

How to set up a simulation lab? SIM@UKM experience

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Background:

Setting up a Simulation Lab is a laborious undertaking that involves proper planning with multiple constructional steps, manpower, and significant costs. As one of the leading medical universities in the country, the Faculty of Medicine University Kebangsaan Malaysia decided to set up a basic simulation lab for the use of undergraduates as well as postgraduates in health-related courses. Initial understanding of the simulation concept was pertinent before we embarked on the journey. SIM@UKM, a committee comprising of academicians and medical technologists was established to spearhead the project. Next, the process of outlining clear learning objectives and learning outcomes were done before we proceeded to the development of written and online modules as the learning package. Various simulation modalities were considered and the most suitable was chosen. Proposing the venue of the lab involved various departments including the infrastructure department, independent quantity surveyor, and risk management, occupational and safety department to ensure that the floor plan, cost, risk likelihood, and mitigation plan were identified. Following the setup of the infrastructure, various simulator vendors were approached for demonstrations as well as to identify terms and conditions offered including after-sales and technical troubleshooting services provided. Simulators were chosen based on the types, the number required, specifications needed to ensure that they were in line with the learning objectives made. Pre-existing simulators in the institution were also identified to ensure that there was no duplication. Purchasing the simulators involved company quotations, several financial steps, and subsequently the commissioning and certification of purchased simulators by technologists were needed before the final inventory of assets was made. Disposable items and other additional equipment had to be acquired from various sources including the Hospital Central Storage Unit, Central Sterile Services Department (CSSD) unit, Hospital Operating Theatre Unit, Phlebotomy Unit, and Pharmacy Department. Standard operating procedures including guidelines, safety, and maintenance were outlined. We had also produced various skills videos for the usage of students after the lab had been set up, through series of video producing workshops. Administrative staff and medical technologists were employed. A pilot run was conducted, including feedback gathering to rectify problems before the actual implementation of the lab. Several extra adaptations had to be considered during the Covid-19 pandemic to ensure that the lab provides proper safety measures for the users and the staffs in line with the Ministry of Health recommendation of avoiding 3Cs namely crowded places, confined spaces, and close conversation while ensuring 3Ws including washing hands, wearing face masks, be aware of the warning issues and proper disinfection. The simulation-based learning at SIM@UKM Basic Simulation Lab is one of the clinical teaching and learning tools that highlight the credibility of our institution as a clinical teaching hub in the country. Our endeavour in setting up a simulation lab provides a guideline for other institutions in establishing simulation labs.

Keywords: Simulation Lab

