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# **Teledermatology applied following patient selection by general practitioner in daily practice improves efficiency and quality of care at lower costs.**

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**Known about this topic:**

- Teledermatology is the application of telemedicine in the field of dermatology
- Teledermatology has similar accuracy and reliability as face-to-face dermatology
- Telemedicine has been regarded as an organizational solution, keeping healthcare accessible for the general population.

**What does this study add:**

- Teledermatology has been reimbursed and widely implemented in Dutch regular healthcare.
- In teledermatology the most prevalent diagnostic groups were eczemas, infectious diseases and benign tumors.
- Teledermatology reduces the number of physical referrals and has the potential to improve efficiency and quality aspects of care, presumably at lower costs.

**Author Contributions**

Dr(s) De Keizer and Spuls had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Van der Heijden, De Keizer, Bos, Spuls, Witkamp

Acquisition of data: Van der Heijden, Witkamp

Analysis and interpretation of data: Van der Heijden, De Keizer, Spuls, Witkamp

Drafting of the manuscript: Van der Heijden, De Keizer, Spuls, Witkamp

Statistical analysis: Van der Heijden, De Keizer

Obtained funding: Van der Heijden, De Keizer, Bos, Spuls, Witkamp

Study Supervision: Bos

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## **Competing interest**

The authors declare they have no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years except for J.P. van der Heijden who is employed (part-time) by KSYOS TeleMedical Center and L. Witkamp who is the Director of KSYOS TeleMedical Center; and no other relationships or activities that could appear to have influenced the submitted work.

## **Abstract**

**Background:** Teledermatology, the application of telemedicine in the field of dermatology has similar accuracy and reliability as physical dermatology. Teledermatology has been widely used in daily practice in The Netherlands since 2005 and is fully reimbursed.

**Objective:** This study prospectively investigated the effect of teledermatology on efficiency, quality and costs of care when integrated in daily practice and applied following patient selection by the general practitioner.

**Methods:** In daily general practitioner practice in The Netherlands teledermatology consultations between general practitioner and regional dermatologist were performed. Efficiency of care was measured by the decrease in the number of physical referrals to the dermatologist. Quality of care was measured by the percentage of teleconsultations for second opinion, physical referrals resulting from these teleconsultations, the response time of the dermatologists and educational effect experienced by the general practitioner. Costs of conventional healthcare without teledermatology were compared to costs with teledermatology.

**Results:** 1,821 general practitioners and 166 dermatologists performed teledermatology. 37,207 teleconsultations performed from March 2007 to September 2010 were included. In the group of patients where the general practitioner sent a teleconsultation to prevent a referral (n=26,596), 74% of physical referrals was prevented. In the group of patients where the general practitioner sent a teleconsultation for a second opinion (n=10,611), 16% were physically referred after teleconsultation. The prevented referral rate in the total population was 68%. The mean response time of dermatologists

was 4.6 hours (median 2.0). General practitioners indicated that there was a beneficial educational effect in 85% of the teleconsultations. The estimated cost reduction was 18%.

**Conclusions:** Teledermatology can lead to efficient care probably at lower cost. We are therefore of the opinion that teledermatology following general practitioner selection should be considered as a possible pathway of referral to secondary care.

## **Introduction**

Telemedicine is the delivery of healthcare by use of information and communication technology (ICT), enabling caregivers and caretakers to work together independently of place and time.<sup>1</sup> Telemedicine has been regarded as an organizational solution, keeping healthcare accessible for the general population.<sup>2</sup> Teledermatology may be one of the most evolved telemedicine services thus far, having been the subject of research since 1995; the publication output is the highest in the field of telemedicine.<sup>3-5</sup> In teledermatology, a general practitioner (GP) consults a dermatologist via the Internet in order to prevent a physical (face-to-face) referral or to obtain a second opinion. Store-and-Forward (SAF) data transfer, in which photos are created, sent and assessed at the assessors' time of convenience, is the main technology of choice since 2001.<sup>6</sup>

Diagnostic accuracy and reliability of teledermatology have been extensively studied and show teledermatology to be equal to face-to-face consultation (table 1).<sup>6-13</sup> Using histopathology as the gold standard, the diagnostic accuracy of teledermatology is 37% - 95% (mean: 77%) and of face-to-face consultation 30% - 97% (mean: 72%). Inter-rater reliability between teledermatologists and face-to-face dermatologists is 41% - 94% (mean: 69%) and 54% - 94% (mean: 76%) between face-to-face dermatologists.<sup>8</sup> These figures were calculated with primary diagnosis as a parameter. This can be misleading as dermatology has a very large range of diagnoses and diagnostic semantics. When aggregate diagnoses were used instead, accuracy and reliability increased to averages between 80% and 90%.<sup>8,11</sup> Pilot studies, studies set in laboratories and RCTs showed 18% to 42% prevented physical referrals.<sup>10;12;14</sup> Recent studies indicate that teledermatology is cost effective.<sup>15-17</sup>

The demographic situation and the state of healthcare provision in the Netherlands are comparable to other Anglo-Saxon countries. Dutch healthcare is divided into primary care and hospital care, where primary care can be accessed without a referral and has a strong gatekeeper function. Hospital care is only accessible after referral by primary care. 47% percent of the Dutch population will be non-working in 2030 as compared to 39% in 2008, and 25% of the population will be over 65 years old.<sup>18</sup> This group will account for 37.5% of the total costs of care.<sup>19</sup> The considerably increased demand for care in the next 20 years will not be followed by an increase in healthcare workers and as such other solutions are being explored. Tele dermatology has been reimbursed and integrated into the Dutch regular health care system since 2006, utilizing the strong gatekeeper function of primary care. Dermatology is an important part of primary care. In 2008, 12.1% of all GP-patient contacts was of a dermatological nature.<sup>20</sup> 43 of every 1000 patients in a GP practice were referred physically to a dermatologist in 2009 as compared to 29 per 1000 in 2002.<sup>20</sup>

As efficacy of tele dermatology with regards to diagnostic and treatment outcomes has been proven in other studies, this study focuses on the effects of tele dermatology on efficiency, quality and costs of care when integrated in daily practice and applied following patient selection by the GP.

## **Methods**

### **Inclusion and exclusion**

Dutch GPs and dermatologists were approached by invitational letter to commence tele dermatology with KSYOS TeleMedical Center, a Dutch healthcare institution specializing in telemedicine. These health workers needed to be registered in The Netherlands as a GP or dermatologist. All GPs received on-site training in clinical photography and the use of the tele dermatology system before starting tele dermatology. GPs were formally accredited for this training.

No specific directions were given to GPs as to what diagnostic types would or would not be suitable for tele dermatology except the advice that pigmented skin lesions were not recommended for tele dermatology by dermatologists. The GPs selected patients with skin conditions that were in their

opinion suitable for a teledermatology consultation (TDC) from new or existing dermatological patients.

The anonymized database of KSYOS TeleMedical Centre used for this study held records on all TDCs performed from August 2005 till September 2010. To create and close a TDC, GPs had to answer mandatory questions on outcome parameters of efficiency and quality of care. TDCs performed before March 2007 and those that had not been actively closed by the GP did not meet these parameters and were therefore excluded.

#### The Teledermatology Consultation (TDC) Process

GPs sent TDCs to the regional dermatologist to whom they would normally refer the patient with use of the SAF-based KSYOS TeleDermatology Consultation System (TDCS). A TDC consisted of two parts. The first part contained mandatory basic patient data, clinical photographs, the patient's history and the GP's questions to the dermatologist (see Figure 2 and 3). The second part was optional and contained more detailed information on patient history and condition, partly based on semi-structured questions. If necessary, a second teleconsultation round could be included in case the dermatologist needed more information about the case or when the GP needed clarification of the dermatologist's advice. After one or two rounds, the TDC was actively closed by the GP. Both GPs and dermatologists were notified of new, answered or second round TDCs by means of an anonymous notification-email in their regular email inbox. Dermatologists were required to answer a TDC within two working days.

#### TDC System Specifications

The Hyper-Text Transfer Protocol Secure (HTTPS) secured web-based TDCS was used for all TDCs. Users could access the TDCS through a username/password combination or through the Dutch Unique Healthcare Identification card provided by the government, ensuring two-way or three-way authentication respectively. Due to its web-based design, users could access the TDCS from any computer with an Internet connection. The TDCS connected asynchronously to the GP information systems, meaning answers from the dermatologist were sent directly to and saved in regular GP

information systems. The KODAK EasyShare C813 digital photo camera was used for photo acquisition with a resolution of 1.2 MegaPixels. Up to a maximum of 4 photos could be added to a single TDC. All TDC records were stored in a secured database. Each record contained demographic and medical data. Timestamps for new and answered first and second round TDCs were automatically recorded.

### Diagnostic Groups

As dermatologists entered their diagnostic considerations in a free text field, diagnoses were retrospectively extracted and categorized into diagnostic groups by a dermatologist with over 5 years' experience. If only a differential diagnosis was stated in the TDC, the primary diagnosis was used. The 3 most prevalent diagnoses were collected per diagnostic group. This categorization was based on the first 937 TDCs performed.

### Study Design

The primary outcomes of this prospective cohort study were efficiency, quality and cost parameters. All data was gathered from routine clinical practice. Patients gave oral informed consent for the teledermatology consultation and its use for research purposes. The study was conducted following the principles outlined in the Declaration of Helsinki.

Efficiency of teledermatology was measured by the number of prevented physical referrals. A referral was defined as 'prevented' when the answer to standard question 1 "Would you have referred this patient if teledermatology was not available?" was "YES" and to question 2 "Are you still referring this patient to the dermatologist?" was "NO". The first question was asked when a GP created a new TDC and the second question was asked when the TDC was closed by the GP.

Quality was expressed as the number of teledermatology consultations performed for second opinion, as physical referrals resulting from these teleconsultations, response time of the dermatologists and the educational effect experienced by the GP. Teleconsultations for second opinion were defined as all TDCs in which no physical referral would have been performed without the availability of teledermatology (i.e. the answer to Question 1 was "NO"). The dermatologist's

response time was deemed to be the time taken from when a TDC was sent by a GP to a dermatologist to the time of the dermatologist's first round response. All response times were calculated as fractional days based on a 9-hour working day (8:30 AM – 5:30 PM) and a five-day working week. The educational effect experienced by the GP was measured qualitatively through two mandatory questions posed to the GP before closing a TDC: 1) “Did you learn from the dermatologist’s response?” and 2) “Did the response from the dermatologist help you?” These questions could be answered on a four-point scale: “Not at all”, “Slightly”, “Substantially”, and “A lot”. We considered the last three answer categories as indicators of a educational effect. A paired t-test was used to test the change in number of referrals between year one and year two and between year two and year three.

We performed an economic evaluation with limited perspective on the secondary healthcare system only, comparing costs of a TDC to conventional outpatient costs. The weighted average outpatient costs for the diagnoses in teledermatology (table 2) were calculated using the Diagnosis-Treatment Combination healthcare costs system issued by the Dutch government.<sup>21</sup> This Dutch reimbursement system is based on costs per diagnosis including associated standard treatment. The caregiver (e.g. hospital, private practice) can claim a Diagnosis-Treatment Combination from the health insurance company of the patient receiving the treatment. The TDC costs were a fixed price per TDC performed issued by the health insurance companies. These funds were claimed by the telemedicine provider (KSYOS TeleMedical Centre), who utilizes these funds for dermatologist and staff wages, GP insurance, telemedicine software, cameras, training programs and helpdesk-service. With the abovementioned figures and the numbers in table 3, a cost estimate of an average teledermatology patient was calculated using the following formula:

$$\text{price TDC} + \left( \text{average outpatient price} \times \frac{\# \text{ of physical referrals after TDC}}{\# \text{ of TDCs for referral prevention}} \right) + \left( \text{price TDC} \times \frac{\# \text{ of TDCs for second opinion}}{\# \text{ of TDCs for referral prevention}} \right)$$



The formula adds the costs for a TDC, the costs for those patients which were also referred physically after a teledermatology consultation and the additional costs for the TDCs that were performed for a second opinion.

## **Results**

Since January 2005, all 8,738 GPs and 385 dermatologists in the Netherlands have been invited to commence teledermatology by KSYOS TeleMedical Center. By March 2007, 916 GPs and 72 dermatologists were using KSYOS teledermatology. This number increased to 2,784 GPs and 185 dermatologists in September 2010. 1,820 GPs performed 1 or more teleconsultations to 166 dermatologists between March 2007 and September 2010. During this period 67 GPs stopped using teledermatology. 897 GPs and 19 dermatologists did not perform any TDCs. The mean GP practice size was 1,500 patients.

The KSYOS database contained 45,303 TDCs. 6,066 TDCs closed before March 2007 and 2,030 TDCs not actively closed by the GP were excluded. The 37,207 TDCs that were included concerned 44.1% male patients (n=16,414) and an average age of 43.9 years (median: 45.1, range: 4 days – 103.5 years). In 12.5% of all TDCs (n = 4,654/37,207) a second round was performed. In 56% of the TDCs, 4 clinical photographs were added, the remaining TDCs had 3 photos (27%) or less (17%). On average, a GP performed 9.1 TDCs per year (median: 6.0 SD: 10.71). The distribution of TDCs per GP is shown in figure 1. For the GPs who performed over 10 TDCs (n=909), this average increases to 13.11 TDCs annually (median: 9.0 SD: 13.80). The distribution of TDCs per GP is shown in figure 1. Sixty-two percent (n=1,129) of the GPs had performed teledermatology continuously for 3 years or longer. On average a GP sent 1,82 TDC in year one as to 1.39 TDC in year 2 and year 3. The number of TDCs per GP significantly decreased between the first year and the second year a GP performed teledermatology ( $p<0.001$ ). Between year 2 and 3 no significant decrease or increase was found ( $p=0.951$ ).

## Diagnostic Groups

80% of all diagnoses could be categorized in seven main diagnostic groups: eczema (29%), infectious diseases (13%), benign tumors (12%), erythematousquamous diseases (11%), (pre)malign tumors (7%), acneiform conditions (4%) and vascular disorders (4%) (table 2).

## Efficiency

The GPs would have physically referred 71% (n=26,596/37,207) of the patients selected for TDC to the dermatologist if teledermatology were not available (table 3). In this group, teledermatology prevented 74% of physical referrals (19,741/26,596\*100%).

## Quality

A teleconsult was performed for second opinion in 29% of the cases (n=10,611). From this group, 16% (n=1,723) were referred to the dermatologist on the dermatologist's advice (table 3). The mean response time of the dermatologist in the first round of a TDC was 4.6 hours with a median of 2.0 hours (max: 49 days, min: 1.5 minutes). The interquartile range (25%-75%) was 5 hours. General practitioners indicated they learned "a lot" in 17% (n=6,163), "substantially" in 39% (n=14,693), "slightly" in 29% (n=10,694) and "not at all" in 15% (n=5,657) of the TDCs. The helpfulness of the dermatologist's response was "a lot" in 25% (n=9,154), "substantially" in 42% (n=15,532), "slightly" in 20% (n=7,534) and "not at all" in 13% (n=4,987) of the TDCs.

## Costs

Based on the Diagnosis-Treatment Combination fees and the prevalence of the seven diagnostic groups selected for teledermatology, the weighted mean outpatient costs in case of conventional physical care were estimated as 192.- per patient. Health insurance companies paid 68.00 per TDC. This included the fee for the dermatologist and for KSYOS TeleMedical Centre. The weighted average costs per patient selected for teledermatology were  $68.00 + (192.00 * (8578 / 26596)) + (68.00 * (10611 / 26596)) = 117.49$ . This constitutes an 18% cost reduction compared to the conventional costs.

## Discussion

Studies on diagnostic accuracy, effects of treatment and adverse events have proven that teledermatology is as effective as live visits. Teledermatology has therefore been reimbursed and widely implemented in The Netherlands in regular healthcare since January 2006. Within a period of 5 years, at least 32% of all Dutch GPs have been performing teledermatology with the dermatologists to whom they would normally physically refer the patient.

Of all GPs included in this study (2,784), 1,820 have been active (one or more TDCs) and 964 inactive (0 TDCs). The active GP performed on average 9.1 TDCs per year: 71% to prevent a physical referral (6.5 TDCs) and 29% for second opinion (2.6 TDCs). Thus, of the 65 patients that a GP would normally physically refer to a dermatologist per year, 14% (9.1) were selected for teledermatology. Although initially interested in teledermatology, 964 included GPs did not perform any TDCs. These GPs were followed up by telephone by KSYOS TeleMedical Centre. Most frequent reasons were: no suitable patients available; GP did not need advice; difficulty using the system or taking the photos; lack of time and in some cases one GP in a group practice of multiple GPs handled all teledermatology cases. No quantitative results on reasons for not using teledermatology can be given as it was not in the scope of this paper. Our conclusions can therefore only be generalized for GPs who are motivated to use teledermatology.

The most prevalent diagnostic groups were eczemas, infectious diseases and benign tumors. Although advice against using teledermatology for pigmented lesions was issued, 8% of all TDCs concerned naevi and seborroic warts. All the TDCs where melanoma was diagnosed (0.005%) were sent for triage. In all cases, the dermatologist advised urgent physical referral or even gave a time slot for immediate referral. Recent studies by Tan et al. showed teledermatology using dermoscopic images in primary care is beneficial for triage and diagnostically reliable.<sup>22:23</sup> The possibility of performing teledermoscopy for pigmented skin lesions will increase the proportion of patients selected for teledermatology.

Teledermatology led to a 74% reduction in the number of physical referrals. A study within the same setting in which all patients that were due to be physically referred were obligatorily selected for teledermatology by protocol, i.e. there was no GP selection, reported a 20% reduction.<sup>14</sup> This

confirms that selection for teledermatology by the GP is important for the effect of increased efficiency derived from teledermatology. In this study, TDCs for second opinion resulted in additional physical referrals, decreasing the overall reduction in the number of physical referrals from 74% to 68% in the general population  $((26,596 - 8,578)/26,596 * 100\%)$ .

TDCs were performed for second opinion in 29% of the cases. These patients now received advice from the dermatologist and 16% of the cases were physically referred on the request of the dermatologist thus increasing the quality of care. Dermatologists responded on average to a TDC within 4.7 hours, enabling the GPs to include the dermatologist's advice immediately in their treatment plan instead waiting the 6 – 8 weeks for a physical visit.<sup>24</sup> The GPs stated that they learned from the dermatologist's response in 85% of all TDCs performed. A significant decrease in TDCs per GP was observed in the first year after starting teledermatology. After the first year the number of TDCs stabilized. Therefore the decrease in the number of TDCs in the first year may be due to a combination of better selection of patients for TDCs and educational effect.

Our cost evaluation had a limited focus and our results can only be generalized for a fully implemented teledermatology service. Primary care costs and societal costs (e.g. travel costs, absence of work) were not included. Initial investment costs (e.g. for hardware, software, training programs, full implementation, organisation as well as administration) were taken care of by the telemedicine provider and thus costs were included in an indirect way. The Diagnosis-Treatment Combination fee of 192- is indicative and may be even higher as not all costs for healthcare are included in Diagnosis-Treatment Combination fees (e.g. real estate) and the fees are upgraded by individual hospitals. However, an extensive model-based study on costs of teledermatology including costs for the patient and society in The Netherlands underlines our estimate as it showed teledermatology to be cost effective when the prevention rate of physical referrals is over 37%.<sup>15</sup> Our results warrant a more thorough and complete economic analysis of a fully implemented teledermatology service. Still, we think the costs formula used in this study is applicable to other countries which have comparable health systems with a strong gatekeeper function of primary care, and also in more heterogeneous health care systems such as the US when an average price per diagnosis can be calculated.

A shortcoming of this study is the absence of any follow-up data on clinical and management outcomes on patients who received a TDC. A randomized trial by Pak showed no evidence that clinical outcomes of teledermatology were any different compared to conventional care.<sup>25</sup> To our knowledge the widespread use of teledermatology in regular practice in The Netherlands has not led to any report of a severe adverse event or hospitalization due to misdiagnosis or mismanagement.

The patient's perspective of whether the teleconsultation worked (or not) was not in the scope of this study. Acceptance of and satisfaction with teledermatology can however be derived from the sheer number of TDCs which is voluntary for patients. This finding is also confirmed in the literature which for the most part report high patient satisfaction and acceptance with SAF teledermatology.<sup>26-34</sup>

This study shows that teledermatology is effective in urban densely populated Western Europe, in a daily practice setting, provided that patient selection for teledermatology is performed by the GP. Teledermatology reduces the number of physical referrals and has the potential to improve efficiency and quality aspects of care, presumably at lower costs. Considering the emergent pressure on healthcare in the next decades, teledermatology following GP selection should be considered as a possible pathway of referral to secondary care.

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**Figure 1 - Number of teledermatology consultations per general practitioner**

All GPs consist of GPs performing teledermatology between 5 years and 1 month

**Figure 2 - A teledermatology consultation**

GP fields are in blue, dermatologist fields are in purple

**Figure 3 - A teledermatology consultation: enlarged photo**

**Table 1 - Teledermatology reviews: reported diagnostic outcome parameters**

Year	Author	# of papers reviewed	Accuracy (TDC to HP)	Accuracy (F2F to HP)	IR Reliability (TDC to F2F)	IR Reliability (F2F to F2F)
2001	Eedy	14	NA	NA	63% - 98% (mean: 83%)	63% (single study)
2006	Whited	12	31% - 85% (mean: 59%)	59% - 77% (mean: 69%)	41% - 89% (mean: 65%)	54% (single study)
2008	Wurm	9	NA	NA	54% - 95% (mean: 75%)	NA
2008	Romero	12	63% - 100% (mean: 82%)	84% - 89% (mean: 86%)	47% - 90% (mean: 60%)	54% - 94% (mean: 74%)
2009	Levin	47	37% - 95% (mean: 77%)	30% - 97% (mean: 72%)	41% - 94% (mean: 69%)	54% - 94% (mean: 76%)
2010	Warshaw	51	19% - 89% (mean: 63%)	43% - 92% (mean: 71%)	48% - 91% (mean: 72%)	NA

TDC: teledermatology consultation, F2F: face-to-face consultation, HP: histopathology, IR: inter-rater, NA: not available

**Table 2 – Diagnosis groups in teledermatology with the top 3 diagnosis per group**

DIAGNOSTIC GROUP	100 %	DIAGNOSIS 1 (%)	DIAGNOSIS 2 (%)	DIAGNOSIS 3 (%)
Eczema	29%	Eczema * 41%	Nummular eczema 14%	Contact allergic eczema 8% Seborrheic eczema 8%
Infectious diseases	13%	Mycosis 38%	Impetigo 19%	Herpes 12%
Benign tumors	12%	Naevi 28%	Verruca seborrhoica 19%	Granuloma annulare 9%
Erythemasquamous diseases	11%	Psoriasis 51%	Pityriasis Rosea 20%	Lichen simplex 10%
(Pre)malignant lesions	7%	Basalcel carcinoma 66%	M. Bowen 8%	Melanoma 8%
Acneiform conditions	4%	Rosacea 45%	Folliculitis 32%	Acne vulgaris 19%
Vascular disorder	4%	vasculitis 22%	haemangioma 17%	haematoma 14%
Miscellaneous	20%	- -	- -	- -

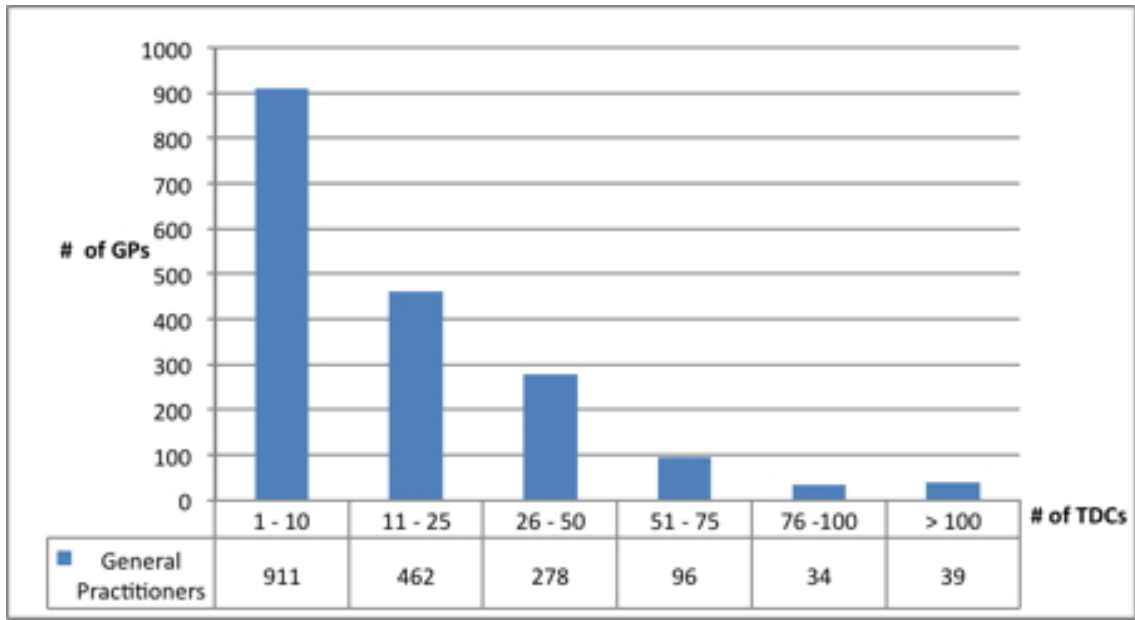
\* non-specified eczema, dermatitis non-specified, atopic eczema

**Table 3 – Questioning of patients before and after teledermatology (n = 37.207 TDCs)**

Question After TDC <sup>2</sup>	Question Before TDC <sup>1</sup>				
	Yes	No	Yes	No	
Yes	6,855	26%	1,723	16%	<b>8,578</b>
No	19,741	74%	8,888	84%	<b>28,629</b>
	<b>26,596</b>	100%	<b>10,611</b>	100%	<b>37,207</b>

TDC: Teledermatology Consult; <sup>1</sup> Would you have referred this patient if teledermatology was not available? <sup>2</sup> Are you still referring this patient to the dermatologist?a







- Welcome
- Open Consultation
- Closed Consultation
- Settings
- Logout

**Consult**

Patient data				Photos			
Medication				Referral letter			
no.	Type	Dosage	Since	Ref. reason	Dear Doctor, Rash over the Left forearm: volar aspects since 6-8months. non itchy. non tender, blanches, no changes with any kind of exposure. no change in meds or any		
1	humolog			Comments	History of Diabetes and Hypertension. On Insulin and anti hypetensives: Irbestartan, bendroflumethazde and bisoprolol		
2	metformin						
3	lantus						

**Consultant Dermatologist's report**

Description of findings	Rash on left forearm only	Additional questions
Diagnosis	Probably a rather asteototic eczema although it is difficult to discern whether there are abnormal telangelectatic vessels.	Treatment recommendations
		Suggest treat with Balneum cream (Urea based) qds for a week or so then bd. This might seem to exacerbate it a little at first.
		Do you need to see this patient urgently <input type="radio"/> Yes <input checked="" type="radio"/> No

**GP's response**

Answer/question	thankyou. seen pt today and the rash seems to be a bit lighter on using the Balneum. will do as suggested if not better in 1m.	Comments
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**Consultant Dermatologist's response**

Treatment recommendations		Comments
		Pleased to hear it.

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