Unequal Access to Sun Protection: Disparities in Sunscreen Availability in Wisconsin

To the Editor:

Skin cancer, including basal cell carcinoma, squamous cell carcinoma, and melanoma, is the most common form of cancer in the United States.[1] Fortunately, effective sun protection can reduce the risk--especially for melanoma, the deadliest type.[1] In Wisconsin, rural residents make up 26% of the population and are particularly vulnerable to sun damage, especially those in high-risk occupations like farming.[1-3] Despite this heightened risk, sunscreen use remains suboptimal in rural communities.[2,3]

Rural communities often struggle with sunscreen accessibility due to barriers in education, diagnosis, and socioeconomic status.[2] Our research aimed to quantify these disparities by evaluating sunscreen availability, affordability, and geographic accessibility in urban and rural Wisconsin counties.

We surveyed sunscreen products online from Banana Boat, Neutrogena, CeraVe, and Cetaphil at Walmart, Target, Walgreens, and CVS in 9 urban and rural counties in Wisconsin (Figure).[4] Product availability and price per fluid ounce were compared. Geographic accessibility was assessed by measuring the distance from each retailer to the nearest city center. Data analysis included the Mann-Whitney U test and Shapiro-Wilk normality test.

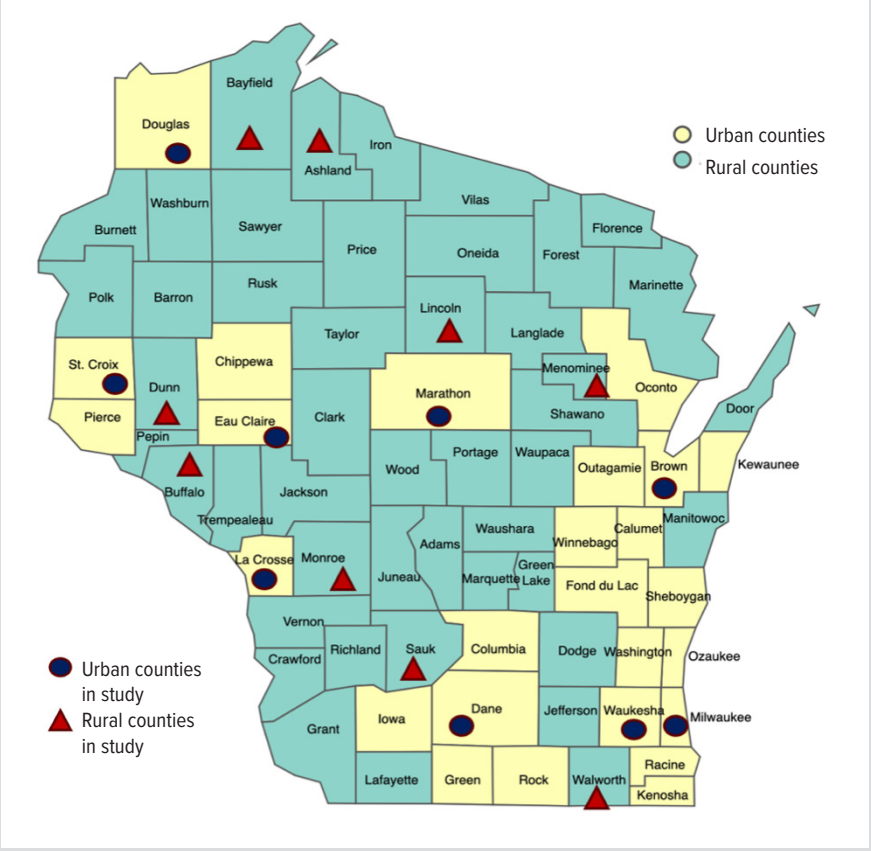
Results show significant disparities in sunscreen availability between urban and rural locations (Table). Urban retailers stocked 288 out of 413 surveyed products, while rural retailers offered fewer options (eg, Sauk County: 19 products vs Dane County: 40 products, 47.5% of urban selection). Menominee, Buffalo, and Bayfield counties had no sunscreen products due to the absence of retail stores. Walmart carried the greatest number of overall products, while CVS carried the fewest. This coincides with geographic accessibility as CVS showed the largest disparity (7 urban stores vs 1 rural store). The average cost per fluid ounce of sunscreen was similar in urban ($5.70) and rural ($5.32) areas ($P = 0.598$). However, rural residents had a lower median household income ($68,699) compared to urban ($80,622), limiting their purchasing power and furthering disparities.[5] Rural counties

Table 1. Comparison of Product Availability, Pricing, and Socioeconomic Factors Across Select Rural and Urban Wisconsin Counties[5]

Setting	County	Product Availability	Price per Ounce	Distance (miles)	Income
Rural	Ashland	21	$5.28	35.08	$57,645
Rural	Monroe	16	$4.51	13.75	$68,213
Rural	Walworth	27	$5.64	9.2	$77,359
Rural	Buffalo	0	NA	25.3	$68,722
Rural	Dunn	24	$5.76	10.03	$71,785
Rural	Lincoln	18	$5.46	18.78	$67,726
Rural	Sauk	19	$4.49	9.13	$77,648
Rural	Menominee	0	NA	40.18	$59,528
Rural	Bayfield	0	NA	42.15	$69,609
Urban	Eau Claire	39	$5.72	3.63	$71,834
Urban	Lacrosse	26	$5.16	5.08	$70,704
Urban	Milwaukee	31	$5.65	6	$62,118
Urban	Waukesha	39	$5.90	2.25	$104,100
Urban	St. Croix	30	$5.39	2.25	$102,482
Urban	Dane	40	$6.18	1.65	$88,108
Urban	Marathon	33	5.63	12.6	$761,185
Urban	Brown	28	$5.72	3.4	$77,490
Urban	Douglas	22	$5.76	12.35	$72,579

Summary of product availability, average price per fluid ounce, distance from the city center to retail store in mile, and median household income per county. Counties are categorized into 2 county settings: urban and rural.

Figure 1. Visualization of Urban and Rural Counties in Wisconsin



averaged 22.62 miles to a large retailer, compared to 5.44 miles in urban counties, increasing travel burdens.

Limited product availability, diminished income, and greater travel distances impede sun protection efforts among rural populations. Addressing these disparities include policy initiatives to enhance product accessibility, incentivize retailer participation, and raise awareness about the importance and proper application of sunscreen.

Limitations include variations of online versus in-store pricing, exclusion of small retailers, and cross-sectional nature of data collection. Future research includes expanding to other states and monitoring product availability and pricing throughout all seasons.

—Simran Kaur, MD; Eva M. Shelton, MD; Alexa Figueroa Baiges, BS; Janmesh D. Patel, BS; Yaohui Gloria Xu, MD, PhD

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Hidden Bias in EMR Flagging Systems: A Call for Standardization

To the Editor:

Yass et al's article[1] on electronic medical record (EMR) flagging and its association with patient demographics and psychiatric medication use in a recent issue of *WMJ* is intriguing. It found that Black male patients and those prescribed psychotropic medications were more likely to receive "vulnerable/unsafe behavior" flags. This study sheds light on a critical yet underexplored intersection of hospital safety protocols and structural bias. When EMR flagging is not standardized and routinely audited, it may reinforce stigma, particularly disproportionately affecting marginalized populations and resulting in unequal care delivery.

Another study revealed that hospitalized patients from minoritized racial and ethnic groups (eg, Black, Hispanic, and others) had significantly lower levels of EMR engagement compared to White patients at 2 academic medical centers.[2] Clinicians were less likely to perform key EMR actions—such as pending notes, reviewing problem lists, medication records, and scanning barcodes—for these patients, even after adjusting for demographic, socioeconomic, and clinical variables.[2] The presence of stigmatizing language in EMRs can influence the perceptions and prescribing behaviors of resident physicians.[3] It has been associated with more negative attitudes toward patients and less aggressive pain management, highlighting an important yet often overlooked means of bias transmission between clinicians.[3]

Artificial intelligence (AI) has the potential to implement transparent and standardized flagging protocols in EMRs to audit flag use, identify patterns of inequity, and establish real-time feedback mechanisms that alert clinical teams to potential bias.[4,5] This is both a clinical necessity and an ethical responsibility in efforts to reduce health care disparities. Emerging AI applications – particularly those using natural language processing – can be integrated to detect stigmatizing language within clinical documentation and notify clinicians and administrators to help ensure unbiased records.[5] Such interventions may raise awareness of how implicit bias influences communication and contribute meaningfully to advancing equitable care for diverse patient populations.

—Farzana Hoque, MD, MRCP

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