The Desktop Doctor: Medical Rhetoric in the Emergent Online Context

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Introduction

Medicine, like all professional communities, relies upon the appropriate use of rhetoric to function effectively. Modern medical communities have developed rhetorical conventions and genres to mediate the interactions between medical professionals and their patients. These constructs have been created in order to better achieve these communities' shared goal of delivering healthcare services efficiently. Today, medicine is an established social and rhetorical force, with genres for every facet of the professional-patient relationship. In recent years, this finely engineered system has had to share the medical conversation with an emerging rhetorical community. As a rhetorical system, medicine is subject to changes over time that can reshape the ways in which its services are delivered. Within recent years, one of the most powerful forces bringing about change in the medical community has been the Internet. It has had the effect of making medical information readily available to potential patients, as well as allowing for faster communication of that information. These changes have naturally brought with them new genres to operate in these new contexts. Rhetoric and writing scholarship has tracked these changes, but as with any emerging area of study, there are undocumented features and perspectives to be investigated. These new unexplored areas, of course, are hidden if research on relevant rhetorical concepts is not first addressed. It is only by looking at online medical sources using these rhetorical ideas that we can understand them in relation to older, more institutionalized forms of medicine.

Review of the Literature

Defining Features in Patients' Interactions with Doctors

The communication between patient and medical caregiver is affected by a wide and diverse set of factors (Hughes; Segal; Schleifer; Yoels et al.). David Hughes emphasizes the asymmetry of knowledge present between the two interacting parties (362). He sees the healthcare professional as the primary guiding force in his or her communications with patients. However, he does not view this professional control of the conversation as a negative quality. Hughes instead views it as a necessary way for the professional to guide the patient's medical responses to the questions being asked of them. He speaks of "repair," or comments from the professional that indicate when the patient has misinterpreted or misunderstood the question (370). Judith Segal also sees the professional as occupying the dominant role in the patient-doctor relationship. Rather than an asymmetry of knowledge, however, she sees this interaction being strongly affected by a

difference in values (94). She sees the biomedical model as clashing with the less structured worldview of the patient. Further, Segal even suggests that the patient-doctor relationship is not rhetorical at all, pointing out that doctors and most patients do not share a common set of terminology or a common set of starting principles. She sees the current state of this patient-caregiver relationship negatively, and in need of rhetorical guidance (99).

Ronald Schleifer approaches medical communication from a different angle, focusing on the concept of narrative. For Schleifer, the ability of doctors to complete their patients' "not-yet-completed" narratives is synonymous with the Aristotelian idea of phronesis, or "practical reason" (68). He contrasts this with the knowledge of medical facts and data, which he does not view as equally important in the professional's interactions with patients. A physician must be able to respond to a patient's concerns in such a way that is both medically correct and fitting within the patient's conception of their own narrative (Schleifer 69). Yoels and his co-researchers found that medical discourse is less dependent on the interplay of narrative and more so on the similarity between caregiver and patient. They found that doctors and patients of the same gender or race displayed a greater understanding of each other's roles (196). Supporting the social contact theory of interaction, this view focuses on the social identity of the relevant individuals in determining the quality of their communication (Yoels et al. 185). The four sources described above demonstrate the diversity of conclusions that researchers have reached concerning patient-caregiver interaction. These varied findings point to the complex nature of this multivariable relationship.

Genres: The Primary Rhetorical Framework

The medical profession contains many rhetorical genres, all designed to carry out the profession's goals (Devitt, Bawarshi, and Reiff; MacDonald; Wilce). Borrowing from Charles Bazerman and Carolyn R. Miller, the trio of Amy J. Devitt, Anis Bawarshi, and Mary Jo Reiff closely identify the forms genres take within the discourse communities that produce them (550). In particular, they point out that these communities and their genres can be abrasive toward community outsiders, such as in the tendency of medical professionals to linguistically dehumanize patients (551). Malcolm N. MacDonald also views genres as products of their discourse communities. In addition to achieving the community's shared goals, he also emphasizes the role that institutional ideology plays in developing genres (449). In other words, genres for MacDonald can be affected by what the professionals, the people who use the genres, think about the genres themselves. He describes how genres like medical interviews and medical research articles have both a general exigency to address as well as an in-community ideology surrounding their purpose. Compared to Devitt, Bawarshi, and Reiff, MacDonald also more heavily accentuates medical genres as a genre set, interacting with and complementing each other.

James M. Wilce, like Devitt, Bawarshi, and Reiff and MacDonald, points to discourse communities when describing medical genres, but unlike the other researchers, he strongly emphasizes the role culture and historical development play in this process (202-203). For example, he points to the development of Western medical genres, from their concern with the details of individual cases to their statistical and more standardized modern design (203). Wilce's view of genres is far more concerned with long-term cultural and economic factors than either Devitt, Bawarshi, and Reiff or MacDonald. All three, however, identify the important basis for genres in the discourse communities that produce and use them, although they emphasize differing elements within those communities.

Medicine in a Murky New Context: The Internet

The creation and popularization of the Internet has, and still is, changing the way that patients interact with sources of medical information and healthcare (Goldner; Kopelson; Wagner et al.). Karen Kopelson sees the greatest impact of the Internet in the recent phenomenon of so-

called "e-patients," or individuals who actively research medical information online, up to and including the most recent peer-reviewed articles (355). Kopelson sees a role for this new model of patient in cooperating with medical professionals to provide new kinds of healthcare and to reduce medical costs (368). She argues against those doctors who have condemned the e-patient movement, while at the same time stressing the need for doctors to understand and utilize this electronic medium. Melissa Goldner approaches the concept of online medicine with an emphasis on patient health status. Specifically, she showed significant differences between the percentages of groups, classified according to their level of health, that accessed the Internet for medical information or used email to communicate with healthcare providers (698 – 699). She demonstrated that less healthy individuals were much more likely to use the Internet for medical purposes than healthy individuals, although she was not able to seriously investigate the motives behind these individuals' choices to use or not to use the Internet for these purposes (705).

Although we have an understanding of the types of people who are more likely to use online medical resources, and we are highly familiar with rhetorical concepts like genre and discourse community, we lack information on how these concepts are transferred into a digital setting.

Todd H. Wagner and his co-researchers investigated online medical information in the context of the "digital divide," the modern phenomenon in which large percentages of the population have little to no access to the Internet. This study emphasized a lack of interest in online medical information, as most individuals given Internet service for the first time did not use it for medical purposes (417). Participants who had Internet service prior to the study used the Internet for medical purposes much more often, but still only around a quarter of their total number did so (420). Again, the study did not really investigate the reasons why these individuals did or did not access medical information online. All three of these studies focused on the individuals who used the Internet for medical purposes and the demographics of these groups. There was essentially no data on the actual genres used in these online activities, a clear research gap.

Although we have an understanding of the types of people who are more likely to use online medical resources, and we are highly familiar with rhetorical concepts like genre and discourse community, we lack information on how these concepts are transferred into a digital setting. The literature also has little to say about individuals' motivations for using the Internet in medical contexts. In this paper, I will argue that the ability of online users to choose how they access medical information represents a radical departure from the traditional model of the relationship between doctor and patient. I will also show that clinical medicine is still an entrenched discipline, and I will identify a possible route for bridging the gap between these two medical arenas.

Methods

The first research method used in this project was content analysis of several popular websites that offer access to online medical resources. The largest and most important of these is the service WebMD. In addition, the websites of the Mayo Clinic, the U.S. Center for Disease Control (CDC), and the service MedicineNet were also chosen for consideration. This was done in order to have multiple sources for analysis, as well as to analyze the possible differences between the sites depending on their institutional source, whether governmental, professional, or corporate. These websites were chosen as a research group based on their overall similarity to each together; despite

any minor differences, they each fit into the same genre set, which could be labeled as a medical resource website. These sets were analyzed both as complete genre sets organizing information and as collections of individual genres, each accomplishing unique goals. The objective was to examine how these websites mediate the consumption of medical information by interested individuals.

These findings from content analysis complement this project's second research method, a survey designed through the online service Survey Monkey. Due to Survey Monkey's restrictions, this survey consisted of ten questions, which are included in Appendix A. The survey concerns respondents' usage of online medical resources, both in actual online practice and in traditional medical consultation. The response data of one hundred respondents was collected and analyzed using Survey Monkey. This data was combined with findings from content analysis to look at how online genre design affects how these genres are utilized.

The most obvious strength of this project was its combination of research methods, allowing for an interpretation of these sites from the standpoint of both their actual design and their users' experiences. The most apparent limitation of this project was the ten-question limit imposed by Survey Monkey. More questions would allow for more data, but any gaps in the primary research can and should be addressed in further studies. A related issue is one inherent in surveys of this sort – there is no method to ensure the validity of respondents' answers. Again, the ultimate solution to this methodological problem is more studies in this area, to either support or call into question the results of this study.

Results

The responses for the survey were collected through Survey Monkey, and are recorded in Appendix B. This data supports the hypothesis that online medical information represents a strong departure from clinical methods of medical communication. It also highlights the wide and diverse applications in which users employ these resources, and it suggests in certain ways that user engagement may be an issue that online medical resources will have to deal with. Complementing this survey was the content analysis of the four websites. This led to broader qualitative conclusions, understood in the context of the survey data, and illustrative quantitative findings, shown in Appendix C. The contents of all these findings provided an effective amount of evidence to evaluate.

Discussion

Online User Choice

As opposed to traditional medical practice, where medical professionals set the genres to be used in discourse, in online medical discourse, the users, the online equivalent to patients, choose how they access medical information. Consequently, certain genres on these websites are favored more than others by their users. For example, a genre usually termed "Symptom Checker," found on WebMD, MedicineNet, and the Mayo Clinic's website, is used much more often by website users than other commonly appearing genres. Forty-six percent of respondents reported that they used this genre, while the second most used, the "pill identifier" genre, had been used by 27%. These sites' designers, able to monitor page views, have responded by enhancing the design of more commonly used genres for ease of use and effectiveness. The symptom checker on WebMD and MedicineNet had easily the most well-developed user interface on any of the sampled sites. Users can input demographic data, such as age and gender, and use an interactive image of the human anatomy to identify multiple symptoms simultaneously.

This high degree of user choice in genres was reflected by the variety of activities in which individuals used online medical resources for assistance. Most significantly, 45% of respondents reported that they have used online medical resources in deciding whether or not to pursue various medical treatments. This points to the immense influence that these outlets can have on public health. However, responses showed that many users take advantage of these websites in activities outside medical care. For example, 24% of respondents reported that they use online medical resources to help carry out physical exercise, and 26% do so for dieting. Medical websites cater to these minorities: on the MedicineNet homepage, for instance, there is a "Healthy Living" tab that contains information on physical fitness, nutrition, and emotional wellness. All of the other sampled sites have similarly named sections, each easily visible on the main page of the site, demonstrating that not only is user choice an important feature in this context, but that web designers are aware of and market to users with particular interests. The main feature of these sites is information on disease symptoms and medical treatments, which is what appears in "Featured Articles" sections or their equivalent. Online medical sites are able to direct minority niche audiences quickly to their desired destinations with carefully designed tabs and subtabs. As an example, WebMD, with the most developed system in this area, has a homepage tab entitled "Family & Pregnancy," under which is listed more tabs, such as "Second Trimester" and "Children's Vaccines." Accessing any of these options directs the user to a page with links to dozens of relevant articles. Such design allows users to conveniently find their desired information, thus reinforcing the user's ability to choose and easily access topics. This democratic model for accessing medical information clashes with established medicine, with its asymmetrical informational organization (Hughes 362).

Clinical Medicine: A Challenged Continuity

Despite the wide usage of online sources of medical information, clinical medicine has by no means been displaced. For example, while 45% of respondents previously used online medical resources in evaluating treatment options, the evidence suggests that such usage is infrequent. Forty-nine percent of respondents stated that they use online medical resources less than once per month. Only 8% do so once per week, and no respondents use them several times per week or daily. This shows that while medical websites can affect users' medical experiences, they can usually only do so infrequently.

Responses regarding advertisements for prescription and over-the-counter medications on medical websites also reflect this dominant yet increasingly challenged position of clinical medicine in relation to online medical sources. While the majority of respondents stated that such advertisements did not affect their decisions, significant minorities, 17% for OTC products and 21% for prescription medications, reported that they had sought out certain products due to these influences. These somewhat low figures may relate to the fact that most major pharmaceutical companies are not yet using online medical resources as a vector for public advertising, focusing on published and televised advertising spaces. Many medical websites, such as that of the CDC, are largely closed off to medical advertisements due to their institutional and governmental nature. On more corporate sites like WebMD and MedicineNet, most individual webpages will invariably have either two or usually three distinct and obvious advertisements. These are generally targeted to particular medical issues, from cancer treatment to arthritic joint pain. These few advertisements are sometimes targeted on the webpage level, such as an advertisement of a new insulin meter in an article on diabetes found on WebMD.

User Input into Online Medical Resources

The users of these websites clearly display a well-developed, though usually infrequent, level of access to the information at their disposal. Conversely, however, the level of user input into these sources is comparatively low. Only 5% of respondents report writing a review of a physician's

medical services and posting it on a medical website. Four percent have submitted a review of OTC products, and 2% have reviewed their experiences taking a prescription medication. Unfortunately, this study cannot answer the immediate question of whether this lack of contribution to user input is simply part of the websites' context or whether it is a consequence of a lack of development on these interfaces in the websites. WebMD, by far the most interactive system among the four examined, restricts its users' reviews of physicians to a series of one-to-five stars ratings for topics such as "explains conditions and treatments" and "courteous staff," all of which are then averaged together to produce an overall score. Nowhere is the user able to offer descriptive evaluations of their clinical medical experiences. WebMD's medication reviews allow for about a paragraph of discussion of the product, combined with a one-to-five rating system, but there is no way to search through the accumulated collections of reviews to find highly descriptive and useful ones.

Websites providing medical information have been demonstrated to be a powerful force in shaping an individual's medical life. It can be seen as both a challenge to and a support in favor of clinical medicine.

This lack of opportunities for user involvement contrasts sharply with the high degree of choice users have and which is supported by the design of the websites themselves. In fact, WebMD's physician and medication reviews, as bare as those features are, provide much more than the other sites sampled. The other sites have essentially no forums for users whatsoever. If WebMD, the most used and in many ways most developed such site, has a small amount of support for user input, this suggests that there is a deficiency affecting online medical resources as a whole. One of the most effective ways to bring about Karen Kopelson's potential model of cooperation between clinical physicians and so-called "e-patients" would be to integrate users more fully into these new online sources of medical information (368). Again, this study cannot answer the question of why so few users take advantage of the user input systems on these sites, but future studies should be conducted to determine the cause—whether it is due to a lack of interest or a lack of development of such systems.

Conclusion

Websites providing medical information have been demonstrated to be a powerful force in shaping an individual's medical life. It can be seen as both a challenge to and a support in favor of clinical medicine. If online medical resources are to benefit older medical establishments, then clinical medical professionals, with an understanding of rhetoric, must be involved in their design and function. The existence of sites like the Mayo Clinic's website, as an online distributor of information run by a medical institution, is a positive sign for future increased involvement between the clinician and the programmer. If medical professionals are involved in online medical resources, these influential websites can improve not only their quality of information, but also the effectiveness with which that information is conveyed to the user. Such a collaboration between the clinic and webpage would expand the influence of modern medicine, taking it far beyond the medical establishment and into patients' homes.

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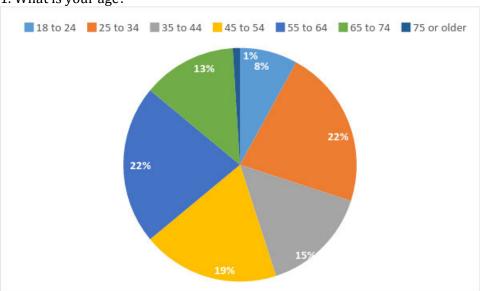
Appendix A

Survey Questions

1. What is your age?
- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 74 or older

2. How often do you use online medical resources such as WebMD to access medical information?
- Daily
- Every 2 – 4 days
- Weekly
- Monthly
- Rarely
- Never

3. Have you ever used online medical resources in deciding whether to pursue medical treatments?
- Yes
- No

4. Which, if any, of the following common online services have you used?
- Symptom checker
- Periodic email newsletter
- Physician directory
- Pill identifier
- I access online medical resources, but not these features
- I do not use online medical resources

5. For which of the following reasons, if any, do you use online medical resources?
- Researching medical issues affecting myself
- Researching medical issues affecting a family member or friend
- Researching medication for myself
- Researching medication for a family member or friend
- Curiosity concerning recent diseases and/or health developments
- Nutrition, fitness, and/or other lifestyle issues
- I do not use online medical resources
- Other (please specify):

6. Have you ever bought an over-the-counter medication due, in whole or in part, to an advertisement seen on a medical resource website?
- Yes
- No

7. Have you ever asked your physician about a prescription medication due, in whole or in part, to an advertisement seen on a medical resource website?
- Yes
- No

8. Have you ever used online medical resources to help carry out any of the following activities?
- Exercise
- Dieting
- Healthy cooking
- Meditation
- Cosmetics
- I access online medical resources, but not for these activities
- I do not use online medical resources

9. When accessing online medical resources, do you primarily obtain information from written articles, video clips, or both equally?
- Articles
- Video clips
- Both equally
- I do not use online medical resources

10. Have you ever submitted any of the following to online medical resource websites?
- User review of prescription medication
- User review of over-the-counter medication or supplement
- User review of local physician
- Message board post
- I access online medical resources, but have not posted any of these writings
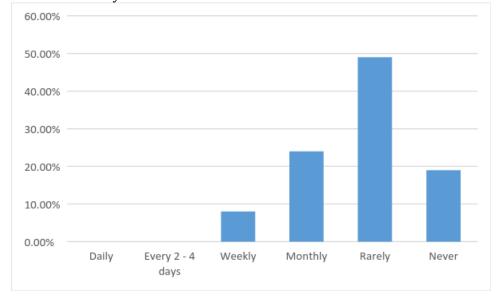- I do not use online medical resources

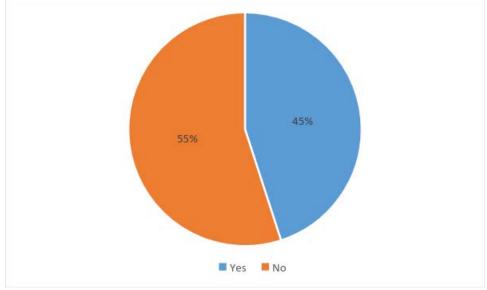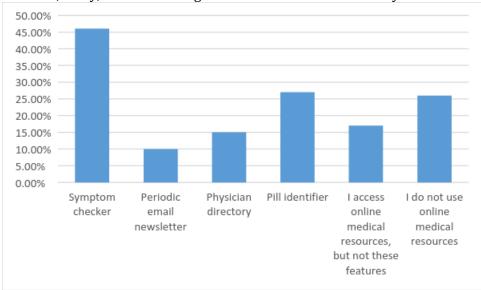# Appendix B

Survey Results

1. What is your age?

2. How often do you use online medical resources such as WebMD to access medical information?
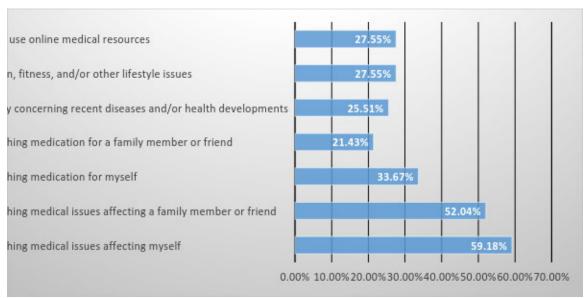
3. Have you ever used online medical resources in deciding whether to pursue medical treatments?

4. Which, if any, of the following common online services have you used?
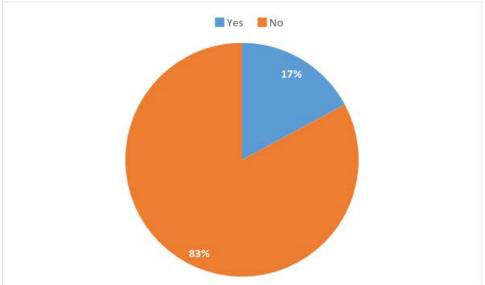

5. For which of the following reasons, if any, do you use online medical resources?
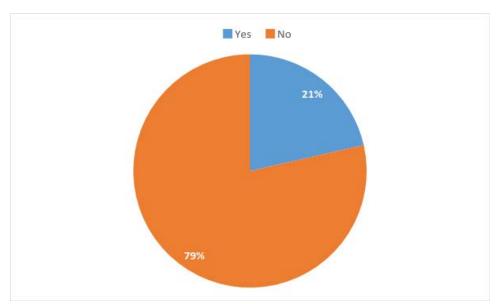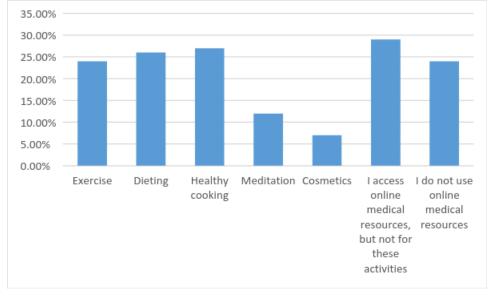
Other (please specify) responses:
1. to identify a found pill
2. Work

6. Have you ever bought an over-the-counter medication due, in whole or in part, to an advertisement seen on a medical resource website?
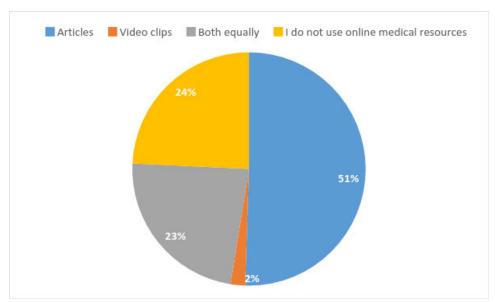

7. Have you ever asked your physician about a prescription medication due, in whole or in part, to an advertisement seen on a medical resource website?
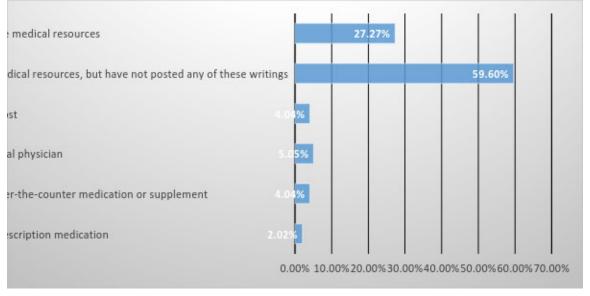
8. Have you ever used online medical resources to help carry out any of the following activities?

9. When accessing online medical resources, do you primarily obtain information from written articles, video clips, or both equally?

Articles · **Video clips** · **Both equally** · **I do not use online medical resources**

51%

24%

23%

2%

10. Have you ever submitted any of the following to online medical resource websites?

Category	Percentage
medical resources	27.27%
dical resources, but have not posted any of these writings	59.60%
st	4.04%
al physician	5.05%
er-the-counter medication or supplement	4.04%
scription medication	2.02%

Appendix C

Content Analysis Data

Features Included on Each Site

	Symptom checker	Email Newsletter	Physician directory	Pill identifier
WebMD	Yes	Yes	Yes	Yes
MedicineNet	Yes	Yes	No	Yes
Mayo Clinic	Yes	No	No	No
CDC	No	No	No	No

Homepage Tabs and Subtabs as a Measure of User Choice

	Primary Tabs	Subtabs
WebMD	5	52
MedicineNet	9	63
Mayo Clinic	6	42
CDC	5	39

Specialized Sections on Each Site

	Exercise	Dieting	Healthy cooking	Meditation	Cosmetics
WebMD	Yes	Yes	Yes	Yes	Yes
MedicineNet	Yes	Yes	Yes	No	No
Mayo Clinic	Yes	No	Yes	No	No
CDC	No	No	Yes	No	No

Average Number of Medical Advertisements per Webpage

	Medical Advertisements per Page
WebMD	3
MedicineNet	3
Mayo Clinic	1
CDC	0