

# The University Hospital Zurich Offers a Medical Online Consultation Service for Men With Intimate Health Problems

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## Abstract

The University Hospital of Zurich offers a text-based, Medical Online Consultation Service to the public since 1999. Users asked health questions anonymously to tele-doctors. This study focused on the characteristics of male enquirers with intimate health problems, the content of their questions, the medical advice given by tele-doctors and the rating of the service to prove the benefit of an online service for medical laymen. This retrospective study included 5.1% of 3,305 enquiries from 2008 to 2010 using the International Classification of Diseases-10 and International Classification of Primary Care codes relevant for intimate and sexual health problems in men. A professional text analysis program (MAXQDA) supported the content analysis, which is based on the procedure of inductive category development described by Mayring. The average age was 40 years, 63.1% enquirers had no comorbidity, in 62.5% it was the first time they consulted a doctor, and 70.2% asked for a specific, single, intimate health issue. In 64.3%, the most important organ of concern was the penis. Overall, 30.4% asked about sexually transmitted diseases. In 74.4% a doctor visit was recommended to clarify the health issue. The rating of the problem solving was very good. The service was mainly used by younger men without comorbidity and no previous contact with a doctor with regard to an intimate health problem. The anonymous setting of the teleconsultation provided men individual, professional medical advice and decision support. Teleconsultation is suggested to empower patients by developing more health literacy.

## Keywords

health care issues, health care utilization, quantitative research

## Introduction

The relation between patient and physician has changed from a rather paternalistic role of the doctor to an emancipated patient. People are no longer seen as passive recipients of medical service but as active partners who work together with health service providers. Information and knowledge is not an exclusive privilege of the physician any more. Patient empowerment is an important part of health care delivery. The patient expects the provision of information about all aspects of health and information regarding diagnostic and therapeutic options (Deber, 1994). The majority of patients wish to be involved in the decision-making process of their health issue (Schmid & Wang, 2003). To assume these responsibilities reliable sources of medical information must be provided. The family doctor traditionally offered health information but in recent times, other sources like the Internet are enjoying growing popularity (Borzekowski & Rickert, 2001;

Diaz et al., 2002; Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005; Hufken, Deutschmann, Baehring, & Scherbaum, 2004).

Telemedicine is still a new health care sector and is increasingly used in patient care. The spectrum of telemedical services covers almost all medical fields. Telemedicine is defined as the delivery of health care and sharing of medical knowledge over a distance using telecommunication systems. Telephone and telegraph are the oldest types of such systems, but while using the term *telemedicine* one generally refers to telecommunication systems of more recent origin like interactive telecommunication, data sharing via personal

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computers or remote monitoring (Strode, Gustke, & Allen, 1999). The Internet has the greatest significance for patients and becomes increasingly important in modern society (Borzekowski & Rickert, 2001; Kassirer, 1995). A survey in 2010 reported that 83.9% of people in Switzerland used the Internet sporadically and 77.4% of people used it regularly, primarily for electronic correspondence and for search of information. More than half of them (55%) used this media for the provision of health information (Bundesamt für Gesundheit, 2011b, 2011c). However, patients in Europe still prefer to get their information about treatment from the family doctor who has an excellent reputation (Coulter & Magee, 2003). That may be based on the problem that validated medical information on the web is not easy to determine and occasionally the content is even contradictory (Eysenbach, Powell, Kuss, & Sa, 2002; Impicciatore, Pandolfini, Casella, & Bonati, 1997). A professional online consultation service can help to mediate and guide the patient to find relevant and reliable medical content.

To consider this development, the University Hospital Zurich initiated a free of charge Medical Online Consultation Service (MOCS) in August 1999. In 2008, a fee of 20 Swiss Francs (~US\$21) was implemented, and elevated to 75 Swiss Francs (~US\$80) in July 2010. The response to a request usually takes 20 to 40 minutes based on an hourly rate of 150 Swiss Francs including overhead costs (Brockes, Neuhaus Buhler, Schulz, Neumann, & Schmidt-Weitmann, 2010). Since August 1999 more than 40,000 enquiries have been answered covering the entire spectrum of medicine.

Consistent with other investigators, MOCS is considered to be a useful tool to support and complement conventional medicine (Della Mea, 1999; Umefjord, Hamberg, Malker, & Petersson, 2006; Umefjord, Sandstrom, Malker, & Petersson, 2008). Concurrent with previous investigations young men often struggle to overcome their inhibitions because intimate health problems still seem to be a barrier to seek a doctor (Brockes et al., 2010; Neuhaus Buhler & Scheuer, 2005; Scheuer & Brockes, 2005). It is noteworthy that for many patients it was the first attempt to ask for medical help, even though these were persistent or chronic complaints. To improve the accessibility to these particular patient population, further alternatives to the traditional doctor consultation like MOCS should be implemented (Akre, Michaud, & Suris, 2010). Still little is known about the characteristics of the user (Umefjord et al., 2008). The current study analyzed the characteristics of male users with intimate health problems, the content of their questions, the medical advices given by the tele-doctors, and the rating of the service to evaluate the benefit of an online service for medical laymen.

## Methods

### Subjects

This retrospective explorative study considered 3,305 requests from 2008 to 2010. By using the codes A–B (infectious and parasitic diseases) and N (diseases of the genitourinary system) of International Classification of Diseases-10 and code Y (male genital member) of International Classification of Primary Care, 283 requests (8.6%) of all questions were included (Lamberts & Wood, 1987; World Health Organization, 1992). Overall from 283 requests, 115 (40.6%) requests were excluded because of the fact that the focus of the question was not about an intimate health problem ( $n = 113$ , 98.3%) or the same user transmitted repeated requests on the same health issue ( $n = 2$ , 1.7%).

### Procedure

To make a request to the MOCS of the University Hospital Zurich, a questionnaire had to be filled in at [www.onlineberatung.usz.ch](http://www.onlineberatung.usz.ch) and transmitted to the tele-doctor by https (Hyper Text Transfer Protocol Secure) through an SSL (Secure Sockets Layer) connection. The user had to submit an e-mail address to get an answer to the request. The data were securely saved on a server of the University Hospital Zurich and the user received an active link to his answer.

It was not mandatory to submit the name; therefore, the user had the possibility to keep his identity secret. Declaration of age, gender, size, weight, description of the problem, and consent for scientific evaluation were obligatory; medication, premedical history, and smoking habits were optional. The user had to pay the fee by credit card. The payment process was strictly separated from the questionnaire and ensured anonymity to the user.

A team of tele-doctors from the Division of Clinical Telemedicine replied within 48 hours; since 2010, the time span could be reduced to 24 hours. In case of complex questions more than 80 specialists from the University Hospital Zurich provided the tele-doctor support.

### Measures

*Personal Characteristics of the User.* The knowledge about the age of the enquirers was of major importance to assess the popularity of the MOCS in the different age groups. Furthermore, personal characteristics like height, weight, and smoking habits were of minor importance. The premedical history was considered to assess if the patient had any previous contact with a doctor concerning his medical condition.

**Previous Contact With a Doctor.** Information about previous contact with a doctor was of paramount interest to assess the probability of MOCS being a gateway for people with intimate health problems for medical care.

**Purpose.** The purpose of the consultation emphasizes the genuine motivation of the enquirer. The answers have been categorized into information about specific health problems, second opinion, remaining question, discontent with previous medical treatment, and doubt about diagnosis by the family doctor/respective specialist.

**Topics of Questions/Topics Related to Organs.** The requests were analyzed and specified concerning the involved organ and the medical history to discover different disease patterns or symptoms to assess topics of major concern.

**Response of the Tele-doctor.** The answers of the tele-doctors were analyzed—whether they exclusively provided an advice or whether further medical consultation was recommended.

**Rating of the Service.** A special focus was on the rating of the service. The rating included questions about the clarity of the answer, satisfaction of problem solving, and fulfilled expectations. The evaluation inferred the attributes as bad (1), average (2), good (3), and very good (4).

### Statistical Analysis

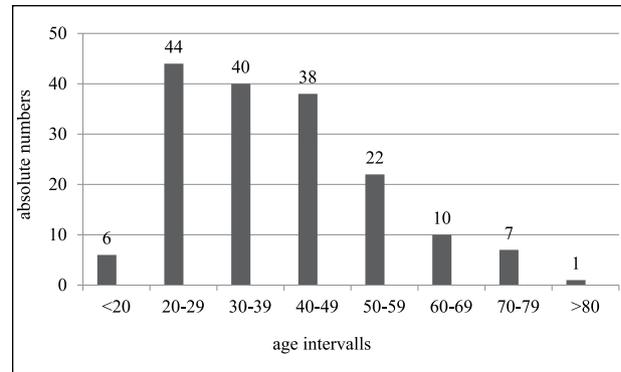
The 168 remaining questions were manually reviewed and the creation of a code matrix was supported by using the text analyzing program MAXQDA10 (VERBI Software GmbH, Berlin, Germany) (Kuckarzt, 2010). The program is based on the procedure of inductive category development described by Mayring (2001). Statistical analyses were performed with the latest version of the program SPSS 22 (IBM Corporation).

The age of the enquirers was assessed by calculating the frequencies and the mean. Two tests, *t* test and  $\chi^2$  test were performed to assess whether the means of the two age groups (>50 years and <50 years) were statistically different from each other and to assess any significance of the results obtained. Information about the characteristics of the enquirer, purpose, disease pattern, and affected organs was of descriptive nature.

## Results

### Personal Characteristics of the User

All ( $N = 168$ , 100%) enquirers were male. The majority of them were aged between 20 and 49 years ( $n = 122$ ,



**Figure 1.** Age distribution.

72.6%). The average age of all users was 40 years ( $SD = 14.795$ , 95% confidence interval [CI] = 37.65-42.16;  $N = 168$ ) (see Figure 1).

Overall, 106 (63.1%) enquirers had no comorbidity, 37 (22%) suffered from one or more diseases, and 25 (14.9%) did not indicate a medical history. A total of 159 (94.6%) of the users requested information about their own health problem and 9 (5.4%) asked for information about a third person like relatives, friends, or spouse.

### Previous Contact With a Doctor

For more than half of patients ( $N = 105$ , 62.5%), it was the first time to contact a doctor with a specific intimate or personal health problem. Overall, 63 (37.5%) patients were seen by a physician previously.

### Purpose of Consultation

Most enquirers ( $N = 118$ , 70.2%) had a specific, single health problem and asked the tele-doctor for advice. For purpose of consultation, see Table 1. Elderly enquirers requested more often for a second opinion than younger people ( $n = 8$ , 20%) people older than 50 years ( $n = 40$ ), compared with 13 people (13.3%) younger than 50 years ( $n = 128$ ). However, these results have to be considered as not significant ( $p = 0.101$ ). Younger enquirers asked more often for information about a specific health issue; 97 (75.8%) people younger than 50 years ( $n = 128$ ), compared with 21 (52.5%) people older than 50 years ( $n = 40$ ). This difference is significant ( $p = .005$ ).

### Topics of questions/Topics related to organs

Most questions were asked about sexually transmitted diseases (STDs;  $n = 51$ , 30.4%) followed by abnormal anatomy or discontent with penis shape and size ( $n = 16$ , 9.5%). Skin alterations, other than STDs, was the third most frequent topic ( $n = 14$ , 8.3%), see Table 2. Younger

**Table 1.** Purpose of Consultation.

Purpose of consultation	Number	Frequency (%)
Information about specific health issue	118	70.2
Second opinion	21	12.5
Remaining question	19	11.3
Discontent with treatment	7	4.2
Doubt about diagnosis	3	1.8
Total	168	100.0

enquirers asked more often about STDs; 47 (36.7%) people younger than 50 years ( $n = 128$ ) compared with 4 (10%) people older than 50 years ( $n = 40$ ). These results are significant ( $p = .001$ ). The main organ of concern was the penis ( $n = 108$ , 64.2%) followed by the testicles ( $n = 36$ , 21.4%) and the prostate ( $n = 9$ , 5.4%), see Table 3.

### Response of Tele-doctor

In the majority of cases ( $n = 161$ , 95.8%) the tele-doctor provided profound advice and information. In 125 (74.4%) patients, a visit to a doctor was specifically suggested to clarify the health issue. In 7 (4.2%) patients, a concluding answer could dispel the doubts and therefore a consultation was not necessary.

### Rating of the Service

The user could rate the service after receiving the answer. Overall, 74 (44%) users gave a feedback about the fulfillment of their expectations, 76 (45%) users rated the clarity of the answer, and 77 (46%) users reported their satisfaction with the problem solving.

Altogether, 58 (78.4%) users considered that their expectations had been accomplished (rating very good [4] or good [3]) by the tele-doctor, see Figure 2. The mean of 3.09 ( $SD$ , 0.797, 95%  $CI = 2.91$ -3.28;  $n = 74$ ) came to lie between good and very good with a range of 1 to 4.

Most of the patients approved the clarity of the language. A proportion of 80.3% ( $N = 61$ ) rated the clarity of the given answer as very good (4) or good (3). The mean of 3.14 ( $SD = 0.795$ , 95%  $CI = 2.96$ -3.33;  $n = 76$ ) came to lie between good and very good with a range of 1 to 4.

Altogether, 74 (96.1%) users estimated the problem solving of the tele-doctors as very good (4) or good (3). The mean of 3.60 ( $SD = 0.568$ , 95%  $CI = 3.47$ -3.73;  $N = 77$ ) came to lie between good and very good with a range of 1 to 4. None of the patients considered the supplied service as bad (see Figure 2). There was no correlation with age and satisfaction. The respective  $p$  values of the different groups <50 years and >50 years were for expectations ( $p = .272$ ), clarity ( $p = .963$ ), and problem solving ( $p = .878$ ).

## Discussion and Conclusion

The present retrospective study aimed at the evaluation of user characteristics, question content on intimate male health problems, and at the assessment from patients to the MOCS of the University Hospital Zurich. As a low-threshold offer, MOCS has the advantage of being less intimidating than a face-to-face conversation with a doctor. Young adolescents are exceptionally reluctant to talk about sexual dysfunction problems because it is considered as an intimate and embarrassing subject which can negatively affect their masculinity (Akre et al., 2010; Kanuga & Rosenfeld, 2004; Lindberg, Lewis-Spruill, & Crownover, 2006). Some patients mentioned forthrightly their reservation to talk frankly to their family doctor because the topic is too distressing to them. Former studies reported that intimate male health problems are over-represented in online services compared with other disorders (Brockes et al., 2010; Neuhaus Buhler & Scheuer, 2005; Scheuer & Brockes, 2005). Akre et al. (2010) suggested that Internet-based services should be developed to become an easy access door to sexual health services for young men. The anonymity of the MOCS and the online billing system of the University Hospital Zurich ensured that the user could keep the medical history absolutely private.

With increased spread of the Internet in society the proportion of elders will raise, considering that the Internet is an emerging technology (Bundesamt für Gesundheit, 2011a). Enquirers older than 60 years ( $n = 18$ , 10.7%) consulted the tele-doctors. This development is indeed very desirable given that seniors are more affected from chronic diseases and therefore users require often a second opinion or have remaining questions that should be answered (Swiss Health Observatory, 2014).

STDs ( $n = 51$ , 30.4%) were the most represented topics especially in young adults. Considering that the majority of men are between 20 and 49 years and therefore most likely still sexually active, this age group represents a particularly concerned target group of STD. Data from the Swiss Federal Statistical Office report an increasing number of infections with STD and HIV, especially in young men (Bundesamt für Gesundheit, 2013.). The greater number of young enquirers and the predominance of topics concerning STD in MOCS underline its importance for prevention, diagnosis, and treatment of STD in young adolescents.

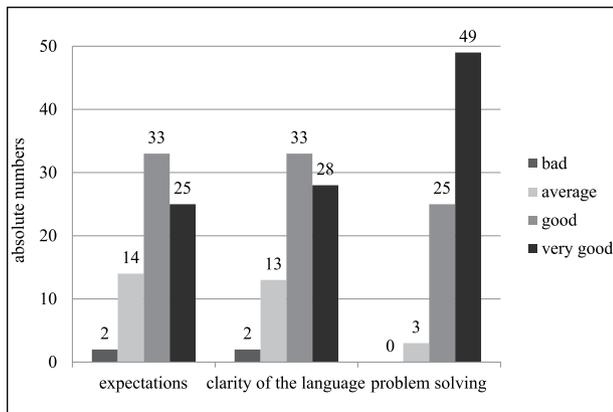
The Internet as a growing source of medical information enables users to get information regardless of time and location and provides anonymity to the questioners (Lindberg et al., 2006). Online medical advice is not intended to compete against traditional forms of medical attendance. But the relation to a family doctor is ideally rather strong and this closeness can make it difficult to

**Table 2.** Topics of Questions.

Disease pattern/Symptoms	Number	Frequency (%)
Sexually transmitted disease	51	30.4
Abnormal anatomy of the penis/discontent with penis shape	16	9.5
Skin alteration other than sexually transmitted disease	14	8.3
Virility/erectile dysfunction	13	7.7
Phimosis	10	6.0
Prostatitis/epididymitis	11	6.5
Hemospermia/alteration of the ejaculate	8	4.8
Hydrocele/varicocele	8	4.8
Benign prostatic hyperplasia/transurethral resection of the prostate	5	3.0
Fertility/sperm quality	4	2.4
Sterilisation/vasectomy	4	2.4
Dyspareunia	4	2.4
Urinary tract infection	3	1.8
Adverse drug side effects	3	1.8
Problems with urination/incontinence	2	1.2
Genital trauma	2	1.2
Tumor/neoplasm in the genital region	1	0.6
Endocrinological disorder	1	0.6
Masturbation	1	0.6
Torsion of the testicles	1	0.6
Total	168	100.0

**Table 3.** Topics Related to Organ.

Organs	Number	Frequency (%)
Bladder	5	3.0
Prostate	9	5.4
Testicles	36	21.4
Penis	108	64.2
Others	10	6.0
Total	168	100.0



**Figure 2.** Rating of the service.

talk about certain affairs. The medical advice from the tele-doctor could motivate and encourage the user to see the family doctor for further investigations. Enquirers

who proactively take charge about their health will be better informed and therefore may be more compliant with potential therapy. The number of patients who are encouraged to visit a doctor may seem very high, but it has to be emphasized that many patients have not seen a doctor before. Many of these patients would not seek a doctor at all because of inhibition they face.

Generally users were very satisfied with the MOCS. These results are very positive considering that in one-third of the face-to-face consultations of patients, their doctors either did not recognize patients' complaints or gave other health problems a higher priority than the patient did (Scheuer, Steurer, & Buddeberg, 2002).

It would be very interesting whether MOCS will reduce the barriers to address intimidating topics to the family doctor. However, for a representative assessment of the impact of online medical consultation on the daily practice of a general practitioner further studies have to be realized.

Limitations of the study include the fact that an e-mail based Internet consultation is limited to written communication and lacks verbal communication. The open structure of the questionnaire might lead to limited information. The missing option to ask further questions reduces the comprehensiveness of tele-advice.

It is not possible to give the patient a definitive diagnosis without a thorough physical examination; therefore, further medical consultation is often required. The cost-efficiency of the MOSC still remains to be proven.

## Conclusion

The anonymous setting of the teleconsultation provided younger men great benefit for individual, professional medical advice and decision support. Teleconsultation is suggested to empower patients by developing more health literacy. Particularly based on its professionalism, this service has a great potential to complement the traditional health care system.

## Authors' Note

Sabine Schmidt-Weitmann and Urs Schulz contributed equally to the work.

## Declaration of Conflicting Interests

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