Dear Editor,

Simpson [1] has conducted a thorough review of the literature with regard to the educational utility of simulations in teaching history and physical examination skills in diagnosing breast cancer. The findings from the literature seem to be clear—simulation methods appear to have a positive effect on students’ clinical and communication skills in this important field. However, a deeper analysis of the findings raises some further questions that have not been addressed in this initial review. The problem lies not in the systematic review—which is sound—but in the underlying original papers.

First of all, many of the papers demonstrate improvement in learners on assessments following exposure to the simulation. This of course is good; however, one might then ask how sound or otherwise the assessment was. An ideal assessment is fair, reliable, valid, feasible, and has a positive effect on candidates’ behavior. But there is little evidence that the assessments used in the original research were subject to rigorous evaluation. This means that the findings of the original research are ultimately based on weak foundations. Also nearly all the assessments were short term in nature—few assessed candidates’ ability into the long term. Lastly few of the assessments examined learners’ performance in the actual clinical environment—which in the final analysis is the essential purpose and destination of the assessment and the learning.

Secondly, breast cancer management is increasingly a team-based activity and indeed an interdisciplinary team-based activity. And yet the studies in this field look only at individual learners’ activities. This needs to be redressed in future simulation-based education strategies in order to ensure that simulation in breast cancer management mimics the real world of interdisciplinary practice.

Thirdly and lastly, there is the cost of creating and running breast cancer simulations. The authors rightly mention the costs of hiring simulated patients; however, there are many other costs that also need to be taken into consideration. In the final analysis simulation will only be worthwhile if it is based on learners’ needs and its benefits outweigh its costs [2,3].

CONFLICT OF INTEREST

The author declares that he has no competing interests.

REFERENCES

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Reply

Dear Editor,

In response to the previous commentary, I think the author raises extremely valid and thoughtful points. The three points raised by the author are common themes that are raised when one critiques the overall value of simulation in medicine.

To address the author’s first point, which questions if long-lasting behavioral changes occur and are transferable to the clinical environment, it is my opinion that many of the studies I referenced fall into a common pitfall of early educational research. Geoff Norman has referred to this as “comparing something to nothing” or A+B is always greater than A [1]. Many early studies simply compared an intervention (simulation)
plus the traditional method of learning to the traditional method of learning alone. It would be difficult to argue that more education is worse than less; thus, many of these studies found positive results. These studies did not examine long-term outcomes or transferability to the clinical environment; therefore, future research in medical education needs to do so to advance the field of educational research.

Your second point is extremely valid as well. Interprofessional and interdisciplinary collaboration is fundamental to a successful hospital-based breast cancer program. With this comes the opportunity for both ongoing interprofessional and interdisciplinary education. Simulation should play an active role in this, but has yet to do so. Hopefully, future studies will address this gap.

Finally, cost remains one of the great criticisms of simulations in medicine. At our simulation center at St. Michael’s Hospital, millions of dollars have been spent with the overall goal of addressing the needs of learners. In my opinion, it will be difficult to show that the cost is ever justified by the outcomes achieved. However, this is a similar issue in other fields where simulation is widespread, such as aerospace. Having said that, would one not advocate their pilot practice on a simulator prior to flying a commercial plane, even though airplane crashes are rare?

CONFLICT OF INTEREST

The author declares that he has no competing interests.

REFERENCE

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