BEST PRACTICE 1:

1. **Title**: Simulation based medical education and health care personnel training using simulation technology.
2. **Goal**:
   a) To integrate simulation based skill assessment into the undergraduate and postgraduate medical curriculum.
   b) To train medical, paramedical, nursing and other category of health care staff in basic resuscitation and other skills.
   c) To train high school and college students about the basics of resuscitation using the simulation lab facilities.
3. **The Context:**

Increasing intake of undergraduate and postgraduate medical students has resulted in lesser opportunities for acquiring skills. This has opened up the requirement of simulation in medical teaching, a trend seen worldwide.

As patients have become aware about their rights and with the increasing incidence of malpractice cases against doctors, there is a felt need to learn new skills without harming patients and a simulation centre fulfils these needs.

Simulation based medical education is the need of the hour and should be seamlessly integrated in to the undergraduate medical curriculum. The Medical believes in imparting recent trends and quality education to all its students.

In India, there is no formal training of the general public in the art of cardio-pulmonary resuscitation and there is a need for such a facility to be extended to the general public of Mangalore especially the high school and college students. Mangalore is a destination for the youth to pursue professional education.

4. **The Practice:**

The purpose of a simulation experience is to use an innovative method in the learning process, to create a shift from teacher-centered to student-centered learning. The highlight of this simulation centre is a multi-disciplinary faculty including doctors, nurses and technicians who work as a team of facilitators without any hierarchy, ably supported by the IT department. The principles of this simulation centre are on the following, which is adopted for all categories of trainees.

a) Simulation fidelity:

A critical element of simulation is fidelity. This is the degree to which a key element of a situation, action, or object resembles real-life.

The degree of fidelity required was determined by the type of learner, the complexity of what they need to know and how best to achieve learning outcomes.

b) Hands on practice:

The lesson plan was prepared by the coordinators representing each department. The lesson plan was specific to each semester so as to formulate measurable learning objectives. The lesson plan included specific skills and few commonly encountered clinical scenarios. Depending on the type of simulation, the learner was given the scenario ahead of the session to review and prepare for the simulation. It will consist of a brief synopsis of the patient's condition along with the learning objectives.

The academic in charge of the centre then prepared a schedule by allotting the date and time to various medical, surgical and nursing departments for the conduct of these training sessions.

The framework for simulation methodology includes briefing of the scenario prior to the session, orientation to the simulator and environment, followed by the short simulation experience and the final debriefing session where the actual guided reflective learning takes place.

c) Assessment and feedback:

The various methods of outcome measurements followed in the centre are observer ratings, trainee responses (constructed or selected) and use of haptics. The performance feedback is mainly formative through the process of debriefing based on observational ratings. The purpose is to improve trainee clinical performance rather than to present summative judgments of pass or fail. The steps we follow are (a) note the performance gaps related to predetermined objectives, (b) provide feedback describing the gap, (c) investigate the basis for the gap by exploring the mental frames of the learners, (d) help close the gap through discussion or targeted instruction.

5. Evidence of Success:

Trainee responses are selected using MCQ based questionnaire regarding learner satisfaction and attainment of the learning objective. Feedback from the learners has been unanimous regarding the need for simulation based learning. The data suggests that they feel more confident and are prepared to transfer the

skills acquired to clinical practice. Various post session questionnaire shows a definite improvement in the attainment of the learning benchmark. Feedback from the respective in charges shows a positive response amongst the learners posted in clinical areas especially regarding the team training skills.

6. Problems Encountered and Resources Required:

- Setting up a simulation centre is a costly proposition. However, the management was gracious enough to sanction funds for setting up this state of the art facility.
- Merely setting up the centre without trained faculty to use it will mean a drain of resources. Hence, from the beginning an adequate pool of trainers were identified and trained to run the centre and the goal has been to train the trainers so that there is a continuous pool of trainers.
- Another problem encountered was the acceptance of this teaching methodology among a few clinicians. A wider acceptance of a culture of quality and patient safety is a mandatory responsibility and endeavour has been to convince everybody of the need of the simulation facility as part of the training in the curriculum.
- Another difficulty faced was the timing of the training sessions so as not to interfere with the regular hospital posting as well as accommodating large number of students in one session.

7. Notes (Optional):

Simulated practice environments are useful for reflecting upon experience in clinical areas because it develops clinical reasoning and integrates theory with practice. Mistakes may be made and learning can occur without risk to patients especially when training for rarely observed cases. Furthermore, discussion of theoretical and ethical matters that is normally inappropriate in the presence of a patient can occur in parallel with the developing of practical skills. The pre requisites for a successful simulation centre is a supportive management, trained simulation faculty with at least one dedicated faculty coordinating the activities of the centre and the acceptance of this teaching methodology as part of the curriculum by the teaching faculty for effective training. The investment in resources that improve quality of care will eventually improve patient outcomes and hence become cost-effective.

The instructors who conduct the sessions have undergone formal training by international faculty in the simulation teaching methodology. Regular train the

trainer courses and faculty development programs are conducted in the centre. This approach helps the learners to approach a case using the team dynamics strategy thereby minimizing healthcare errors.

8. **Contact Details:**

Name of the Principal: Dr. Jayaprakash Alva

Name of the Institution: Father Muller Medical College

City: Mangalore

Pin Code: 575002

Accredited Status: Accredited with 'A'

Work Phone: 0824-2238330 Fax: 0824-2436352

Website: www.fathermuller.edu.in/ E-mail: frmullersnaac@yahoo.com

Mobile: 9845206369