these results call into question the need to include CPG experts with COI.

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Development and implementation of an order set to improve value of care for patients with severe stasis dermatitis

To the Editor: Stasis dermatitis is often confused with bilateral cellulitis. Patients with severe disease might be admitted to a hospital, resulting in annual spending of $195-$515 million due to unnecessary hospital stays and antibiotic treatment.[1]

In this mixed methods study, 27 patients admitted for stasis dermatitis were interviewed. They complained of itch, pain, and drainage and had seen an average of 6.96 doctors each for this condition. Gradient compression stockings and bandages are the most effective therapy,[2] and 25 of 27 patients had previously been instructed to wear them. However, most did not believe that stockings were an effective therapy. Many reported they could not obtain stockings or don them.

The patient interviews guided the design of an order set for stasis dermatitis (Table I) that bundled consultations, including physical therapy evaluation for the ability to don a properly fitted stocking, and patient education. We conducted focus groups with inpatient providers to refine the order set. We learned that providers did not consider dermatologic consultation when admitting a patient for lower extremity inflammation.

In 2017, we implemented use of the order set at the flagship hospital of our integrated health system. Patients who did not have the order set used during admission were used as controls to augment the historical 2016 controls. The order set was titled stasis dermatitis and also nested in the cellulitis order set, visible if choosing lower extremity with history of chronic edema without fever or leukocytosis.

Before and after implementation, we measured the outcomes of readmission, length of stay, and cost. Analysis of 42 patients identified before and 37 patients after implementation demonstrated that use of the order set was associated with significantly fewer instances of readmission. There was no increase in cost compared with expected cost with use of the order set, and there was a trend toward decreased cost in patients without major comorbidities. There was no change in length of stay (Table II). Compression stockings were unavailable to inpatients before we implemented our order set. After we implemented the order set, 55% of patients received a physical therapy consultation and were discharged with stockings.

We found that the orders for leg elevation, compression bandages, the patient education EMMI module (Wolters Kluwer, Chicago, IL), brochure, and patient testimonial video were used ≥90% of the time when the order set was opened. Dermatology or vascular medicine consultation was requested in only 10% of patients.

Order set usage continued beyond the roll-out and evaluation period. Previous studies showing benefit of dermatologic consultation prompted by study staff[3-5] might be less sustainable.

Table I. Summary of default orders in stasis dermatitis order set

Order	Target	Intent	Resources needed
Instructions for application of gradient compression bandages (Tubigrip, Molnlyke, Gothenburg, Sweden)	Nurses	Begin decongestion of swollen leg immediately upon admission	Controlled-access computer drive accessible to providers to house information on Tubigrip and compression stockings referenced in order set
Instructions to apply Unna (paste boot)	Wound care team	Begin decongestion of leg for patients with ulcers	Supplies
Physical therapy consult timed for day 3	Physical therapy	Allow fitting for stocking after swelling has decreased; at same visit, assess need for donning aides or home physical therapy for strengthening or home care aide	Availability of compression stockings
Reminder to substitute for medications that contribute to leg swelling	Ordering providers	Medications such as amlodipine are associated with stasis dermatitis	None
Consultations: Dermatology and Vascular Medicine	Ordering providers	Provide indications for consultations. Derm: confirmation of diagnosis, assess for complications eg, autoeczematization and allergic contact dermatitis; Vascular Medicine: inadequate capillary refill before or after initial compression or failure of compression to control edema	Consulting services
Watch the EMMI patient education Compression Stockings module (https://www.emmisolutions.com/) on in-room television	Nurse to assist patient	Patient education about venous stasis, how to don stockings, tips for caregivers	Commercially available patient education learning modules
View the testimonial of a patient	Nurse to assist patient	The patient articulated his initial skepticism and the challenges of donning stockings and explained his gradual recovery.	Willing patient; videographer
Supply education brochure and list of local medical supply houses selling compression stockings	Nurse discharge education for patient	Reinforce education obtained from providers and EMMI module	See example materials at doi: 10.17632/hzx22yb7n2.1
Postdischarge follow-up appointments	Ordering providers	Indications for specialty appointments, eg, dermatology for persistent itch and vascular medicine for persistent lower extremity pain	

Table II. Demographics, initial length of stay, and 60-day readmission for study groups

Category	2016, Control period	2017, Order set available for use and not used	2017, Order set used*
n	42	9	23
Mean age, y	66.0	67.6	66.6
Sex, male, n (%)	19 (45.2)	6 (66.7)	12 (52.2)
Race, white, n (%)	19 (45.2)	6 (66.7)	17 (73.9)
Initial admission length of stay in hours, mean; median	125; 85	178; 149	156; 113
Readmission within 60 days, n = readmission/discharges, (%)†	17/74 (20.27)	3/16 (18.75)	1/24 (4.17)
Admissions without major comorbidities, n (%, actual over expected cost ± SD)‡	23 (14.73 ± 61.20)	3 (−32.46 ± 8.33)	7 (−14.28 ± 40.53)

SD, Standard deviation.
*Includes 4 redundant patients due to 2017 readmission from 2016.
†$P = .039$ in 1-tailed testing using multivariable logistic regression model after adjustment for age 60 y attained, sex, and race (white, nonwhite). Excludes 1 outlier patient first admitted in 2016 with 17 readmissions.
‡Expected cost was <$6500.00 on the basis of 2016 average reimbursement for diagnosis-related group 299 (peripheral vascular disorders).

This study is limited by implementation at a single tertiary center. However, improved value with use of our order set despite low usage of dermatologic and vascular medicine consultations suggests effectiveness even in hospitals lacking dermatologic and vascular medicine consultants. Given the slight decrease in readmissions in 2017 in our control group, institutional initiatives to limit readmission for comorbidities might also confound our results. Materials for the order set and tools developed for this study are freely available at doi: 10.17632/hzx22yb7n2.1.

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Sunburn prevalence among US adults, National Health Interview Survey 2005, 2010, and 2015

To the Editor: Sunburn is a biologic indicator of acute overexposure to ultraviolet (UV) radiation, and sunburn at any age is associated with an increased risk for melanoma.[1] Tracking changes in the national prevalence of sunburn over time can provide insight to our nation's progress toward increasing adequate