

# Free Open Access Meducation (FOAM): the rise of emergency medicine and critical care blogs and podcasts (2002–2013)

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## ABSTRACT

Disruptive technologies are revolutionising continuing professional development in emergency medicine and critical care (EMCC). Data on EMCC blogs and podcasts were gathered prospectively from 2002 through November 2013. During this time there was a rapid expansion of EMCC websites, from two blogs and one podcast in 2002 to 141 blogs and 42 podcasts in 2013. This paper illustrates the explosive growth of EMCC websites and provides a foundation that will anchor future research in this burgeoning field.

## BACKGROUND

Over the past decade the number of medical websites has exploded. Their use in medical education has been documented in the literature,<sup>1 2</sup> and they could play a prominent role in facilitating the type of ‘flipped classroom’ education recently described in *Academic Medicine*.<sup>3 4</sup> Emergency medicine and critical care (EMCC) have led the way in the explosive growth of these resources.<sup>2</sup> However, to date there have been no epidemiological or research publications documenting this phenomenon.

With 11 million views from 5.8 million visitors each year, *Life in the Fast Lane*<sup>5</sup> has been one of the most prominent EMCC blogs since it was founded in 2007. Its cofounder (MC) prospectively indexed observational data on EMCC blogs and podcasts from 2002 through 2013. This descriptive report outlines the growth of these websites.

## METHODS

Our list of EMCC websites was generated using several methodologies over 10 years and 11 months. The first websites were discovered through personal communications. A purposeful snowball sampling technique was used prospectively to identify additional websites.<sup>6 7</sup> The links contained in the blogrolls (blogrolls link viewers to websites with related content) and Alexa reports (Alexa reports list all of the websites linking to a particular website) of the websites in the database were reviewed annually for this purpose. Additional sites were identified through personal communications, social media and a self-report form on *Life in the Fast Lane*. Finally, we performed a retrospective Google search for unindexed EMCC blogs and podcasts in November 2013 using a Boolean search strategy with the following terms: (‘emergency medicine’ OR ‘critical care’ OR ‘intensive care’) AND (podcast OR blog). All 315 results were reviewed and triangulated with

prospective efforts to identify websites that were not already included.<sup>5</sup>

Websites were included if they were composed in English, hosted freely accessible content, discussed EMCC-related topics, were considered ‘active’ and published content intermittently in dated posts. To be active, a website must have published a new post in the previous 6 months. The date of the first published post was considered the creation date of each website. Websites were subclassified as blogs if their posts contained text and as podcasts if they contained either audio or video. Websites that included both were classified as podcasts. Podcasts without associated websites were not captured in the database.

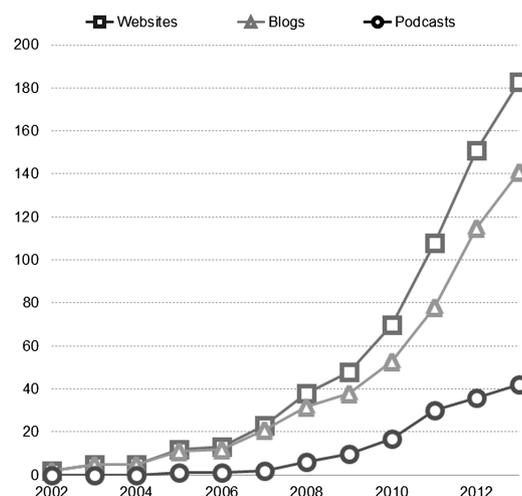
Ethics approval was not required for this research as all study information was publicly available.

## RESULTS

As of November 2013, 141 blogs and 42 podcasts were identified on 183 EMCC websites. The number of active blogs and podcasts in November 2013 is shown in figure 1 along with data collected prospectively from 2002 through November 2012. The retrospective Google search identified an additional nine blogs and one podcast for inclusion.

## DISCUSSION

Online digital resources are playing an integral role in the disruption of medical education.<sup>3</sup> Blogs and podcasts have become increasingly popular



**Figure 1** Number of active emergency medicine and critical care (EMCC) websites, blogs and podcasts by year.

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## Short report

platforms for teaching and learning, as evidenced by their continued growth in the EMCC field.

The major limitation of this study is our data collection method which relied to a degree on Google's evolving proprietary search algorithms and self-reporting. This effect was addressed by comparing our results with a prospectively collected database over nearly 12 years. This limitation would underestimate the prevalence and growth of blogs and podcasts.

With the explosion of online EMCC content, future research should focus on information curation, quality metrics and impact analysis for EMCC website content. The effective development of tools for these purposes will be crucial in shaping their future role in medical education.

**Contributors** MC contributed to conception and design, data collection, analysis and interpretation of the data, revision of the manuscript for important intellectual content and gave final approval of the version to be published. BT, TC and ML contributed to analysis and interpretation of the data, drafting and revision of the manuscript for important intellectual content and gave final approval of the version to be published.

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**Data sharing statement** The raw data used in this analysis including all FOAM websites may be made available to interested parties for research purposes at the discretion of MC.

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