committee in LHMC &amp; Associated Hospitals</td>
<td>Dr. M. C. Sarmah, Addl. MS, LHMC and Assoc. Hospitals</td>
</tr>
<tr>
<td>4.</td>
<td>09:45</td>
<td>Getting started with Patient Safety in your Hospital: A corporate Hospital experience</td>
<td>Dr Aarti Verma Maxhealth Care</td>
</tr>
</tbody>
</table>

**13.15 – 14.00 hrs. LUNCH BREAK**

<table>
<thead>
<tr>
<th>13.</th>
<th>14.00 hrs.</th>
<th>Injection Safety</th>
<th>Dr N K Arora, INCLEN, New Delhi</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>14.30 hrs.</td>
<td>Blood Safety</td>
<td>Dr Priti Elhence</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Associate Prof Transfusion Medicine</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SGPGI</td>
</tr>
<tr>
<td>15</td>
<td>15.00 hrs</td>
<td>Safe biomedical waste Management</td>
<td>Sh. Sunil Shishoo, Asst. Superintendent, SGPGI/Dr. Hem chandra</td>
</tr>
<tr>
<td>16</td>
<td>15.30 hrs</td>
<td>Panel Discussion on Patient Safety priorities for India</td>
<td>DGHS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Director SGPGI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Director NIHFW</td>
</tr>
</tbody>
</table>

**16.00 hrs Tea**

| 17  | 16.15 hrs  | Introduction to Group Work and division of participants | |

**11 May 2010**
<table>
<thead>
<tr>
<th>S.No.</th>
<th>TIME</th>
<th>SUBJECT</th>
<th>RESOURCE PERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>09: 00 hrs.</td>
<td>Radiation Safety</td>
<td>Dr. KJ Maria Das, Department of Radiotherapy, SGPGI</td>
</tr>
<tr>
<td>2.</td>
<td>09.30 hrs</td>
<td>Capacity Building for Patient Safety and Training Curriculum</td>
<td>Dr. A.K. Agarwal, Dean, MAMC</td>
</tr>
<tr>
<td>3.</td>
<td>10:00 hrs.</td>
<td>Presentation of Group Work: 15 minutes per</td>
<td>Facilitators</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td>Facilitators</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td>10.30 – 10.45 hrs</td>
<td>TEA BREAK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10.45 hrs. Presentation of Group Work continued and Finalization of Recommendations</td>
<td>Facilitators</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12.00 hrs. Round-up and next steps</td>
<td>Dr Anil Kumar</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>12.30 hrs Valedictory Address</td>
<td>Dr. Dinesh Bhatnagar Adl. DG (DB)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.00 hrs.</td>
<td>LUNCH BREAK</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Excellencies on Dias and Colleagues,

It is my privilege today to inaugurate this “National Consultation Workshop on Patient Safety” at this prestigious institute SGPGI. I am indeed very happy to be here. I wish to highlight India’s priorities, concerns and challenges in the field of Patient Safety.

By Patient Safety, we mean prevention of harm to patients while receiving Health Care. Medical errors not only result in additional costs for hospitalization, litigation, hospital acquired infections, lost income and disability etc. but they also cause erosion of trust, confidence and satisfaction among the public and Health care providers.

In 2002 World Health assembly, passed a resolution calling member states to work for safety of Patients. In Oct. 2004, World alliance for Patient safety was formed, who have identified certain challenges in relation to safety of patients. First Challenge is “Clean care is Safer Care” (2005) and the second as Safe Surgery saves life (2008). They have identified third challenge as tackling Antimicrobial resistance (2010). In July 2007, Jakarta declaration was made for our South East Asia region, which highlighted the role of involvement of Patient for Patient safety.

A formal pledge committing to address health care-associated infection in the country was signed by me, on behalf of Government of India. We consider Patient Safety issues as very important and many interventions have been introduced for improving patient care but still a lot more is required to be done for this area.

Patient safety committees were constituted in 3 centrally administered Tertiary Care Hospitals since January 2008. The committee is headed by Medical Superintendent / Additional Medical Superintendent. Beside Hospital experts, the members of committee also include representative of a Non Govt. Organization, One Journalist and one patient or his or her attendant.

The purpose of patient safety committees is to review the various patient safety issues in the hospitals, develop systems to report all adverse events, analyze them and take corrective actions. Corrective actions may require capacity building, changing systems, improving information system, planning and implementation of interventions, implementing standard procedures, developing feedback channels from patients etc. More about this will be told to you in the presentation subsequently.

Some of the challenges that can easily identified in relation to Patient safety in our country are

1. There is lack of systems of Patient Safety in our hospitals and other health care institutions
2. Lack of awareness / realization of its importance even among the doctors.
3. No scientific database is available
4. Lack of dedicating funding for promoting Patient safety

Some of the priorities areas for our country that I envisage are

Safe clinical practices and hand hygiene
Promotion of Hand Hygiene is the single most important factor in preventing hospital associated infections. Education and motivation of health care workers to practice sound hand hygiene begins during the training period and principles of hand hygiene and infection control are being integrated in the medical curriculum. Some hospitals have formed the infection control committees and introduced hospital acquired infection prevention guidelines, which is encouraging. Our experts have contributed to the Advanced Guideline on Hand Hygiene developed by the WHO.

Safe Surgical practices
Errors happening due to not following the protocols in the pre-op, during operative procedure, and post-operative period are a cause of complications and mortality, which is avoidable.

Blood Safety
Unsafe blood is a big threat and this threat exists in almost all the hospitals of the country. We have framed guidelines and policies but implementation needs to improve. Voluntary Blood donation needs to be promoted. In our districts we do not have sufficient number of licensed blood banks and blood storage facilities.

Safe Injections Practices
INCLEN study (2002-2004) pointed out that 2/3 of all injections are administered in unsafe manner in India, which is a big number. We have introduced Auto disable syringes for curative purpose also in the central government. Such practices need to be adopted by all states.

Health Care Waste Management
Rules and guidelines are available but implementation is very poor. Lack of training or poor training is also a factor. It has not been given the due priority by most of the states and dedicated budget is required. All states should focus on this.

I am happy to note that participants from more than 50 percent of states/UTs of India are participating in this consultation workshop and majority of them are senior level hospital functionaries. They are in a position to implement all that they learn here in their institutions. I hope that they will act as Patient safety Champions for taking up the issues of Patient Safety in their respective states and take this agenda forward. They should take up small projects in their states based on the accepted interventions and demonstrate the improvements in patient safety parameters. They can then scale up the successful interventions and share with all others for their benefits.

We all should aim for a safe, error free and healthy outcome of patient care.

I am sure that this unique opportunity provided by the National Consultation will be gainfully utilized by all the participants for learning patient safety concepts and their implementations in their organizations and States. In long run this will benefit patients and improve quality of patient care in India.

I take this opportunity to thank SGPGIMS for organizing this consultation workshop on our behalf in and also all the experts and participants who have come here from different parts of the country. Let me reiterate on this occasion, India’s commitment to fulfill the basic right of all patients to safe and quality healthcare. I thank you all for your kind attention.
Patient safety is a serious global public health issue. In recent years, countries have increasingly recognized the importance of improving patient safety. In 2002, WHO Member States agreed on a World Health Assembly resolution on patient safety.

Estimates show that in developed countries as many as one in 10 patients is harmed while receiving hospital care. In developing countries, the probability of patients being harmed in hospitals is higher than in industrialized nations. At any given time, 1.4 million people worldwide suffer from infections acquired in hospitals. The risk of health care-associated infection in some developing countries is as much as 20 times higher than in developed countries.

A nationwide comprehensive study (2002-2004) ‘Assessment of Injection Practices in India’—by the India CLEN Program Evaluation Network (IPEN) for Department of Family Welfare, Ministry of Health & Family Welfare indicates that a very large number (3 to 6 billion) of injections are administered in India every year. Nearly two-thirds of these injections are unsafe (62.9%).

Govt. of India had signed a pledge in July 2006 to work to reduce health care-associated infections in collaboration with world alliance for patient safety.

Director General of Health Services (DGHS) and Medical Superintendents of Safdarjung Hospital, Dr. RML Hospital and JIPMER, Pondicherry had participated in the WHO Regional Patient Safety Workshop on Clean Care is Safer Care in Bangkok in June 2007. DGHS was also involved in framing of Jakarta declaration on Patients for Patient Safety in Countries of the South-East Asia region. Then it was decided to start Government of India initiative on Patient Safety under which patient safety committees were constituted in central Govt. hospitals in Delhi. In continuation of the initiative, it was planned to hold a National level consultation workshop for advocacy on Patient Safety, disseminating the knowledge about the WHO and Government of India Initiatives on Patient safety among the participants and developing a road map for implementing the Patient safety initiative in the country. Accordingly a National Consultation Workshop on Patient Safety was organized from 10th May to 12th May 2010 at SGPGI Lucknow. Focus area of the workshop were Safe clinical Practices including Hand hygiene, Surgical Safety, Adverse event reporting, Medication Safety, Role of patient in Patient Safety and Developing Action Plan & Guidelines for implementation of Patient Safety in India.

This workshop provided an opportunity to share the patient safety experiences, disseminate the knowledge about concepts of Patient Safety including Global Patient safety Challenges I and II, identifying the Patient Safety priorities for India and developing guidelines for implementation of Patient Safety priorities for different levels of health care.
The participants included renowned Patient safety experts from WHO, Government of India, Private sector including NGO, Medical College and Accreditation body (NABH) and Patient for Patient safety representative. In addition, representatives from as many as 16 States/UT participated in the workshop, which included Medical Superintendents or Hospital administrators of District Hospitals, State Directors of Health Services, Heads of hospital services, District level Chief medical Officers, Heads of Departments etc.

During the 3 day workshops, the method used were
1. Lecture and presentations by Experts followed by discussions,
2. Panel Discussion to identify Patient safety priorities,
3. Group work was carried out by dividing the participants into groups for
   (i) Implementation Plan for identified Patient Safety Priorities at Primary, Secondary and tertiary Level
   (ii) Guidelines for Patient Safety Surveys Indicators and Establishment of AER System
   (iii) Proformas for Patient safety implementation

**Objectives of National Consultation Workshop on Patient Safety**

- **Sensitization & creating awareness** about Patient Safety among all participants especially those from States, who are expected to take it forward in their respective states
- **Introduction to Global Patient Safety Challenges** (GPSC-I & II) of WHO and identification of strategies for their implementation in context of India
- **Sensitization about other Patient Safety priorities** including prevention of Health Care Associated Infections (HCAI), injection Safety, Blood Safety, Safe management of BMW and Medication Safety
- **Sharing of practical experiences and problems in implementation of Patient Safety initiatives**
- **Advocacy** for Adverse Event Reporting and monitoring as a tool for System improvement
- **Emphasising the importance of involvement of patient for patient safety.**
- **Preparation of Guidelines / Recommendations through Group Work for -**
  1. Implementation plan and Capacity Building for Patient Safety Priorities
  2. Baseline Data Collection and Monitoring for Patient safety
  3. Developments of Patient Safety implementation check Lists and tools.
- **Developing Road map for way forward for patient safety implementation in India**
Summary of the Presentations
Global and Regional Perspective and WHO initiatives on Patient Safety

"...The very first requirement in a hospital is that it should do the sick no harm"

...Florence Nightingale (1859).

Patient safety is about preventing medical error that may lead to adverse events and harm. It demands a complex system wide effort, involving a wide range of actions in performance improvement, environmental safety and risk management, including infection control safe use of medicines, equipment safety safe clinical practice and safe environment of care (WHO 2002).

It is estimated that in developed countries: as many as one in 10 patients is harmed while receiving hospital care, In USA alone estimates indicate that 44,000 – 98,000 medical error deaths occur annually (more than deaths from highway accidents, breast cancer, or AIDS). Health care associated infections (HCAI) complicate between 5 and 10% of admissions in acute care hospitals in industrialised countries and at any given time, 1.4 million people worldwide suffer from infections acquired in hospitals. It is important to note that at least 50% of HCAI are preventable. Every year unsafe injections result in 1.3 million deaths mainly due to Hepatitis B, Hepatitis C and HIV.

Globally, it is estimated that about 234 million major surgical operations are conducted a year. (one operation for every 25 persons). Out of these 7 million patients annually may have post-operative complications and 1 million patients would die every year during or after an operation.

In developing countries, only anecdotal information is available. There is very little evidence about the burden of unsafe care, even though there is likely to be an even greater risk of harm to patients due to limitations in infrastructure, technologies and human resources. It is estimated that the risk of HCAI is up to 20 times higher than in industrialised countries and is approx 10% and 15-30% in acute care. In the area of medication safety, 77% of all reported cases of counterfeit and substandard drugs are from developing countries. At least 50% of medical equipment is unusable or only partly usable- resulting in substandard diagnosis & treatment.
In India, nearly two-thirds of injections administered in unsafe manner (62.9% : India CLEN Study 2002-04). Added to these problems are blood transfusion safety, safe water and sanitation and safe waste management.

Taking cognizance of the fact that patient safety is a growing public health problem, in October 2004 WHO launched a patient safety programme in response to a World Health Assembly Resolution urging WHO and Member States to pay the closest possible attention to the problem of patient safety. Its establishment underlined the importance of patient safety as a global health-care issue. The World Alliance for Patient Safety was formed to mobilize global efforts to improve the safety of patients in the Member States. The WHO Patient Safety is a programme that aims to coordinate, disseminate and accelerate improvements in patient safety worldwide. It also provides a vehicle for international collaboration and action between WHO Member States, WHO’s Secretariat, technical experts, and consumers, as well as professionals and industry groups. All 194 Member States are members of this initiative.

The prevention of health care associated infections (HCAI) and the prevention of surgical complications have been recognized as major issues and taken up as global patient safety challenges, calling for action by health care facilities across the globe. The first challenge is "Clean care is safer care" and addresses the problem of health care associated infection with focus on the improvement of hand hygiene - the single most important factor to prevent HCAI.

The second challenge is "Safe Surgery Saves Lives" calling for application of standards of care and the implementation of a simple check list called the safe surgery check list. The check list includes a series of simple checks to be done before induction of anaesthesia, before making the incision and after the operation is over.

The Global Patient Safety Challenge "Clean care is safer care" was launched in 2005 and the Indian Govt participated in the launch through a video link. The Secretary of Health and Family Welfare reiterated India’s commitment to control of health care associated infections. In July 2006, the challenge was launched in New Delhi, the Minister of State presided and a formal pledge was signed by the Director General of Health Services.

Since 2009, The 5th May is being celebrated all over the world as the Global Hand Hygiene Day In India too, many hospitals undertook activities to promote awareness on hand hygiene in health care workers

The pilot site for the safe surgery check list was St Stephens Hospital and it was shown that post operative complications could be significantly reduced if the check list was followed.

Teaching the concepts of patient safety to professionals during their training and in refresher courses is very important in capacity building. A curriculum guide has been developed by WHO and is being piloted. Maulana Azad Medical College in New Delhi is the pilot site for this curriculum and 3 modules are being implemented currently.
Research in patient safety is being given special emphasis as it is important to build up evidence. There are several areas where research is needed. One of the areas is health care associated infections, the reduction of antimicrobial resistance and prevention of spread of multi-resistant organisms. Other areas that need research are: the reason for geographical differences in surgical and medical errors, adverse drug events, impact of unsafe injection practices, blood safety including effectiveness of safety strategies and several others.

A number of tools and guidelines have been developed by WHO, in various aspects of patient safety which are freely available and downloadable from the WHO website.

**WHO Resources:**

<table>
<thead>
<tr>
<th>The most recent information about patient safety and the work of the patient safety programme can be obtained on the following link:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <a href="http://www.who.int/patientsafety/en/index.html">http://www.who.int/patientsafety/en/index.html</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>More specific information and patient safety resources can be obtained from:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <a href="http://www.who.int/gpsc/5may/en/">http://www.who.int/gpsc/5may/en/</a>: Registration of support for Hand Hygiene</td>
</tr>
<tr>
<td>• <a href="http://www.who.int/safesurgery">http://www.who.int/safesurgery</a>: Safe Surgery check list and its implementation</td>
</tr>
<tr>
<td>• <a href="http://www.who.int/surgery/publications/imeesc/en/index.html">http://www.who.int/surgery/publications/imeesc/en/index.html</a>: integrated Management for emergency and essential Surgical Care</td>
</tr>
</tbody>
</table>
Patient Safety Initiatives: Indian Perspectives

Dr. Anil Kumar
CMO (NFSG)
Directorate General of Health services
Ministry of Health and Family Welfare
Government of India

What is Patient Safety?

Patient safety means Prevention of Harm to Patients during Hospital Care. It is about

- Eliminating preventable medical mistakes by care givers
- Guarding against the impact of human error
- Establishing systems to safeguard patients' health and well-being.

Magnitude of Problem: Developing Countries

- Only WHO estimates available
- Health care-associated infection up to 20 (WHO)
- Account for 77% of all reported cases of counterfeit and substandard drugs (WHO)
- At least 50% of medical equipment is unusable or only partly usable- resulting in substandard diagnosis & treatment (WHO)
- In India, nearly two-thirds of injections administered in unsafe manner (62.9%) (India CLEN Study 2002-04)
- Added Problems of Blood, Water, sanitation and waste management safety

India Specific Concerns

1. Lack of Awareness
2. Lack of baseline Data
3. Lack of availability of a system for patient safety
4. Lack of dedicated financing

After signing of India Pledge on patient Safety (by Director General of Health Services) in July 2006, the Directorate General of Health Services, Ministry of Health and Family Welfare Govt. of India has taken up patient safety issues on priority basis in the form of a new initiative “Hospital Patient Safety Initiative”. The aims of this initiative are:
• A successful, healthy outcome of patient care
• Safe, error-free care
• The most expert and advanced medical care available for patients
• Comfort and peace of mind for patients and providers.

Following activities have been started under this initiative.

1. Patient Safety Committees have been constituted in three centrally administrated tertiary care hospitals in Delhi namely Ram Manohar Lohia Hospital, Safdarjung Hospital and Lady Harding Medical College & associated Hospitals. The committee is headed by Medical Superintendent / Additional Medical Superintendent. The members of committee from the hospital include Heads of Departments; Incharges of Infection Control, Blood Transfusion, Waste Disposal, Injection Safety, Death Review Committee, representative of Nursing Staff; Medical Social Worker. In addition, Patient Safety Committee also has following members –
   a. Representative of a Non Govt. Organization
   b. One Journalist
   c. One patient or his or her attendant

These hospitals conduct meetings of their patient safety committees every month to review the various patient safety issues, adverse events reported, actions taken and maintain records of all the meetings of their patient safety committees. The functioning of these patient safety committees is reviewed periodically centrally in Directorate General of Health Services Government of India and also regularly through a monitoring performa.

2. A training module on patient safety has been developed to upscale the skills of hospital staff in the area of patient safety in collaboration with WHO and Indira Gandhi National Open University (IGNOU).

3. Following Performas have been introduced in the 3 hospitals as mentioned above as part of patient safety initiative.
   i. Check list for safety of surgical patients in the ward and OT (Modified version of WHO Surgical Safety check list).
   ii. Patient safety evaluation Performa for obtaining feedback from patient or his attendant at the time of discharge from hospital. The data so obtained is analyzed for improvement of services from patient safety point of view.
   iii. Adverse Event Reporting Performa:
      Error reporting is encouraged through non-punitive system. It is followed by Root Cause Analysis to find out why adverse event occurred and taking appropriate steps to avoid it in future.

4. Adverse Reaction Reporting Cell created in the hospitals, based on
   - Encouraging error reporting and doing Root Cause Analysis
5. “Do not use” List from Joint commission introduced to avoid prescription reading mistakes.
6. Auto Disabled Syringes introduced for curative purpose also with effect from 1-4-09 in Centrally Administered Institutions to promote safe injection practices.
7. Process correction studies carried out to improve processes e.g. time taken to attend a newly arrived patient in a trauma centre.
8. Events on 5th May, 2009 (Save Lives: Clean your Hands initiative):
   All Central Government Hospitals were invited to register for the Save Lives: Clean your Hands initiative of WHO and many from India have registered so far. Awareness programmes, presentations, hand outs, pledge, slogan & quiz competitions etc. are held and the day is celebrated as Hand Hygiene Day.

9. It has been recommended to introduce Alcohol based hand rub especially in critical care areas to ensure proper hand hygiene at the bedside and reduction of hospital acquired infections.
10. For improving knowledge and skills for proper Bio-medical waste Management three levels of training modules developed for Doctors, Nurses and Group D employees.
11. Posters on Hand Hygiene in Health Care, both using soap and water and alcohol based formulation along with prototypes given to hospitals for display at all strategic locations.
12. Various other patient safety measures have been introduced like trainings in infection control and Bio-medical waste management for different levels of Health workers, Regular monitoring of Quality of water supplied in the hospital, devising safety norms for patients in vital areas of hospital, conducting regular death review meetings, training of senior resident doctors in giving D.C. shock, obtaining feedback from Grievance Cell, Implementation of Patient Safety Measures in Out Patient Departments in the form of Single Window Approach, May I help you counter and proper signage system etc. Adequate emphasis is given to the suggestions of patients and their attendants and action taken to put them into practice.
Prerequisite for a hospital is that it SHOULD DO NO HARM TO SICK

HAI is growing as problem. HAI are common & significant cause of morbidity & mortality among hospitalized patients & compromise patient safety. HAI is important quality indicator of patient safety. WHO First Global Patient Safety Challenge, “CLEAN CARE IS SAFE CARE” has brought into focus the prevention of HAI. Core message is that “SIMPLE MEASURES SAVE LIVES” – like HAND HYGIENE

Health care-associated infection (HCAI) or Nosocomial infection: “An infection occurring in a patient during the process of care in a hospital or other health-care facility which was not present or incubating at the time of admission. This includes infections acquired in the health-care facility but appearing after discharge and also occupational infections among health-care workers of the facility”

Factors for Hospital Acquired Infection
- Hospital Environment – Crowded condition, frequent transfer of patients, Concentration of highly susceptible patients in one unit.
- Multi drug resistant organisms in the Hospital.
- Patient susceptibility: Extremes of age, Chronic Diseases (DM, Malignancy), Immune Status- AIDS / other immunosuppressive conditions, opportunistic infections, Malnutrition
- Diagnostic & Therapeutic procedures.
- New microorganisms

HCAI: the worldwide burden

Estimates are hampered by limited availability of reliable data. The burden of disease both outside and inside health-care facilities is unknown in many countries. No health-care facility, no country, no health-care system in the world can claim to have solved the problem. HCAI affects hundreds of millions of people worldwide and is a major global issue for patient safety. In modern health-care facilities in the developed world: 5–10% of patients acquire one or more infections. In developing countries the risk of HCAI is 2–20 times higher than in developed countries and the proportion of patients affected by HCAI can exceed 25%. In intensive care units, HCAI affects about 30% of patients and the attributable mortality may reach 44%. Hands are the most common vehicle to transmit health care-associated pathogens
The impact of HCAI

HCAI can cause more serious illness, prolongation of stay in a health-care facility, Long-term disability, excess deaths, high additional financial burden and high personal costs on patients and their families.

Prevention of health care-associated infection

At least 50% of HCAI could be prevented through the promotion of best practices in hand hygiene and infection control. The First Global Patient Safety Challenge aims to reduce health care-associated infection (HCAI) worldwide. Most solutions are simple and not resource-demanding and can be implemented in developed, as well as in transitional and developing countries. Political commitment is essential to achieve improvement in infection control.

Strategies for infection control

- General measures: IEC activities, Surveillance, standard and isolation precautions
- Antibiotic control
- Specific measures: Specifically targeted against
  - urinary tract infections
  - surgical site infections
  - respiratory infections
  - bloodstream infections
- Infection control programmes

Surveillance to monitor trends

- Prevalence study: point prevalence
- Incidence study: targeted surveillance
  - Site-oriented: VAP, SSI, MRSA, ESBL
  - Unit-oriented: ICU, burn units, neonatology.
  - Priority-oriented: for specific issue; UTI in patients with urinary catheters in long term care facilities.

Prevention of urinary tract infection

- Avoid urethral catheterization unless essential.
- Limit duration of catheter
- Aseptic practice during insertion: Hand Hygiene, Sterile gloves & sterile catheter, Perineal cleaning with an antiseptic solution prior to insertion
- Maintain closed drainage.

Prevention of Surgical site infection

- Infection in surgical site that occur within 30 days of surgical procedure or 1 yr. in case of implant foreign body.
- Administration of peri-operative antimicrobial prophylaxis reduces the risk for SSI.
- SSI prevention practices aimed at optimizing
  - The choice of antimicrobial agent
  - Timing of administration
• Duration of prophylaxis
• Other peri-operative procedures: glucose control

Prevention of ventilator associated pneumonia (VAP)
• Appropriate disinfection of tubing, respirators & humidifiers
• Sterile tracheal suctioning
• Suction Bottles: Use single use disposable bottles preferably.
• Nurse in head up position

Prevention of central line associated bloodstream infection
• Hand hygiene,
• Use of full barrier precaution.
• Cleaning of skin with chlorhexidine
• Avoid insertion lines into femoral vein.
• Prompt removal of unnecessary intravenous catheters

Antibiotic policy
• Antimicrobial use should be monitored: Selection of antibiotics, correct dose, duration
• Intermittent audits.
• Guidelines for their use based upon antimicrobial susceptibility
• Analysis of various antibiotics used in high risk area such as ICU, Burns wards, Oncology units.
• Antibiotics should be either used as unrestricted which are effective, safe, inexpensive.
• Restricted - for severe infection or with particular pattern of resistance
• Unusual antimicrobial resistance pattern should be reported.

Control Measures for Methicillin Resistant Staph Aureus (MRSA)
• Early detection
• Segregation of known colonized and infected patients - single room
• Hand hygiene & use of PPE (gloves)
• Transfer of staff & patient should be minimized.
• Re-strengthening of infection control practices

Occupational Safety
• HCW – At risk of acquisition of hospital infections
• Develop programme to prevent & manage these infection which includes Medical exam on recruitment, immunization status & exposure to disease and Immunization for HCW - HBV, Tetanus etc.
• Any outbreak in Hospital- Prophylaxis should be given to HCW as per risk of exposure according to causative organisms’ e.g. single dose of Ciprofloxacin (500 mg) / ceftriaxone (250mg) IM in meningococcal out break.
• Workers in TB wards should have evidence of previous BCG (presence of scars) or are tuberculin positive.
• Time to time training of HCW about occupational hazards & encouraging them to report their illness proactively.

Infection Control Programme: Each hospital need to develop a programme for control of HAI.
• Monitoring & surveillance of HAI.
• Investigation of outbreak & its control
• Training of staff
• Monitoring of health care personnel to prevent cross infection
• Advice on isolation procedures
• Monitoring & advice on CSSD, food services, laundry services & housekeeping
• Monitoring & advise on safe antibiotic usage (antibiotic policy)
• Maintenance & monitoring of sterilization & disinfection of hospital
• Appropriate management of BMW
• Ensure occupational safety
• Development of SOPs and manual.

Infection Control Committee (ICC) & Infection Control Team (ICT):
• Head of the institute/ Medical Superintendent may act chairperson.
• Infectious disease physician (if available)/ Senior Microbiologist as secretary
  ▪ Hospital administrator.
  ▪ Director of nursing & Infection control nurse.
  ▪ Occupational health physician.
  ▪ Representative from major clinical specialties including in charge CSSD.
  ▪ Other co-opted members may be Pharmacists, Representative from departments like Maintenance, Purchase, and Engineering & Laundry etc.

Implementation of **Other WHO programmes** that contribute to the efforts to reduce HCAI
• Blood safety
• Injection safety
• Clinical procedures safety
• Water, sanitation and waste management safety
• Disease-specific programmes
Promoting Surgical Safety

Dr. S Joseph
Medical Director and Consultant Surgeon
St. Stephens Hospital
New Delhi

Surgical safety is a serious public health issue

• About 234 million operations are done globally each year

• A rate of 0.4-0.8% deaths and 3-16% complications means that at least 1 million deaths and 7 million disabling complications occur each year worldwide

WHO’s 10 Objectives for Safe Surgery

– The team will operate on the correct patient at the correct site.

– The team will use methods known to prevent harm from administration of anaesthetics, while protecting the patient from pain.

– The team will recognize and effectively prepare for life-threatening loss of airway or respiratory function.

– The team will recognize and effectively prepare for risk of high blood loss.

– The team will avoid inducing an allergic or adverse drug reaction for which the patient is known to be at significant risk.

– The team will consistently use methods known to minimize the risk for surgical site infection.

– The team will prevent inadvertent retention of instruments or sponges in surgical wounds.

– The team will secure and accurately identify all surgical specimens.

– The team will effectively communicate and exchange critical information for the safe conduct of the operation.

– Hospitals and public health systems will establish routine surveillance of surgical capacity, volume and results.

The tool that addresses the 10 objectives is the Surgical Safety Checklist of WHO,

The checklist was piloted in 8 cities in the world and was found to reduce the rate of postoperative complications and death by more than one-third!
What problems does this checklist address?

- **Correct patient, operation and operative site**
  - There are between 1500 and 2500 wrong site surgery incidents every year in the United States. (Seiden, Archives of Surgery, 2006)
  - In a survey of 1050 hand surgeons, 21% reported having performed wrong-site surgery at least once during their careers. (Joint Commission, Sentinel Event Statistics, 2006.)

- **Safe Anaesthesia and Resuscitation**
  - An analysis of 1256 incidents involving general anaesthesia in Australia showed that pulse oximetry on its own would have detected 82% of them. (Webb, Anaesthesia and Intensive Care, 1993)

- **Minimizing risk of infection**
  - Giving antibiotics within one hour before incision can cut the risk of surgical site infection by 50% (Bratzler, The American Journal of Surgery, 2005 & Classen, New England Journal of Medicine, 1992)
In the eight evaluation sites, failure to give antibiotics on time occurred in almost one half of surgical patients who would otherwise benefit from timely administration.

**Effective Teamwork**

- Communication is a root cause of nearly 70% of the events reported to the Joint Commission from 1995-2005.¹
- A preoperative team briefing was associated with enhanced prophylactic antibiotic choice and timing, and appropriate maintenance of intra-operative temperature and glycemia.² ³

**Why should a hospital adopt the Checklist?**

- It is a primary recommendation in the new WHO Guidelines for Safe Surgery
- The Checklist has been endorsed by over 200 surgical, anaesthesia, and nursing organizations across the world
- At least 3 nations have committed to instituting the Checklist in all operating rooms

**Advantages of Using a Checklist**

- **Customizable** to local setting and needs
- **Deployable** in an incremental fashion
- **Supported** by scientific evidence and expert consensus
- **Evaluated** in diverse settings around the world
- **Ensures** adherence to established safety practices
- **Minimal resources** required to implement a far-reaching safety intervention

**The Way Forward**

<table>
<thead>
<tr>
<th><strong>Institutional Level</strong></th>
<th><strong>National Level</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Commitment by the Institutional Leadership</td>
<td>• Involving Medical Council of India (MCI)</td>
</tr>
<tr>
<td>• Commitment by the Departmental heads</td>
<td>• Involving Medical Associations</td>
</tr>
<tr>
<td>• Allocation of responsibility</td>
<td>• Involving Ministry of Health</td>
</tr>
<tr>
<td>• Regular Monitoring</td>
<td>• Involving Medical Colleges</td>
</tr>
<tr>
<td>• Educational Programme to be established</td>
<td>• Involving Post Graduate Institutes</td>
</tr>
<tr>
<td>• Compilation of data</td>
<td></td>
</tr>
</tbody>
</table>

25
Safe Injection Practices in India: Policy & Programme Options

Dr. Narendra Kumar Arora,  
Executive Director, INCLEN Trust & CHNRI  
nkarora@inclentrust.org  
+91 9810110376

Background:

India contributes to 25%-30% of the global injections (WHO, 1999). IndiaCLEN Program Evaluation Network on behalf of the Ministry of Health, Government of India, and World Bank undertook, “Assessment of Injection Practices in India” (AIPI) in 2002 – 2005, to determine: Magnitude of injections in Indian populace, Proportion of unsafe injections administered both in the public and private sectors; Proportion of prescriptions that include injections; Locally relevant determinants of prevailing injection practices and current status of disposal of injection related waste.

The study revealed that the burden of injection every year is approximately 3 – 6 billion injections in India at the rate of 3 – 6 injections per person per year; 83% injections are given for curative purposes while 17% for immunization purposes. At the country level nearly two third (62.9%; 95% CI 60.7-65.0) of the injections were administered in unsafe manner. Waste disposal was found to be unsatisfactory at the health facilities (53%) at the terminal level for plastic syringes and disposable needles and was found to be least at immunisation clinics (49%). Detailed guidelines for waste management were not available in 2002-2004 in the health facilities.

Policy Initiatives of Government of India after the IndiaCLEN Project: Assessment of Injection Practices in India.

- Ministry of Health and Family Welfare, Government of India decided to introduce Auto Disabled (AD) syringes in the immunization programme in all the States of the country (2005).
- The use of auto-disabled syringes is technically recommended and should be in practice w.e.f. 1.4.09 as directed by Dr. R. K. Srivastava, Director General Health Services.
- Steps were taken by the Department of Family Welfare and the Central Pollution Control Board for development and dissemination of guidelines for safe disposal of injection waste.
Next Steps:

A. **Model Injection Centres (MIC) (2005-2009):** As a follow up of AIPI Study, INCLEN established the Model Injection Centres as a training platform for injection prescribers and providers for training in principles and practices of injection safety and safe disposal of injection waste. The MIC Program trained 54,308 health care personnel as listed below in safe injection practices

- **Doctors:** Total: -10,457 (20%)
  - Public Sector- 5,762 (55.10%)
  - Private Sector- 4,695 (44.9%)
- **Nurses:** Total: -9,295 (17%)
  - Public Sector- 7,188 (77.33%)
  - Private Sector- 2,107 (22.67%)
- **Medical/ Nursing Students:** 17,082 (32%)
- **Technicians including waste handlers:** Total: -17,474 (32%)
  - Public Sector- 13,447 (76.95%)
  - Private Sector- 4,027 (23.05%)

**Lessons Learnt**

- Considering the magnitude of burden of injections and its ill effects, it is mandatory to continue with an institutional mechanism to train health providers in safe injection practices.
- Need for a nationwide communication to sensitize the health workers and public in injection related issues.

B. **Assessment of Biomedical Waste Management (BMWM) (2009):** Under the INCLEN-MIC programme, BMWM assessment was conducted in Primary, Secondary and Tertiary Health Care facilities across 25 districts in India. Rapid Assessment Tool on the basis of WHO standards for BMWM was utilized for the assessment.

- Over 50% of the primary health facilities in the rural area are having no credible BMW management system. Across India a quarter of the secondary and tertiary health facilities showed efforts towards setting up of an workable BMWM management practice but needs additional efforts.
- Overall it was seen that across India the BMWM management system is poor.
- Despite the training and CME’s for health workers, poor performance in segregation and sharp management in MICs at all levels (primary, secondary and tertiary) indicated the need of additional strategies for optimum BMWM practices.
- There were requests for more power with PCB to enforce strict BMWM rules which includes actions like sealing the health facility.

**Lessons Learnt**

- Biomedical waste is still a major concern in the country at all levels of health care and needs urgent attention with allocation of resources to make it functional.
- Mixing of BMWM with general municipal wastes needs to be prevented.
Proposed National Policy on Injection Safety and Bio Medical Waste Management:

GOALS

- The goal of national policy shall be to deliver high quality, safe patient care in India.
- Promote safe injection practices and appropriate biomedical waste management in both health care settings and the community to ensure the safety of health providers, patients and the community

a. Proposed Policy Framework for Safe Injection Practices in India
   - **Behavior Change**
     - Generate awareness in the community and among health care workers on rational use of injections to reduce the overall burden of injections.
     - Train the health care workers on safe injection practices.
   - **Equipments & Supplies**
     - Provide single use injection equipments to all health care facilities
     - Strengthen the logistic management system to achieve the goal of one syringe and one injection.
   - **Sharp Waste Management**
     - Secure and safe collection and management of sharp waste as per guidelines

b. Developing National Plan for Safe Injection Practices:

- **Key areas**
  - Public and Private Sector
- **Key Stakeholders**
  - All departments of Ministry of Health & Family Welfare (Centre & State)
  - Central Pollution Control Board
  - Academia
  - Professional Associations
  - Pharmaceutical & Equipment manufacturers

c. Policy, Objectives & Framework:

- To promote rational use of injections, reduce over prescription and unnecessary demands by promoting oral medication through education materials and Mass Media
  - Reduce prescription of injectable medications by following the standard treatment guidelines, endorsement from medical association and continuing medical education for the health care workers.
  - Reduce access to injectable medications by reducing unnecessary injectable medication from the essential drug list/ drugs available at public health facilities
• Strengthen procurement for safe injection equipment and related supplies to achieve timely
  - Delivery of injectable medications with matching quantities of injection equipment and injection control supplies when procuring and distributing essential drugs
  - Procure syringes, needles, diluents and safety boxes for the collection of sharps
  - Strengthen the national regulatory authority to ensure the quality of injection equipment

• Achieve Safe Injection Practices
  - Ensure use of new, single use injection equipments through
    - Pre-service and in-service training
    - Setting up Model Injection Centers in the Medical Schools & District Hospitals
    - Involvement of Medical/ Nursing Councils and Professional Organizations
  - Create consumer demand for new, single use injection equipments for incorporating training of administering injections into graduate and post graduate curriculum.
    - Education material
    - Mass media

• Integrate sharps waste management into a comprehensive national health care waste management plan
  - National health care waste management plan shall encompass
    - National policy with regulatory framework
    - Plan from waste production to disposal
    - Training at all levels
    - Procurement of waste treatment options and providing adequate resources for bio-medical waste management. Focus to be at primary, secondary and tertiary health facilities in both private and public sector.

• To advocate for support and implementation of safe injection practices and appropriate biomedical waste management
  - Inter agency coordination committee
    - Involvement of key decision makers in government profession, industry and donor community

• Monitor, learn & evaluate the program
  - Develop key indicators for monitoring
  - Provision for mid course correction based on monitoring and evaluation exercise
  - In built mechanism for operational and applied research
Blood Transfusion Safety for Patients

Blood transfusion plays an important role in management of patients and in many instances can be life saving. However, if proper care and judgment is not exercised in the use of blood transfusion it can lead to considerable morbidity and mortality as it is a live human tissue. Blood is considered a ‘drug’ and its collection, processing, supply and use is governed by Drug and cosmetic act of India. Blood centers need a license from Drug Controller Authority to operate, to make sure safe blood is available to patients. Also there is ‘National blood policy’ to reiterate government’s commitment to provide safe blood to patients.

The risks associated with transfusion can be either transfusion transmitted infections, immune reaction due to antigenic differences between donor and recipient red blood cells/ white blood cells/ platelets and plasma proteins or reactions due to physical properties of blood i.e. volume overload and iron overload. Transfusion safety is contributed partly by following precautions in the blood center to collect and supply safe blood but equally important is the contribution of clinical users involved in collection of blood samples and transfusion itself.

Hepatitis B, Hepatitis C, Human Immunodeficiency virus, syphilis and malaria are some of the infections that have a potential to be transmitted by transfused blood. Blood safety is achieved in the blood centers by multipronged approach which includes stringent selection criteria to defer the high risk donors and mandatory screening of blood for above named infections by serological tests. Even then, the risk though minimal is not zero because of the inherent limitations of the screening procedures. Therefore blood should be used judiciously only for well defined indications and in the form of blood components. Transfusion transmissible infection screening by more sensitive screening assays ie Nucleic acid testing (NAT) which also reduce the window period donations is also desirable. Wherever possible safer alternatives like autologus transfusions, virally inactivated products and recombinant alternatives like recombinant F VIII, erythropoietin etc should be used to reduce the risk of these infections.
Another dreaded immune complication of blood transfusion is acute hemolytic transfusion reaction which results from ABO incompatibility between the donor and recipient. Most common reason for such an occurrence is error at the time of blood sample collection and blood transfusion i.e. collecting or labeling the blood sample for grouping and cross matching wrongly or transfusing a unit dedicated for other patient. Such errors can be avoided by vigilance and adherence to the protocols for identification at time of sample collection and blood transfusion. Also blood unit should be checked for any leaks, clots, hemolysis or discoloration before starting the transfusion and if present blood unit should not be transfused. Identification of the transfusion reaction at an early stage and taking steps necessary steps to minimize the damage also reduces the patient morbidity and mortality.

Certain patient populations like immune suppressed patients, neonates, fetuses receiving intrauterine transfusions, patients receiving multiple transfusions or massive transfusions are more prone to risks of blood transfusion and need specialized blood components or additional management to reduce the risk. Hence, care should be taken in planning transfusion management for these patients.

Continuing medical education of clinical users, paramedical staff; use of safer alternatives, use of blood components, safer alternatives, judicious use of blood, sensitive screening methods and use of virally inactivated products, introduction of compulsory informed patient consent and constitution of hospital transfusion committees in hospital shall go a long way in making transfusions safe for patients.
Biomedical Waste Management with Special Reference to Sharps (NSI)

In view of growing awareness among the community, much is expected from health care providers (HCP). But who is thinking about the health of health care providers. Health care providers such as doctors, nurses, technicians, and patient helpers, sanitary workers involved in direct or indirect patient care are always exposed to professional hazard predominantly the biological hazards due to working environment. Approximately 20% of hospital waste is biomedical waste, which is hazardous /infectious in nature. Because of its composition, there are significant risks associated with Biomedical Waste (BMW). Infections are the most common health hazard associated with poor waste management, which has been magnified with the advent of AIDS and Hepatitis B virus infection and increase in the prevalence of disease in the health care providers. From among all categories of BMW, the SHARPS which includes the syringe, needle, glass, tin etc have the highest disease transmission potential. The needle stick injury (NSI) or the sharp injury is very vulnerable and is one of the potential methods of transmission of disease through contact. The prevalence rate of blood born disease (HIV – 0.8% and Hepatitis B 3.8%) is increasing day by day. The prevalence of HIV as reported to be 7/1000 (NACO 1993) India is being identified by WHO as one of the two most AIDS prone countries in South East Asia. At present, more than 5 million people in India are infected with HIV. It is a difficult task for the public health authority to isolate/ screen these potential mass as most of the time the disease is in dormant phase and the patient is a symptomatic nor it is possible to screen every body by blood testing as economical and legal aspects are involved. Increasing prevalence is going to affect the HCPs and risk of biological hazard will increase proportionately unless universal precautions are adopted strictly. Needle or sharp injuries are common, under reported and often preventable. In a tropical Australian hospital, the most common causative device for NSI was a normal syringe needle, followed by insulin syringe
needle, half of the nurses NIS even occurred besides the patient’s bed: drawing up medication was the most common reason. In India no such study has been conducted so far which gives us accurate information about the morbidity/mortality of HCP due to biological hazards or due to NSI but circumstantial evidences reflect indications towards the exposure of the HCP and chances getting infected through NIS or Sharps. The estimated number of needles used per day is significantly related to the order of sustaining a needle stick injury. Hours worked per day, weekends worked per month, working other day shifts and working 13 or most hours per day at least once in a week are each significantly associated with NSI. Good practices in a hospital can bring down the incidence of NSI and thus reduce the cost of treatment. NSI and other sharp injuries are the key Canadian health issue, affecting 70000 people per year and costing around dollar 140 million. A safety programme at Toronto Hospital on blood collection and patient injection had achieved on 80% reduction in injuries with in one year. Nurses are an integral component of the health care delivery system. In discharging their duties nurses encounter a variety of occupational health problems. Nurses are at risk of infection through injuries caused by infected sharps and needles. Most of the HCP specially nurses are aware about the risks of NIS or Sharps but it has been observed that in most of the hospitals of India, most of HCP are not observing precautions, predominantly due to the reason that they do not like it or proper environment has not been made available to follow or the consequences are emotively visible. Hospital authorities are not taking much interest in the subject as they feel that they are not accountable. Very few awareness development programmes are carried out by some of the hospitals. If we see from the close angle both HCP and Hospitals are responsible and accountable for implementation of precautions and the complications, which may arise in future. The punishment for non-compliance is not an answer. The loss of the life of HCP is not only an individual’s loss but also a national loss.
Experience of Patient Safety Committee in DR.RML hospital and PGIMER

Dr. T.S. Siddhu  
Medical Superintendent  
Dr. RML Hospital  
New Delhi

Patient safety Committee was constituted on 16/5/08 under the chairmanship of Additional Medical Superintendent. Members include senior specialists from Departments of Medicine, Surgery, Gynaecology, Anaesthesia, Microbiology, Secretary infection control committee, Grievance cell in charge, Officer in charge Bio Medical Waste, Injection safety office, Blood bank in charge and Matron / Nursing Superintendent, Social worker, NGO representative, Patient representative and Journalist.

Objectives of Patient safety Committee

Overall: To ensure safety of patients and to minimize medical errors. Specifically
1. Take care of all complaints/cases where patient safety is compromised.
2. Find reasons for breech in patient safety
3. To suggest corrective measures and not be a regulatory body

Salient features of patient safety program at RML hospital

- Meetings of Patient safety Committees are held monthly and all deliberations are documented and circulated to concerned departments.
- Reviews safety measures implemented
- Patient evaluation Performa designed and distributed amongst selected wards to get feedback
- Surgical safety checklist has been circulated to various surgical departments.
- Adverse reaction reporting cell /accident reporting cell constituted. All Heads Of Departments to report any adverse reaction with reference to Drugs / Injections / chemicals / Accidents- to the committee on regular basis.
- Review of department wise death cases.
- Grievance cell reporting-all grievances to Patient Safety Committees.
- Microbial hand wash is being provided to various OPD’S and critical areas like OT’s, ICU’s, NICU & PICU.
- Posters on hand hygiene / hand washing techniques displayed in all OPD’s and wards.
- May I help you counters functioning in OPD’s to help and guide patients.
- Social worker guidance taken by sister in charges for patients admitted without any relatives or who need assistance for investigations.
• 24 hr arterial blood gases (ABG) testing is being done for the benefit of patients.

Practices followed in Wards

• Unit in charges ensure that shifting of patients from casualty to wards is done on time so that treatment in wards can be initiated timely.
• Duty doctor is available in wards at all times to attend any emergency.
• Interdepartmental referrals are being attended to in time.
• Critically ill patients are given priority for investigations –MRI, CT scan, US and Doppler.
• Indenting of medicines made simpler, shorter and less time consuming.
• List of available drugs circulated to all departments to reduce purchase of medicines from outside.

Increasing Awareness among Doctors

• Training of Resident doctors in central line and intubations has been started.
• Postgraduate students doing Hospital administration are covering patient safety as part of curriculum.
• A 2hr compulsory induction course started for resident doctors on their joining. Topics covered— infection control, patient safety, behavioural practices, record keeping and medico legal cases

Achievements

• Strengthened standard precautions (part of infection control programme).
• Infection control practices strengthened especially in critical time like outbreak of swine flu.
• Auto disable syringes are being used.
• Needles stick injury testing, reporting, counseling and PEP available.
• Surveillance of surgical site infections and MRSA are ongoing.
• Hand Hygiene practices have been reinforced (part of infection control programme).
• World Hand Hygiene Day 5th May 2009: MS. HODs, Nursing Staff took pledge to promote hand hygiene further. Awareness campaign held with help of posters and lecture demonstrations.
• World hand hygiene day 5th May 2010; Posters displayed all over the hospital. Nursing staff participated actively.
• Regular teaching / education of all categories of hospital staff on patient safety, infection control and waste disposable practices.
• Blood safety programme functioning in our blood bank.
• Antibiotic policy being implemented.
• Judicious use of restricted antibiotics promoted on basis of antibiotic sensitivity reports from Microbiology department.
• Biomedical waste is disposed according to Bio Medical Waste Management & Handling rules.
Safdarjung hospital is a central government hospital under the Ministry Of Health And Family Welfare, started as an American army base hospital during the ii world war – 1942 with 204 beds. Today it has increased to 1531 beds and provides medical care to millions of citizens of Delhi and neighbouring states. Govt. of India is committed to ensure safety of patients while providing health care services throughout India. Keeping this in mind patient safety committee has been formed at Safdarjang hospital.

Following steps have been taken at Safdarjung hospital to ensure safety of the patients in the wards, OPD, casualty etc.

- An Adverse Event Reporting Cell and a Grievance Cell is functioning in the hospital. All adverse events and the difficulties faced by the patients are reported here so as to enable the hospital to take action to prevent these errors in future. All the hospital staff is also encouraged to report any adverse event.
- The medical social workers and the nursing staff take feedback from indoor patients as to how they evaluate the hospital services. This data is aggregated and analyzed for necessary action.
- There is a Death Review Committee which scrutinizes all the deaths in the hospital and submits its report for necessary action.
- IEC activities on proper hand wash techniques
- Use of alcohol based hand wash
- Surgical safety check lists and Steps for safety in surgical patients in the ward
- Do not use list for all medication related documentation that is hand written, have been distributed and put up at the required places
- There is formation of a Biomedical Waste Management committee
- Regular training of all resident doctors and hospital staff in areas of Patient safety, Occupational safety, Safe injection practices, Bio waste management and Correct labelling and transport of samples
- Infection control measure and surveillance
- Closed circuit TV.

Hospital authorities are committed to provide safe environment and services for all attending the hosp and see to it that no harm comes to them while they are in the hospital premises.
Experiences on Patient Safety Committee at Lady Hardinge Medical College &
Associated Hospitals

Introduction: Lady Harding Medical College was established in 1914 and is the only womens Medical College in India. The two Hospital attached to it are Smt. Sucheta Kripalani Hospital (877 beds) and Kalawati Saran Children’s Hospital (370) beds, with a bed occupancy rate of 70%. The OPD attendance is more than 2000 patients per day and 55 major surgeries are performed per day on an average.

Patient Safety Committee was formed in this Institution in February 2008 under the chairmanship of the Additional Medical Superintendent and HOD Microbiology as the Co-Chairperson. The Members included are Prof of Surgery, Prof. of Medicine, Prof. of Obst. & Gynae, Prof of Pediatrics. Prof. of Pathology, Chief Nursing Superintendent, Medical Social Worker, Journalist, Patient, and a member from an NGO.

The committee meets quarterly to review the progress of the patient safety measures and to suggest subjects to be addressed which were forwarded to the Hospital Administration for implementation. The committee works as an advisory committee to the Hospital Administration.

The committee reviews the functioning of the Hospital waste management committee and Hospital infection control committee.

During the period the following works have been done:

Training programme for new entrants S.R, J.R. New appointees and interns: It has been made mandatory for all the SR, JR, interns and new recruits to get the training on waste management and hand hygiene until then their 1st salary is not released.

Posters of Hand Hygiene and methods of waste disposal have been displayed in relevant areas, and promotion of 5 moments of hand hygiene done with colorful posters. Poster competition and Role plays on hand hygiene and surgical safety chick list have been organized for educating the HCWs.

Safe Surgery Saves life campaign has been practiced and it has been made mandatory to use the safe surgery check list in all the planned surgeries which is attached to the patient’s record file. Directions and guidelines for surgical hand preparation steps have been prepared and taught to all the doctors, nurses & technicians and displayed in all the operation theatres.

Injection & Immunization Safety: Regular training for nurses and the interns in safe injection practice is regularly conducted at Kalawati Saran Children’s Hospital. However a study conducted on the safe injection procedure failed to find satisfactory compliance, which is being taken up and vigilance is kept to that the HCWs adhere to the principles of safe injection practice.
**Pharmacovigilance and safe drug prescription:** The hospital is running a programme on pharmacovigilance and all the adverse drug reaction cases are reported as per standard performa. Adverse event reporting performa has been circulated in the hospital and there is poor response from the staff in this matter. The cause of reluctance of the Staff is being investigated and every effort to implement it is being done.

This Hospital is organizing periodical CME on safe & correct prescription procedures to sensitize the prescribers. Interns of the hospital are made to undergo one day training on ADR and rational prescribing practices giving emphasis on Joint commissions ‘Do not use’ list. The Department of Pharmacology evaluates the cases prospectively for both indoor & outdoor patients.

During these 2 years of the Patient Safety initiative this Hospital has generated some awareness among the Health Care Workers of this Hospital with all the infrastructure and facility constraints, but there is scope of improvement to a satisfactory level by improving the patient safety awareness amongst the Healthcare Workers,
A practical method for improving patient and staff safety practices and reducing adverse events.

Objective:

To improve patient and staff safety practices and reduces adverse events across a chain of six hospitals in India.

Methods:

Patient and staff safety is a relatively new subject for developing nations such as India. However, with the National Accreditation Board for Hospitals and Healthcare providers (NABH) coming into being in 2005, increased awareness and subsequent improvements are being evidenced. In this Quality Improvement Project, the hospitals involved were a chain of six privately managed secondary and tertiary care hospitals in the city of New Delhi. Two out of these six hospitals were among the first to embrace the NABH standards and achieve accreditation after the launch of the standards in the country. Using the broad framework of the standards, the entire chain of hospitals was brought under the safety culture and improvements were seen over eight months. This was done by establishing a culture of voluntary reporting of events, developing a simple tool for reporting, followed by analysis and corrective and preventive actions. Patient safety goals that were relevant to the needs were adapted and action plans made.

The key steps involved were:

- Developing important patient and staff safety policies and procedures
- Patient Safety Goals with action plans and the accountability framework
- Spreading awareness of patient and staff safety across the organization through induction and ongoing training programs and Safety committees
- Establishing a “blame free” culture
- Developing a simple, easy to use daily reporting system
- Analysing data and trends and instituting corrective and preventive actions

The adverse event reporting tool was called “Quality Flash”. This was developed on an excel file format and the following events were reported, along with their impact on affected patients: Medication Errors, Patient falls, Pressure Sores and Hospital Acquired Infections (CRBSI, VAP, UTI and SSI). Needle stick events were also made a part of this reporting system. The quality manager, administrative and nursing heads received the report for the previous day each morning and would take immediate actions to prevent recurrence. Detailed reporting forms would follow.
Results:

Monthly trends showed an increase in reported events following the launch of the tool due to increased awareness, followed by a decline of some events due to improvement initiatives such as training and close follow up. The culture of safety has successfully been established across the six centres. The tool has been easy to implement, problems are identified as they occur; and widespread participation with reduction of some events has resulted.

(Distribution of the adverse events)

<table>
<thead>
<tr>
<th>Distribution of adverse events</th>
<th>Graph showing trends of adverse events</th>
</tr>
</thead>
</table>

Conclusions:

- The author has found that it is important for organizations to commit ‘internally’ to patient and staff safety and identify priority areas for improvement.
- Locally innovative practices and a non punitive culture can succeed effectively with management support and widespread participation.
- Complex technology need not be required for reporting systems (keep it simple).
- Developing countries are making rapid strides through strong national accreditation systems and access to international benchmarks, to provide safe patient and staff care, comparable to systems in other more experienced and developed economies.
Recommendations for Ministry of Health

Capability Building

- Ministry to take out national policies and procedures that will serve as guidelines for the country to follow
- Private participation and partnership with Government
- Introduce all aspects of Patient and Staff safety in all teaching curriculums (Nursing, MCI, DNB)
- Train the trainer: All hospitals heads/Department Heads / Faculty of teaching programs MUST be exposed to trainings sessions on safety.
- Introduce a “Training Portal” for online e learning modules that lead to certification on safety which anyone in country can access and have standardized teaching and training modules
- Introduce job description and position of ‘Quality and Safety Officer’ at each govt. hospital.
- Identify 5 year plans : which areas to prioritize year wise
- Give wide support to NABH/NABL as they are the best tools for introducing and mandating safety in a standardized manner. The framework is comprehensive and covers all aspects of patient and staff safety (Including environmental, fire, hazardous chemicals, medication, BMW, falls and injuries, etc)

Learn and Improve

- Develop a data base for capturing adverse events at a National Level
- Encourage “learn and improve” culture
- Provide legal immunity to hospitals – non disclosure of investigations reports
- Non punitive and just culture approach
- Introduce “rewards and recognition” at National Level to hospitals that put up case studies of improvement (both private and government).
Medication Safety

Dr. Sampada Patvardhan,
Principal-SVKM’s Dr.Bhanuben Nanavati College of Pharmacy (BNCP) Mumbai
and Ex-Director, Drug Information Centre,
Maharashtra State Pharmacy Council (MSPC), Mumbai
spatvardhan@gmail.com
Phone: 09820662080

Objective:
To improve medication safety practices and reduces adverse drug reactions by creating mass awareness on Medication Safety and controlling medication errors.

Medication use is a complex process that comprises the sub-processes of medication prescribing, order processing, dispensing, administration, and effects monitoring. If medication safety is compromised the result would be occurrence of medication error which is defined as “any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the health care professional, patient, or consumer”. Such events may be related to professional practice, health care products, procedures, and systems including: prescribing; order communication; product labeling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.
The key elements that affect the medication-use process are listed below. The interrelationships among these key elements form the structure within which medications are used. While most medications have a large margin of safety, a small number of drugs have a high risk of causing injury when they are misused.

1. **Patient information**: Obtaining the patient’s pertinent demographic (age, weight) and clinical (allergies, lab results) information that will assist practitioners in selecting the appropriate medications, doses and routes of administration.
2. **Drug information**: Providing accurate and usable drug information to all healthcare practitioners involved in the medication-use process reduces the amount of preventable ADEs.
3. **Communication of drug information**: Miscarriage between physicians, pharmacists and nurses is a common cause of medication errors.
4. **Drug labeling, packaging and nomenclature**: Drug names that look-alike or sound-alike, as well as products that have confusing drug labeling and non-distinct drug packaging significantly contribute to medication errors.
5. **Drug storage, stock, standardization, and distribution:** Standardizing drug administration times, drug concentrations, and limiting the dose concentration of drugs available in patient care areas is vital.

6. **Drug device acquisition, use and monitoring:** Appropriate safety assessment of drug delivery devices should be made both prior to their purchase and during their use.

7. **Environmental factors:** Having a well-designed system offers the best chance of preventing errors; however, sometimes the environment in which we work contributes to medication errors.

8. **Staff competency and education:** Staff education should focus on priority topics, such as: new medications being used in the hospital, high-alert medications, medication errors that have occurred both internally and externally, protocols, policies and procedures related to medication use.

9. **Patient education:** Patients must receive ongoing education from physicians, pharmacists and the nursing staff about the brand and generic names of medications they are receiving, their indications, usual and actual doses, expected and possible adverse effects, drug or food interactions, and how to protect themselves from errors. Patients can play a vital role in preventing medication errors when they have been encouraged to ask questions and seek answers about their medications before drugs are dispensed at a pharmacy or administered in a hospital.

10. **Quality processes and risk management:** The way to prevent errors is to redesign the systems and processes that lead to errors rather than focus on correcting the individuals who make errors.

**Who plays a role in medicine safety?**

1. Pharmaceutical companies that develop, test, and produce medicines
2. Regulatory agencies that approve the use of medicines
3. Doctors who prescribe medicines
4. Pharmacists and nurses who dispense and provide counseling regarding medicine
5. Patients who take medicines and relatives who give medicines to those they care for

Drug names that can be confused, especially those names that look or sound alike (SALA), can increase the risk for medication errors. Errors involving these problematic name pairs may occur when a prescriber interchanges the two medications when writing an order, when someone misinterprets a written order, when a person taking a verbal order does not hear the order as intended, when selecting a medication when entering an order into a computer system or when obtaining medications from storage.

---

**MSPC’s DIC successfully completed WHO India country office funded project in the year 2007 titled as shown below:** Building of database of brands of pharmaceutical formulations and study the cases of Misbranding and SALA Drugs responsible for Medication Errors in Maharashtra and Gujarat State. It is now uploaded on website of WHO India country office at: Study of Misbranding And SALA Drugs Responsible For Med Errors In ... Essential Drugs and Medicines. Study of Misbranding And SALA Drugs Responsible For Medication Errors In Maharashtra And Gujarat. Cover Page. Declaration ... www.whoindia.org/en/Section2/Section5__1476.htm - 37k

**Brand Name Analyser**

**For Maharashtra State:** 18,630 brands (both single drugs and fixed dose combinations) of pharmaceutical formulations. **Total misbranded drugs detected in our study:** 201 brands **Total SALA brands detected in our study:** 2582 brands

**For Gujarat State:** 19,367 brands (both single drugs and fixed dose combinations) of pharmaceutical formulations. **Total misbranded drugs detected in our study:** 317 brands **Total SALA brands detected in our study:** 3847 brands

Visit: http://www.whoindia.org/LinkFiles/Essential_Drugs_Study_of_Misbranding_and_SALA_Drugs_Responsible_for_Medication_
In India, a pharma company gets the manufacturing license number in one state to manufacture a particular brand and then can market that brand in any other state and thus that brand may be registered in the state where FDA gave a manufacturing permission but not in FDA register of state in which it is widely sold. This mechanism is many times misused for commercial interest and compromises patient safety. This practice should be immediately halted and replaced with single central regulatory body taking care of manufacturing and marketing permission process.

Also such central body should have competent Medical expert to detect and reject Misbranding cases, irrational FDCs with high screening efficiency. USFDA can be treated as a role model to create such agency with vast data and medication information made available in public domain and regularly

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic drug</th>
<th>Clinical use</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab. Aldactone Inj. Aldaraone</td>
<td>Spironolactone Amiodarone</td>
<td>Diuretic Anti-arrhythmic</td>
<td>RPGlife Alidac</td>
</tr>
<tr>
<td>Inj. Amicon</td>
<td>Amikacin</td>
<td>Anti microbial</td>
<td>Coramed Samarth pharma</td>
</tr>
<tr>
<td>Inj. Amcor</td>
<td>Amrinone</td>
<td>Congestive heart failure</td>
<td></td>
</tr>
<tr>
<td>Ecartroan cream</td>
<td>Mupirocin(2%)</td>
<td>Topical anti-microbial</td>
<td>Glaxo Smithkline</td>
</tr>
<tr>
<td>Estraflam cream</td>
<td>Clobiprox creamine</td>
<td>Topical anti-fungal</td>
<td>Hoechst Marion Roussel</td>
</tr>
<tr>
<td>Tab. Cedobec</td>
<td>Ketorolac</td>
<td>NSAID</td>
<td>Cadila pharma</td>
</tr>
<tr>
<td>Tab. Carlo</td>
<td>Canulolid</td>
<td>Non-scarlatina haemorrhagic</td>
<td>Ranla</td>
</tr>
<tr>
<td>Tab. Catrine</td>
<td>Cetrizine</td>
<td>Anti-histaminic</td>
<td>Dr. Reddy's</td>
</tr>
<tr>
<td>Inj. Cytarine</td>
<td>Cytarabine</td>
<td>Anti-neoplastic</td>
<td>Dabur</td>
</tr>
<tr>
<td>Tab. Combuctol</td>
<td>Ethambutol</td>
<td>Anti-tubercular</td>
<td>Lupin</td>
</tr>
<tr>
<td>Tab. Carbactol</td>
<td>Carbamazepine</td>
<td>Anti-convulsant</td>
<td>Torrent</td>
</tr>
<tr>
<td>Tab. Dsori</td>
<td>Glibenclamide</td>
<td>Sulphonylurea</td>
<td>Aventis</td>
</tr>
<tr>
<td>Tab. Depsonil</td>
<td>Imipramine</td>
<td>Tri-cyclic anti-depressant</td>
<td>SPPL</td>
</tr>
<tr>
<td>Cap. Dilantin</td>
<td>Phenytoin</td>
<td>Anti-convulsant</td>
<td>Parke-Davis</td>
</tr>
<tr>
<td>Tab. Dilconin</td>
<td>Diltiazem</td>
<td>Anti-hypertensive</td>
<td>Modilund pharma</td>
</tr>
<tr>
<td>Tab. Epitri</td>
<td>Clozaneparn</td>
<td>Anti-convulsant</td>
<td>Novartis</td>
</tr>
<tr>
<td>Tab. Enapril</td>
<td>Enalapril</td>
<td>Angiotensin converting enzyme inhibitor</td>
<td>Inter</td>
</tr>
<tr>
<td>Tab. Facitel</td>
<td>Meflosquine</td>
<td>Anti-malarial</td>
<td>ZydusCadila</td>
</tr>
<tr>
<td>Tab. Faralutal</td>
<td>Medroxy progesterone acetate</td>
<td>Progesterne</td>
<td>Pharmacia &amp; Upjohn</td>
</tr>
<tr>
<td>Cap. Modox</td>
<td>Amoxacillin + Dicloxacin</td>
<td>Anti-microbial</td>
<td>Koprani</td>
</tr>
<tr>
<td>Cap. Maxox</td>
<td>Rifampicin</td>
<td>Anti-leproptic</td>
<td>Macleods</td>
</tr>
<tr>
<td>Cap. Neurontin</td>
<td>Gabapentin</td>
<td>Anti-convulsant</td>
<td>Parke Davis</td>
</tr>
<tr>
<td>Tab. Nitroantin</td>
<td>Glycine trinitrate</td>
<td>Anti-epileptic</td>
<td>Macleods</td>
</tr>
<tr>
<td>Tab. Opam</td>
<td>Pioglitazone</td>
<td>Oral anti-diabetic</td>
<td>Wockhardt</td>
</tr>
<tr>
<td>Cap. Odac</td>
<td>Omeprazole</td>
<td>Proton pump inhibitor</td>
<td>Aglimowed</td>
</tr>
<tr>
<td>Inj. Oframax</td>
<td>Ceftriaxone</td>
<td>Anti-microbial</td>
<td>Fanbexv Aventis-Pasteur</td>
</tr>
<tr>
<td>Inj. Okavax</td>
<td>Liv attenuated vaccine of varicella zoster</td>
<td>Vaccine</td>
<td></td>
</tr>
<tr>
<td>Tab. Rapiin</td>
<td>Repaglinde</td>
<td>Anti-diabetic</td>
<td>Aztec(sun division)</td>
</tr>
<tr>
<td>Tab. Raxidin</td>
<td>Ramlinide</td>
<td>Thiazide receptor 2 antagonist</td>
<td>Torrent</td>
</tr>
<tr>
<td>Tab. Rokcin</td>
<td>Roxithromycin</td>
<td>Anti-microbial</td>
<td>Fletidico</td>
</tr>
<tr>
<td>Tab. Roxin</td>
<td>Thyroxine</td>
<td>Hormone</td>
<td>Cadila health care</td>
</tr>
<tr>
<td>Tab. Tricorn</td>
<td>Triamcinolone</td>
<td>Corticosteroid</td>
<td>Alidac</td>
</tr>
<tr>
<td>Tab. Tricox</td>
<td>Rifampicin + isoniazid + Pyrazinamide</td>
<td>Anti-tubercular</td>
<td>Themis chemicals</td>
</tr>
</tbody>
</table>
updated. (check www.fda.gov) Ministry of Health and CDSCO office should meet regularly to discuss patient safety related issues.

Hospital Pharmacists and Nurses at present lack awareness so MUST undergo a structured **Medication Safety Course** in each Public and Private Sector Hospital with accreditation of Hospital linked to it.

**Recommendations:**

1. Medication Safety: Focused Group or Committee in Each Public Hospital
2. Intense and consistent Training of Paramedic - Medico Personnel with Retention Check
3. Train Community Pharmacist & Hospital Pharmacist: Possess Great Patient Contact
4. Mass Awareness needed on SAFE MEDICATION and SELF MEDICATION
5. Guidelines to be developed in Local Languages: Involve Youth To increase Outreach
6. Industry-Prescriber-Dispenser-Regulator Body to Deliberate on regular basis
7. Pharma Industry should create Medication Safety Cell
8. Dedicated Website to Access the Information on Medication Safety in Public Domain
9. Robust and vibrant Pharmacovigilance Program
10. Right to Health Information: on similar lines with RTI?
Adverse Event Reporting Systems

Incompetent people are, at most, 1% of the problem. The other 99% are good people trying to do a good job who make very simple mistakes----Dr. Lucian Leape, Harvard School of Public Health

Role of Adverse Event Reporting (AER)

The fundamental role of patient safety reporting systems is to enhance patient safety by learning from failures of the health-care system.

AER: Types of Events

- **Adverse events:**
  An adverse event is an injury related to medical management in contrast to a complication of disease. Other terms that are sometimes used are “incidents”, and “accidents”. Adverse events are not always caused by an error, e.g.: adverse drug reactions. However, many adverse events are caused by errors: either of commission or omission. They usually reflect deficiencies in the systems of care.

- **Error**
  Error has been defined as “the failure of a planned action to be completed as intended (i.e. error of execution) or the use of a wrong plan to achieve an aim (i.e. error of planning)”.
  The number may be overwhelming; therefore, some sort of threshold is usually established – such as “serious” errors, or those with the potential for causing harm (near misses” or “close calls”).
  Establishing such a threshold for a reporting system can be difficult; hence, most “error reporting systems” are actually “adverse events caused by errors” systems.

- **“Near miss” or “close call”**
  A near miss” or “close call” is a serious error or mishap that has the potential to cause an adverse event, but fails to do so by chance or because it was intercepted.
  A key advantage of a near miss reporting system is that because there has been no harm the reporter is not at risk of blame or litigation.

- **Hazards and unsafe conditions**
  Reporting of hazards, or “accidents waiting to happen” e.g. “look alike” packaging and “sound alike” names.
AER: Types of Systems

- **Learning Systems:**
  - Focus on learning and contributing to system redesign
  - Wider scope of events to be reported
  - Reporting usually voluntary
  - Better institutional compliance
  - Examples: Australia (AIMS), British NRLS and Japan

- **Accountability Systems:**
  - Focus on public accountability and legal / regulatory directives
  - Scope more specific: e.g.: sentinel events
  - May lead to external investigation and root cause analysis
  - Reporting usually mandatory
  - Success depends on inducing institutions to report
  - Examples: Danish system, US (some states)

- **Mixed systems**

- **Internal (institutional) reporting system**

AER: Confidentiality and public access to data

Learning systems are most successful when reports are confidential and reporters do not feel at risk in sharing information about errors. Protecting the confidentiality of health-care organizations significantly enhances participation in reporting. Public rights groups may call for public disclosure of information uncovered during investigations of serious adverse events. The choice depends on maturity of the system and legal statutes

AER: What types of learning are the priorities?

- Alerts regarding significant new hazards
- Lessons learned by hospitals
- Analysis of trends
- Analysis of systems failures
- Recommendations for best practices

Components of AER Systems

- Reporting network: Public / Private care providers or both, Sentinel Site network
- Regular reporting (including “nil” reporting versus sentinel event reporting
- Mechanisms for collecting reports
- Data flow and analysis and Database management
- Method for classifying events (Taxonomies)
• Capacity to investigate
• Expert review and analysis
• Capacity to disseminate findings and recommendations
• Use of Surrogate data sources: ADR, AEFI, MIS data / Medical Record Audit, AMR Surveillance, Anonymous reporting, Periodic Surveys
• State / Central Monitoring Cell: with terms of reference as
  - Data Collation and analysis
  - Monitoring of the system: nil report monitoring, timeliness of reporting
  - Root cause / Causality analysis
  - Signal detection
  - Feed-back and dissemination
  - Provide onward support for policy changes

Approach to Data analysis?

• Hazard identification
• Summaries and descriptions
• Trend and cluster analysis
• Correlations
• Risk analysis
• Root cause / Causal analysis
• Systems analysis

Characteristics of Successful Reporting Systems (7)

<table>
<thead>
<tr>
<th>Non-punitive</th>
<th>Reporters are free from fear of retaliation against themselves or punishment of others as a result of reporting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidential</td>
<td>The identities of the patient, reporter and institution are never revealed.</td>
</tr>
<tr>
<td>Independent</td>
<td>The Reporting system is independent of any authority with power to punish the reporter or the organization</td>
</tr>
<tr>
<td>Expert Analysis</td>
<td>Reports are evaluated by experts who understand the clinical circumstances and are trained to recognise underlying systems causes.</td>
</tr>
<tr>
<td>Timely</td>
<td>Reports are analysed promptly and recommendations are rapidly disseminated to those who need to know, especially when serious hazards are identified.</td>
</tr>
<tr>
<td>Systems oriented</td>
<td>Recommendations focus on changes in the systems, processes or products rather than being targeted at individual performance.</td>
</tr>
<tr>
<td>Responsive</td>
<td>The agency that receives reports is capable of disseminating recommendations, Participating organizations commit to implementing recommendations whenever possible.</td>
</tr>
</tbody>
</table>
AER: Priority Areas

- Safe clinical care
- Surgical safety
- Blood safety
- Safe injection practices
- Medication errors
- Safe Bio-medical Waste Management
- Health Care Associated Infections

AER: Challenges

- Practical or data overload?
- Learning or accountable system?
- Voluntary or mandatory reporting?
- Confidential or public disclosure of information?
- What is the capacity of the system to report?
- What are the training needs?
- What are the data management support and feedback mechanisms?
- What is the course for corrective actions / policy changes?
Though the terminology “patient safety” came into vogue when “World Alliance for Patient Safety” (WAPS) was formed in 2004. But momentum to this movement came only after initiative was taken to include “patients” for Patient Safety in Mar 2006 in London Declaration. Further Action on ‘Patients for Patient Safety’ was evident in Jakarta Declaration, July 2007.

Basic concept of patient safety is eliminating preventable medical mistakes, guarding against the impact of human error and establishing systems to safeguard patients' health and well-being.

Impact of problem is as high as 1 in 10 patients around the world suffer from one or the other health care errors. It leads to erosion of trust, confidence and satisfaction among public and health-care providers. Problem is so high that WHO calls patient safety an endemic concern.

There is proven fact that patients who are more involved with their care, tend to get better results. Organizations which embrace a philosophy of including patients’ input in their decision-making processes earn the trust of patients and flourish. It’s a win–win for both patients & organisations because the patients have insights, ideas, and suggestions to improve their care that are not found in medical textbooks.

During regional workshop "Patients for Patient Safety", July’07 Jakarta, Indonesia, patients, consumer advocates, health care professionals, policy-makers, NGO representatives, professional associations and regulatory councils held a three days brainstorming sessions and resolved to declare JAKARTA Declaration, which was Inspired by the WHO World Alliance for Patient Safety, Patients for Patient Safety London Declaration (March 2006). It urges Member States to "engage patients, consumer associations, health care workers, and professional associations, hospital associations, health care accreditation bodies and policy-makers, in building safer health care systems and creating a culture of safety within the health care institutions". Besides other things it declares that

- No patients should suffer preventable harm
- Patients are at the centre of all patient safety efforts
• Fear of blame and punishment should not deter open and honest communication between patients and health care providers;
• Work in partnership in order to achieve the major behavioral and system changes to address patient safety in our Region;
• Transparency, accountability and human touch are paramount;
• Mutual trust and respect between health care professionals and patients;
• Informed treatment, so that patients participate in decisions related to their care;
• Patients should have access to their medical records;
• Reporting of med errors and investigation with due respect to confidentiality;
• Providers involved in unintentional harm should receive support;
• Corrective actions to prevent future harm and widely share lessons learnt;
• Mechanism to fairly compensate the patient and their family;
• Partnering media to encourage responsible reporting and to educate the public;
• Two-way communication among patients and health care providers
• Meaningful patient representation on patient safety committees and forums

Patient has an important role to ensure his successful, healthy outcome from all sorts of treatment and safeguard himself from likely medical errors. To achieve this objective patient should

• Choose his personal doctor/family physician, who not only knows his past medical history & drug allergy but also aware of his attitude & financial status. Family physician is the best person to guide (where to go) in case of emergency or surgery.
• Always accompany with a family member or a friend, to ask questions & absorb instructions given by health care provider
• Take all previous medicines-supplements taken to avoid drug interactions & over dosage
• Report past drug allergies and adverse reactions with medicines. While admitted in a hospital, this information should be spread amongst all doctors or nurses coming into your contact
• Make sure that medicines be taken only from registered pharmacist, against invoice and matching with the prescription. Substitute should not be accepted. No change in medicine be allowed without permission of attending doctor. Sound alike look alike medicines may have different pharmacological actions
• Ask for likely side effects & action required if they occur?
• Interaction with other medicines, food or dietary supplements
• Take medicine in accurate doses and at scheduled timings. Liquids should be measured with measuring cups or spoons and not with kitchen spoons.
• Make sure you, your doctor, and your surgeon all agree on the procedure of operation.
• Mark with a pen before the surgery on the part of your body where the surgery will happen to avoid surgery at the wrong site

Success of Patient, parent, physician partnership in Thalassemia

Thalassemia affects in early childhood when patient is unaware of his condition and parents have no knowledge of the disease. It’s chronic inherited blood disorder. Survival depends upon life long repeated
blood transfusions & painful costly chelation therapy. There is always fear of Hepatitis B, C and/or HIV infection and early death.

In 1991 some patients, parents, doctors and well-wishers decided to tackle this issue unitedly and formed National Thalassemia Welfare Society (NTWS). At that time condition of Thalassemics was pathetic even in the capital of the country. Haemoglobin was maintained around 6-7gm/dl. The most prestigious institutes like AIIMS & RML Hospital were giving transfusions alongside critically ill patients or in causality wards.

NTWS interacted with authorities to start separate Thalassemia wards in all the major hospitals in Delhi. Regular clinical meetings were held to educate the affected families and update health care providers. Articles in newspapers and brochures were used to spread the message in general public.

A child is affected with Thalassemia only when both husband and wife are thalassemia carriers. Then in each pregnancy, there is 25% chance of giving birth to a Thalassemia major (diseased child). Since Thalassemia carriers are absolutely normal & healthy and they don’t not know their thalassemia status until they go for a blood test. Birth of Thalassemia major can be prevented by thalassemia screening followed by marriage counseling & ante-natal diagnosis, if required.

**Thalassemia is 100% Preventable**

Why a Thalassemia major child is born? Where the fault lies? Is it a medical error or gross negligence? Why Thalassemia carrier status was not diagnosed during routine anaemia screening or looking at CBC (done many times for various reasons before marriage/conception). Last but not least why Thalassemia screening was not done during early pregnancy? The family could have been saved from unlimited trauma of repeated life long hospital visits blood transfusions to young child and mind boggling cost.

NTWS launched massive awareness campaign through Radio, TV and press coverage. Lectures at schools, colleges, offices, Lions & Rotary clubs, religious places, participation in health melas, exhibitions and screening camps became a regular activity. We had five day Thalassemia chetna rath yatra all over Delhi. Our hard work resulted into initiation of Thalassemia screening of pregnant women in three Delhi Govt. and 4 MCD hospitals & 32 maternity hospitals. Our efforts also convinced the Govt. to put advertisements in news papers, publishing posters and leaflets, making of films on Thalassemia and putting hoardings all over Delhi.

**Medical errors in treatment**

There were many errors during treatment also. Thalassemics were asked to transfuse blood only when haemoglobin fall to <6gm/dl. They were transfused whole blood instead of packed RBCs causing hypervolumenemia in patients and irrational use of blood. We propagated the need of component therapy, helped in increasing voluntary blood donation convinced the Delhi Govt. to start Hepatitis C screening even before hepatitis C screening was made mandatory by central Govt.
To save the Thalassemics from deficiency in treatment, NTWS initiated personalized care with the help of senior consultants in the field. Free Thalassemia clinics in 1995 was supported by import of necessary equipments, subsidized investigations, vaccinations, medicines & equipments. These activities assisted us giving them best possible care. Now we many Thalassemia major crossing 25 years of age, well educated, employed, married and having normal children.

“Blood Transfusion Should Be Savior Of Life And Not A Danger To Life”.

NTWS screened 551 multiple transfused Thalassemics of age ranging from 1yr to 49 yrs between Dec’06 and Aug’07. 33 of them were found HIV positive, 89 Hepatitis C (Anti HCV) positive and 43 Hepatitis B (HBs Ag) positive i.e. approximately 6% of them were HIV, 8% Hepatitis B, & 16% HCV infected.

Now we are asking the authorities to make NAT (Nucleic Acid Testing) ITD [Individual Donor Testing] mandatory in donors blood, since with NAT IDT the window period is reduced to 5.6 days in case of HIV, 4.9 days in Hepatitis C & 35.4 days in Hepatitis B. AIIMS, RML and R & R hospitals in Delhi have already started this facility.

Aims of the Patient For Patient Safety Programme is not to play blame game but successful, healthy outcome with safe, error-free care resulting into comfort and peace of mind for patients & providers.

NTWS Vision.

- To err is human but medical error is against humanity
- It can lead to morbidity, mortality, bankruptcy
- NTWS is committed for adequate safe treatment of all existing Thalassemics so that they can live a normal active meaningful life &
- No new Thalassemia Major should born to swallow the trauma of repeated blood transfusions and associated complications

Recommendations for the Govt.

1. Awareness campaign on 5 prime action areas of Patient Safety identified by WHO
2. Patient safety in curriculum of health care providers
3. Drop boxes in all the hospitals and dedicated portal for anonymous reporting of medical errors
4. Immunity to health care providers, who voluntarily report adverse events, during learning/adaptation period say three years from now/Jan2011
5. Regulations on Sound Alike Look Alike drugs (e.g. colour coding, bold prominent information for specific drugs like antihypertensive, antidiabetic, anticancer, psychotropic, not for internal use drugs etc.)
6. Strict restrictions on misbranding of drugs
7. Harsh penalties (life imprisonment/capital punishment) for dealers/manufacturers of spurious drugs
8. Patient information leaflet in two or more languages in legible (e.g. 12 Arial/Times New Roman) font size
9. Measuring cups/spoons must with all oral liquid preparations
10. All hospital based prescriptions be computer printed
11. Promotion of generic drug names
12. Authentic website to access the information on all the medicines available in India
13. Steps to achieve 100% voluntary blood donation and 100% component use within three years
14. Mandatory NAT IDT in donor’s blood
15. National eradication programme on preventable diseases including genetic disorders like
   Thalassemia & Haemophilia
16. Free treatment to poor patients
Physicians, critical care nurses, and intensive care unit (ICU) residents have become intimately aware that medical errors and mishaps occur all too often in the course of their clinical practices. These errors may surface as obvious mistakes with catastrophic consequences. Although there are many factors underlying these errors, the high complexity of critical care medicine is a major contributor to their occurrence. Intensive care has become an important part of the health care system; however, it still is provided in a heterogeneous and suboptimal, fashion.

With regard to patient safety, critical care medicine represents a nexus of both great need and great promise. The need derives from the danger inherent in the ICU where severe illnesses produce unpredictable clinical instabilities that drive clinicians to act quickly and decisively, often in the absence of comprehensive diagnostic assessments. The promise derives from the intensivist’s valuing of data collection and analysis, information technology, teamwork, multidisciplinary cooperation, and performance improvement. It is no wonder that the critical care practitioners have assumed central leadership in advancing quality improvement and patient safety.

Hospital acquired infections is the biggest threat to critically ill patients and we need definite strategies to prevent them. These may include engineering control, environmental control, clinical aspects, administrative changes and nursing aspects. The concept of multidisciplinary approach to this specialty is already in practice. There is already enough evidence in literature to prove that practise specific infection control bundles like VAP bundle and CRBSI bundle can significantly reduce infections.

Some recommendations for future of Critical care

As we attempt to shape our specialty in the coming decades, several factors deserve special consideration.

- Recruiting and maintaining the optimal intensive care unit workforce. Currently, most patients in the ICU are not cared for by physicians who are trained in intensive care. Those hospitals which have trained staff are understaffed. A multi-pronged approach with alternative staffing
models is essential. For the physician shortage, collaborative care models with hospitalists and emergency medicine physicians should be explored.

- The nursing challenge may be even more difficult to meet. In all areas of health care, it has been increasingly difficult to maintain a nursing workforce. Numerous efforts to protect the workforce already have been used in recent years, yet the problem continues. For physician and nursing staff, the keys will be to determine adequate levels of training and capabilities that are required for staffs who are working in the ICU and to fund the appropriate initiatives adequately.

- Harnessing insight into the patho-physiology of critical illness which can be only obtained by recognizing critical care as a super specialty and introducing training courses like D.M in critical care, critical care courses for nursing staff, physiotherapists and respiratory technicians. It will go in a long way to provide holistic critical care.

- Distributing ICU services optimally across regions and systems
  There is no systematic approach to ensure which patients are admitted to ICUs and when. In the absence of such a system, a patient who may benefit from ICU care may or may not receive that care, based simply on the hospital in which she receives care. This almost certainly means a suboptimal matching of ICU services to population needs.

- Promoting public awareness of intensive care
  Despite the huge impact that critical care now has on health, it remains outside the public consciousness. This is almost certainly an important handicap. Great advances in medicine have come through better partnering of the health care system with the public and patients.
Accreditation is defined as public recognition of the achievement of accreditation standards by a healthcare organization, demonstrated through an independent external assessment of that organization’s level of performance in relation to the standard. It calls for excellence on continued basis. National Accreditation Board for Hospitals and Healthcare Providers (NABH) as constituent board of Quality Council of India (QCI) has been set up to establish and operate accreditation program for healthcare organizations and has since then been admitted as institutional member of International Society for Quality in Health Care (ISQua). While accreditation program for hospitals, nursing homes, Blood Banks, AYUSH hospitals, Wellness Centers are fully operational, accreditation for Diagnostic Imaging Centers, Dental clinics etc. is under process.

Accreditation is voluntary. It focuses on learning, self development, improved performance and reducing risk. Cardinal principles of accreditation evaluation are;

- Hospital operation are based on sound principles of system based organization; transparent and objective approach.
- Accreditation standards are implemented and institutionalized into hospital functioning.
- **Patient safety and quality of care**, as core values are established and owned by management and staff in all functions and at all levels.
- There is structured quality improvement program based on continuous monitoring including feedback on patient care services.

It calls for on-site visit to patient care areas and to departments, addressing issues related to physical assessment of infrastructure, medical equipment, security, infection control etc. as required in the accreditation standards. In summary accreditation is comprehensive review of not only facility but also of clinical competence of hospital incorporating patient care and safety to deliver services within its...
The standard “Care of Patient” aims to guide and encourage patient safety as the overall principle for providing care to patients. Patient safety comprises of Clinical safety, Patient safety information, Environment of care, Medication management, Infection control and Patient safety culture. It includes hand hygiene practices, biomedical waste handling, blood safety etc. Accreditation process not only provides assurance of all these safety aspects but also enable monitoring of compliance to these standards on continuous basis. It is worth mentioning that many state governments have already started implementing NABH hospital standards in their hospitals.

Accreditation can therefore be used as a single tool to achieve patient safety and quality in patient care. It is strongly recommended that hospitals should ultimately aim towards achieving accreditation; however, a stepwise improvement approach may be adopted.
Risks and Patient Safety in Radiotherapy

Dr. KJ Maria Das
Department of Radiotherapy
Sanjay Gandhi Postgraduate Institute of Medical Sciences Lucknow

Radiation has been in medical use since discovery of X-ray 1895 by Rongten and radioactivity by Curie 1898 (Radium). It needs to be carefully used for the diagnosis and treatment of cancers and many other diseases. Hence, we need to “Develop an Approach to the Protection for the staff as well as safety for Patient undergoing diagnosis or Treatment by using ionizing radiation.

The exposure of Radiation could be due to presence of radiations in the background, during diagnostic and therapeutic procedures and accidents. The Atomic Energy Regulatory Board (AERB), was constituted on 15 Nov. 1983, by President of India with powers as the “apex body” that regulates the use of ionizing radiation in the country.

Basic Principles of Radiation Protection

- No practice involving radiation exposure shall be adopted unless its introduction produces a net benefit. *(Justification)*
- All exposures should be kept As Low As is Reasonably Achievable, (ALARA) economic and social factors being taken into account. *(Optimization)*
- The dose equivalent to individuals shall not exceed the limits recommended for the appropriate circumstances. *(Limitation)*
- Time of exposure, Distance of exposure and Shielding to be appropriately defined

To protect from radiation what do we do?
- Don’t stay unnecessarily in radiation area
- Proper shielding
- Zone monitor
- Door interlock
- Personnel monitoring

Radiotherapy and Safer radiotherapy

Radiotherapy has been an essential component of the treatment of cancer for many years, with approximately half of all cancer patients requiring radiotherapy at some time in their illness. It forms part of the treatment of 40% of patients who are cured of their cancer.

Radiotherapy is a highly complex process, involving many steps and many individuals in the planning and delivery of the treatment. Such complexity leads to a multitude of opportunities for errors to occur. Though major incidents are infrequent, the consequences can be extremely serious. All parties involved in radiotherapy have a personal and collective responsibility for patient safety.

In any system errors are inevitable but, by understanding why they occur, systems can be put into place to minimize their frequency and maximize detection before harm can be done. The actions and failures of individual people play a central role, but their thinking and behaviour is strongly influenced and
constrained by their working environment and by wider organizational processes. Major incidents almost always evolve over time, involve a number of people and a number of broader contributory factors as listed below.

**Contributing factors for incidents**

- Lack of training, competence or experience
- Fatigue and stress
- Poor design and documentations of procedures
- Over-reliance on automated procedures
- Poor communication and lack of team-working
- Hierarchical departmental structure
- Staffing and skills levels
- Working environment
- Changes in process e.g. a change in a radiotherapy planning system without matching changes to other procedures may unexpectedly result in an error being made when a number of events converge many months later.

**General principles of Prevention of Incidents**

- Building a Culture of Patient Satiety where knowledgeable patients receiving safe and effective care from skilled professionals in appropriate environment with assessed outcomes.
- Review the causes of errors and incidents
- Find ways of reducing occurrence of errors
- Increase detection before harm can occur
- Find ways of reporting errors and near misses to the whole radiotherapy community, thereby facilitating knowledge and learning which might prevent repetition. Voluntary, non-statutory reporting systems offer the potential to build a large database of near misses and incidents of low severity, and these data can then be available for analysis and learning by the radiotherapy community worldwide.
- Make recommendations on the role of education in developing a risk-aware culture.
- When new or changed treatment techniques or processes are to be introduced, a risk assessment should be undertaken and consideration given to additional verification procedures for the initial cohort of patients.
- All departments should have an agreed schedule of equipment quality control and planned preventative maintenance.
Hippocrates recognized the potential for injuries that arise from the well intentioned actions of healers and drafted the Hippocratic oath “prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone.”

Health Care Error

The simplest definition of a health care error is a preventable adverse effect of care, whether or not it is evident or harmful to the patient.

Causes of Health Care Errors

- Human Factors
  - Training
  - Fatigue & Burnout
  - Time Pressures
- Medical Complexity
  - Complicated Technology
  - Powerful Drugs
  - Intensive Care
- System Failures
  - Poor Communication
  - Inadequate Manpower
  - Environmental & Design Errors

Patient safety is a health care discipline that emphasizes the reporting, analysis, and prevention of medical error that often lead to adverse healthcare events. Patient Safety related problems may occur in form of litigation, Hospital acquired infections, additional hospitalization, disability and death.
**Human Factors** in Patient Safety deal with the Science of Relationships between humans and their environment, which could be in form of Human to Human or Human to machine relationships. The concerned factors may be

- **Human to Human:** Communication, Team work and organizational Culture  
- **Human to Machine:** Technology, training, processes and procedures

**Capacity Building:** It could be in the form of increasing the number of persons with a particular skill or increase the skills in a particular person and involves following components.

- Human Resource Development  
- Organizational Development  
- Enabling Framework development

**Rationale of Patient Safety Teaching**

- Links well with existing subjects  
- Can be integrated into existing training programmes  
- Can be made meaningful to students by placing the principles in context of practical roles  
- Students learn better in a safe supportive learning environment, one which is challenging but not intimidating.

**Patient Safety: Training Curriculum Components**

1. Understanding Complexity of the System
2. Being an Effective Team Player  
   - Teaching the Power of Communication  
   - Identification with the concept of a medical team  
   - Inclusion of patients and their families as part of the healthcare team improves outcomes
3. Learning from Errors  
   - Understand how and why systems break down  
   - Implementing effective reporting systems  
   - Systems approach to errors
4. Clinical Risk Management  
   - Identifying the circumstances that put patients at risk  
   - Learning how to use information from complaints, incident reports and quality improvement reports  
   - Acting to prevent or control those risks
5. Continuous Quality Improvement
6. Engaging with Patients and Carers  
   - Introduction to the concept that the health-care team includes the patient and their carer  
   - Fewer errors when there is good communication between doctors and the patients and their carers
7. Minimizing Infections
8. Safety in Invasive Procedures
   - Identify causes of errors like
   - Wrong patients
   - Wrong sites and procedures
   - Inadequate or improper communication
   - Establish principles supporting a uniform approach to treating

9. Medication Safety
   - Understanding the causes of medication errors like
   - Inadequate knowledge
   - Calculation errors
   - Illegible handwriting
   - Confusion regarding the name of the medication
   - Learning to prevent them

The essence of Patient Safety Training includes assessment (Formative & Summative) and evaluation by collecting data from all stakeholders. Translational approach is to followed, however the delivery has to be customized. The training should get integrated with clinical training. The training is needed not only for the new doctors but also for the practicing doctors, health administrators, other health workers and suppliers and manufacturers.
Outcome of the Workshop
Group Work: Guidelines for implementation of patient safety priorities

- Clinical procedures Safety and Hand Hygiene
  - Safe Surgery
  - Medication Safety
Guidelines for implementation of at Primary, Secondary, Tertiary Levels of Care in respect of following Patient Safety Priorities

1. Clinical procedures Safety and Hand Hygiene
2. Safe Surgery
3. Medication Safety

Levels of Care

- Primary: Community Health Centre and Primary health Centre
  - <50 beds
- Secondary: District Hospitals
  - 50-300-500 beds
- Tertiary: Medical College Hospitals, super speciality hospitals
  - Over 500 beds

Members of Group

- Group Leader : Dr B Premkumar
- Dr H.K. Chanda
- Dr G.P. Sinha
- Dr J.S. Arora
- Dr D.C. Chauhan
- Dr A. K. Choudhary
- Facilited by Dr Geeta Mehta

1. Patient Safety Committee should be formed at all levels of Care as per the composition given below
   - Medical Superintendent : Chairperson
   - Microbiologist : Secretary
   - HOD of clinical departments
   - Nursing Superintendent
   - Pharmacist
   - Medical social workers
   - Legal expert
   - Civil society representative
   - Patient/attendant who has suffered harm

2. Clinical Procedures Safety and Hand Hygiene

   It shall include following Activities

   - Improving hand hygiene practice
   - Injection Safety
   - Transfusion safety
   - Biomedical waste Management
   - Safe Medical, Surgical and dental procedures
- House keeping
- Water and Sanitation
- Prevent overcrowding

2.1 Infrastructure to be provided

2.1.1 General
- Sterilization facilities
  - Central Sterile Supply/ room adjacent to OT
  - Protocols for
    - checking and validation of sterilization procedures
    - Procedures for packaging, distribution, storage etc

2.1.2 Hand Hygiene (Routine and Surgical)
- Adequate quality water
- Drinking quality
- Continuous supply,
- Hygienic storage facility for water if continuous supply is not available
- Plain Soap
- Alcohol based hand rub (60-80% concentration of alcohol)
- ABHR with antiseptic (for surgery, invasive procedures)
- Detergent /soap with Antiseptic hand wash ( for surgery, invasive procedures)

2.1.3 Injection Safety
- Protocols for injection practice and disposal
- A-D syringes
- Puncture proof containers

2.1.4 Transfusion Safety
- According to regulations and guidelines
- Blood bank equipments, disposables
- Screening kits
- Standard Protocols

2.1.5 Biomedical waste Management
- As per BMW rules’98 provisions of
  - Containers, colour coded bags, bins, puncture proof containers, Trolleys etc
  - Common disposal facility for incinerable waste, chemicals/ autoclave for local decontamination of waste.
  - Needle destroyer/hub cutters

3. Safe Surgery

3.1 A separate surgical safety committee should be formed especially for secondary and tertiary care
- Chairperson
  Head of General surgery
- Members:
  o HOD anaesthesiology
  o HOD Ortho-surgery
  o HOD Cardiothoracic and Vascular Surgery (CTVS)
  o HOD Cardiology
• HOD General medicine
• Nursing Superintendent
• Frequency of meeting every month on a fixed day
• Will report to Medical Superintendent/ Director of the institution at regular intervals

Primary Level
• Although there are less chances of major operation at primary level yet a surgical safety committee may be formed with Chief medical officer as chairman, senior medical officers/surgeon, social welfare officer, pharmacist, senior nursing staff and anaesthetist (if present) as members
• Frequency of meeting: Once a month on a fixed day

3.2 Systems in Place
• Reminders in the work place.
  • 5 moments of Hand Hygiene, Steps of hand rub and hand wash to be circulated among all Health Care Workers in wards and OTs and posters displayed on the walls
• Safety check list as per WHO guidelines / modified check list as per GOI guidelines, before induction of anaesthesia (local or systemic), before skin incision and before patient leaves OT or Labour Room

3.3 Infrastructure
• Sterile Supply department /CSSD
• Sterilization equipment
• Surgical equipment, adequate quality and quantity
• Protocols for cleaning, disinfection and sterilization
• Protocols for microbiological checks

4. Medication Safety

  Structure
• Good pharmacy with storage facility and policy, cold chain
• Qualified pharmacist
• Chief pharmacist on patient safety committee
• Computerization at all levels from prescription onwards
• Dispensing in separate containers with proper labeling and directions for use, side effects, interaction with other drugs, safety etc
• (cutting the strips whether recommended or not and how to overcome this)
• Sound Drug policies and directions including antibiotic policy
• Other issues
  o Educating the pharmacist not to substitute
  o Injection dispensing policy
  o Drug allergy concerns to be written clearly
  o Special instructions e.g. G6 PD
  o Medical social worker to check
  o Common sounding drugs to be avoided
  o Colour coding of the drugs / highlighters for different drugs and, dosage
  o Accurate dose dispensing
  o Generic prescription
o To check for repetition of the drug /Combination
o Drug interaction
o Permanent record of chronic ailments
o Oral over parenteral

5. General Guidelines (for all 3 components of Patient Safety as above)

5.1 Human Resources
• Ensure vacancies are filled
• Outsourcing may be considered
• Training
• Refresher courses
• Regular curriculum in medical and paramedical courses
• IEC materials to be developed for patients as well as Health Care Workers

5.2 Reporting and Monitoring
• Formats of various levels primary, secondary and tertiary levels of care
• Collection and distribution of reports
• Review and analysis of reports by patient safety committee
• Corrective action
• Reporting portal/intranet

5.3 Budget Depending on existing facilities, levels of care
Group Work: Guidelines for implementation of Patient Safety Priorities

4. Injection Safety
5. Blood safety
6. Bio-medical waste Management
Guidelines of Implementation of Patient Safety Priorities namely Injection Safety, Blood safety and Bio-medical waste Management

Members of the Group

- Dr Charoohans
- Dr. Beena Sawhney
- Dr. Gopikrishna
- Dr. Rao
- Dr. HN Sharma
- Dr Chander Mohan
- Dr. Ashok Rana

1. Injection Safety
1.1 In the hospital, make a committee as
- Health manager
- Nursing superintendent
- Chief Pharmacist

1.2 Training of all injection administering staff regarding proper technique of injection and disposal of syringe and needle after injection should be ensured. It should be supervised regularly by Nursing superintendent
1.3 Organize repeated refresher training about injection safety
1.4 Training of new doctors and staff
1.5 Safety of Medication use process

1.6 Any adverse event while administering Injection should be immediately reported and recorded. The committee should monitor and do the needful to prevent such event.

2. Blood Safety
2.1 Transfusion committee should be formed
2.2 A panel of voluntary donors should be maintained
2.3 Documented procedure for samples/ dispatch of samples for testing to be circulated to all departments.
2.4 Procedure for selection of fit donors as per laid down criteria
2.5 Documented procedures and protocols for each activity should be available e.g. for counseling especially for HIV, examination of donor, cross-matching, bleeding of donor, mandatory tests issue of blood, and Components etc. For every activity make check lists.

2.6 Informed consent for donor

2.7 Protocols for storage and keeping shelf life of blood and components.

2.8 Foolproof procedure for labeling of samples/ blood bags should be followed

2.9 Comprehensive procedure for infection control should be followed

2.10 Audit usage of blood

2.11 Evaluate the systems in place and suggest measures for improvement

2.12 Use of hand hygiene and gloves in bleeding and administering blood and components

2.13 Adverse Event Reporting

- To immediately report any adverse reaction or needle stick injury. In case of Needle Stick Injuries, Post Exposure Prophylaxis (PEP) should be initiated if required.
- To report any mismatch of blood, issue of unscreened or infected blood

3. Biomedical Waste Management

3.1 License/Renewal

3.2 Follow BMW rules/guidelines

3.3 Waste management committee

3.4 (MS, NS, RMO, Sanitary Inspector)

3.5 Training, training and training

3.6 Liquid waste-disinfect, proper disposal

3.7 Mercury waste-reduce and phase out

3.8 Electronic waste – collect separately and give to registered recyclers

3.9 Segregation at generation

3.10 Procedure for disinfection

3.11 Procedure of storage, transportation and disposal
3.12 Usage of gloves, dress, boots, masks etc. by bio-waste handlers

3.13 Hepatitis B Vaccination of Health care workers and all waste handlers

3.14 Group D workers-
   - education-needle stick injury,
   - hand hygiene, guidelines for spillage

3.15 Regular waste audit and waste minimization

3.16 Regular checkups of common treatment and disposal facility by Pollution Control Boards and user institutes

3.17 Patients and attendants awareness creation

Other Issues which may affect Patient Safety

- Lack of human resources
- High no. of patients to healthcare worker ratio
- Lack of essential medicines and supplies
- Lack of diagnostic facilities

Implementation plan for Patient Safety

At National/state/district level

- Organize state level sensitization – for govt. officials, HODs, district medical officers and teaching hospital heads
- Training of TOTs
- Awareness creation for all stakeholders
- Capacity building by training at state and district level
- Identify Priorities
- Match service capacity to health needs
- Reduce harm and disease.
- Raise public health awareness
- Increase community participation in health
- Increase immunization and vaccination rates

At institutional level
   1. Establish a safety culture
   2. Match service capacity to health needs of beneficiaries
   3. Provide adequate information transfer and communication
   4. Reduce harm and disease.
   5. Avoid preventable adverse events and report adverse events
   6. Safe medication usage
Group Work: Guidelines for Patient Safety Surveys Indicators

and Establishment of AER System
PATIENT SAFETY SURVEYS INDICATORS AND ESTABLISHMENT OF AER SYSTEM

Group Members
• Dr Anil Sain        Dr M R Dass
• Dr J N Sinha        Dr Ashok Borkotoky
• Dr F J Govil        Dr S K Chowdhray
• Dr A K Chawla        Dr Paul Francis

Patient Safety Surveys Indicators (Filled Boxes indicate that the indicator is applicable for the level of facility i.e. Primary, Secondary and Tertiary level)

Infrastructure Indicators

<table>
<thead>
<tr>
<th>Infrastructure Indicators</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPHS Standards compliance [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Staff Vacancy Rate</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Accreditation by National Body [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Patient Safety Survey: Process Indicators

<table>
<thead>
<tr>
<th>Process Indicators</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Safety Check-list implemented [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Regular inter-disciplinary communication held [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Laboratory Quality Assurance/Quality Control [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>SOPs for ALL procedures available [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Infection Control Committee established &amp; functional [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Patient Safety Committee established &amp; functional [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Adverse Events (nos. reported last year)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Sentinel Events (nos. reported last year)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Medication Errors being reported [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>CPCB License for BMW Compliance [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Good referral system present [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Regular Medical Audits held [Y/N]</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Patient satisfaction exit survey</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
## Patient Safety Survey: Outcome Indicators

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NMR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal Tetanus Incidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Length of Stay (specialty wise)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilator Associated Pneumonias VAP (Reported last year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical site infection rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cather associated urinary tract infection rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needle Stick Injury Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injection Abscess (nos. in the last year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Transfusion Reaction Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Sore (nos. reported last year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anesthesia Death Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redo-surgery rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Readmission for same cause rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complaints and litigations (nos. reported last year)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Establishment of Adverse Event Reporting (AER) Systems

Establishment of AER: Process Overview

**ADVACACY**

- Meet with State Officer and Administrators
- Establishment of State Monitoring and Review Committee → TOR

**NETWORKING**

- Sentinel Sites (Reporting Units) selection: Public and private, secondary & tertiary

**SURVEILLANCE**

- What to report; Development of tools (forms)
- Data Flow process: Reporting Units → District → State → Center
- Training needs & plan

**DATA ANALYSIS & FEED-BACK**

- Feed-back mechanism
- Process of root cause, causality analysis [Institutional / District]
- Advocacy for System / Policy changes
- Establishment of State Monitoring and Review Committee → TOR

Composition of the Institutional Patient Safety Committee

- **Patient Safety Committee**
  - Chair
  - Hospital Administrator
  - Nursing Administrator
  - Heads of Departments
  - Microbiologist
  - Patient and Community Representatives

- **Patient Safety Circle**
  - Staff Nurse
  - Dietician
  - Technical Officer
  - Group D Suptdt.
AER System:
State / Central Monitoring Cell

• Terms of Reference:
  – Data Collation and analysis
  – Monitoring of the system: nil report monitoring, timeliness of reporting
  – Root cause / Causality analysis
  – Signal detection
  – Feed-back and dissemination
  – Provide onward support for policy changes
Group work: Proformas for Patient safety

Group Members
Dr. Bharat Sagar
Dr. Aarti Verma
Dr. D.N. Pauriyal
  Dr. D.K. Ture
  Dr. B.K. Rana
Dr. Anil Kumar
## STEPS FOR SAFETY IN SURGICAL PATIENTS (IN THE WARD)

<table>
<thead>
<tr>
<th>Task</th>
<th>By Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>To be done by Sr. Resident (Surgery)</strong></td>
<td></td>
</tr>
<tr>
<td>History, examination and investigations</td>
<td></td>
</tr>
<tr>
<td>Pre-op orders</td>
<td></td>
</tr>
<tr>
<td>Check and reconfirm PAC findings</td>
<td></td>
</tr>
<tr>
<td>Assess and mention any co-morbid condition</td>
<td></td>
</tr>
<tr>
<td>Record boldly on 1st page of case sheet --</td>
<td></td>
</tr>
<tr>
<td>--History of drug allergies.</td>
<td></td>
</tr>
<tr>
<td>--Diagnosis with Part and side to be operated</td>
<td></td>
</tr>
<tr>
<td>Blood transfusion</td>
<td></td>
</tr>
<tr>
<td>- Sample for grouping and cross-matching to be sent</td>
<td></td>
</tr>
<tr>
<td>- Check availability &amp; donation</td>
<td></td>
</tr>
<tr>
<td>- Risk of transfusion to be explained to Relatives</td>
<td></td>
</tr>
<tr>
<td>- Any previous H/o transfusion/allergy</td>
<td></td>
</tr>
<tr>
<td>Written informed consent from patient</td>
<td></td>
</tr>
<tr>
<td>(Counter sign by Sr. or Jr. Resident)</td>
<td></td>
</tr>
<tr>
<td>Sister in charge of O.T. to be informed in advance regarding the need for special equipments</td>
<td></td>
</tr>
<tr>
<td><strong>To be done by Staff Nurse</strong></td>
<td></td>
</tr>
<tr>
<td>Patient’s consent to be taken (Counter sign by Sr. or Jr. Resident)</td>
<td></td>
</tr>
<tr>
<td>Part preparation as ordered</td>
<td></td>
</tr>
<tr>
<td>Identification tag on patient wrist</td>
<td></td>
</tr>
<tr>
<td>Name / Age / Sex / C.R. No / Surgical unit / Diagnosis</td>
<td></td>
</tr>
<tr>
<td>Follow pre-op orders</td>
<td></td>
</tr>
<tr>
<td>Antibiotic sensitivity test done</td>
<td></td>
</tr>
<tr>
<td><strong>To be done by Sr. Resident (Anaesthesia)</strong></td>
<td></td>
</tr>
<tr>
<td>Check PAC findings</td>
<td></td>
</tr>
<tr>
<td>Assess co morbid conditions</td>
<td></td>
</tr>
<tr>
<td>H/O any drug allergy</td>
<td></td>
</tr>
<tr>
<td>Check Consent</td>
<td></td>
</tr>
</tbody>
</table>

**Signature of Staff Nurse**

**Signature of Sr. Resident (Anaesthesia)**
### SURGICAL SAFETY CHECK LIST IN THE OPERATION THEATRE

**Coordinator of the check list** – Single Person- Staff Nurse or Senior Resident (Surgery / Anesthesia).

#### SIGN IN (Period before induction of anesthesia)
- **Patient has confirmed**
  - Identity
  - Site
  - Procedure
  - Consent
- **Site marked / Not Applicable**
- **Anesthesia Safety Check Completed**
  - Anesthesia Equipment
  - A B C D E
- **Pulse Oxymeter on Patient and functioning**
- **All equipments in OT functional**

#### DOES PATIENT HAVE A:
- **Known Allergy**
  - No
  - Yes
- **Difficult Airway / Aspiration Risk?**
  - No
  - Yes, and assistance available
- **Risk of >500 ml Blood loss (7 ml / kg in children)**
  - No
  - Yes and adequate I.V. access & Blood / Fluids Planned.

#### TIME OUT (Period after induction & before surgical incision)
- **Confirm all team members have introduced themselves by name & role**
- **Surgeon ,Anesthetist & Nurse verbally Confirm**
  - Patient
  - Site
  - Procedure

#### ANTICIPATED CRITICAL EVENTS
- **Surgeon reviews:** What are the critical or unexpected steps, operative duration & anticipated blood loss
- **Anesthetist reviews:** Are there any patient specific concerns
- **Nursing Team reviews:** Has sterility been confirmed? Is there equipment issue or any concern?

#### Has Antibiotic prophylaxis been given with in the last 60 minutes?
- **Yes**
- **Not Applicable**

#### Is Essential Imaging Displayed?
- **Yes**
- **Not Applicable**

### SIGN OUT (Period from wound closure till transfer of patient from OT room)
- **Nurse Verbally confirm with the team :**
  - The name of the procedure recorded
  - That instrument, sponge, needle counts are correct (or not applicable)
  - How the specimen is labeled (including Patient name)
  - Whether there are any equipment problems to be addressed?
- **Surgeon, Anesthetist & Nurse review the key concerns for recovery and management of patient & post-op orders to be given accordingly**
- **Information to patients attendant about procedure performed, condition of the patient & specimen to be shown**
- **Histopathology form to be filled properly & return all the records & investigation to attendant / patient**

**Signature of Nurse**

**Signature of Surgeon**

**Signature of the anaesthetist**
### I. Admission/Registration

<table>
<thead>
<tr>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

a). Courtesy and efficiency shown during admitting process

b). Problems faced during admission (if any)

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
</tr>
</thead>
</table>

### II. Ward Services

<table>
<thead>
<tr>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

a). Quality and co-operation of ward staff (Did they attend you promptly?)

b). Quality of Nursing Care

c). Difficulty faced during stay (if any)

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
</tr>
</thead>
</table>

### III. Doctor’s Services

<table>
<thead>
<tr>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

a). When were you 1st seen by the concerned doctors in the ward

b). Promptness and efficiency of attending doctor on duty when required

2hrs/4 hrs./6 hrs./12 hr

### IV. Tests/Procedures/Nutrition

<table>
<thead>
<tr>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

a). Were the tests/procedure (if any) and the risks involved explained to you in advance

b). Nutrition/Dietary services/quality and quantity of food

Yes/No

### V. What you liked about the hospital (Name of facilities/services)

1. 
2. 
3. 

### VI. What you did not like (Name of facilities/services)

1. 
2. 
3. 

### VII. a). Were you asked to purchase some medicines/Disposables / get investigations done from outside

<table>
<thead>
<tr>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
</table>

b). No.of days stayed in the Hospital

c). Mention the amount of money spent by you on purchasing medicines/investigations etc. from outside the hospital during hospital stay

Yes/No

### VIII. Suggestions for improvement in patient care

1. 
2. 

### IX. Any problem/incident during your stay regarding hospital services you would like to report

1. 
2. 

---

Date: 

Ward: 

---

Name of Hospital: 

PATIENT SAFETY EVALUATION PERFORMA
(Feedback from patient/attendant at the time of discharge from Hospital)
Adverse Event Reporting Performa

1. Patient Information (If applicable)
   Patient identifier initials (First, last)
   Age at the time of event:
   Sex: (M/F):

2. Ward & Unit or place of adverse event

3. Name of Clinician /Consultant/ Treating Doctor

4. Outcome attributed to adverse event (Check all that apply)
   Death: (immediately inform supervisor)
   Life Threatening
   Hospitalization – initial or prolonged
   Disability
   Congenital anomaly
   Required intervention to prevent permanent damage
   Other

5. Date and time of starting of event

6. Date and time of stopping of event

7. Describe event or problem that occurred

8. Corrective action taken on the spot, if any

9. Relevant tests or laboratory data

10. Other relevant history including medical conditions (allergies, race, pregnancy smoking /alcohol use hepatic/renal dysfunction etc.

11. In case adverse event is suspected to be caused by a medicine, then
   Name of medicine: Generic  _____________________ Brand _____________________
   Lot No. _____________________ Labeled strength _____________________
   Expiry Date _____________________ Manufacturer _____________________
   Dose _____________________ Route _____________________
   Frequency _____________________ Dates of therapy _____________________
   Event abated after stoppage or reduction of dose (Yes/No/NA) _____________________
   Event reappeared after reintroduction (Yes/No/NA) _____________________
   Concomitant medical products and therapy dates including herbal and self medication (exclude those used to treat event)

12. Name of Reporter
   Occupation & Designation:
   Address

13. Date of Report:

14. Report submitted to whom

15. Signature of the Reporter

Confidentiality: The patient’s identity is held in strict confidence and protected to the fullest extent. The patient safety programme staff will not disclose the identity of reporter in response to request from public. Submission of a report does not constitute an admission that medical personnel or any product or any cause mentioned in the report actually caused or contributed to the event. Reporting can be done by anybody e.g. health care workers, other health staff, patient, attendant etc.

Post event root cause analysis

Findings

Recommendations for corrective and preventive action

Yes/No
MONITORING PROFORMA FOR PATIENT SAFETY INITIATIVE

1. Name of the Hospital _______________________________________________________

2. Report for the Month of ___________________________________________________

3. (a) Patient Safety Committee constituted Yes No
    as per guidelines
    (b) Name of the Chairman of the committee? __________________________________

4. (a) Frequency of Meetings of patient safety Committee__________________________
    (b) Date of last Meeting._____________________________________________________
    (c) Agenda of last Meeting.__________________________________________________
                                                                                   

5. Attendance in meeting Regular Sometimes Never
    (a) Journalist
    (b) NGO representative
    (c) Patient representative

6. (a) Is the committee conducting regular walk around to identify the patient safety risks?
    (b) If yes, the frequency of walk round:

7. (a) Whether established Adverse Event Reporting Cell Yes No
    (b) Any Adverse Event Reported & its details ___________________________________
                                                                                   
                                                                                   
    (c) Root cause analysis of Adverse Event Done Yes No
    (d) Action taken to prevent Adverse Event in Future_____________________________
                                                                                   

8. Patient Safety Proforma being used- Regular Sometimes Never
    (a) Checklist for Safety of Surgical patients in the Wards.
    (b) Surgical Safety Checklist in the O.T.
    (c) Patient Safety Evaluation Proforma.
    (d) Adverse Event Reporting Proforma.

9. Feedback from Grievance Cell being received by PS committee Regular Sometimes Never

10. (a) Training Programme on Patient Safety conducted Yes No
    (b) If yes, give number with details in last month _______________________________

11. Hand Hygiene Practices Implemented Yes No
    (a) With Soap and Water
    (b) Alcohol based hand rubs in Intensive care areas.
    (c) Display of Posters
   (a) Death Review Committee existing  
       Yes  No
   (b) Frequency of Meeting. 1/wk 1/2wk 1/3wk 1/4wk >1/4wk
   (c) No. of cases discussed in the last meeting ___________________________
   (d) Any death due to preventable cause  
       Yes  No
   (e) If yes the was there any failure to plan, failure to recognize, failure to respond, failure to 
       communicate, or failure to care as attributable or contributory 
       (please specify) _________________________
   (f) Corrective and preventive actions recorded and followed up 
       (give details) _________________________

13. Safe Injection Practices
   (a) Auto Disable Syringes used  
       Yes  No
   (b) Availability of PEP round the clock for needle stick injury
   (c) Copy of the PEP protocol available?
   (d) No. of cases of needle stick injury reported _____________________________
   (e) No. of cases of needle stick injury given PEP _____________________________

   (a) Incinerator Functional  
       Yes  No
   (b) Autoclave Functional
   (c) Microwave Functional
   (d) Shredder Functional
   (e) Method of disposal of sharps 
       i. Needle cutter
       ii. Puncture Proof box with disinfecting solution
       iii. Sharp Pit
       iv. Any other
   (f) Are colour coded bags available?
   (g) Placement of colour coded bags proper?
   (h) Do bins containing colour coded bags washed regularly with hypochlorite sol?
   (i) Are these bags transported together to the treatment site?
   (j) Are the workers carrying these bags immunized?
   (k) Is separate route identified for transportation?
   (l) Is IEC material properly displayed?
   (m) Training Programmes conducted & their details___________________________ 
       ____________________________________________________________

15. Infection Control Practices -
   (a) Functioning of Infection Control Committee
       i. Infection Control Committee existing  
          Yes  No
       ii. Frequency of meeting _____________________________
       iii. When was the last meeting held? __________________________
iv. Agenda of last meeting

(b) Infection Control Manual/SOPs available  
(c) Infection Control Team formed
(d) Trained Infection Control Nurses available
(e) No. of beds per Infection Control nurse
(f) Any outbreak of infection reported
(g) If yes, give details
(h) Action taken to control outbreak.
(i) Antibiotic Policy in place
(j) Surveillance
  i. Environment swabs
  ii. Infection rates being monitored
  iii. If yes, give details

16. “Do Not Use List” being used and practiced by prescribing doctors
Follow up

1. Dr F.J. Gohil, participant from Gujarat has introduced following performas in their hospital, JZM & N General Hospital, Nadiad
   i. Medication error Form
   ii. Adverse Drug Reaction/suspected adverse drug reaction Form
   iii. Blood Transfusion and adverse effect form
   iv. Event reporting Form
   v. They have also developed a list of manuals and Standard Operating Procedures.

2. Dr.D.K. Turre, Civil surgeon cum hospital supdt, District hospital KANKER, Chattishgarh has informed that the training was provided to all the staffs and doctors on priority basis as a means of sensitization on attention seeking aspects for patient safety and simultaneously checking the noso-comial infections. Norms have been introduced for hand hygiene, medicine safety, radiation Safety, Injection Safety and Bio-medical Waste management.

3. Dr. Akhilesh Kumar Choudhary, D.T.O. Sadar Hospital Campus, Ranchi, Jharkhand informed that interactive sessions with all the doctors, nurses and paramedical staff of the hospital were organized on patient safety. Awareness of the hospital staff on techniques of hand wash, injection safety, transfusion safety, adverse event reporting and management of bio-medical waste has improved.

4. Dr. D.C. Chauhan, Joint Director Health services, Himachal Pradesh has informed that instructions were sent to Chief Medical Officers of all Districts of Himachal Pradesh for implementing Patient safety norms as given below

   - Focus patients
   - Focus On hand hygiene techniques.
   - Steps for safety in surgical patients in the wards.
   - Patient safety in Blood banks, Department of Radiology, ICU, Dental clinics, Labs along with its achievement for accreditation
   - Do & don’t for medication guidelines
   - Norms of Casualty services with behavioral improvement
   - Education of health providers

5. Dr. P. Gopi Krishna, Medical Superintendent, District Hospital Rajamundhary, Andhra Pradesh intimated the following actions taken with regards to implementation of the Patient Safety

   **At state level**
   - All the Officers at office of AP Vaidhya Vidhana Parishad, Hyderabad sensitized.
   - One workshop for all doctors at Govt. General Hospital, Kakinada which is a tertiary (teaching) Hospital in our district has been planned.

   **At District**
   - Done sensitization for doctors regarding Patient Safety for all the doctors working in all 11 Hospitals of AP Vaidhya Vidhana Parishad, East Godavari District. The break up of the 11 hospitals is
     - One District Hospital with 300 beds,
• 3 Area Hospitals with 100 beds each
• 7 Community health Centers with 50 beds each

• At District Hospital Rajahmundry the following is being done.
  • Hand washing with alcoholic sanitizer in Out Patient departments
  • Soap and water (wash basin) arrangement made in all In Patient wards.
  • Infection Control Committee is formed to monitor Hospital Infections issues.

6. Dr. H.N. Sharma, Principal Medical Officer, HBK Govt. Distt. Hospital, Shastri Nagar Jaipur, Rajasthan intimated that they have
  • Started using the Safety measures learnt during the workshop in O.T. & wards and as well as in the central drug store. Anesthetist Incharge before any operation follows and checks personally each case as per checklist. The same checklist is also used in the ward before sending the patient to the O.T.
  • As regards drug safety, store In charge has already been instructed to give information to the ward in charge every month regarding the date of expiry of each drug.

7. Dr. D.N. Paurial, District CMO Pithoragarh has written to DHS Uttarakhand to implement the Patient Safety initiative in all the health canters of the State and also form the Patient safety Committee in each of the health centre.

In District Hospital Pithoragarh following measures have been instituted
  • Display of Posters on Hand Wash and Hand Hygiene
  • Continuous supply of Disposable Syringes and needles
  • Continuous supply of oxygen being ensured
  • Quality assurance unit established

8. Dr.H.K.Chanda, Dy. Superintendent, Medical College & Hospitals Kolkata, West Bengal informed about the following actions taken for patient safety

i. Clinical Procedures Safety and Hand Hygiene
  The Junior Doctors have been trained & monitored under supervision of the Senior Doctors on

  a. Improving hand hygiene practice
     • In every ward OT, Laboratory and Patient Examination room has the facility of hand washing, running water supply, supply of soap.
     • 5Moments for Hand Hygiene, 8 steps for Hand Rub and 11steps Hand Washing have been distributed at regular interval among the Junior Doctors, Nurses. These are also displayed in the wards.

  b. Transfusion safety

     According to regulations and guidelines, provisions are being made for:
     • Blood bank equipments, disposables
     • Screening kits
     • Standard Protocols
c. **Biomedical waste Management at source**

- Training is imparted to the Senior Doctors, Nursing Personnel and other category of staff.
- Written instructions have been given in every Ward, OT, and Laboratory.
- Containers, colour coded bags, bins, puncture proof containers, trolleys etc are now being used
- Separate disposal facility for incinerable waste, chemicals/ autoclave for local decontamination of waste post use handling.
- Posters having instructions for disposal of different types of wastes with diagrams have been displayed near the coloured bins in each ward.
- Electrically operated needle destroyer/hub cutters are in use.

ii. **Injection Safety**

- Protocols for injection practice and disposal
- A-D syringes for vaccination to infants
- Puncture proof containers for used needles after disinfections.
- Injections are given only when it is the only choice of management.

iii. **Safe Surgery**

a. **Safety checklist as per WHO guidelines**, before induction of anesthesia (local or systemic), before skin incision and before patient leaves OT or LR

b. **Infrastructure**

- Sterile Supply department /CSSD with central autoclave system
- Sterilization of equipments
- Surgical equipment, adequate quality and quantity
- Protocols for cleaning, disinfection and sterilization
- Protocol for microbiological checks

iv. **Medication Errors Prevention**

- Educating the pharmacist not to substitute
- Injection dispensing policy
- Special instructions e.g. G6 PD
- Accurate dose dispensing
- Generic prescription
- To check for repetition of the drug /Combination
- Oral over parenteral

9. Dr A.K. Chawla, Chief Medical superintendent, Dr. S.P.M. Hospital, Lucknow UP has informed that they have formed a Patient Safety Committee in their hospital and which ahs started functioning since 12\textsuperscript{th} May 2010
Summary of the workshop, Outcomes and Way Forward

A National Consultation Workshop on Patient Safety was organized by Directorate General of Health Services and Department of Hospital Administration, Sanjay Gandhi Postgraduate Institute of Medical Sciences in collaboration with WHO country for India from 10th May to 12th May 2010. The venue of the workshop was Auditorium of Telemedicine Department, SGPGI, Lucknow. The inaugural address was delivered by the Director General of Health Services Dr. R.K. Srivastava, and he called upon the State participants to come out as Patient Safety champions and carry this initiative forward in their states. Director SGPGI Dr. R.K. Sharma also emphasized the need of promoting Patient Safety culture in all hospitals.

Focus area of the workshop were Safe clinical Practices including Hand hygiene, Surgical Safety, Adverse event reporting, Medication Safety, Role of patient in Patient Safety and Developing Action Plan & Guidelines for implementation of Patient Safety in India.

This workshop provided an opportunity to share the patient safety experiences, disseminate the knowledge about concepts of Patient Safety including WHO Global Patient safety Challenges I and II, identifying the Patient Safety priorities for India and developing guidelines for implementation of Patient Safety priorities for different levels of health care.

The participants included renowned Patient safety experts from WHO, Government of India, Private sector including NGO, Medical College, Pharmacy College, Accreditation body (NABH) and Patient for Patient safety representative. In addition, representatives from as many as 16 States/ Union Territories participated in the workshop, which included Medical Superintendents or Hospital administrators of District Hospitals, State Directors of Health Services, Heads of hospital services, District level Chief medical Officers, Heads of Departments etc.

During the 3 day workshops, the methods used were

1. Lecture and presentations by Experts. Each presentation was followed by discussions which helped in better understanding of the problems in relation to patient safety for our country. The presentations covered a wide range of issues related to patient safety. In addition practical experiences of implementation of Patient Safety initiative in both Government and Private sector were shared with the participants.
2. Panel Discussion was organized to identify Patient safety priorities. The panel was chaired by Dr. R.K. Srivastava, DGHS with Prof. Deokinandan and Prof. Geeta Mehta.
3. Group work was done by dividing the participants into 4 groups for development of

   (i) Implementation Plan for following Patient Safety Priorities at Primary, Secondary and tertiary Level
       • Clinical procedures Safety and Hand Hygiene
       • Safe Surgery
       • Medication Safety

   (ii) Implementation Plan for following Patient Safety Priorities at Primary, Secondary and tertiary Level
       • Injection Safety,
• Blood Safety,
• Safe management of Biomedical Waste (BMW)

(iii) Guidelines for Patient Safety Survey Indicators and Establishment of AER System
(iv) Performas for Patient safety implementation

During the valedictory session, all participants were provided with a CD of all the presentations and participation certificate. For follow up, the letters were written to participating states and UTs for implementing the identified priorities and to obtain information and feedback on the actions initiated by them in their organizations and States.

Outcomes of the workshop

1. Presentations were made by the experts about different dimensions of Patient safety which has benefitted all the participants. Many presentations have also made recommendations on how to carry the imitative forward.
2. Participants from 16 states sensitized about various concepts of Patient safety including the WHO Global Patient Safety challenges
3. Following Patient Safety priorities were identified for implementation in India
   • Safety in Clinical Procedures and Hand Hygiene,
   • Surgical Safety,
   • Injection Safety,
   • Blood Safety,
   • Safe management of Bio-medical Waste (BMW) and
   • Medication Safety
4. Implementation Guidelines for identified patient safety priorities developed.
5. Tool for patient safety survey developed.
7. Check Lists and Monitoring Performa for Patient Safety reviewed and finalized.
8. Many Participants have started implementing the various components of Patient safety in their organization and some have started working for expanding the same in their State.

Way Forward

1. Follow up with the States that participated in the National Level workshop for implementation of Patient Safety in their organization and State.
2. Updates on patient safety will be shared with the participants on regular basis.
3. Organizing consultation workshop with the remaining states/UTs.
4. To develop a project/programme for implementation of identified Patient Safety priorities at different levels of health care.
5. Advocacy for patient Safety
6. Capacity Building of Health Care workers in Patient Safety
7. Using the outcome of the Workshop to develop a Patient Safety Policy
### Annexure 1

**List of Participants (As informed by SGPGIMS, Lucknow)**

<table>
<thead>
<tr>
<th>S No.</th>
<th>NAME</th>
<th>Designation and address</th>
<th>E MAIL ID</th>
<th>TELEPHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. R.K Srivastava</td>
<td>DGHS</td>
<td><a href="mailto:dghs@nic.in">dghs@nic.in</a></td>
<td>23061063</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Dinesh Bhatnagar</td>
<td>Addl. DGHS, Dte. GHS Nirman Bhawan New Delhi</td>
<td><a href="mailto:dineshbhatnagar_d@redffmail.com">dineshbhatnagar_d@redffmail.com</a></td>
<td>9810939391</td>
</tr>
<tr>
<td>3</td>
<td>Dr. N.K. Mohanty</td>
<td>Addl. DGHS and MS Safdarjung Hospital and VMMC, New Delhi</td>
<td><a href="mailto:nayankm@yahoo.co.in">nayankm@yahoo.co.in</a></td>
<td>9811784287</td>
</tr>
<tr>
<td>4</td>
<td>Dr. A.K. Agarwal</td>
<td>, Dean Maulana Azad Medical College Addl. Dir. General Ministry of Health &amp; Family Welfare Government of India</td>
<td><a href="mailto:aka.mamc@gmail.com">aka.mamc@gmail.com</a></td>
<td>9868252828</td>
</tr>
<tr>
<td>5</td>
<td>Dr. T.S. Siddhu</td>
<td>Medical Superintendent Dr.RML Hospital and PGIMER, New Delhi</td>
<td><a href="mailto:drt.ssidhu@hotmail.com">drt.ssidhu@hotmail.com</a></td>
<td>9818024013</td>
</tr>
<tr>
<td>6</td>
<td>Prof. Deoki Nandan,</td>
<td>Director, National Institute of Health and Family Welfare, Munirka, New Delhi</td>
<td><a href="mailto:director@nihfw.org">director@nihfw.org</a></td>
<td>2616 5959</td>
</tr>
<tr>
<td>7</td>
<td>Dr. M.C. Sarmah</td>
<td>Addl.MS, LHMC and Associated Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Dr. Charoo Hans</td>
<td>HOD Microbiology and Consultant patient safety Dr. RML Hospital</td>
<td><a href="mailto:charoohans@yahoo.co.uk">charoohans@yahoo.co.uk</a></td>
<td>0971953009 01123365508</td>
</tr>
<tr>
<td>9</td>
<td>Dr. S.K. Chaudhary</td>
<td>Senior Regional Director, Regional Office of Health and Family Welfare, 9th floor, Kendriya Bhawan Lucknow Aliganj</td>
<td><a href="mailto:regdrlko@yahoo.co.in">regdrlko@yahoo.co.in</a></td>
<td>09450004518</td>
</tr>
<tr>
<td>10</td>
<td>Dr. Bina R. Sawhney</td>
<td>CMO (BRS), Directorate General of Health Services, Nirman Bhawan, New Delhi</td>
<td><a href="mailto:bina.sawhney@nic.in">bina.sawhney@nic.in</a></td>
<td>986807443</td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td>Position and Details</td>
<td>Email</td>
<td>Contact Number</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>11</td>
<td>Dr. Anil Sain</td>
<td>CMO (HA), Directorate General of Health Services, Nirman Bhawan, New Delhi, Res. B-57 sector 56 Noida (UP)</td>
<td><a href="mailto:anilsain@rediffmail.com">anilsain@rediffmail.com</a></td>
<td>9871654401</td>
</tr>
<tr>
<td>12</td>
<td>Sh. Rajendra Singh</td>
<td>Under Secretary M/O Health &amp; FW, Room No. 501 D Nirman Bhawan, New Delhi</td>
<td><a href="mailto:rsingh@yahoo.co.in">rsingh@yahoo.co.in</a>, <a href="mailto:r_y_singh@yahoo.co.in">r_y_singh@yahoo.co.in</a></td>
<td>9910865858</td>
</tr>
<tr>
<td>13</td>
<td>Dr. Anil Kumar</td>
<td>Operational Officer of the workshop, CMO, Directorate General of Health Services, Room No. 506 D Nirman Bhawan</td>
<td><a href="mailto:dr.anilkumar@nic.in">dr.anilkumar@nic.in</a></td>
<td>09811637663</td>
</tr>
<tr>
<td>14</td>
<td>Dr. Ashok Borkotoki</td>
<td>Dy Suptdt. MM Chaudhary Hospital</td>
<td><a href="mailto:anindit3507@gmail.com">anindit3507@gmail.com</a></td>
<td>09864011015</td>
</tr>
<tr>
<td>15</td>
<td>Dr. D K Turre</td>
<td>Civil Surgeon and CMS, district hospital, Kanker, Chattishgarh.</td>
<td><a href="mailto:Es.knk.cg@nic.in">Es.knk.cg@nic.in</a></td>
<td>07868-241214 Fax: 07868241515 Mobile: 09425592836</td>
</tr>
<tr>
<td>16</td>
<td>Dr. D.N. Pauriyal</td>
<td>C.M.S. Distt. Hospital, Pithoragarh, (Uttarakand)</td>
<td></td>
<td>05964225229 09412963620 Fax: 05964 225229</td>
</tr>
<tr>
<td>17</td>
<td>Dr. F J Gohil</td>
<td>Chief District Medical officer cum Civil surgeon, General hospital, Nadiad 3, Mayuri society Mission Road Nadiad-387002</td>
<td><a href="mailto:gohilfj@gmail.com">gohilfj@gmail.com</a></td>
<td>9712133366,02 682529074</td>
</tr>
<tr>
<td>18</td>
<td>Dr. K.S. Rao</td>
<td>Civil Surgeon District Mewat at Mandkhera (Haryana)</td>
<td><a href="mailto:dhs.csmwt@hny.nic.in">dhs.csmwt@hny.nic.in</a></td>
<td>09215156181/09416437688/09991119630</td>
</tr>
<tr>
<td>19</td>
<td>Dr AK Chawla</td>
<td>Chief Medical superintendent, Dr Shyama Prasad Mukherjee (Civil), Hospital Lucknow UP</td>
<td><a href="mailto:cms.spmh@gmail.com">cms.spmh@gmail.com</a></td>
<td>9235565347 09415011175 0522-2239595</td>
</tr>
<tr>
<td>20</td>
<td>Dr. D C Chauhan</td>
<td>Joint Director Health and Head of Hospital Services,</td>
<td><a href="mailto:dcdchauhandr@gmail.com">dcdchauhandr@gmail.com</a></td>
<td>0177-2645466 09418494546</td>
</tr>
</tbody>
</table>

**State Government Representatives**

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Position and Details</th>
<th>Email</th>
<th>Contact Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Dr. Ashok Borkotoki</td>
<td>Dy Suptdt. MM Chaudhary Hospital</td>
<td><a href="mailto:anindit3507@gmail.com">anindit3507@gmail.com</a></td>
<td>09864011015</td>
</tr>
<tr>
<td>15</td>
<td>Dr. D K Turre</td>
<td>Civil Surgeon and CMS, district hospital, Kanker, Chattishgarh.</td>
<td><a href="mailto:Es.knk.cg@nic.in">Es.knk.cg@nic.in</a></td>
<td>07868-241214 Fax: 07868241515 Mobile: 09425592836</td>
</tr>
<tr>
<td>16</td>
<td>Dr. D.N. Pauriyal</td>
<td>C.M.S. Distt. Hospital, Pithoragarh, (Uttarakand)</td>
<td></td>
<td>05964225229 09412963620 Fax: 05964 225229</td>
</tr>
<tr>
<td>17</td>
<td>Dr. F J Gohil</td>
<td>Chief District Medical officer cum Civil surgeon, General hospital, Nadiad 3, Mayuri society Mission Road Nadiad-387002</td>
<td><a href="mailto:gohilfj@gmail.com">gohilfj@gmail.com</a></td>
<td>9712133366,02 682529074</td>
</tr>
<tr>
<td>18</td>
<td>Dr. K.S. Rao</td>
<td>Civil Surgeon District Mewat at Mandkhera (Haryana)</td>
<td><a href="mailto:dhs.csmwt@hny.nic.in">dhs.csmwt@hny.nic.in</a></td>
<td>09215156181/09416437688/09991119630</td>
</tr>
<tr>
<td>19</td>
<td>Dr AK Chawla</td>
<td>Chief Medical superintendent, Dr Shyama Prasad Mukherjee (Civil), Hospital Lucknow UP</td>
<td><a href="mailto:cms.spmh@gmail.com">cms.spmh@gmail.com</a></td>
<td>9235565347 09415011175 0522-2239595</td>
</tr>
<tr>
<td>20</td>
<td>Dr. D C Chauhan</td>
<td>Joint Director Health and Head of Hospital Services,</td>
<td><a href="mailto:dcdchauhandr@gmail.com">dcdchauhandr@gmail.com</a></td>
<td>0177-2645466 09418494546</td>
</tr>
</tbody>
</table>

93
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Position</th>
<th>Address/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Dr. Chander Mohan</td>
<td>Deputy Director cum Medical superintendent</td>
<td>Deputy Director cum Medical superintendent, Civil Hospital, Jalandhar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medical superintendent, Civil Hospital, Jalandhar</td>
<td><a href="mailto:chjalandhar@yahoo.co.in">chjalandhar@yahoo.co.in</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>09814176003, 0181-2230933, 0181-4630199</td>
</tr>
<tr>
<td>22</td>
<td>Dr. Mano Ranjan Das</td>
<td>C.D.MO, Jagatsinghpur Orissa</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>_</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>09861059116</td>
</tr>
<tr>
<td>23</td>
<td>Dr. B. Prem Kumar</td>
<td>Deputy Director of Health Services</td>
<td>Deputy Director of Health Services, No.6, Pachal road, Aasiryar Nagar Tirupathur, Vellore DT Tamilnadu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:premkumar777@hotmail.com">premkumar777@hotmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>04179-222290, 09842252154</td>
</tr>
<tr>
<td>24</td>
<td>Dr. Hare Krishna Chanda</td>
<td>Deputy Supdt. Calcutta Medical College &amp; Hospital</td>
<td>Deputy Supdt. Calcutta Medical College &amp; Hospital 88 college street, Ko-1-73 Kolkata</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:hkchanda009@rediffmail.com">hkchanda009@rediffmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>09433155702</td>
</tr>
<tr>
<td>25</td>
<td>Dr. P. Gopi Krishna</td>
<td>M.S. &amp; DCHS District Hospital Rajahmundry, EG</td>
<td>M.S. &amp; DCHS District Hospital Rajahmundry, EG Dist Andhra Pradesh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>gopi <a href="mailto:Krishna.pigilam13@gmail.com">Krishna.pigilam13@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>gopi <a href="mailto:Krishna13@hotmail.com">Krishna13@hotmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8008553430</td>
</tr>
<tr>
<td>26</td>
<td>Dr. Jitendra Nath Sinha</td>
<td>Superintendent, Guru Gobind Singh Hospital</td>
<td>Superintendent, Guru Gobind Singh Hospital, Patna City, Bihar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:manojsinha12@hotmail.com">manojsinha12@hotmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0933411406</td>
</tr>
<tr>
<td>27</td>
<td>Dr. Ashok Kumar Rana</td>
<td>MED. Supdt (Nursing Homes) Dte. Of Health F-17</td>
<td>MED. Supdt (Nursing Homes) Dte. Of Health F-17 Karkardooma Delhi-110092</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:drashok.rana@gmail.com">drashok.rana@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9654100313</td>
</tr>
<tr>
<td>28</td>
<td>Dr. Akhilesh Kumar Choudhary</td>
<td>Deputy Superintendent Sadar Hospital, Ranchi</td>
<td>Deputy Superintendent Sadar Hospital, Ranchi Jharkhand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:drakchoudhary@yahoo.com">drakchoudhary@yahoo.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>09431101299</td>
</tr>
<tr>
<td>29</td>
<td>Dr. Bharat Sagar</td>
<td>State Programme Officer, Directorate of Health</td>
<td>State Programme Officer, Directorate of Health Services, Govt. of NCR Delhi, F-17, Karkardooma, Delhi-32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Directorate of Health Services, Govt. of NCR Delhi, F-17, Karkardooma, Delhi-32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:sagarbharat2000@yahoo.com">sagarbharat2000@yahoo.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>01122377442, 9891563850</td>
</tr>
<tr>
<td>30</td>
<td>Dr. G.P. Sinha</td>
<td>Chief Medical Officer, Directorate of Health</td>
<td>Chief Medical Officer, Directorate of Health Services, Govt. of NCR Delhi, F-17, Karkardooma, Delhi-32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>services, Govt. of NCR Delhi, F-17, Karkardooma, Delhi-32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:drgpsinha1951@yahoo.com">drgpsinha1951@yahoo.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:drgpsinha1951@gmail.com">drgpsinha1951@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>01122304568, 9654100320</td>
</tr>
<tr>
<td>31</td>
<td>Dr. Hari Om</td>
<td>P.M.O. Govt. H.B.K</td>
<td>P.M.O. Govt. H.B.K</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Position/Institution</td>
<td>Email</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>32</td>
<td>Dr. N.K. Arora</td>
<td>INCLEN</td>
<td><a href="mailto:nkarora@inclentrust.org">nkarora@inclentrust.org</a></td>
</tr>
<tr>
<td>33</td>
<td>Dr. Arati Verma</td>
<td>Chief Medical excellence programs, Max Health Care</td>
<td><a href="mailto:averma@maxhealthcare.com">averma@maxhealthcare.com</a></td>
</tr>
<tr>
<td>34</td>
<td>Dr. Sampada Patwardhan</td>
<td>Principal-SVKM's Dr. Bhanuben Nanavati College of Pharmacy (BNCP) Mumbai and Ex-Director, Drug Information Centre, Maharashtra State Pharmacy Council (MSPC), Mumbai</td>
<td><a href="mailto:spatvardhan@gmail.com">spatvardhan@gmail.com</a> <a href="mailto:sampadapatvardhan@yahoo.co.in">sampadapatvardhan@yahoo.co.in</a></td>
</tr>
<tr>
<td>35</td>
<td>Dr. S. Joseph</td>
<td>Medical Director, St. Stephen hospital Delhi</td>
<td><a href="mailto:ssh@vsnl.com">ssh@vsnl.com</a></td>
</tr>
<tr>
<td>36</td>
<td>Dr. B.K. Rana</td>
<td>Deputy Director National Accreditation Board for Hospitals and Healthcare Providers (NABH) Quality Council of India, 2nd Floor, Institution of Engineers Building Bahadur Shah Zafar Marg, New Delhi-110002</td>
<td><a href="mailto:nabh@qcin.org">nabh@qcin.org</a></td>
</tr>
<tr>
<td>37</td>
<td>Dr. J.S. Arora</td>
<td>Patient for Patient Safety Champion, General secretary, National Thalassemia Welfare Society of India Delhi KG 1/97, Vikas Puri New Delhi-110018</td>
<td><a href="mailto:drjsarora@bol.net.in">drjsarora@bol.net.in</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>WHO Experts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Dr. Geeta Mehta</td>
<td>Health Technology and Patient safety, WHO SEARO, New Delhi</td>
<td><a href="mailto:mehtag@searo.who.int">mehtag@searo.who.int</a></td>
</tr>
<tr>
<td>39</td>
<td>Dr. Paul Francis</td>
<td>National Professional Officer, WHO, country office India, Nirman Bhawan Delhi</td>
<td><a href="mailto:paulf@searo.who.int">paulf@searo.who.int</a></td>
</tr>
<tr>
<td>Local Experts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 40 | Dr. Hem Chandra | **Local Coordinator of the Workshop**  
Head Department of Hospital Administration  
SGPGIMS, Lucknow, UP | hchandra55@yahoo.com | 9451904416 |
<p>| 41 | Dr. Afzal Azim | Department of Critical care Medicine (CCM)-SGPGI | <a href="mailto:afzala@sgpgi.ac.in">afzala@sgpgi.ac.in</a> |   |
| 42 | Dr Priti Elhence | Associate Prof Transfusion Medicine SGPGI |   |   |
| 43 | Dr. KJ Maria Das, | Department of Radiotherapy, SGPGI |   |   |
| 44 | Sh. Sunil Shishoo | Asstt. Superintendent, SGPGI | <a href="mailto:sshishoo@sgpgi.ac.in">sshishoo@sgpgi.ac.in</a> |   |
| Local Participants |   |   |   |
| 45 | Sh. Om Prakash | S.G.P.G. I.M.S. LKO |   |   |
| 46 | Dr. Neeraj Rastogi | Dept of Radio Therapy SGPGIMS | <a href="mailto:nrastog@sgpgi.ac.in">nrastog@sgpgi.ac.in</a> |   |
| 47 | Mrs. Beulah Singh | SGPGI Lucknow |   |   |
| 48 | Mrs. Indu Yadav | SGPGIMS Lucknow |   |   |
| 49 | Mrs. P. Verma Kumar | Department of Radio Therapy SGPGI MS Lucknow | <a href="mailto:peeyushrani@yahoo.co.in">peeyushrani@yahoo.co.in</a> |   |
| 50 | Sh. Shiv Kumar Singh | Senior Tech. officer Microbiology SGPGIMS Lucknow | <a href="mailto:sksamol@yahoo.co.in">sksamol@yahoo.co.in</a> |   |
| 51 | Sh. NR Kasliwal | SPO (HRF), SGPGIMS | <a href="mailto:hrf@sgpgi.ac.in">hrf@sgpgi.ac.in</a> |   |</p>
<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Position/Department</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>Sh. D.J. Wardhe</td>
<td>S.G.P.G.I. of MSc. Cath Lab</td>
<td><a href="mailto:davidjwardhe@yahoo.com">davidjwardhe@yahoo.com</a></td>
</tr>
<tr>
<td>53</td>
<td>Sh. Shailendra Nath</td>
<td>S.G.P.G.MS Lucknow</td>
<td><a href="mailto:shailendranath07@gmail.com">shailendranath07@gmail.com</a></td>
</tr>
<tr>
<td>54</td>
<td>Dr. Sukanta Barei</td>
<td>Deptt. of Nuclear Medicine</td>
<td><a href="mailto:sukanta@sgpgi.ac.in">sukanta@sgpgi.ac.in</a></td>
</tr>
<tr>
<td>55</td>
<td>Col Mrs. Devi Deb</td>
<td>Principal College of Nursing</td>
<td><a href="mailto:devideb@rediffmail.com">devideb@rediffmail.com</a></td>
</tr>
<tr>
<td>56</td>
<td>Miss. Alice Joseph</td>
<td>Tutor, S.G.P.G.I College of Nursing</td>
<td><a href="mailto:neetahcp@gmail.com">neetahcp@gmail.com</a></td>
</tr>
<tr>
<td>57</td>
<td>Dr. Monika Agarwal</td>
<td>Department of Community Medicine, CSM Medical University, UP Lucknow</td>
<td><a href="mailto:monikaag@indiatimes.com">monikaag@indiatimes.com</a></td>
</tr>
<tr>
<td>58</td>
<td>B.R. Verma</td>
<td>Sr Technical officer SGPGIMS, Lucknow-14</td>
<td><a href="mailto:buddhiv@yahoo.com">buddhiv@yahoo.com</a></td>
</tr>
<tr>
<td>59</td>
<td>Dr. Kirti Srivastava</td>
<td>CSMMU(KGMC) Lucknow</td>
<td><a href="mailto:drkirtis@rediffmail.com">drkirtis@rediffmail.com</a></td>
</tr>
<tr>
<td>60</td>
<td>Ravi Daniel</td>
<td>T/II/68 SGPGIMS Campus</td>
<td><a href="mailto:ravidaniel@yahoo.com">ravidaniel@yahoo.com</a></td>
</tr>
<tr>
<td>61</td>
<td>Mrs. Pushpa Singh</td>
<td>CON of SGPGIMS Lucknow</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Kalyani Trigunayat</td>
<td>A.N.S, Deptt. Of Microbiology, S.G.P.G.I.M.S. Lucknow</td>
<td><a href="mailto:ktrigunyat98@gmail.com">ktrigunyat98@gmail.com</a></td>
</tr>
<tr>
<td>63</td>
<td>Dr. Gyan Chand</td>
<td>Endocrine Surgery SGPGIMS</td>
<td><a href="mailto:gyan133@sgpgi.ac.in">gyan133@sgpgi.ac.in</a></td>
</tr>
<tr>
<td>64</td>
<td>Dr. K Jamal</td>
<td>K.T.U, SGPGIMS</td>
<td><a href="mailto:kjamal@indiatimes.com">kjamal@indiatimes.com</a></td>
</tr>
<tr>
<td>65</td>
<td>M. J. Prakash</td>
<td>SGPGIMS Lucknow</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Sachendra Raj</td>
<td>Department of Hospital Administration (DHA)</td>
<td><a href="mailto:Srcc@gmail.com">Srcc@gmail.com</a></td>
</tr>
<tr>
<td>67</td>
<td>Pooja Singh</td>
<td>DHA SGPGIMS</td>
<td><a href="mailto:poojasingh@rediffmail.com">poojasingh@rediffmail.com</a></td>
</tr>
<tr>
<td>68</td>
<td>Anjalika Jha</td>
<td>DHA SGPGIMS</td>
<td><a href="mailto:anju@gmail.com">anju@gmail.com</a></td>
</tr>
<tr>
<td>69</td>
<td>Tulika Singh</td>
<td>DHA SGPGIMS</td>
<td><a href="mailto:tulika@rediffmail.com">tulika@rediffmail.com</a></td>
</tr>
<tr>
<td>70</td>
<td>Dr. Vivek Chauhan</td>
<td>DHA SGPGIMS</td>
<td><a href="mailto:drvivek2007@gmail.com">drvivek2007@gmail.com</a></td>
</tr>
<tr>
<td>71</td>
<td>Dr. R.P Singh</td>
<td>SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Dr. Ajit Kumar</td>
<td>GH- SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>Designation</td>
<td>Department</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
<td>------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>73</td>
<td>Kasturi Agnihotri</td>
<td>CSJML</td>
<td><a href="mailto:Kasturiagni@rediffmail.com">Kasturiagni@rediffmail.com</a></td>
</tr>
<tr>
<td>74</td>
<td>Dr. Charoo</td>
<td>Dep of Endocrinology</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Bharat Sah</td>
<td>Deputy Superintendent, SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Dr. Mohan Gurjar</td>
<td>CCM, SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>P.K. Awasthi</td>
<td>S.T.O (ENDO-M)</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Durgesh KR Srivastava</td>
<td>SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Munni Verma</td>
<td>CCM.PGI.</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Jyotika Mishra</td>
<td>ERS SGPGIMS Lucknow</td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>P.S. Rawat</td>
<td>Off. Supdt.</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Dr. P. Bhattacharya</td>
<td>GH-SGPGIMS, Lucknow</td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>Pushpa Charan</td>
<td>SGPGIMS Lucknow</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>Sh. S.K Singh</td>
<td>STO Microbiology, SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>Ms. Rekha Mishra</td>
<td>OT Complex, SGPGIMS</td>
<td></td>
</tr>
<tr>
<td>86</td>
<td>Sh. Hari Vir Singh</td>
<td>Dept of Radio therapy, SGPGI Luknow</td>
<td></td>
</tr>
<tr>
<td>87</td>
<td>Mrs. EA Charles</td>
<td>SGPGI, GM -B</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>Sr. Ushendra Chattree</td>
<td>Endoscopy Theatre</td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>Sh. A.R. Swroop</td>
<td>Administrative Officer, SGPGIMS</td>
<td></td>
</tr>
</tbody>
</table>
Annexure 2

Photographs

Photograph 1: Inauguration of National consultation workshop

Photograph 2: Inaugural Session
Photograph 3: Address by Director General of Health Services

Measuring Quality

is a multi-dimensional construct with multiple
factors.

Define quality from guidelines

- five things should be done daily for patients
  
  - mechanical ventilation

  - head elevation > 30° to prevent aspiration pneumonia
  - prophylaxis for peptic ulcer disease
  - prophylaxis for deep venous thrombosis

  patients appropriately - able to follow commands
  the patient daily for readiness to extubate

Photograph 4: Presentation in progress
Photograph 5: Participants listening to Presentation

Photograph 6: Participants receiving the certificate and CD during Valedictory Session
Photograph 7: Participants of National Consultation workshop on Patient safety