



Evolving techniques in text-based medical consultation – Physicians' long-term experiences at an Ask the doctor service

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ABSTRACT

Introduction: Both the demands and the options for patients to communicate with health care providers utilizing eHealth solutions are increasing. Some patients, or relatives to patients, want to consult another health care provider than the regular one, merely in text.

Objective: To improve text-based medical consultation by learning from long-term experiences.

Materials and methods: Physicians with comprehensive experience of answering free-text medical inquiries at an official health portal in Sweden were interviewed. The interviews were analyzed using a grounded theory approach.

Results: Over time, the interviewed physicians developed strategies on how to formulate the answer to a medical inquiry from a previously unknown inquirer. The answering physicians experienced their primary role as providers of medical information and as mediators between an inquirer and the regular health care provider. Many of the answering physicians experienced a personal development with improved communication skills, also in face-to-face meetings with patients.

Conclusion: Text-based medical consultation is part of an expanding area in eHealth. The development of strategies, guidelines, ethical considerations as well as educational efforts are needed to optimize the skills of asynchronous text-based health consultation.

1. Introduction

1.1. Background

Both the demands and the options for patients to communicate with health care providers utilizing eHealth solutions are increasing [1]. Internet-based asynchronous communication between health providers and patients can complement regular care leading to positive health outcomes [2]. Nowadays, e-mail communication with your provider may be a regular option [3]. Some providers, including official health care providers, also via the Internet (by computer, tablet or smartphone), offer remote synchronous communication, virtual visits (e-visits) to previously known or unknown patients, thereby possibly expanding access to high-quality health care [4].

Some patients, or relatives to patients [5,6], want to consult another health care provider than the regular one, and merely in text. Apart from the convenience, e.g. 24 h-access, the reasons vary. Some want a first evaluation of a medical problem while others want a second opinion, or to pose a health inquiry anonymously [7,8]. However, the drawbacks of merely text-based “Ask the doctor” or “Second opinion” services are

obvious; often the information provided to the answering physician is only text-based without the option of carrying out a physical examination. Also, evaluating the relevancy or completeness (or even truthfulness) of the text-based information provided may be difficult. The challenges of communicating asynchronously in written text can also be present in e-mail communication with previously known patients, e.g. apart from the difficulty of handling complicated medical problems by e-mail, it can be difficult to know how the patient will interpret the written text [9,10].

A common reason for consulting a doctor in writing via the Internet may be that the patient's information demands were unfulfilled by their health care provider [11]. One in three visits in primary care does not lead to a diagnosis [12]. Studies have shown that it is common that patients for various reasons, such as embarrassing issues, do not tell their doctor the full story [13–15]. For these patients, an option is to anonymously turn to a doctor on the Internet, in order to fill medical knowledge gaps and clear possible misconceptions.

Experiences of anonymous asynchronous Ask the doctor services are reported from numerous countries, e.g. Canada [16], Greece [17], Israel [6], Colombia [18], Iran [19], Croatia [20] and Taiwan [8]. In

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Sweden, as part of an official nationwide non-commercial health portal (at present called 1177 Vårdguiden, www.1177.se), since 1998 a web-based service has offered the opportunity to free of charge submit health-related, text-based inquiries about any medical issue.

As text-based consultation without face-to-face contact is likely to increase due to the expansion of eHealth options, there is a need to further elaborate the issue of how to improve communication in written text, e.g. how to answer text-based medical inquiries. A task for health care authorities is to ask whether educational efforts are appropriate, and for health care providers to improve their skills of communicating in text.

1.2. Objective

The aim of this study is to contribute to evolving of techniques that may improve text-based medical consultation. We decided to examine and learn from long-term experiences of answering medical inquiries with previously unknown inquirers.

2. Material and methods

2.1. The procedure at the Ask a medical question-service

At 1177 Vårdguiden anyone, regardless of sex, disability, sexuality or ethnicity, can anonymously submit a medical inquiry to be answered by a medical professional.

During the first decade of the service, the inquiries received were mainly answered by family physicians, while nowadays answers also can be provided by nurses and other health care professionals.

When we conducted the study, about 15 physicians were employed at the answering service of 1177 Vårdguiden.se.

When a medical inquiry is submitted to the service, it is read by a coordinator who thereafter can forward the inquiry to one of the answering medical professionals. The selection when forwarding partly depends on certain areas of expertise or interest, although most of the engaged family physicians are able to answer all sorts of questions. The answering physician reads the inquiry, writes an answer and submits it to a coordinating nurse who reads the answer and then either asks for editing or submits the answer to the inquirer. In about one in three cases the coordinators answer the question themselves. The inquirer is offered an answer within 7 days but most of the answers are submitted within 3–4 days (Box 1).

Box 1

The Ask a medical question-service at 1177 Vårdguiden.se

- In service since 1998.
- Approximately 150.000 individual answers have been given to medical inquires.
- Approximately two thirds of the inquirers are women, one third are men.
- All ages are represented, the largest number of inquirers are aged 20–40 years.
- Free of charge.
- Answer offered within 7 days.
- Run by non-commercial official health care authorities.
- A complement to the national health web portal's information on health, symptoms and diseases.

2.2. Study participants

The participants were selected by purposeful sampling, i.e. selecting information-rich cases. As the medical professionals that had the most long-term experience of answering at the service were physicians, the chosen inclusion criteria was: physician with more than 2 years answering experience. The finally recruited participants were merely family physicians (with 2–17 years answering experience; most of the interviewees > 10 years).

Initially, the participants were recruited by a medical advisor at the service. As insights emerged from data, new participants were added to the sample. Of 12 physicians contacted, 10 were finally interviewed. The average age of the interviewed physicians was 64.7 years (range 57 – 75 years). Some of the physicians had, apart from family medicine, other areas of special interest and inquiries in these areas were often sorted to these physicians.

2.3. Data collection and analysis

A grounded theory approach according to Strauss and Corbin [21] was used for data collection and analysis. Individual, semi-structured telephone interviews with open-ended questions were used. The interview guide included eight main topics, i.e. to answer medical inquiries without personal contact, structures of support, professional development, relations, anonymity and how to maintain secrecy and ethically challenging situations. Follow-up questions (probes) were used to gain a deeper understanding of the issue. Directly after each interview, memos were written for reflection. The interviews were carried out by the first author (ABB) November 2014 - June 2015.

The interviews were recorded and transcribed verbatim. Analysis was initiated as soon as the first interview was completed. Gathering of data was based on analysis of previous findings, i.e. theoretical sampling strategy [21]. As memos and information gained in previous interviews were analyzed, new concepts emerged and new questions were added to complete the interview guide. This sampling process continued until no new insights emerged from the data and no further relevant information could be gained; data saturation was achieved.

The first step of the analysis was to read through the transcript in order to get an overall understanding of the material. Thereafter, each author continued by using open coding line-by-line to identify key

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