Technology Trends in Medical Education

To the Editor,

On the 9th of November 2013, medical students leaders from across Ireland came together for an inaugural National Medical Student Summit held at the National University of Ireland, Galway. The summit led to the creation and launch of the Association of Medical Students in Ireland (AMSI). Irish medical students will now have an organization that can facilitate dialogue on national and international level. One of the aims of this organization is to create a forum where students can discuss a range of scientific and social topics, specifically how they affect medical students. With this in mind, the 1st annual AMSI summit included a round table discussion on how technological advances have affected medical education. Recurring themes that arose included the effects on patient safety, the lack of reliability of information and finally financial burden of new technology.

Patient Safety

From the very start of clinical education the saying "see one, do one, teach one" can be heard around the hospital ward. For some students it means inserting their first intravenous (IV) cannula, a procedure with relatively minimal risks. However, when you begin to look at this in the graduate setting, you realize that some procedures that carry high risks and complications are sometimes conducted by inexperienced trainees. This may partially be explained by the international propagation of a litigious culture, leading to the inexperienced junior doctor. This has led to the emergence of a new dogma, "See one, simulate many... then do one!".[1] Simulated technology has been shown to assist medical students in making the leap from theoretical knowledge to practical experience.[2] The benefits of simulation technology and other training devices are numerous, however it is imperative to note the increased costs associated with these technologies.

Cost of Medical Education

A large proportion of financial burden associated with new technology is placed on educational institutions. However, we focused our discussion on the financial burden from a student perspective. Some of the cost of technological advancement is transferred to the student due to the increased necessity of smart phones, laptops, online applications and tablets, which are all becoming essential to further clinical teaching.[3] Although these associated costs are currently considered the norm, the introduction of any new technology should be cost-benefit analyzed to prevent any excessive financial burden on medical students. In addition, there should be an appropriate distribution of these costs between students, institutions and the public, which will ultimately benefit from these technologies.

Reliability of Information

In our discussion we also highlighted that technology has allowed for information to be disseminated at alarming speeds, by anyone with an Ethernet cable. While this has obvious advantages such as increasing collaboration between clinicians around the globe, it was also acknowledged that this same quality posed a serious risk if abused.[4] One of the most well known horror stories was when an article by Andrew Wakefield fraudulently suggested a link between the Measles, Mumps, and Rubella (MMR) vaccine and autism.[5] The effects of this technology spreading false data are still being felt.[6] On a smaller scale, participants highlighted the potential hazards of using easily accessible online information. Many students have encountered situations where they have used information from online sources only to find out that they were outdated, misinterpreted or out rightly false. With this in mind, it was suggested that medical schools subscribe to online reliable resources that are easily accessible for their students.

Conclusion

New technologies have led to much advancement in the field of medical education. However, before these are routinely implemented into the curriculum it is vital that they are audited in terms of patient outcomes and cost-benefit. Finally, reliability of information should be highlighted as potential issue as medical educators begin to imbed new technology into the medical curriculum.

Pishoy Gouda,[1,2] *John Campion.*[1,2]
[1]National University of Ireland Galway; Galway; Ireland.
[2]Association of Medical Students in Ireland; Ireland.
p.gouda1@nuigalway.ie

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About the Author: *Pishoy Gouda is a 5th year medical student at the National University of Ireland, Galway enrolled in the 6 year program. He is a recipient of the "Have a Heart Bursary" awarded by the Canadian Cardiology Congress as well as a recipient of the Alberta Innovates Health Solutions Summer Studentship award.*

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