Vendor Attraction to Improve the PTM System: A Commentary

Sharafaldeen Bin Nafisah

Abstract—Advancement in healthcare technology has shaped modern healthcare delivery. Vendors that supply advanced technology are profit-driven, but at the same time their profit is contingent upon awareness of, and acceptability of, their products. Openness to ideas and critique is crucial to improving any existing system, and a proactive approach to advanced technology will be greatly beneficial in improving current practice.

Index Terms—Costs and Cost Analysis, Equipment and Supplies, Vendors

Advancement in healthcare technology has shaped modern healthcare delivery. For example, a paramedic can now take a blood pressure reading using automated devices while loading medication. They can also view the capnography values or waves to check whether the endotracheal tube remains in position. Although the above are well- known examples, they are not unique to Prehospital and Transport Medicine (PTM). Perhaps a more specific example would be the replacement of a manual stretcher with an automated one, which was a response to the numerous incidents of injury sustained by paramedics: comparing the cost of rehabilitation after fracture or injury, combined with work absence, made automated stretchers the more cost-effective choice [1-3].

Openness to ideas and critique, and a proactive approach to new technology will improve the existing system. So often, we rely on proactive agencies' models of how technology has improved their practice; perhaps it is time we appraise this role.

Vendors that supply advanced technology are profitdriven [4,5], but at the same time, their profit is contingent upon awareness of, and acceptability of, their products. On the other hand, as healthcare providers, we focus on patient outcome. Between those two poles of interest lies a common goal of improving the efficiency of healthcare. Unfortunately, this common goal is often obscured by the prejudice of profitability

Sharafaldeen Bin Nafisah is with Emergency Department, King Fahd Medical City, e-mail: Sbinnafisah@kfmc.med.sa (Corresponding author). and conflict of interest [6,7]. For example, at one conference, a pharmaceutical vendor struggled to remain calm while fielding many questions about the findings of their published articles from the aspect of hidden profit, rather than the efficacy of the drug itself. This human paternalistic instinct is probably driven largely by conspiracy stories and the movie industry.

σP p207

Recently, several advanced technologies have been made available. Portable ultrasound, a portable vein finder for intravenous access, automated chest compression systems, radiation detection for first responders, and even Artificial intelligence in airway management [8]. Undoubtedly, any advanced technology will need testing and enhancement before becoming a standard of care. However, the inability to reach a broader market made competition less likely, and the cost remained high. Several companies have not received any critique on their products simply because they were not given a chance to be tested beyond their research and development departments. Representatives had difficulty communicating with agencies to show their products, several of which were free to try (and the trial period may extend for months). This is an advantage to our practice, where cost/benefit analysis can be conducted [9,10]. For example, we tried several ultrasound machines before we agreed on one of them. We were also able to try and conduct virtual reality training for tactical medicine before we agreed on which of the companies to choose. And, just a couple of months ago in Italy, telecom companies offered - at no cost an entire communication system for use in field hospitals during a mega code disaster training event.

Cutting-edge technologies are seemingly limitless in our era, and the healthcare industry should become more proactive and open-minded toward such technologies. Vendor attraction will improve the PTM system and should be integrated into health reforming plans. We should maintain our standards regarding what is best for our patients, while being impartial and independent. Instead of being reactive, proactivity should be part of our daily culture.

REFERENCES

[1] Wang HE, Weaver MD, Abo BN, Kaliappan R, Fairbanks RJ. Ambulance stretcher adverse events. Qual Saf Health Care. 2009 Jun;18(3):213-6. doi: 10.1136/qshc.2007.024562. PMID: 19468005.

[2] Jones A, Hignett S. Safe access/egress systems for emergency ambulances. Emerg Med J. 2007 Mar;24(3):200-5. doi: 10.1136/emj.2006.041707. PMID: 17351227; PMCID: PMC2660029.

[3] Overton J. Ambulance design and safety. Prehosp Disaster med. 2001;16(S2):S112-S112.

[4] Heled Y, Rutschman AS, Vertinsky L. The problem with relying on profit-driven models to produce pandemic drugs. J Law Biosci. 2020 Aug 6;7(1):lsaa060. doi: 10.1093/jlb/lsaa060. PMID: 32913653; PMCID: PMC7472792.

[5] Institute of Medicine (US) Committee on Technological Innovation in Medicine; Gelijns AC, Halm EA, editors. The Changing Economics of Medical Technology. Washington (DC): National Academies Press (US); 1991. (Medical Innovation at the Crossroads, No. 2.) 1, An Introduction to the Changing Economics of Technological Innovation in Medicine. Available from: https://www.ncbi.nlm.nih. gov/books/NBK234316/

[6] Schlesinger M, Quon N, Wynia M, Cummins D, Gray B. Profit-seeking, corporate control, and the trustworthiness of health care organizations: assessments of health plan performance by their affiliated physicians. Health Serv Res. 2005 Jun;40(3):605-45. doi: 10.1111/j.1475-6773.2005.00377.x. PMID: 15960683; PMCID: PMC1361160.

[7] MacKenzie CR, Cronstein BN. Conflict of interest. HSS J. 2006 Sep;2(2):198-201. doi: 10.1007/s11420-006-9016-1. PMID: 18751837; PM-CID: PMC2488162.

[8] Vasconcelos Pereira A, Simões AV, Rego L, Pereira JG. New technologies in airway management: A review. Medicine (Baltimore). 2022 Dec 2;101(48):e32084. doi: 10.1097/MD.000000000032084. PMID: 36482552; PMCID: PMC9726337.

[9] Chambers JD, Silver MC, Berklein FC, Cohen JT, Neumann PJ. Are Medical Devices Cost-Effective? Appl Health Econ Health Policy. 2022 Mar;20(2):235- 241. doi: 10.1007/s40258-021-00698-6. Epub 2021 Nov 25. PMID: 34820784.

[10] Gonser P, Fuchsberger T, Matern U. Usability Tests in Medicine: A Cost-Benefit Analysis for Hospitals Before Acquiring Medical Devices for Theatre. Surg Innov. 2017 Aug;24(4):343-348. doi: 10.1177/1553350617702308. Epub 2017 Apr 11. PMID: 28399713.