Title: Med Moth: A Storytelling Platform for Improving Wellness in Medical Education

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Discussion Points:
1. A live storytelling platform in medical school can create positive personal and professional development outcomes, for both students and faculty.
2. Storytelling is an underutilized form of mindfulness in the medical community that has the potential to foster resilience in trainees.

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ABSTRACT.

Background and Objectives: Burnout is a major issue amongst medical students and professionals that demands a solution. Mindfulness has been shown to decrease clinician and student burnout. Storytelling, as a form of mindfulness, leads to reflection. Few publications study the effect of storytelling on student and clinician wellness. To address wellness within their medical community and utilize the underexplored method of narrative medicine as a curricular enhancement, the authors designed and implemented a novel storytelling platform, Med Moth, at the University of Massachusetts Medical School (UMMS) and associated hospital (UMass Memorial Medical Center).

Methods: Members of the community were invited to storytelling events to listen to and share stories about formative medical experiences. Four events were held between 2017-2018. After each event, participants received a survey inquiring how attendance benefitted them personally and professionally.

Results: Clinicians, students, and faculty comprised the 104 first-time attendees surveyed. Med Moth produced a strong perceived benefit to surrogate measures including emotional exhaustion and depersonalization, defining characteristics of burnout, as well as professional development; 66% of participants rated 4-5 (out of 5) in these three measures. Nearly all attendees (96%) rated 4-5 for overall experience. Lastly, medical students reported a higher benefit regarding professional development than clinicians (p=0.002).

Conclusions: This pilot study of a novel storytelling platform demonstrates positive personal and professional development outcomes, both during and after training. Medical schools, residency programs, and medical institutions should strongly consider the implementation of such a wellness platform to build resiliency and to mitigate burnout through reflection.

Keywords: Medical Education; Curriculum development; Promoting Professional Wellness; Medical Humanities; Narrative/Reflective Writing (Source: MeSH-NLM).
INTRODUCTION.

Clinicians and medical students face high rates of stress and burnout.¹,²,³ These symptoms adversely affect mental health and manifest as depression, anxiety, and fatigue.⁴ In a recent study of 4,000 US medical students, 49% reported signs of burnout.¹ Depression is also more common among medical students and residents than the general population.⁵ These issues are not only deleterious to the health of medical providers, but also to their patients.⁴

Burnout is unequivocally present among medical students and professionals and requires a solution. Mindfulness can decrease burnout and improve depression and anxiety, while cultivating compassion, empathy, and personal and professional identity development.⁶,⁷,⁸,⁹,¹⁰ Mindfulness training teaches participants to approach lived experiences in an introspective way. Reflective practice is one application of mindfulness. It leads to understanding one’s beliefs and values in the context of one’s colleagues and patients. Medical students who engage in reflection display more mature thinking, certainty with professional choices, and report a positive learning experience.¹¹

Storytelling is an excellent means of reflective practice, allowing one to be present, compassionate, and deepen community connections. A recent article by Perri Klass entitled “Morality Tales” discusses the trend toward medical humanism with students and residents increasingly “taking time to consider and describe the complex aspects of medical stories that get left out of the formalisms of the medical record.”¹² Outside of medicine, storytelling is well-established. Novelist George Green embraced its impactful nature when creating The Moth, an internationally acclaimed storytelling organization.¹³

There are only a few studies that directly assess the effect of storytelling on student and clinician burnout. One study shows that medical students who participated in storytelling sessions with peers demonstrated an increase in the empathy score.¹⁴ Other published accounts of storytelling’s effect on clinician burnout are mainly personal accounts of physicians who cite benefits such as improved patient relationships and collegial communication.¹⁵

To address burnout within our medical community, we created a novel storytelling opportunity at UMass Medical School (UMMS), and associated hospital (UMass Memorial Medical Center). Inspired by The Moth, Med Moth was created to provide a platform for members to listen, share, and reflect. Med Moth was created to positively impact personal wellness and professional development through sharing clinical perspectives and experiences. We aimed to identify individual characteristics that correlate with a higher impact of this platform.
METHODS.

Participants (attendees and speakers) were members of the UMMS community including medical students, nursing students, clinicians, faculty, and administrators. Participants were recruited via Facebook, student events, web-based school news outlets, posters, and listservs.

We held four, 1.5-hour events (March 2017 to October 2018), each with 8-10 speakers. Stories were prescreened for protected patient information. Speakers shared poetry or prose with topics ranging from clinical mistakes, “why medicine,” to comedic misunderstandings with patients. Refreshments were provided.

Using web-based data collection (Google Forms, Google LLC, Mountainview, CA), we emailed the survey three days after an event as a group message to all recipients who signed-in to the event. Participants were able to see all recipients of the email. Regarding the survey, multiple choice and free text questions characterized attendees by demographics and traits including affinity toward storytelling and an hourly breakdown of work, study, exercise, etc. Likert-scaled questions, ranging 1 (a little) to 5 (a lot), assessed the degree of positive effect of attending Med Moth on two major domains of interest: personal wellness and professional benefit. Personal wellness was divided into emotional exhaustion and depersonalization (based on the Maslach Burnout inventory), and professional benefit assessed how events would influence clinical practice. Where appropriate, we combined categories of ‘often’ and ‘very often’ and reported as mean often/very often, and the same for ‘never’ and ‘sometimes’ response options. The study was approved by the UMMS Institutional Review Board.

Using SPSS statistical software (SPSS v.23, IBM Corporation, 2015), survey questions on emotional exhaustion, depersonalization, and professional benefit were analyzed using chi-square tests, student t-tests, correlations, and non-parametric equivalents for ordinal data. We used cumulative scores across all questions within a category (e.g., the two 5-point questions for emotional exhaustion yielded a maximum score of 10). We reported average scores per question to demonstrate trends.

We assessed relationships influencing the impact of Med Moth, including level of training and participant characteristics. For each question, analyses were conducted across all three domains. For select analyses, original Likert scale responses were dichotomized for bivariate analyses. We used survey responses from first-time attendees only and excluded subsequent responses in the current analysis. We combined responses from residents and mid-level practitioners (e.g., nurse practitioners) with attending physicians to compare medical students to clinical practitioners.
RESULTS.

Med Moth experienced a growing number of attendees (41 participants in March 2017; 85 in October 2018): 236 total attendees including 175 first-time attendees. There were 151 survey responses (64% response rate). Analyses representing 104 surveys from first-time attendees showed a larger proportion of females, medical students, primary care, and senior clinicians (Table 1).

Nearly all first-time attendees (96%) endorsed a high overall experience rating of 4-5 out of 5. Perceived benefits in emotional exhaustion, depersonalization, and professional development were strong: two-thirds (66%) of participants reported high ratings of 4-5 out of 5. Most (92%) reported they would “definitely” attend another event (Figure 1).

Medical students reported a significantly higher benefit for professional development compared to clinicians (p=0.002; Table 2). Across all other measures, there were equally positive responses between groups. Participants who frequently sought storytelling outlets outside of Med Moth reported a greater personal benefit of attending the event. Specifically, those who often seek storytelling media as a listener or reader reported higher benefit against emotional exhaustion than those who rarely seek this out (mean often/very often=9.41; mean never/sometimes=8.63; t=-2.86; p=0.005; Table 2). Those who sought storytelling as a speaker or writer reported higher benefit against depersonalization (mean often/very often=15.00; mean never/sometimes=12.55; t=-9.59; p<0.001; Table 2). No significant relationships were found with the remaining domains.

There were no significant correlations between hours of sleep or self-care hours (exercise, relaxation, hobbies) and Med Moth ratings within any domain. However, there were moderately strong correlations between personal and professional ratings for all participants (r=0.637, p<0.001), and within stratified analyses among medical students (r=0.680, p<0.001) and clinicians (r=0.672, p<0.001).

In open-ended text, participants described many benefits to attending Med Moth, including the promotion of optimism, resiliency, admiration, and inspiration. One student wrote: Earlier in the day I was feeling tired and burnt out […] I needed to remember why I wanted to be a doctor. This event was refreshing, enlightening, fun, and enjoyable. I left with a pep in my step and feeling energized and inspired. It reminded me […] there are events like this where we can learn more about each other and take time to reflect and grow. Another student commented: I often feel an underlying pressure to be perfect in medical school, and it is so powerful to hear the clinicians we aspire to be like also having faced situations that were far from perfect. These sessions have helped me ground my experience and realize that medicine will always be a process. Two faculty wrote: This was a new experience for me […] one that was enriching and personally gratifying. Hearing the other stories, I was moved by the messaging with emotions ranging from laughter to
tears; and: I’ve been at UMMS a little over 2 years, and this is the first time I’ve really felt connected to the community.
DISCUSSION.

Responses to Med Moth were overwhelmingly positive. Nearly all participants reported a high overall rating and indicated they would return. For emotional exhaustion, depersonalization, and professional development, greater than two-thirds of participants rated the benefit of attending Med Moth highly. Many attendees commented the program was inspiring and promoted optimism and resiliency.

Regardless of role, there was a positive correlation between personal and professional ratings, emphasizing benefit across all domains. Medical students reported higher benefit for professional development compared to clinicians which seems logical. More importantly, clinicians and medical students reported a positive impact to emotional well-being and resistance against depersonalization – core features of burnout. Not surprisingly, individuals who seek storytelling outlets demonstrated greater benefits to emotional exhaustion and depersonalization. Overall, Med Moth appears to impact all participants on a humanistic and relational level. These findings echo a published systematic review showing that medical students who participate in storytelling sessions with peers demonstrate an increase in empathy scores. Studies on mindfulness further support these sentiments; One study shows that medical students who engage in reflection display more mature thinking, certainty with professional choices and a more positive learning experience with their clinical training. Other studies demonstrate that mindfulness training improves measures of depression and anxiety, cultivates empathy, and inspires more thoughtful decision making in medical students and physicians. Med Moth not only compliments existing literature demonstrating the importance of reflection amongst medical professionals, but also suggests an impactful and unique solution.

This study is timely; medical humanities are expanding and the need for wellness is now. Narrative medicine essays about wellness are increasing in number and relevance in columns such as The Journal of the American Medical Association’s “A Piece of My Mind” and New England Journal of Medicine’s perspective pieces. Health policy journals are following suit (e.g., Health Affairs section entitled “Narrative Matters”). The Accreditation Counsel for Graduate Medical Education (ACGME) now requires every accredited residency program to address well-being “and attend to resident and faculty member burnout [and] depression.” Therefore, the application of a platform like Med Moth has major potential in the larger realm of medical education. Barriers to medical storytelling will have to be addressed, including disregard of medical humanities as a valid form of education enrichment, lack of time, and denial of burnout in medicine.

With regards to limitations, our study may lack generalizability (conducted in one school and hospital). Our sample size of 104 limited our ability to conduct detailed subgroup analyses and the 64% response rate may not reflect all attendees. Voluntary attendance and self-report may have yielded more positive reviews. Furthermore, bias could occur from the medical school being a small community and participants not wanting to be negative towards the student organizers of Med Moth.
Our study serves as a pilot that begins to quantify the benefits of storytelling in medicine. We propose that a more objective and validated study of Med Moth and similar storytelling programs in medical communities be conducted. Ideally, data should be collected across multiple medical and health professions schools for required storytelling events to increase sample size and generalizability in exploring potential discrepancies between regions and cultures. Future analyses should also assess change-over-time to identify the benefits of attending multiple events.

Conclusively, storytelling events have great potential as curricular enhancement within medical education to help build resiliency and mitigate burnout. Medical institutions should strongly consider the implementation and evaluation of such a platform to produce well-trained clinicians who provide empathetic care while also finding joy in their work.
REFERENCES.


