INTRODUCTION

Medical educators and patients are turning to YouTube to teach and learn about medical conditions. These videos are from authors whose credibility cannot be verified & are not peer reviewed. As a result, studies that have analyzed the educational content of YouTube have reported dismal results. These studies have been unable to exclude videos created by questionable sources and for non-educational purposes. We hypothesize that medical education YouTube videos, authored by credible sources, are of high educational value and appropriately suited to educate the public.

METHODS

Credible videos about cardiovascular diseases were identified using the Mayo Clinic’s Center for Social Media Health network. We identified the top four states that had the most member organizations with YouTube channels as of December 2012. We selected videos focused on cardiac, vascular, or cardiovascular diseases from the YouTube channels of these organizations.

Content in each video was assessed by the presence/absence of 7 non-mutually exclusive domains: 1) Epidemiology 2) Pathophysiology 3) Screening 4) Diagnosis 5) Complications 6) Treatment/management 7) Prevention.

Each video was also evaluated for understandability using the Suitability Assessment of Materials (SAM) through the evaluation of 6 domains: 1) Content 2) Literacy demand 3) Graphics 4) Layout and typography 5) Learning stimulation 6) Cultural appropriateness.

User engagement measurements were collected for each video. A total of 607 videos (35 hours) were analyzed. Half of all videos contained 3 educational factors: treatment, screening, or prevention.

RESULTS

Half the videos contained at least 3 educational domains and a superior suitability SAM score. In general, videos of great breadth had a higher SAM score than less educational videos (26.2 versus 19.5 respectively). However, there were far fewer optimal videos (75 versus 531, Fisher’s exact test p<0.0001). Although optimal videos were the longest videos of any type, they did not engage the user with greater frequency than any other video type (Table 1).

We compared each educational domain against Video Views, Likes, Comments to identify any domain that was disproportionately represented in the videos with high user engagement. Table 2 shows the individual parameter estimates for the 7 logistic regression models—one for each domain. The range of AUCs was 0.48 to 0.58, suggesting estimates for the 7 logistic regression models—only one for each domain. The range of AUCs was 0.48 to 0.58, suggesting that videos with high user engagement could not be characterized as containing a specific educational domain.

DISCUSSION

Content and quality may be key ingredients for entertainment-focused organizations. When the goal of content is to educate the public, however, healthcare organizations do not produce many optimal videos.

When an organization authors an optimal video, the general public is no more likely to engage with it than with less optimal videos. Indeed we cannot predict how the public will engage with a video based on: 1) educational breadth 2) SAM score 3) and/or publicly available metadata.