SIMULATION TRAINING IN MEDICINE AND TECHNOLOGY MANAGEMENT

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Simulation training is an innovative approach that can raise medical education to a new level, upgrade practical skills of health care professionals, reduce clinical risks, and improve patient safety. However, its implementation involves quite a number of issues that should be addressed at the level of a specific health care facility or medical university, and at the level of the public health system – regionwide and/or nationwide. Besides administrative, logistical, financial, legal, and other aspects, some are related to the technical infrastructure and technology management. Based on the experience of the Ukrainian-Swiss Mother and Child Health Programme that launched four simulation centers in Ukraine in 2013, a summary of these issues is as follows:

- It is important to allocate adequate rooms, including separate ones for training and debriefing, with a possibility of observation through tinted windows or video observation system. Debriefing is a very essential part of simulation training, so the importance of creating comfortable working environment for debriefings should not be underestimated.
- The training room should be equipped with a video recording system, and the debriefing room – with multimedia equipment (notebook, multimedia projector, screen, audio system, etc).
- A simulation center should be adequately supported by technical staff handling two categories of issues: (1) hardware issues, associated with appropriate use and maintenance of manikins, computers, video systems, wiring, and medical equipment used during the trainings, such as defibrillators, cardiac monitors, etc., and (2) software issues, such as programming of simulation scenarios or remote control of manikins in the manual mode. To provide this staff with adequate salary and motivation, we need to solve a number of administrative issues and approve new orders and regulations at the level of a specific health care facility, regional health care department, or ministry of health. Also, it is a good practice to provide special trainings for technical staff focused on software-related issues.
- A simulation center should rationally plan the balance between high-fidelity and low-fidelity manikins, depending on the needs of its target audience. Expensive high-fidelity simulators able to play complex scenarios would be worn prematurely when frequently used for simpler procedures, such a intubation, indirect heart massage, or forceps application. It is more efficient to use for such purpose less expensive low-fidelity manikins.
- Besides manikins, a simulation center should have additional medical equipment, such as cardiac monitors, defibrillators, laryngoscopes, artificial lung ventilation systems, expendable materials (gloves, syringes, needles, etc.). It is a good practice to create in the training room a realistic scenery from the viewpoint of the target audience's routine work.
- It is a good practice to arrange for technicians who control the manikins a separate workplace apart from the area were the trainers and trainees interact with the manikins and communicate with each other. This requires installation and covering of appropriate extension wires.