



GNOSCO

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The Swedish national quality registry for hard-to-heal leg, foot and pressure ulcers

Registry of Ulcer Treatment (RUT)



- Leg, foot and pressure ulcers
- 150 parameters
- Registration and follow-up
- Data base for research and comparison
- Best practice & education
- National guidelines



Registrations

Approx 1000 registrations per year

Total registrations: 9000

Municipalities – 18%

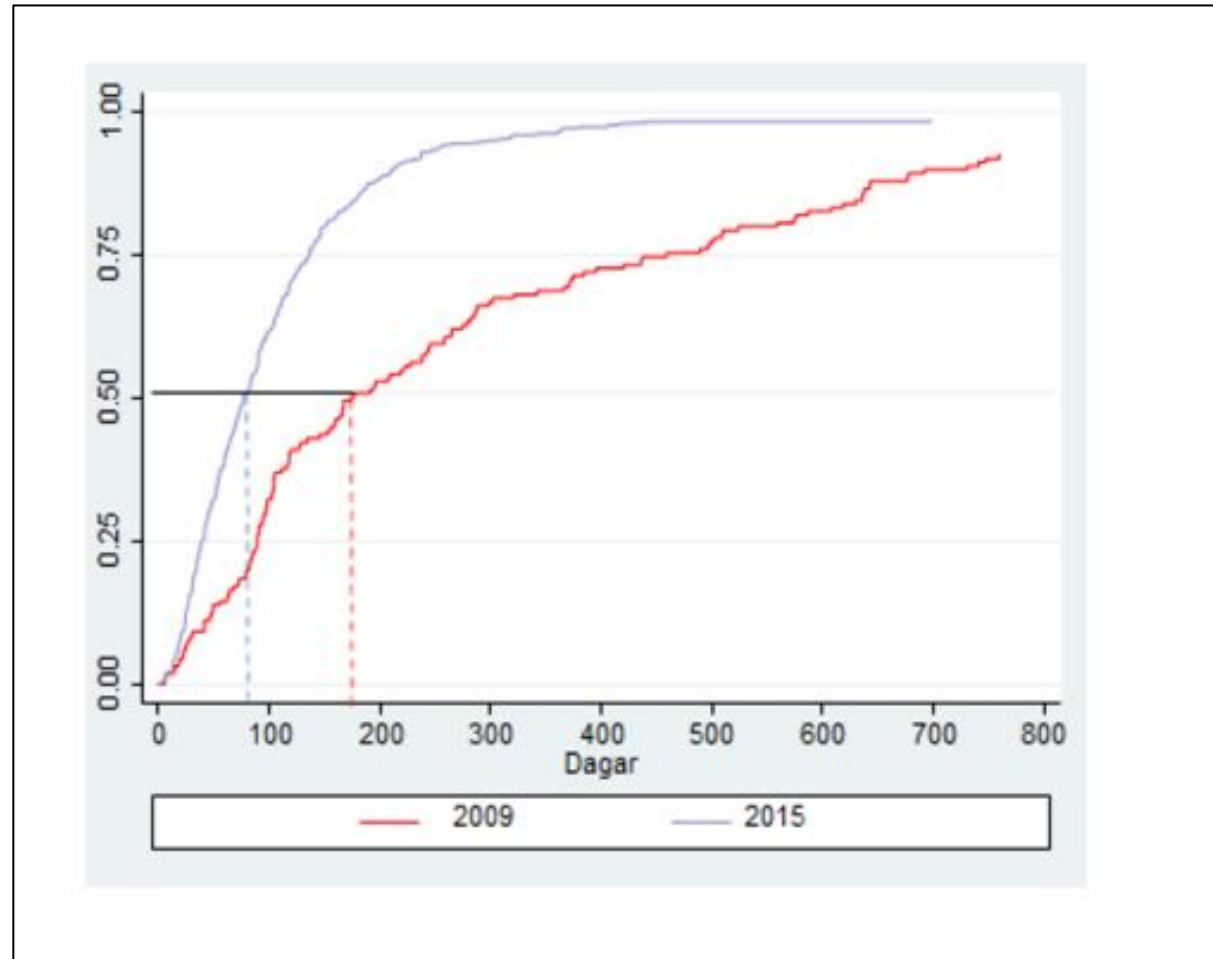
Primary care - 40%

Hospital care - 42%

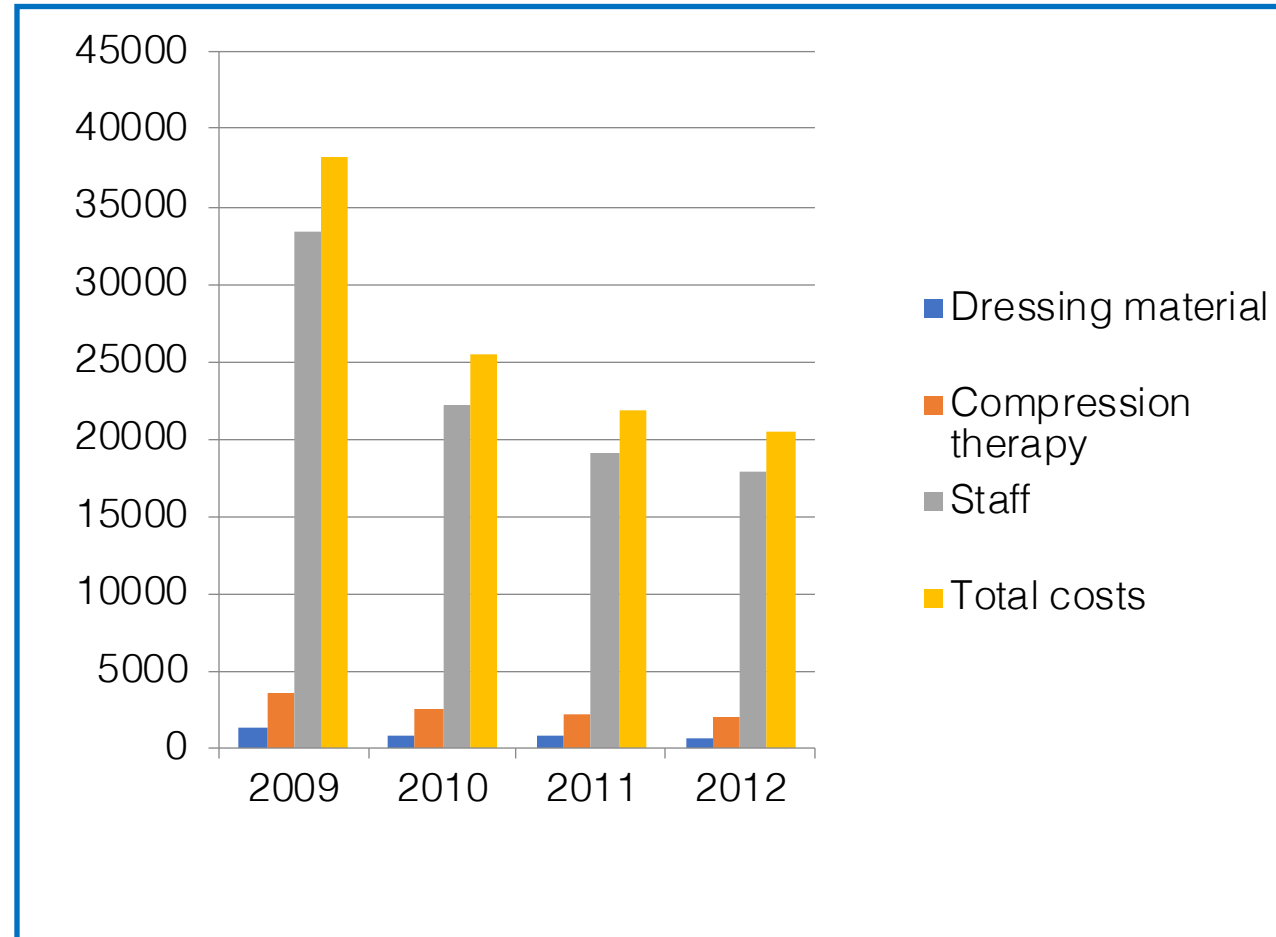
Blekinge Wound Healing Center
County of Blekinge



Significant reduction of ulcer healing time 175 to 74 days



Significant reduction of treatment costs



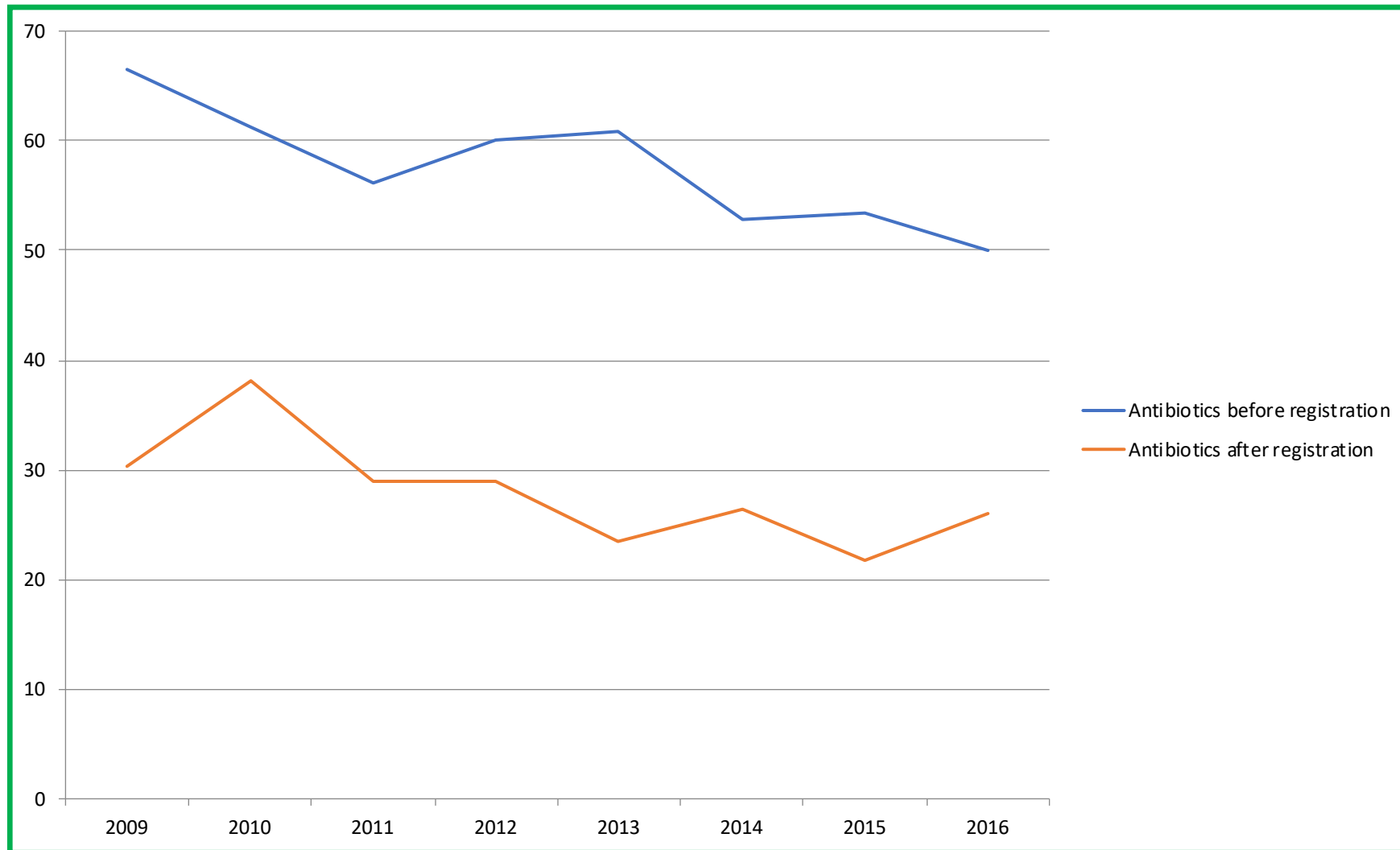
Ref:

Öien RF, Forssell H, Ragnarson Tennvall G. Cost consequences due to reduced ulcer healing times - analyses based on the Swedish Registry of Ulcer Treatment.

Int Wound J. 2015 Jun 30. doi: 10.1111/iwj.12465. [Epub ahead of print]

Öien RF. Mall för omhändertagande minskade kostnader för svårläkta sår. Läkartidningen. 2015;112:DL71 Lakartidningen.se 2015-07-24

Antibiotic treatment before and after registration in RUT 2009 - 2016



Diabetes and ulcers in RUT



Number of registered patients with diabetes and foot- or leg ulcers

1/10 2015 – 1/10 2018

- 601 patients
- 743 ulcers

Total in the registry during same period

- 1980 patients
- 2527 ulcers



Ulcer healing time

- Healing time all patients with diabetes and foot ulcer
 - 196 days
- Ulcers with neuropathic etiology
 - 254 days
- Ulcers with arterial etiology
 - 253 days

Selection of Publications

Öien RF, Ragnarson Tennvall G. Accurate diagnosis and effective treatment of leg ulcers reduce prevalence, care time and costs. *J Wound Care* 2006;15:259-262.

Ragnarson Tennvall G, Hjelmgren J, Öien R. The cost of treating hard-to-heal venous leg ulcers: results from a Swedish survey. *World Wide Wounds*
<http://www.worldwidewounds.com/2006/november/Tennvall/Cost-of-treating-hard-to-heal-venous-leg-ulcers.html>

Öien RF, Negative Pressure Wound Therapy. *World Wide Wounds* December 2010,
www.worldwidewounds.com.

Oien RF, Akesson N. Bacterial cultures, rapid strep test, and antibiotic treatment in infected hard-to-heal ulcers in primary care. *Scand J Prim Health Care* 2012 Dec;30(4):254-8.

Oien RF, Akesson N, Forssell H. Assessing quality of life in patients with hard-to-heal ulcers using the EQ-5D questionnaire. *J Wound Care* 2013 Aug;22(8):442-7.

Rut F Öien, Henrik W Forssell. Ulcer healing time and antibiotic treatment before and after the introduction of the Registry of Ulcer Treatment: an improvement project in a national quality registry in Sweden. *BMJ Open* 2013, 3:e003091. doi:10.1136/bmjopen-2013-003091.

Öien RF, Weller CD. The Swedish national quality Registry of Ulcer Treatment (RUT): How can "RUT" inform outcome measurement for people diagnosed with venous leg ulcers in Australia? *Wound Practice & Research* 2014;22(2):74-77

Butler E, Oien RF, Lindholm C, Olofsson TC, Nilson B, Vasquez A. A pilot study investigating Lactic acid bacterial symbionts from the honeybee in inhibiting human chronic wound pathogens. *Int Wound J* 2014, Sep 8. doi:10.1111/iwj.12360.

Akesson N, Oien RF, Forssell H, Fagerström C. Ulcer pain in patients with venous leg ulcers related to antibiotic treatment and compression therapy. *Br J Community Nurs* 2014, Sep;19(9 Suppl):S6-S13. doi:10.12968/bjcn.2014.19.Sup9.S6

Harding K, et al. Simplifying venous leg ulcer management. Consensus recommendations. *Wounds International* 2015. www.woundsinternational.com

Öien RF, Forssell H, Ragnarson Tennvall. Cost consequences due to reduced ulcer healing times - analyses based on the Swedish Registry of Ulcer Treatment. *Int Wound J*. 2016 Oct;13(5):957-62.

Pokorna A, Öien RF, Forssell H, Lindholm C. International cooperation for prevention and healing of pressure ulcers is challenged by the lack of national registries. *Cesk Slov Neurol N* 2016; 79/112 (Suppl 1): 20-24

Wickström HL, Öien RF, Fagerström C, Anderberg P, Jakobsson U, Midlöv P. 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 Feb 15;8(2):e017623. doi: 10.1136/bmjopen-2017-017623

National Virtual Center of Excellence

- Difficult patients/ulcers
- Equal care
- Share knowledge



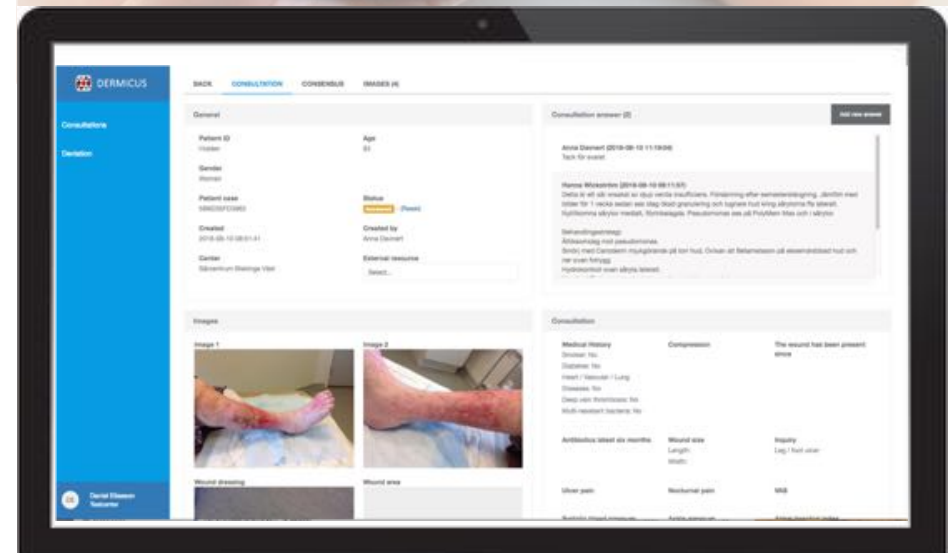
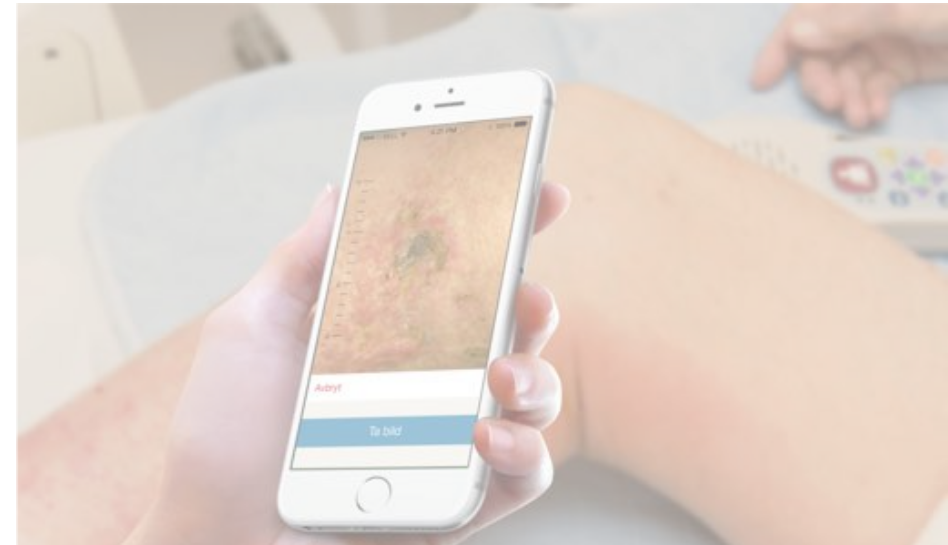
Can a decision support system help?

- Identify as soon as possible - get fast treatment
- Facilitate multi-disciplinary collaboration
- Sometimes lack of competence locally

- AI functionality and data supported advice in the future

Digital Decision Support System

- To be used during treatment
- CE-certified platform & mobile app
- Easy and secure way of collect data & photos
- Educational features
- Facilitates multidisciplinary collaboration
- Platform for Center of Excellence



Trying different scenarios today

1



Internally

2



Wound specialist



Internally + by invitation

3



PC



Wound specialist



Home care +
Primary care +
Wound specialist

4



Orthopedist



Diabetes nurse

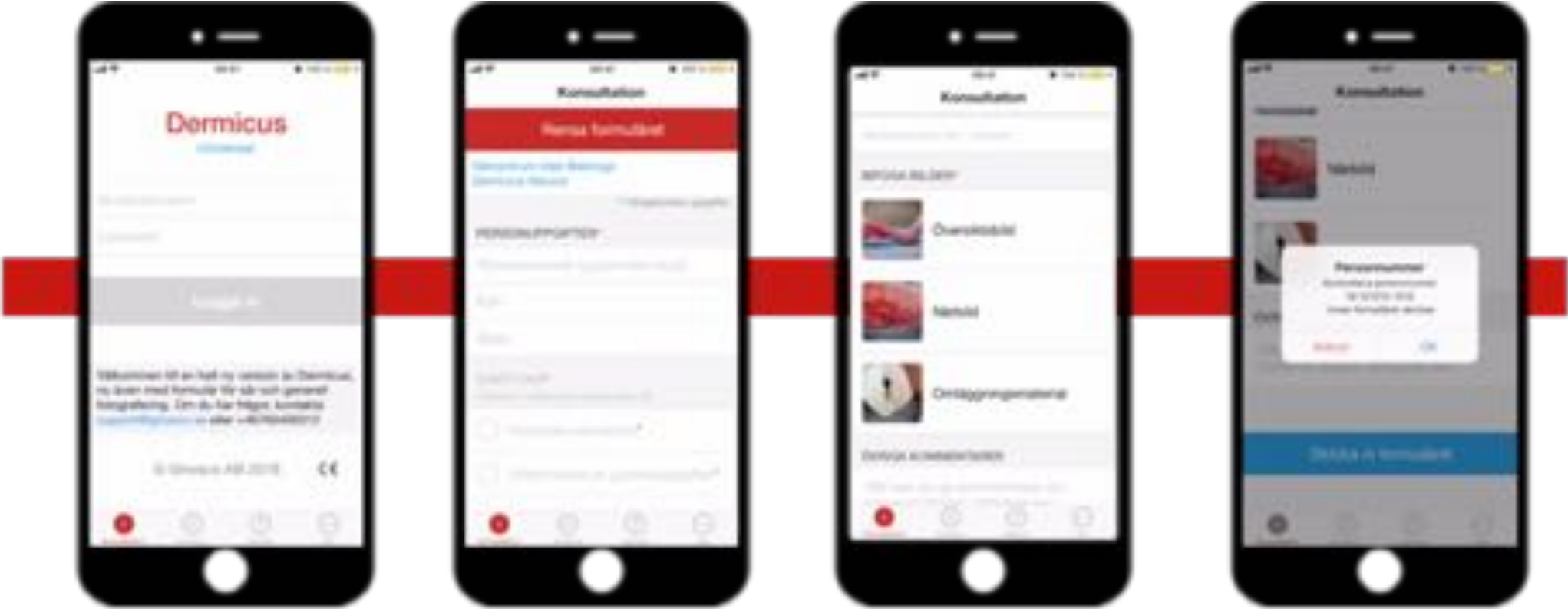


Foot therapist



Complete multi-disciplinary team

Secure Mobile application



Login

Enter patient-ID and ulcer information

Photograph ulcer and dressing material

Send and store securely, and share with other specialists

Overview

DERMICUS		Case number	Status	Product	Patient ID	Created	Created by	Center	Consultation report	Consensus
Consultations		5539CAB63461	New	Wound	Hidden	2018-07-02	AD	Sårcentrum Blekinge Väst		
Deviation		5596028E3963	New	Wound	Hidden	2018-09-10	PT	Norrålsje Norra VC Toflundra		
		55D2D4F83963	Answered	Wound	Hidden	2018-10-26	EK	HC Krokum	2018-10-26	
		55A4A4DE3963	Answered	Wound	Hidden	2018-09-21	EK	HC Krokum	2018-09-24	
		55C494E83963	New	Wound	Hidden	2018-10-15	EP	Vlära Vårdcentral		
		55D2C58D3963	Answered	Wound	Hidden	2018-10-26	EK	HC Krokum	2018-10-26	
		55C495D93963	New	Wound	Hidden	2018-10-15	EP	Vlära Vårdcentral		
		55A4ACB23963	Answered	Wound	Hidden	2018-09-21	EK	HC Krokum	2018-09-21	
		55B5DC4C3963	New	Wound	Hidden	2018-10-04	NA	Testcenter		NO
		55C585E43963	Answered	Wound	Hidden	2018-10-16	EK	HC Krokum	2018-10-16	
		55C597E63963	Answered	Wound	Hidden	2018-10-16	EK	HC Krokum	2018-10-22	
		55C5A4DA3963	Answered	Wound	Hidden	2018-10-16	EK	HC Krokum	2018-10-17	
		55214E5A3963	New	Wound	Hidden	2018-06-13	NA	Testcenter		
		5597781A3963	Answered	Wound	Hidden	2018-09-11	EP	Vlära Vårdcentral	2018-09-11	
		559778D83963	Answered	Wound	Hidden	2018-09-11	EK	HC Krokum	2018-09-17	



Daniel Eliasson
Testcenter

All in one page

Browser address bar: <https://app.dermicus.com/wounds/18054/edit>

DERMICUS

Navigation: BACK | CONSULTATION | CONSENSUS | IMAGES (15)

Left sidebar: Consultations | Deviation

Bottom left: Daniel Eliasson, Team leader

General

Patient ID: Håller	Age: 75
Gender: Woman	Status: Injured (Final)
Patient name: SICKO802003	Created by: Emil Kristiansen
Created: 2018-10-30 08:31:26	External resource: Search...
Center: HÖ Rådum	

Consultation answer (2)

Linda Jervid (2018-10-30 15:37:17)
ok

Emil Kristiansen (2018-10-30 15:32:18)
Det gick bra att ta, bra till och ingen konstig kurva, lätt att bedöma
Ingen ömhet vid tryck nu. Får börja med kompression när tryck har bekräftat sig trycket. (Påde ju till en inner, så jag vill att de tar för säkerhets skull nu i början)

Linda Jervid (2018-10-30 16:37:12)
OK, normalt värde. Dock det bra att ta? Minskar inte såret fortsatt?

[Add new answer](#)

Images



Image 1: 

Image 2: 

Consultation

Medical History Smoker Diabetes Heart / Vascular / Lung Dizziness Deep vein thrombosis Multi-resistant bacteria	Compression The wound has been present since	Antibiotics latest six months	Wound size Length	Inquiry
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Multi-disciplinary dialog

Consultation answer (2) Add new answer

Anna Davnert (2018-08-10 11:19:04)
Tack för svaret

Hanna Wickström (2018-08-10 09:11:57)
Detta är ett sår orsakat av djup venös insufficiens. Försämring efter semesterstängning. Jämfört med bilder för 1 vecka sedan ses idag ökad granulering och lugnare hud kring sårytorna ffa lateralt. Nyttikomna sårytor medialt, fibrinbelagda. Pseudomonas ses på PolyMem Max och i sårytor.

Behandlingsstrategi:
Ättiksomsilag mot pseudomonas.
Smörj med Canoderm mjukgörande på torr hud, Ovixan alt Betametason på eksemdrabbad hud och ner ovan fotrygg.
Hydrokontroll ovan såryta lateralt.

Change over time

DERMICUS

BACK CONSULTATION CONSENTS IMAGES (12)

58C5A40A3863 (2018-10-18 10:42:42)

58C064752863 (2018-10-12 11:08:08)

58C06A213863 (2018-10-08 10:49:37)

58C07294

Consultations

Deviation

Overview image

Close-up image

Wound dressing

Overview image

Close-up image

Wound dressing

Overview image

Close-up image

Wound dressing

Overview image

Close-up image

Wound dressing

DERMICUS

David Elliott
Twitter

The screenshot displays a web interface for a medical image gallery. On the left is a blue sidebar with the 'DERMICUS' logo and navigation options: 'Consultations' and 'Deviation'. At the bottom of the sidebar is a circular icon and the text 'David Elliott Twitter'. The main content area shows a grid of images organized into three columns, each representing a different date. The first column is for 2018-10-18, the second for 2018-10-12, and the third for 2018-10-08. Each column contains three rows of images: 'Overview image' (showing a patient's arm with a wound), 'Close-up image' (showing the wound in detail), and 'Wound dressing' (showing the wound covered with a dressing). The images show a clear progression of the wound's state over time, with the wound appearing to be treated and managed.

Seeking collaboration for further studies
and development



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