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# Skin Cancer Prevention Comes of Age

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In less than a generation, the newly born field of skin cancer prevention has grown to reach early adolescence. Progress has come none too soon. For decades, the country witnessed seemingly inexorable rises in melanoma incidence,<sup>1</sup> while annually over a million people are diagnosed with basal cell and squamous cell skin cancers.<sup>2</sup>

Epidemiologic evidence has implicated overexposure to ultraviolet (UV) radiation. In 1992, the International Agency for Cancer Research (IARC) summarized as follows: “[T]here is sufficient evidence in humans for the carcinogenicity of solar radiation. Solar radiation causes cutaneous malignant melanoma and nonmelanocytic skin cancer.”<sup>3</sup> Skin cancer is not only the most common but perhaps also the most preventable of all cancers.

In this issue of the *American Journal of Preventive Medicine*,<sup>4</sup> the Task Force on Community Preventive Services renders a valuable service by placing the rapidly accelerating field of skin cancer prevention into a rigorous, broad, community perspective. Skin cancer prevention now formally joins tobacco, physical activity, nutrition, sexual behavior, and other areas as part of the prevention agenda for the Centers for Disease Control and Prevention *Guide to Community Preventive Services*.<sup>5</sup> In this way, the message of *Healthy People 2010* is reinforced: “[T]he health of the individual is almost inseparable from the health of the larger community.”<sup>6</sup>

The rich array of potential interventions reviewed in the current report underscores that prevention can be resourceful and imaginative, not staid. Over recent years, researchers have generated prevention strategies across multiple sites and throughout the life span, in recognition of the ubiquity of the exposure. Now, the Task Force on Community Preventive Services (the Task Force) offers a structured analysis organized by type of intervention (individual directed, environmental and policy, media campaigns, and community-wide multicomponent interventions) and then further subdivides the individual-directed efforts by specific settings (child care settings, primary schools, secondary schools and college, recreation and tourism sites, occupational settings, and healthcare system and provider

settings). Through this vibrant organizational lens, the Task Force clarifies the collective impact of several hundred studies by summarizing evaluations in each of these areas in terms of relevance of outcomes, numbers of studies, consistency of results, and overall weight of evidence.

The Task Force concludes that current education and policy approaches to increasing sun-protective behaviors were effective when implemented in primary schools and recreational or tourism settings. Demonstrating efficacy in these two arenas (“schools and pools”) offers many lessons for public health. Given that at least a quarter of one’s UV exposure typically occurs during childhood and that much behavior is instilled at an early age, primary school interventions represent an opportunity that can last a lifetime.<sup>7</sup> Many groups can partner (parents, teachers, counselors, and other caregivers) to implement multiple approaches (didactic education, instructional and interactive activities, and environmental and policy approaches). Furthermore, the message of skin cancer prevention can be readily integrated into other aspects of formal education and learning (e.g., school nurses and teachers spearheading discussions questioning the “virtue” of tanned skin). Meanwhile, the efficacy of interventions in recreational or tourism settings, such as recreational pools and beaches, represents opportunities for prevention at a time of peak exposure. Integrating existing activities represents a practical thematic approach to begin to change the social norm.

As the field matures, we may soon document efficacy, which is currently lacking, for interventions in many other settings. For example, the child care center setting should be one arena in which policy approaches may potentially heighten protection for vulnerable children at a susceptible time. Greater attention to issues such as intensity of intervention and length of follow-up could fulfill the unrealized promise of community-wide interventions. Like all young fields, the discipline of skin cancer prevention needs more scientific sophistication in critical areas such as study design, quality of interventions, reliability and validity of key behavioral and health outcomes, analytic methods, and replication of results. We also desperately need more fundamental understanding of why people embrace, or avoid, sun-protective behaviors. Hopefully, future Task Force reports will update progress made and results achieved on all fronts.

In the meantime, as in so many other areas in public

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health, the field of skin cancer prevention faces much uncertainty. Nevertheless, we must proceed today while awaiting better information that should come tomorrow. Offering some practical guidelines now while we await definitive proof of efficacy is necessary, given the documentation of continued high childhood sunburn rates, low rates of sun-protective behaviors in youth, and little visible forward momentum about adult skin cancer prevention behaviors.<sup>8,9</sup> Individuals can practice at least one of the protective measures that should reduce skin cancer: minimizing sun exposure between 10 A.M. and 4 P.M., wearing sun-protective clothing as appropriate, using sunscreens with a sun-protection factor (SPF) of  $\geq 15$ , and avoiding artificial sources of ultraviolet light. Greater attention to policies that prompt, support, and enhance such behaviors may advance national efforts to reach *Healthy People 2010*<sup>6</sup> goals. Integrating these prevention messages into existing educational efforts, as has been initiated in primary schools and recreational settings noted above, may well be the best long-term strategy to achieve sustainability.

In short, an ounce of prevention may be a ton of work. Prevention sounds easy, but it's not. Yet despite major challenges, public health can celebrate that the young field of skin cancer prevention has begun to crystallize as a discipline. Community-wide efforts that have successfully embraced a number of the tested recommendations offer promise for future randomized trials to test the efficacy of a multiple reinforcement approach.<sup>10</sup> To develop the field even further, we can look to other sources for guidance and expertise, including the skin cancer prevention campaigns in Australia,<sup>11</sup> as well as media efforts to denormalize tobacco use in the United States and elsewhere.<sup>12</sup> While it may be at least several more generations before the field enters full maturity, accelerated research in skin cancer prevention has broadened our community per-

spective of public health and raised exciting possibilities for the future.

For a society that has watched melanoma and skin cancer rates climb for too long, the landmark Community Task Force report offers the promise to protect populations now and for the future. Building on this foundation of prevention may well prove to be a life-saving enterprise for generations to come.

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