IMPROVING DOCTOR-PATIENT RELATIONSHIPS THROUGH EFFICIENT COMMUNICATION

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Improving Doctor-Patient Relationships Through Efficient Communication

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ABSTRACT

Over the past three summers, I interned at the medical management company Meddbase, improving a software which provides an interface for doctors to share information with their patients. I worked directly with their pathway creation workspace in order to program more intuitive ways for doctors to share information with their patients about their recent check-ups, test results, prescriptions, and more. Through multiple levels of testing, working diligently with the Quality Assurance team, and soft-testing with current customers, I was able to contribute to pathways and additional software functionality that were added to the live Meddbase product. These additions to the Meddbase software have increased the level of clarity in doctor-to-patient communication, giving patients access to a portal where their own data is easily accessible. Patients can also receive direct communication from their doctor outside of the practice. To improve upon the relationship between doctors and patients in the future, companies with software such as Meddbase can show patients anonymous data regarding a medical issue to reassure them about the treatment process. Meddbase is working towards providing patients with relevant information about their results to foster trust between patients and doctors.

1. INTRODUCTION

One of the surest ways to increase trust between a primary care provider and their patient is efficient, informative, and easy to understand communication. In a time when public distrust of healthcare is much higher than usual, it is more important than ever to create better channels of communication with patients or improve the channels which already exist. Given the advancements in travel and the vast number of people moving between countries on a daily basis, contagious viruses such as COVID-19 are a much larger risk worldwide than they have been in the past [1]. Although medical discoveries have improved the effectiveness of vaccines over the last century, many people worldwide have shown distrust over the vaccine because of a distrust of institutions [2]. But, by making doctors and the information they provide more intelligible to patients, it is possible to combat the distrust of doctors and fight the ideology which considers healthcare professionals part of an institution which aims to harm the public for their own benefit.

2. BACKGROUND

Before I began my internship at Meddbase, the company had already a working software deployed throughout the United Kingdom in various levels of medical

facilities ranging from private practices to large hospitals. While the backend development team in the Meddbase offices was relatively small given how intricate the software was, the work produced was exceptional and its functionality received very few complaints from clients. Nevertheless, the Meddbase team had seen in the news that the general public was becoming hesitant to trust the advice of healthcare professionals. Because of this rising distrust and general desire to continue to improve the Meddbase product, I was brought onto the team in order to aid existing team members in their maintenance of the software and workshop ideas which could improve how information was relayed on the management system.

3. RELATED WORKS

Improving the relationship between doctors and patients has been discussed many times over the years, not just because of the recent COVID pandemic. As society changed, the role of a doctor has also evolved as to what they provide for their patients. Because of this evolution, I did not limit my research in related works to research only regarding the pandemic but instead focused on the next step in doctor-patient relationships by understanding the foundations in which the relationship is built on. In examining the basis of the doctor-patient relationship, I was able to pinpoint the tenets of a successful relationship.

The research paper headed by Siegfried Meryn was written in 1998 but still found trends of the public's "abandonment of conventional medicine for alternatives that are often unproved" [3]. This is a similar trend to the harmful alternatives people are using today instead of FDA-approved COVID vaccines such as Pfizer or Moderna. Meryn's paper delves into the ways doctors can overcome harmful communication habits which lead to the aforementioned abandonment.

In Longnecker and Ha's paper, *Doctor-Patient Communication: A Review* [4], a more modern and in depth approach is taken when analyzing communication between a doctor and patient. One of the most applicable topics discussed in the paper examined how collaborative communication, a two-way exchange, can remove bias from doctors and build trust within their patients.

4. PRODUCT DESIGN

4.1 Review of the Product

Before my arrival, the Meddbase system was fully functional and being used by a large pool of clients in the United Kingdom. The system provides an interface where doctors can schedule appointments, send reminders, referrals, and conduct other forms of communication with their patients. By building pathways in the developer portal, the back-end team is able to add new functionalities to the software for unique circumstances. For example, if a doctor needed the ability to communicate the results of a pathology lab with their patients, a pathway can be created in which the software searches the practice's records for a patient's lab report and then forwards that to the patient's email autonomously. This comfort and ease of communication is one of the major benefits Meddbase aims to provide with its product.

4.2 Improvements to the Product

Because the product was already providing efficient communication for doctors, my role at Meddbase was to find ways within the current limits of the system to improve the user experience. I started my first summer as a quality assurance intern in order to gain a complete understanding of the system and learn what could be improved

feasibly. From that point, as well as with the introduction of COVID-19, the team and I found that while communication was efficient, efficiency should not be the primary target of the system. Instead, we looked at what the patient may need in order to fully ~~en~~trust their doctor and what existing features already help that goal.

I worked under the title of Software Developer and Data Analyst over the following two summers in order to find and then help create achievable additions to the system which assisted customer user experience (or UX). Similar to Ha and Longnecker, I discovered that patients found it very helpful when they could call or chat with their primary physician after receiving test results. While the current system adequately provided the test results to the patients email, my task was to create pathways which offered methods of responding (within the operating hours of the practice) for the patient.

4.3 Challenges

The major challenge I faced while completing my task involved staying within the limitations of what I could achieve. My time spent in quality assurance gave me many ideas that I wanted to try to implement, but I quickly realized that most of them were not realistic. For example, I thought that adding a live chat feature would have been great for patients as it was preferred over email when discussing what certain results may mean. However, this was not possible for a variety of reasons, including the fact that a live chat support was outside of the realm of what could be created through the developer portal and ~~that~~ the practice would have to have ~~the~~ required personnel on hand to provide the chat support.

5. RESULTS

As a result of my internship, the Meddbase system can now send related FAQs to patients, as well as provide the option for the patient to ask relevant questions about their results. This was achieved by adding multiple levels of condition-based pathways to pre-existing methods because I found that it would be easier to adapt to the improved communication format if it was similar to the one which was already in use. While this is not a feature enabled on every software Meddbase employs, it is a functionality which is now stored in the developer portal and can be added to a specific practice if it is requested. Although I was not able to receive feedback from customers while I was at Meddbase, the additions fall in line with what the related research papers posited would be beneficial when improving doctor-patient relations.

6. CONCLUSION

Given that research over fifty years old can be found on the topic of doctor-patient relations, it is no surprise that improving communication between doctors and their patients is once again a matter of importance during the COVID-19 pandemic. The functionally added to the Meddbase software aims to reduce any hesitation a patient may have in trusting their doctor by providing as many resources as possible to inform them about their condition. If this can be adapted on a larger scale, it is possible to combat the rising distrust of healthcare professionals because patients are then building relationships with their own doctors.

7. FUTURE WORK

In the future, the Meddbase system can work to provide patients with relevant data that can ease their minds about a medical crisis they may be enduring. The use of trustworthy sources along with an emphasis on the level of public acceptance of a specific treatment can create a level of trust

in the doctor-patient relationship as the patient can feel more comfortable making treatment decisions.

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