Preparing for influenza outbreaks: the role of online educational resources

Kieran Walsh[1]

**Corresponding author:** Dr Kieran Walsh kmwalsh@bmj.com  
**Institution:** 1. BMJ  
**Categories:** Technology

Received: 03/10/2018  
Published: 08/10/2018

**Abstract**

**Introduction**

Influenza is a serious disease that can cause considerable morbidity and mortality. It results in regular seasonal outbreaks and occasionally in global pandemics. Healthcare professionals must learn about influenza (both pandemic and seasonal varieties) - however sometimes this disease can cause particular challenges to healthcare professional educators. E-learning modules may be an effective means of educating healthcare professionals on this subject.

**Methods**

BMJ Learning has published a series of modules on influenza – including seasonal and pandemic influenza. The goals of the modules were to help healthcare professionals learn about the assessment, diagnosis, differential diagnosis, and management of both seasonal and pandemic influenza. All healthcare professional users who completed the modules were encouraged to give free text feedback on the modules. We evaluated the modules by analysing this feedback from a qualitative perspective.

**Results**

Feedback to the modules was positive. Users appreciate the concise, case based and real-life nature of the modules. However, users expect the technology to be reliable and appreciate content in different formats – including text, audio and video. Some users had ongoing clinical learning needs - related to details on the diagnosis, differential diagnosis, and complications of influenza.

**Conclusions**

There have been hypotheses in the past that e-learning modules could play an important role in infectious disease outbreaks. This paper suggests that they do have a role. To maximise their effectiveness it is likely that modules need to be concise, case based and in a variety of different formats.
Keywords: Influenza; e-learning

Introduction

Influenza is a serious disease that can cause considerable morbidity and mortality. (Webster and Govorkova, 2014) It results in regular seasonal outbreaks and occasionally in global pandemics. (Rewar et al, 2015) Healthcare professionals must learn about influenza (both pandemic and seasonal varieties) – but sometimes this disease can cause particular challenges to healthcare professional educators. This is for a variety of reasons. The population affected by influenza is not only the general public but also healthcare professionals. Healthcare is best learned at the bedside but a pandemic may prevent this. It may result in policies being put in place that prevent students being in direct contact with patients during an outbreak of infectious disease. (Patil and Yan, 2003) Sometimes educators might be too busy or ill themselves, and thus unable to educate students or care for patients. Most of our undergraduate and postgraduate learners are young people and yet these same young people have been disproportionately affected by influenza in the past – “probably because they had no exposure to and so no immunity from previous similar pandemics.” (Walsh et al, 2017) These problems have led educators to consider new ways to educate learners about influenza and other serious infectious diseases. Technology enhanced learning - by means of e-learning - has been suggested as a means of educating large numbers of learners safely – in preparation for an outbreak or during an outbreak. (Walsh et al, 2017) However, to date there has been little published evidence as to the utility of e-learning as a means of educating healthcare professionals on this subject.

Methods

BMJ Learning is the online learning website of BMJ. It provides e-learning modules designed to help healthcare professionals learn about a range of clinical subjects. The purpose of the modules is to help healthcare professionals to mobilise evidence based knowledge and so improve the care that they deliver to patients. (Walsh et al, 2010) BMJ Learning has published a series of modules on influenza – including seasonal and pandemic influenza. The goals of the modules were to help healthcare professionals learn about the assessment, diagnosis, differential diagnosis and management of both seasonal and pandemic influenza. The modules all contained evidence based and updated content and were all based on practical and actionable guidance. All healthcare professional users who completed the modules were encouraged to give free text feedback on the modules. We evaluated the modules by analysing this feedback from a qualitative perspective. This was an evaluation and not a research study. The purpose was to help judge the usefulness and worth of these modules.

Results

Feedback to the modules was broadly positive. Sixty-six users described the modules as helpful, practical or useful. Fifty-eight users described the modules as good, beneficial or excellent. Twenty-eight users described the modules as informative or interesting. Eight users expressed gratitude for the provision of the modules. Five users described the modules as nice, okay or straightforward. Fourteen users described the modules as short or concise or to-the-point – these users were positive about the concise nature of the content. Three users appreciated the case based and real-life nature of the content. Six users gave positive feedback on the format or presentation of the modules. However, four users had suggestions as to how the format of the modules could be improved: one user stated that they had technology problems with a module; one user suggested that there should be options to learn from text, audio or video; one user requested text subtitles; and one user asked for more questions. Six users made specific comments about what they had learned. Two users stated that the modules met their needs. However, five users made comments that they had ongoing learning needs – even after having completed a specific module. The ongoing needs
related to details of the diagnosis, differential diagnosis, and complications of influenza. One comment could not be categorised.

Conclusions

A number of conclusions can be drawn from this analysis. Healthcare professionals will and do use e-learning as a means to prepare themselves for outbreaks of both seasonal and pandemic influenza. The majority find such modules helpful. Users especially appreciate the concise and case based nature of e-learning modules. However, users expect the technology to be reliable and appreciate content in different formats – including text, audio and video. Some users had ongoing clinical learning needs - related to the diagnosis, differential diagnosis, and complications of influenza. One option to tackle these needs might be to produce more comprehensive modules but this would not be in keeping with satisfying user needs for concise content. It may be that a programmatic approach is needed – with an ongoing series of short modules on various aspects of the disease in question. There are limitations to this analysis. The healthcare professionals were all users of e-learning and indeed of a single provider of e-learning. As such they may not be representative of the wider healthcare professional community. The analysis also looks at modules on a single disease topic – it may not be representative of other disease topics. There have been hypotheses in the past that e-learning modules could play an important role in infectious disease outbreaks. This paper suggests that they do have a role. To maximise their effectiveness it is likely that modules need to be concise, case based and in a variety of different formats.

Take Home Messages

- Healthcare professionals will use e-learning as a means to prepare themselves for outbreaks of both seasonal and pandemic influenza.

- Healthcare professionals especially appreciate the concise and case based nature of e-learning modules.

- Users expect the technology to be reliable and appreciate content in different formats – including text, audio and video.

Notes On Contributors

Kieran Walsh is Clinical Director at BMJ. He has a great deal of experience of creating and evaluating e-learning resources.

Acknowledgements

None.

Bibliography/References


---

**Appendices**

None.

---

**Declarations**

*The author has declared that there are no conflicts of interest.*

*This has been published under Creative Commons "CC BY 4.0" ([https://creativecommons.org/licenses/by-sa/4.0/](https://creativecommons.org/licenses/by-sa/4.0/))*

---

**Ethics Statement**

This was an evaluation and not a research study. The purpose was to help judge the usefulness and worth of these modules.

---

**External Funding**

This paper has not had any External Funding

---

AMEE MedEdPublish: rapid, post-publication, peer-reviewed papers on healthcare professions’ education. For more information please visit [www.mededpublish.org](http://www.mededpublish.org) or contact [mededpublish@dundee.ac.uk](mailto:mededpublish@dundee.ac.uk).