



Implementing a Free Open-Access Medical Education Paradigm in an Internal Medicine Residency

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Abstract

A didactic lecture series has provided the framework for traditional graduate medical education; however, there are inherent problems in this system including ensuring resident attendance, maintaining curriculum, consistency and accessibility of content. These are barriers that are largely constructs of the traditional system and have prompted a group of Internal Medicine (IM) residents to create an online curriculum to supplement the traditional didactic series.

An online educational free open access medical education (FOAMed) resource was created at LouisvilleLectures.org to host the Internal Medicine Lecture Series which contains recordings of live didactic lectures which have been placed on YouTube and converted into podcast format. A resident-led team developed a lecturer guide to improve consistency in presentation and content of lectures. A comprehensive curriculum was created with tracking system to identify important gaps and potentially outdated content.

In the eight months since the resources have been made available online and two months since official website and podcast launch, our lectures have been viewed more than 55,000 times with over 2,500 subscribers in 130 countries.

Introduction

A series of didactic lectures on core topics has been a pillar of medical education and is a required component of an IM training program as set forth by the Accreditation Council of Graduate Medical Education (ACGME). Based on information from national medical programs around the country, an IM resident may attend up to 800 conferences during residency; of these, 250-300 hours focus on core subjects. Due to the day to day needs of patient care, scheduling conflicts, and duty hour requirements, residents are frequently unable to attend conferences.

The goal of this initiative is to increase access to didactic lectures by shifting the traditional lecture hall paradigm to a resident-led comprehensive FOAMed lecture series. This has been a very successful endeavor in emergency medicine (EM) and critical care leading to improved access to content both internally and in the wider medical community. The IM specialty has lagged behind in this endeavor.

Methods & Materials

In September 2014, a YouTube Channel was created to host previously recorded didactic medicine lectures. Ongoing lectures continued to be recorded and evaluated for inclusion, then edited for content, audiovisual quality, and any potential copyright concerns. The project was discussed with the University's legal and public relations department. Written consent was obtained from all presenters.

Website and podcast hosts were identified and the resident team began creating the site and processing the lectures for podcast format. In January 2015, after meeting with the residency director and department chair, funding was established to continue these efforts.

LouisvilleLectures.org officially launched the week of March 16th, 2015. The podcast was later published on iTunes via Blubrry. Data acquisition occurred via analytic tools native to YouTube, SquareSpace, Blubrry Podcasting as well as Google Analytics.

A custom curriculum was designed to cover the the American Board of Internal Medicine (ABIM) content during a three year residency while incorporating a professionalism, ethics and quality improvement component.

Results

In the six months prior to the website and podcast launch, there were 29,549 YouTube views. 10,342 (35%) were within the United States. The next most views (in order) were: India, Canada, Saudi Arabia, the United Kingdom, Egypt, and Ethiopia. LouisvilleLectures.org has had 596 viewers from the Louisville area, accounting for 12.8% of all viewers. Computer viewing accounted for 20,177 (68%) of all YouTube views with mobile phones and tablets accounting for 5,127 (17%) and 3,696 (13%) respectively.

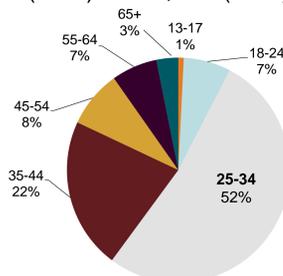


Figure 1. A summary of U.S. YouTube viewers by age.

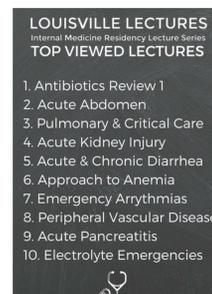


Figure 2. Most viewed lectures.

Discussion

After implementing a FOAM paradigm, our lectures are accessible using technologies that are now ubiquitous to medical students, residents, and faculty. These are innovative modes of learning both among our program and across international IM programs. Our project has been successful in increasing access to the didactic lecture series both by number of formats and through ease of access.

Furthermore, the data show that this approach can be a viable alternative to the traditional and password-protected lecture recording model. While this may lead to concerns that attendance and participation in live lectures would drop, there is some data to suggest this is a minor concern and it is an area targeted for future research.

Perhaps more significantly, the growth of domestic and worldwide viewership supports the idea that in IM, a FOAM

paradigm can be a tool with which to disseminate medical knowledge to the international medical community. After an exhaustive online search, this effort is the first university sponsored IM FOAM project seeking to provide a comprehensive curriculum. While there are many active IM resources, some have not been updated in over a year and none are attempting a comprehensive approach.

Most limiting is lack of current internal data, currently present as positive verbal feedback, that is actively being sought. A continuing survey of residents with correlation with board and in-training exam scores over years of FOAM availability has been created to better characterize resident viewing patterns, lecture attendance, comprehension as well as satisfaction.

In the future, residents can view the recorded lecture prior to attending a session with a lecturer. This will hopefully lead to more interactive sessions as residents can come to the lecture prepared with the background information and engage on a deeper level with educators.

Future developments include expanding our offerings and building a continuing medical education (CME) credit option. We are excited to help other departments add lecture series to our offerings. Our current projects include adding Internal Medicine Grand Rounds Series and we are recording lectures from the University of Louisville Emergency Medicine and Critical Care Programs.

References

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- 2. Cadogan M et al. Free Open Access Meducation (FOAM): the rise of emergency medicine and critical care blogs and podcasts (2002-2013). Emerg Med J 2014;31:e76-7.
- 3. Sawatsky AP et al. Understanding resident learning preferences within an internal medicine noon conference lecture series. J Grad Med Educ 2014;6:32-8.

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DAILY ONLINE LECTURE VIEWS BY SOURCE

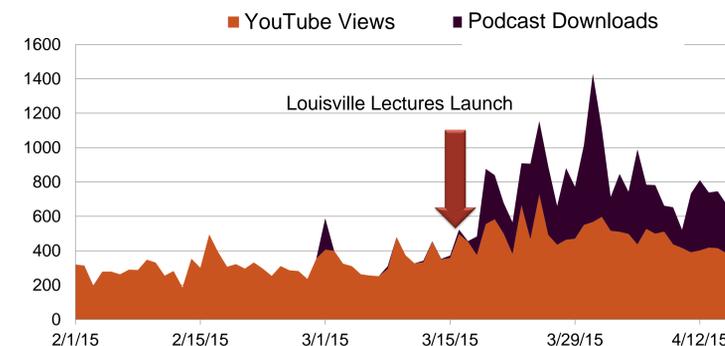


Figure 3. A summary of YouTube views and Podcast downloads over the first two months of LouisvilleLectures.org

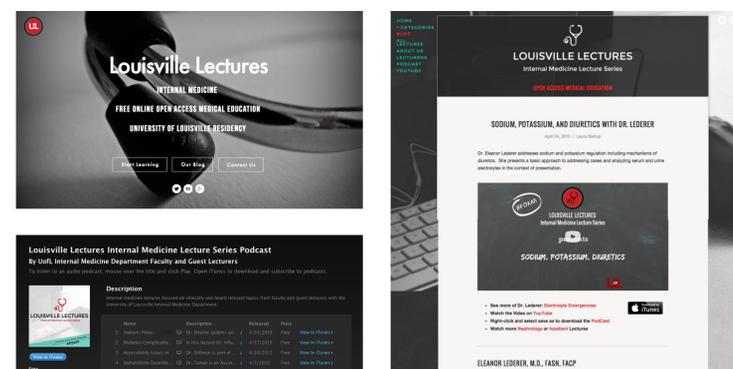


Figure 4. Louisville Lectures Website and Podcast Pages.