

It is critical for collegiate athletics to create a culture that emphasizes and prioritizes sunscreen use. Previous studies have shown that coach encouragement, sunscreen accessibility, and education significantly increased sunscreen use among student athletes.<sup>3-5</sup> A comprehensive program emphasizing these measures with daily sunscreen habit tracking should be studied to determine if the inclusive approach serves as an effective means of increasing sunscreen use by collegiate athletes.

Sunscreen application significantly increased when athletes had access to daily electronic habit tracking; these results highlight a contemporary way to improve sun protective behaviors among NCAA athletes.

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## National trends in free public sunscreen dispensers



*To the Editor:* In 2014, the US surgeon general called for increased opportunities for sun protection in outdoor settings.<sup>1</sup> One response to this call was the implementation of free community sunscreen dispensers. IMPACT Melanoma, a national nonprofit organization dedicated to skin cancer prevention, has facilitated installation of such dispensers nationwide since inception of their Practice Safe Skin program in 2015. Although public receptiveness to free sunscreen has been previously highlighted,<sup>2</sup> little information exists regarding sunscreen dispenser deployment. We performed a retrospective analysis of IMPACT Melanoma's distribution records from January 2017 to August 2019. Analyzed data included requisitions for dispensers, sunscreen, and associated messaging displays, in addition to sponsor characteristics and funding sources.

Results demonstrated that the cumulative product distributed during the 32-month timeframe amounted to a total of 1,558 dispensers and 2,186 cases (8,744 L) of sunscreen (Table 1). Distribution by state revealed that New Hampshire, Wyoming, and Massachusetts received the most Impact Melanoma—distributed dispensers per capita, followed by Rhode Island and Vermont (Fig 1). During the study, the percentage of chemical sunscreen ordered steadily decreased, which we hypothesize may reflect recent public concern about use of chemical ingredients. The percentage of mineral sunscreen ordered also declined, whereas the percentage of hybrid sunscreen ordered increased significantly. According to IMPACT Melanoma, the mineral product's propensity to clog dispensers and perceived lack of cosmetic elegance may explain sales trends. Schools and universities sponsored less than 6% of products each year, suggesting educational institutions as an area for improved early intervention. The percentage of product donated to sponsors by IMPACT Melanoma diminished over time and was replaced by purchases and grants, which reflects stakeholder buy-in and speaks to the sustainability of such programs.

Emerging themes from the recent Interdisciplinary Perspectives on Skin Cancer meeting include the need for nuanced messages for at-risk populations

**Table I.** IMPACT Melanoma requisition data by year, January 2017 to August 2019

IMPACT Melanoma requisition datum element	Year 2017	Year 2018	Year 2019 (Jan–Aug)	Time period Jan 2017 to Aug 2019
Dispenser unit, No.				
Dispensers ordered	667	564	327	1558
Adjunct displays	NA*	93	63	156
Cases of sunscreen, † No. (%)‡				
Chemical§	659 (83.7)	702 (68.2)	172 (46.6)	1533 (70.1)
Mineral	128 (16.3)	184 (17.9)	24 (6.5)	336 (15.4)
Hybrid¶	NA	144 (14.0)	173 (46.9)	317 (14.5)
Total	787	1030	369	2186
Funding source, % product‡				
Donated by IMPACT Melanoma	31.3	28.4	1.4	
Purchased by sponsor	68.7	38.5	92.5	
Grants	0.00	33.1	6.2	
Sponsor type, % product‡				
Healthcare org	11.4	9.3	12.3	
Local government	14.1	2.7	3.7	
Nonprofit org	8.9	10.0	11.7	
Parks and rec	40.4	40.6	25.8	
Private business	9.6	18.8	8.3	
Public health dept	7.2	5.2	27.3	
School/university	4.5	5.7	2.8	
Other	3.9	7.6	8.1	

Aug, August; dept, department; Jan, January; NA, not available; org, organization; rec, recreation.

\*Product not offered by company in a given year.

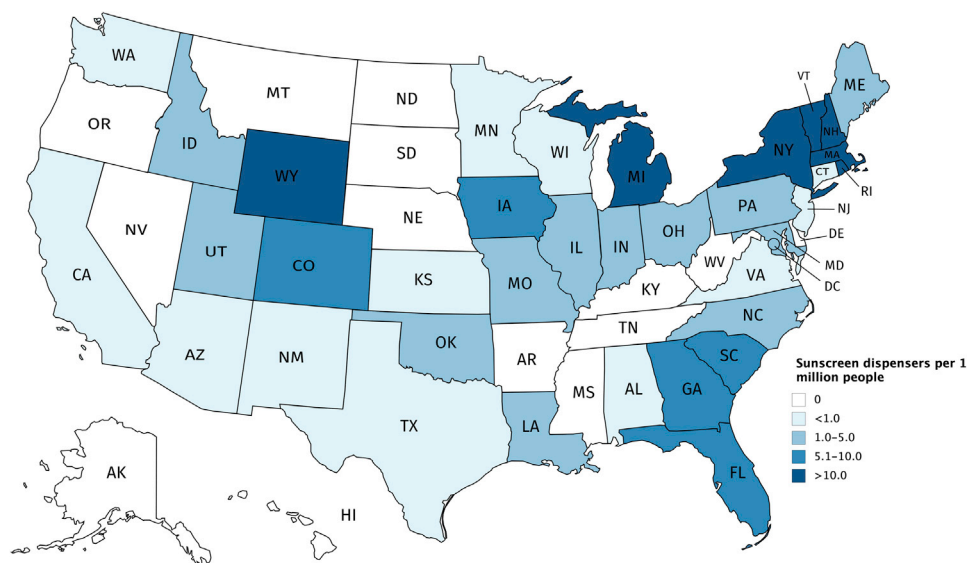
†Case contains 4 individual 1-L bags of sunscreen.

‡Percentages may not add up to 100.0% because of rounding.

§Chemical: Coppertone Sport Sunscreen (active ingredients: avobenzone 3%, homosalate 8%, octisalate 4.5%, and octocrylene 6%).

||Mineral: BrightGuard Natural Sunscreen (active ingredients: titanium dioxide 6% and zinc oxide 6%).

¶Hybrid: Hybrid Sport Sunscreen (active ingredients: octyl methoxy cinnamate 7%, titanium dioxide 1.25%, zinc oxide 1.25%, and octyl salicylate 1.0%).



**Fig 1.** Number of sunscreen dispensers per 1 million people, distributed by Impact Melanoma by state, January 2017 to August 2019.

and creation of scalability for sun safety interventions.<sup>3</sup> Sunscreen dispensers provide opportunities for targeted messaging to low-use groups (eg, men, skin of color, low income)<sup>4</sup> and the potential for widespread increases in sunscreen use. A 2018 study modeling a 5% yearly increase in prevalence of sunscreen use from 2012 to 2022 estimated that cumulatively to 2031, 231,053 fewer melanomas would be diagnosed in the US white population; this illustrates the conceivable benefit from large-scale initiatives such as community dispenser programs.<sup>5</sup>

Study limitations include data that did not comprise 2015 and 2016 requisitions and were limited to a single organization; thus, the total number of dispensers and amount of sunscreen used nationwide are higher. Additionally, sunscreen distributed serves as a surrogate measure for use and does not necessarily indicate exact usage patterns.

Despite recent trends in dispenser implementation, further investigation is required to determine effects on photoprotective perceptions and behavior. Future research should assess value as a population health initiative by quantifying use, evaluating effect on specific user subgroups, and providing estimates of skin cancers prevented. Our observations highlight the increasing prominence of free sunscreen dispensers and discuss their potential utility in primary skin cancer prevention.

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#### **Collodion babies: A 15-year retrospective multicenter study in The Netherlands—Evaluation of severity scores to predict the underlying disease**



*To the Editor:* The clinical phenotype of a collodion baby can be caused by many ichthyosis subtypes of different severities. When genetic analysis is not possible or when diagnosis is unknown, clinical evaluation is essential to identify the more severe syndromic subtypes of ichthyosis in which other organ systems besides skin can be affected. Rubio-Gomez et al<sup>1</sup> proposed a clinical scoring system based on collodion phenotype based on 15 characteristics and concluded that an extensive collodion membrane was predominantly related to a non-syndromic ichthyosis. The current study evaluated this collodion severity scoring system on its applicability. A 15-year retrospective multicenter study (January 2000 through January 2015) was conducted among 3 academic centers in The Netherlands. A total of 23 collodion babies were included. Details of the collodion membrane were scored according