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Teleconsulting in wound care: Connecting the primary care to the wound specialist reduces unnecessary referrals

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Abstract

In the Netherlands the primary care (General Practitioner or homecare nurse) encounter a variety of wounds ranging from traumatic to diabetic foot ulcers. According to a recent study 82.4% of the patients with a wound can be treated in a primary setting with the GP as medical supervisor. The remaining 17.6% of patients need more extensive care including advice by a specialised doctor, diagnosis and treatment. Prompt analyses and treatment of underlying causes by specialised doctors in a multidisciplinary setting is necessary for treating patients with complicated wound. This article describes the impact of Electronic Health Consultation on all wounds treated in the primary care. And describes the effect on the duration until referral to the hospital and the influence on the amount of unnecessary referrals to the hospital. All data was collected prospectively from June 2020 until October 2021. The study involved a process where primary care could seek advice from a Wound Physician at the Alrijne Wound Centre through a specialised Electronic Health Consultation. A total of 118 patients were analysed. 41/118 (34.7%) patients required a physical consultation with analysis and treatment in the hospital, after teleconsultation. The remaining 77/118 (65.3%) could be treated in primary care after Electronic Health Consultation. The mean duration of wound existence until Electronic Health Consultation was 39.3 days (range 5–271, SD: 38.5). 3/41 (7.3%) of the referrals were unnecessary. Electronic Health Consultation serves as a valuable and efficient tool for enhancing wound care, ultimately contributing to improved patient management and resource allocation within the healthcare system. This article describes the impact of Electronic Health Consultation on all wounds treated in the primary care and the influence on the duration until referral to the hospital and the influence on the amount of unnecessary referrals to the hospital.

KEYWORDS

E-health, non healing wounds, telemedicine, unnecessary referrals, woundhealing

1 | INTRODUCTION

Normal wound healing usually occurs within weeks, on the other hand in complicated (chronic) wounds, healing is delayed depending on several factors.^{1–3} In the Netherlands, primary care, encompassing the

care provided by General Practitioners (GPs) and home care services, is referred to as 'first-line care' within the healthcare system. This care is reimbursed by the health insurer. The health care system in the Netherlands is based on the gatekeeper role of the GP.⁴ Throughout the remainder of this article, we will refer to it as primary care (PC). In

the Netherlands the PC encounter a variety of wounds ranging from traumatic to diabetic foot ulcers (DFU). According to a recent study 82.4% of the patients with a wound can be treated in a primary setting with the GP as medical supervisor.⁵ The remaining 17.6% of patients need more extensive care including advice by a specialised doctor, diagnosis and treatment. Wounds without signs of healing within 4–6 weeks are defined as complicated (chronic), which is caused by underlying pathology. This should be recognised in this stage and these wounds must be treated in a multidisciplinary setting. Prompt analyses and treatment of underlying causes by specialised doctors in a multidisciplinary setting is necessary for treating patients with complicated wound.^{6–8} Ideally, patients with underlying diseases, are recognised early to avoid prolonged wound management, decreased quality of life and prevent exacerbation. Various data from the Netherlands show that it takes an average of 19–30 weeks before diagnostics based on aetiology are performed in patients with complicated wounds.^{5,9} Optimization of wound care is a major challenge, including cost control, but receives limited attention in terms of organisation and treatment strategy development. Given the shortage of nurses and other healthcare workers and an aging population, affordable wound care will become an increasing challenge.^{10,11} Complicated wounds are an undervalued burden and a growing threat to the public health and economy of the world's population.¹² The estimated annual cost of wound care in the Netherlands is 1.5 billion euro.¹³ The direct costs of the diabetic foot in the United Kingdom in 2014–2015 for example were 0.8%–0.9% (€ 990,840,000 and € 1,139,250,000) of the total National Health Service budget.¹⁴ Previous research shows that earlier triage leads to, if necessary, earlier referrals, faster diagnosis and reduction of costs.^{5,15} The challenge is implementing a central communication platform which improves the communication between different health care professionals and could lead to an implementation of a standardised (national) referral protocol.

The literature shows that telemedicine Electronic Health Consultation (EHC) can have a positive effect on wound healing in complicated wounds. By reducing the need to travel (long distances) to the hospital, EHC decreases the costs and improves the quality of life for patients with complicated wounds.¹⁶ However, it has the most influence in the early phase of chronic wounds (<3 months existing wound).¹⁷ This article describes the impact of EHC on all wounds treated in the primary care. It describes the influence of EHC on the duration until referral to the hospital and the influence on the amount of unnecessary referrals to the hospital.

2 | METHODS

This retrospective study was conducted under a protocol reviewed and approved by the Institutional Review Board and Medical Ethical Committee of Alrijne Hospital, the Netherlands (NWMO 22-21).

2.1 | Study group

All data were collected prospectively from June 2020 until October 2021, the outcomes were then analysed retrospectively. The protocol

BOX 1 Parameters on which the GP was advised to refer

- Excessive necrosis
- Uncontrolled woundinfection
- Non healing wound (existing for 4–6 weeks)
- Non healing diabetic foot (<2 weeks)
- Suspect for/ Suspicious of:
 - Arterial insufficiency
 - Venous insufficiency
 - Skin malignancy
 - A form of vasculitis

was implemented in a region that covers approximately 20% of the Alrijne Wound Center (AWC) working area. After this study, the protocol was implemented across the whole region. The participating regions were informed in advance through a presentation on the protocol and the necessary steps to be taken.

Patients were eligible for inclusion if their wound had a healing rate of less than 15% surface reduction per week. Patients with wounds existing for more than 1 year were excluded since in these cases a referral to the AWC was most often indicated. In PC, the GP assumes both medical and legal responsibility for the patient. Any referral to a hospital must be facilitated through the General Practitioner. The GP was able to request advice from the wound physician (WP) in the AWC, by means of a special EHC via ZorgDomein, (ZorgDomein Nederland B.V., Breukelen, the Netherlands). ZorgDomein is a digital referral system. When requesting the EHC, the GP was asked to supply background information, such as how long the wound existed, the cause of the wound, initiated therapy and possible underlying diseases based on the TIME principles.¹⁸ It was also mandatory to add photos of the wound and the affected body part. Additionally, the GP's were asked to choose between three options if an EHC would not be possible for this patient: (1) Continue to treat the patient as GP, (2) call a specialist (e.g., vascular surgeon or dermatologist) or (3) refer to the AWC. Different parameters were used (Box 1).

The protocol formulated that consultations were answered within 24 h by an AWC wound physician. Three main groups of AWC advice were defined: (1) Advice on wound treatment, without the need for a referral to the AWC, (2) advice on wound treatment, and in case of an inadequate wound healing response in the next 2 weeks, refer to the AWC and (3) refer directly to the AWC.

Follow up was performed for at least 6 months after the consultation. Follow up included registration of recurrences, wound healing and mortality. Unnecessary referrals were defined as a referral of patients in which the AWC did not ascertain a new etiological cause that prevented wound healing from occurring or in case no adjustment in therapy was performed by the AWC. In other words, unnecessary referrals were referrals in which the AWC had no added value.

2.2 | Control group

As scientific evidence on the duration and incidence of complicated wounds is lacking in the Netherlands, the outcomes of patients treated at AWC in 2014 served as a control group. The development of this study design started in 2015. The first study using physical triage started in 2017. This study, using the electronic triage, started in 2020. In order to prevent interference between the study group and the control group, results are compared with the data from 2014.

2.3 | Statistical analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS®, IBM Corporation, Armonk, New York) and Excel (Microsoft Corporation). The unpaired *t*-test and the chi-squared test is used to analyse differences between the different study groups.

3 | RESULTS

Between June 2020 and October 2021, 126 EHC's were requested by the PCs, of which 118 were analysed (Figure 1). In total eight patients were excluded (Figure 1). The basic characteristics are shown in Table 1. Traumatic wounds formed the majority. 39/118 (33%) of the patients had underlying diabetes mellitus, of which 14/39 35% had a DFU.

Table 2, Figures 2 and 3 show the outcomes. 41/118 (34.7%) patients required a physical consultation with analysis and treatment in the hospital, after teleconsultation. The remaining 77/118 (65.3%) could be treated in primary care after EHC. The mean duration of wound existence until EHC was 39.3 days (range 5–271, SD: 38.5). In 2014 (control group), the time between onset of the wound and referral to the AWC was 135.7 days (range: 0–5479, SD: 371.2). Compared

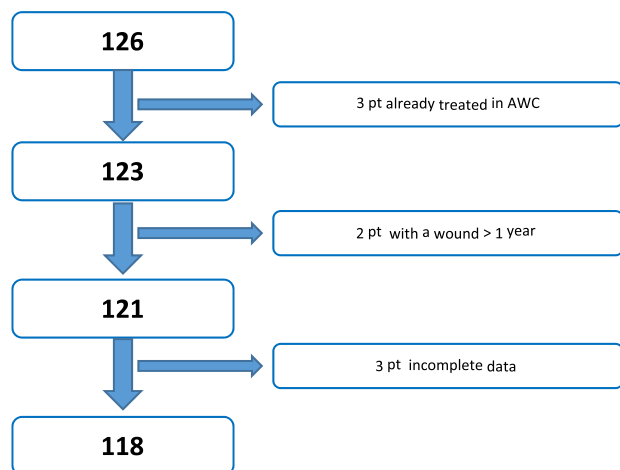


FIGURE 1 Flowchart patients included between June 2020 until October 2021.

TABLE 1 Basic characteristics.

Total	n = 118
Mean age (years)	74 (range 12–96)
Male	48 (40.7%)
DM	39 (32.8%)
Mean duration of complaints (days)	39.3 (range 4–271)
Aetiology	
• Traumatic ulcer	37 (31.4%)
• Pressure ulcer	21 (17.8%)
• Diabetic foot ulcer	14 (11.9%)
• Venous leg ulcer	9 (7.6%)
• Post-operative ulcer	6 (5.1%)
• Lymphatic edema	5 (4.2%)
• Arterial leg ulcer	4 (3.4%)
• Biofilm requiring debridement	4 (3.4%)
• Gout	2 (1.6%)
• Skin malignancy	1 (0.8%)
• Burn	1 (0.8%)
• Complication of hydra	1 (1.6%)
• Unclear aetiology	13 (11%)

TABLE 2 Outcomes.

Total	N = 118
Treated in primary care after E-health consultation	77/118 (65.3%)
Consultation with analysis and treatment in the hospital (AWC)	41/118 (34.7%)
Group treated in the primary care	N = 77
What would the GP do if an EHC was not possible?	
• Continue to treat the patient as GP	17/77 (22.5%)
• Call a specialist (e.g., vascular surgeon or dermatologist)	25/77 (32.5%)
• Refer to the AWC	35/77 (45.4%)
Group referrals	N = 41
What would the GP do if an EHC was not possible?	
• Treating the patient themselves	4/41 (9.8%)
• Call a specialist	14/41 (34.1%)
• Refer to the AWC	23 (56.1%)
Referrals prevented	35/118 (29.6%)
Unnecessary referrals	3/41 (7.3%)
Mean follow-up	14.6 months (R 6–23)

to the duration until triage in the study, it was found to differ significantly ($p < 0.001$). Patients that were deemed candidates for referral to AWC were analysed for aetiology of their wounds according to the AWC protocol. Analysis showed 11/41 patients with a DFU, 7/41 in need of extensive debridement, 6/41 with pressure ulcers, 6/41 with venous leg ulcers, 3/41 with suspicion of vasculitis, 2/41 with arterial leg ulcers and 2/41 with postoperative ulcers. Others causes for impaired wound healing included gout, malignancy and lymphatic

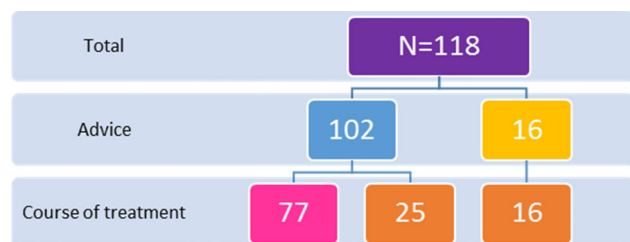


FIGURE 2 Flow chart outcomes. ■ Advice on wound treatment and in case of inadequate wound healing in the following 2 weeks, referral to the AWC. ■ Advice to refer to the AWC. ■ Group treated in primary care. ■ Group treated in the AWC. AWC, Alrijne Wound Centre.

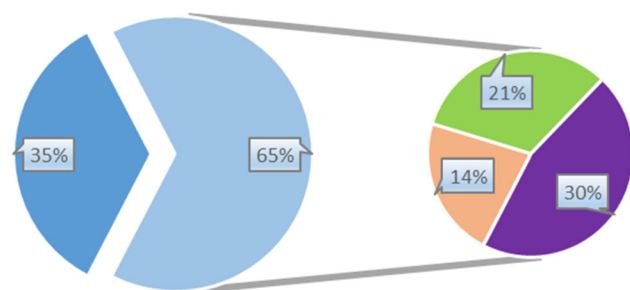


FIGURE 3 Outcomes. Big circle: All patients. ■ Patients referred to the hospital. ■ Patients treated in primary care. Small circle: What would the GP do if EHC was not possible in group treated in the primary care? ■ Continue to treat the patient as GP. ■ Call a specialist. ■ Refer to the AWC. AWC, Alrijne Wound Centre; EHC, Electronic Health Consultation; GP, General Practitioner.

edema. 3/41 (7.3%) of the referrals were unnecessary (referrals in which the AWC had no added value). Compared to the AWC data in 2014–2015 as where 94/469 (20.0%) of the referrals were unnecessary, this difference was significantly ($p = 0.046$). 96/118 (81.4%, range 0–12 days) of the EHC were answered within 24 h.

A 35/118 (29.6%) reduction in hospital referrals was observed following the implementation of an EHC program. These 35 patients, initially intended for specialist referral by the GP, were subsequently retained and managed within the primary care setting due to the intervention (EHC).

In cases where the GP initially indicated intent to refer patients to specialists without EHC, it was observed that 14/39 (35.9%) were ultimately referred. Similarly, among cases where the GP initially expressed intent to refer patients to specialists, even in the absence of EHC, 23/58 (39.6%) were ultimately referred to specialists.

4 | DISCUSSION

A reduction of 29.6% in hospital referrals was observed. However, it is noteworthy that literature pertaining to the prevention of referrals for similar wounds within a comparable healthcare system is currently lacking. This gap in the literature may be attributed to the unique

characteristics of the healthcare system in the Netherlands, as discussed in reference.⁴ Regarding teleconsultation for burn cases, existing literature has reported similar reduction percentages, specifically 30.9% and 38%.^{19,20} Furthermore, it should be emphasised that the percentage of prevented referrals increases when considering cases where the General Practitioner (GP) intended to call a specialist without the availability of EHC. For instance, out of the total consultations where the GP originally intended to contact a specialist, 14/39 (35.9%) resulted in eventual hospital referrals. Conversely, an equivalent proportion of 35.9% pertained to patients for whom the GP had initially planned to contact a specialist but were managed within primary care.

When encompassing the entire patient population, including those for whom unnecessary hospital consultations were averted even without the possibility of EHC, the cumulative percentage of avoided hospital consultations increases to 44/118 (37.3%).

It appears that teleconsultation significantly reduces the occurrence of unnecessary referrals, as evidenced by the low rate of 7.3% (3/41) in comparison to the data from the AWC records in 2014–2015, where 20.0% (94/469) were deemed unnecessary. This observed difference is statistically significant ($p = 0.046$). Furthermore, this reduction in unnecessary referrals not only positively impacts the healthcare system but also alleviates the burden on patients, enabling them to receive treatment within their familiar and comfortable environments. The response provided through EHC for all three patients was a recommendation to initially manage and treat their wounds themselves, coupled with additional treatment guidance.

EHC has the potential to lower the threshold for making referrals. A statistically significant difference ($p < 0.001$) was observed between the current study and data from 2014 in terms of the duration until referral. This difference is likely to yield several positive outcomes, including a reduction in the burden on patients and cost savings. Specifically, patients receive assessments at an earlier stage, diminishing the risk of complications in their medical conditions. When considering the national average time to triage, which stands at 210 days, the reduction in the duration until referral becomes even more evident, underscoring the advantages of EHC in expediting the referral process.⁹ When compared to international data on the duration until referral, the 39 days observed in this study are notably shorter than, for instance, the time to referral for venous leg ulcers in England during 2012–2013, which averaged 120 days. This discrepancy underscores the efficiency of the referral process in the context of the EHC program, which expedites access to care and minimises delays in treatment, resulting in more favourable outcomes for patients.²¹

The observation that, following advice provided through EHC, a significant proportion of cases, specifically 77 out of 118 (65.3%), could be managed without the need for hospital consultations, diagnostics, or adverse interventions, raises several important considerations. This finding may suggest several potential explanations: GP Knowledge: It is possible that the knowledge and expertise of some GPs regarding the management of more complex wound cases are not up to date or may be too generalised. This could indicate a need for ongoing professional development and education to ensure GPs are



well-equipped to handle a broader range of complex wound cases. **Specificity of Knowledge:** Complex wound management may indeed require a level of specialised knowledge that is distinct from general medical practice. This could warrant a separate triage system to ensure that patients with complex wounds are directed to specialists who possess the necessary expertise. **Pathological Realities:** It is also plausible that the complex wound pathology in this group of patients is genuine and necessitates a specialist opinion. Some medical conditions may inherently require specialised care due to their complexity and unique challenges.

In essence, the observed phenomenon raises questions about the adequacy of home care knowledge and capabilities in managing certain wound types and highlights the potential need for specialised care in cases of complex wound pathologies. Further research and analysis may be required to determine the exact nature of the shortcoming and how to best address it to ensure optimal patient care and outcomes.

The utilisation of EHC in the form of teleconsulting or video consultation, wherein patients are remotely monitored and followed, has been previously documented in the existing scientific literature. This approach to healthcare delivery leverages technology to provide medical guidance and monitoring from a distance, offering an effective means of patient care and management, particularly in situations where in-person consultations may be challenging or less practical.^{22,23} The outcomes differ, a meta-analysis showed a significantly improved wound healing rate, however no significant differences were found between patients allocated to the telemedicine group or usual care group, in terms of the outcomes of healing time, change in wound size or mortality.¹⁷ These findings suggest that while telemedicine may enhance the overall rate of wound healing, it may not necessarily have a substantial impact on these specific outcome measures in comparison to traditional care methods. Additional research and analysis may be needed to further explore the nuanced effects of telemedicine in wound management.

Negative effects associated with the use of telemedicine have been documented, particularly in the case of patients with diabetic foot conditions. For diabetic foot patients, monitoring through telemedicine has the potential to result in increased mortality rates.²⁴ This may indicate caution in using certain forms of EHC for this group.

Based on the findings of this study, EHC in the form of an additional triage tool has a positive impact on the care pathway for patients with chronic wounds. It should be seriously considered as an option, especially when wound healing does not progress adequately within the primary care setting. EHC as a triage tool offers significant organisational efficiency advantages. It eliminates constraints such as travel time and the need to coordinate various schedules, making it possible to provide care across a much broader geographical area. Moreover, this approach has the potential to be scaled up to a national level, offering the benefits of timely and efficient wound care to a larger population. The study findings highlight the potential for EHC to enhance the delivery of wound care services and improve patient outcomes.

The current analysis is subject to several significant limitations that need to be considered. Firstly, the population Size: The study is

based on a relatively small population within the vicinity of the Alrijne hospital. Extrapolating these results to a regional or national level can be challenging due to potential confounding factors, such as variations in case mix and differences in socioeconomic status (SES) across different regions. Secondly, the retrospective Design and Limited Follow-Up: The study design is retrospective, and the follow-up period is limited. This design does not account for the possibility of wound recurrences occurring after the study period. Consequently, the long-term impact of the interventions may not be fully captured. And thirdly, the educated General Practitioners: The General Practitioners in the study received education in wound care before the study commenced and were provided with an explanation of the protocol. This education may have influenced the outcomes by potentially leading to more appropriate referrals, potentially affecting the results.

Future research should focus on extending this protocol, evaluation and implementation of E-health adjuncts. Implementing this protocol is recommendable, it lead to the possibility to serve a larger region with fewer WPs. This efficiency gain is necessary in view of the aging population and the increase in chronic disease, which will increase the population with (complicated) wounds.

5 | CONCLUSION

The utilisation of EHC as a triage tool has proven to be highly effective in the context of wound care. It successfully averts almost 40% of hospital referrals for patients with chronic wounds, indicating a substantial reduction in the need for in-person specialist consultations.

Moreover, EHC demonstrates its efficiency by preventing unnecessary referrals in only 7.3% of cases, underscoring its ability to significantly optimise wound care within the healthcare system in the Netherlands.

CONFLICT OF INTEREST STATEMENT

The authors have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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REFERENCES

- Schultz GS, Sibbald RG, Falanga V, et al. Wound bed preparation: a systematic approach to wound management. *Wound Repair Regen*. 2003;11(Suppl 1):S1-S28.
- Hess CT, Kirsner RS. Orchestrating wound healing: assessing and preparing the wound bed. *Adv Skin Wound Care*. 2003;16(5):246-257. quiz 258-249.
- Vodovotz Y, Constantine G, Faeder J, et al. Translational systems approaches to the biology of inflammation and healing. *Immunopharmacol Immunotoxicol*. 2010;32:181-195.
- Kroneman M, Boerma W, van den Berg M, Groenewegen P, de Jong J, van Ginneken E. Netherlands: health system review. *Health Syst Transit*. 2016;18(2):1-240.

5. Brekelmans W, Borger van der Burg BLS, Leurs LN, Hoogendoorn R, Zuure F, Hoencamp R. Optimization of best practice wound care in The Netherlands. *Int J Low Extrem Wounds*. 2020;21:513-520.
6. Hinchliffe RJ, Brownrigg JR, Andros G, et al. Effectiveness of revascularization of the ulcerated foot in patients with diabetes and peripheral artery disease: a systematic review. *Diabetes Metab Res Rev*. 2016;32(Suppl 1):136-144.
7. Prompers L, Schaper N, Apelqvist J, et al. Prediction of outcome in individuals with diabetic foot ulcers: focus on the differences between individuals with and without peripheral arterial disease. The EURODALE Study. *Diabetologia*. 2008;51(5):747-755.
8. Tollow P, Ogden J, Whiteley MS. The comparative impact of conservative treatment versus superficial venous surgery, for the treatment of venous leg ulcers: a systematic review of the impact on patients' quality of life. *Phlebology*. 2016;31(2):82-93.
9. Amesz S, Monsma M, Corporaal G, Oskam J. Betere wondzorg bij de huisarts. *Medisch Contact*. 2018; 45.
10. Blokstra A, Verschuren (red.) WMM, Baan CA, et al. Impact of the ageing population on burden of disease. Projections of chronic disease prevalence for 2005-2025. *RIVM Publications Repository*. 2005.
11. Marć M, Bartosiewicz A, Burzyńska J, Chmiel Z, Januszewicz P. A nursing shortage—a prospect of global and local policies. *Int Nurs Rev*. 2019;66(1):9-16.
12. Sen CK, Gordillo GM, Roy S, et al. Human skin wounds: a major and snowballing threat to public health and the economy. *Wound Repair Regen*. 2009;17(6):763-771.
13. Consulting C. *Innovatie van complexe wondzorg. Onderzoek naar potentiële besparingen en prestatieomschrijvingen*. Nederlandse Zorgautoriteit; 2014.
14. Kerr M, Barron E, Chadwick P, et al. The cost of diabetic foot ulcers and amputations to the National Health Service in England. *Diabet Med*. 2019;36(8):995-1002.
15. Brekelmans W, Borger van der Burg BLS, Tolen NJ, Hoencamp R. Quality of care and cost effectiveness: optimization of wound care in The Netherlands. *Adv Skin Wound Care*. 2022;35:669-673.
16. Chanussot-Deprez C, Contreras-Ruiz J. Telemedicine in wound care: a review. *Adv Skin Wound Care*. 2013;26(2):78-82.
17. Huang Z, Wu S, Yu T, Hu A. Efficacy of telemedicine for patients with chronic wounds: a meta-analysis of randomized controlled trials. *Adv Wound Care*. 2021;10(2):103-112.
18. Fletcher J. Wound bed preparation and the TIME principles. *Nurs Stand*. 2005;20(12):57-65; quiz 66.
19. Cherukupalli A, Duan N, Papp A. A third of referrals are unnecessary: critical review of burn outpatient clinic data. *Burns*. 2019;45(4):805-817.
20. den Hollander D, Mars M. Smart phones make smart referrals: the use of mobile phone technology in burn care - a retrospective case series. *Burns*. 2017;43(1):190-194.
21. Davies HO, Popplewell M, Bate G, Kelly L, Darvall K, Bradbury AW. Impact of UK NICE clinical guidelines 168 on referrals to a specialist academic leg ulcer service. *Phlebology*. 2018;33(2):84-88.
22. Terry M, Halstead LS, O'Hare P, et al. Feasibility study of home care wound management using telemedicine. *Adv Skin Wound Care*. 2009; 22(8):358-364.
23. Wickström HL, Öien RF, Fagerström C, Anderberg P, Jakobsson U, Midlöv PJ. Comparing video consultation with inperson assessment for Swedish patients with hard-to-heal ulcers: registry-based studies of healing time and of waiting time. *BMJ Open*. 2018;8(2):e017623.
24. Rasmussen BS, Froekjaer J, Bjerregaard MR, et al. A randomized controlled trial comparing telemedical and standard outpatient monitoring of diabetic foot ulcers. *Diabetes Care*. 2015;38(9):1723-1729.

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