



# Laboratories for Medicine and Clinical Skills

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## ABSTRACT

The major goal of the medical curriculum is to equip medical students with the necessary knowledge, abilities, and attitudes to practise medicine. A decade ago, the UK Medical Council published "Tomorrow's Doctors," a report that Define for less factual content in medical education and more problem-based and self-directed learning. This report laid the groundwork for a major overhaul of medical and nursing education. The new revised curricula improved integrated medical education and placed a greater emphasis on clinical skill teaching and learning. However, worries regarding the standards and suitability of new medical graduates' skills remained. Clinical Skills Laboratories (CSLs) emerged in the medical education of many medical and nursing schools as a result of changes in teaching and learning methods, radical changes in health care delivery, and rapid technological advancements that challenged the traditional way of clinical skill development. Given the growth of CSLs, it is critical to analyse and expose the reader to their uses, especially given the scarcity of literature on the issue in recent years. This article is based on a review of the literature.

**Keywords:** Skills; Laboratories; Clinical skills

## Introduction

Clinical skills laboratories are instructional facilities that can benefit undergraduate and postgraduate medical students as well as medical professionals. They provide a safe and secure environment for learners to practise clinical skills before applying them in real-world situations. These skill laboratories assist in ensuring that all students learn the appropriate methods and are correctly assessed before to practising on real patients. They also assist students in the healthcare sector in acquiring, maintaining, and improving their clinical skills [1]. History-taking, physical examination, clinical investigations, diagnostic reasoning, procedural precision, efficient communication, teamwork, and professionalism are all examples of clinical skills.

Medical schools and postgraduate programmes have gone to great lengths to develop educational facilities dedicated to clinical skills training. The first CSL was founded in 1976 at Limburg University in Maastrich, the Netherlands. Since then, CSLs have been incorporated into the

curricula of numerous medical schools and educational institutes [2]. CSLs are currently in place at the University of Leeds, Dundee, Dublin, Southampton, Liverpool, and Imperial College, among other creative medical institutions. The United Arab Emirates University was the first in the Arab world to develop CSL in 1988. Many universities in the region are currently employing CSLs as a teaching tool [3].

The majority of CSLs have core clinical abilities that can be learned and taught. These methods include taking a history with communication skills, performing a physical examination, and performing some technical and practical operations [4]. The particular type of the skill taught is usually decided by logistical and educational requirements in the local area. The number of abilities that can be taught and learned in CSLs has gotten longer as technology and teaching methodologies have changed. Because these talents are so diverse, it's critical to define them and decide the level of competency required at each school [5]. As a result, many CSLs include curriculum development committees, as

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well as undergraduate and postgraduate faculty members, in their planning.

### Discussion

When it comes to developing and delivering a clinical skill facility, it's critical to adhere to modern educational theory. Communication skills development is a critical area of concentration for CSLs. Clinical and communication skills centres or units would be a suitable name for those laboratories, because the appropriate use of clinical skills necessitates the combination of technical clinical skills and communication skills [6]. Student-centered, integrated, problem-based, and self-directed learning, as well as multi-profession, community-oriented, or outcome-based education, can all be adapted in CSLs. A small group, a large group, real, standardised, and simulated patients, or role play may also be part of the learning method. Audio and video recording are crucial in the development of communication skills in particular [7].

Clinical skills laboratory may include a large open area for seminars and numerous small interview rooms. It could feature general practise consulting rooms, procedural skill rooms, accident and emergency cubicles, an Intensive Care Unit, and a space for simulators, among other clinical settings. Teachers and support workers require storage areas and offices [8]. It's also important to keep the available space open so that it can be rearranged to fit a specific lesson. A clinical skills facility should, in general, give the impression of a true clinical setting. The success of CSLs is dependent on enough staffing. Both teaching and support personnel should be carefully chosen. Full-time, part-time, seasonal, or peripatetic clinical skill teachers are all options [9]. Administrators, patient coordinators, a secretary, and technicians are common members of the support team. Finally, depending on the situation, CSLs can be used for undergraduate and postgraduate teaching and learning. Medical students, nursing students, dentistry students, and students of applied medical science can all benefit from them.

### ■ Factors involved in the formation of CSLs

The majority of patients available for student training have decreased due to a variety of circumstances. The suggested early student

exposure to clinical skills, the increasing number of students, the drastic reduction of inpatient beds, shorter hospital stays, and the transition of treatment to the ambulatory setting are just a few of them. As a result of advancements in day care units, the indications for hospital admission have changed, particularly in metropolitan regions. As a result, hospitalised patients are frequently sicker and thus inappropriate for bedside clinical skills training. Furthermore, there is concern that the patient will be disturbed if the case is presented at the bedside. In reality, the percentage of time spent on bedside instruction as part of medical education has decreased from 75% in the 1960s to 16% in 1978.

Increased demand and a reduction in the number of teaching staff due to financial constraints, competing pressures, work load, administrative and research responsibilities, as well as an increase in the number of students and gender separation adopted by some medical schools in Muslim communities, have prompted the development of CSLs. As a result, student oversight and timely feedback from the instructional staff have become challenging. There's also the issue of legal action to consider. Patients are today more knowledgeable, have higher expectations, and will no longer accept the role of passive learners at the bedside. Patients have the option of avoiding interacting with students.

### CSLs benefits and disadvantages

Clinical skills laboratories can be used for multi-professional training and cooperation. It allows kids to participate in instructional activities in a safe and secure setting. Students' anxiety is reduced by bridging the gap between the classroom and the clinical setting. The above-mentioned innovative learning methods and educational tactics are difficult to implement in the traditional manner of bedside instruction and are hence best utilised in CSLs. Integrating these abilities into the entire clinical skills programme can improve students' communication skills and attitudes toward their value. One of the most significant advantages of CSLs is that they allow students to acquire skills in their right context by incorporating them into the theoretical component of the curriculum.

Students can practise and make mistakes without endangering the patients or themselves by using simulators. Simulators, unlike patients, have

predictable behaviour, repeatable experiences, and allow for standardised experience. They are neither humiliated nor stressed, and they have no time constraints, so they can be used whenever they are needed. They can be configured to imitate specific results, conditions, or difficulties, and they can be utilised for tough scenario management training. Repeated practise, which is more practicable in CSLs, has been found to be the single most important determinant of skill and information retention. Students who graduated from innovative medical schools employed more skills during clerkships than students who followed traditional programmes, according to studies. Self-learning is encouraged in clinical skills laboratories. Since there are no medico-legal or ethical difficulties, and the use of manikins removes institutional, individual, and cultural barriers without fear of embarrassment, students can practise genital, vaginal, rectal, and breast inspections.

CSLs have a lot of benefits, but they also have certain disadvantages. Skills centres provide a variety of learning environments, but they cannot replace reality. There's also the issue of maintaining CSL centres because to a lack of experience. Because there are no medico-legal concerns, students may overlook the acquisition of key clinical skills. Furthermore, while simulation tools can be used to examine a specific component of technical skill, they

may not be able to provide a complete picture of a patient's overall care. The expense of clinical skills facilities is high. Technical obstacles would stymie the utilisation of informatics resources in developing countries.

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### Conclusion

The costly expense of the facility and equipment, as well as the requirements for continual update and maintenance, is a real challenge to the inclusion of CSLs in many medical schools' courses. Many teaching staff members who are enthusiastic about bedside clinical teaching may be resistant to the move. Furthermore, the planning of skills centres involves a wide range of stakeholders and users, some of whom may be resistant to change. Given the high cost of CSLs, it is critical to guarantee that the conclusion is justifiable in order to attract investors. Clinical skills labs should be structured to support the desired learning goal and be an essential component of the entire curriculum. Clinical skill development should be integrated into the communication skills curriculum and other programmes aspects of the courses, in order to prevent relapsing to a formal schooling system. Clinical skill units must be adaptable in design and timing in order to be successful. It must be placed within or close to medical schools. The atmosphere and clinical area should be as close to real-world conditions as possible.

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