

Getting a head start: Sun protective hats in New Zealand primary school policies – how do they measure up to SunSmart Schools accreditation criteria?

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Abstract.

Introduction

New Zealand (NZ) has the highest overall age standardised cutaneous malignant melanoma incidence rate in the world, (International Agency for Research on Cancer 2013) yet most skin cancers are potentially preventable through avoidance of harmful levels of ultraviolet radiation exposure (UVR) (Armstrong 2004). Early life UVR exposure and sun protection practices contribute to subsequent skin cancer risk. (Whiteman et al. 2001) It is particularly appropriate, therefore, that schools follow evidence-based, skin cancer primary prevention programmes, as recommended by the WHO (World Health Organization 2003). The NZ SunSmart Schools Accreditation Programme (SSAP) was implemented, nationally, in 2005 (Reeder et al. 2009). Sun protection policies are operational during terms 1 and 4, when solar ultraviolet radiation levels are most intense. There is some evidence that schools with such policies also have superior sun protective practices (Jones et al. 2008). The drafting of sun protection policy also represents an acknowledgement that a need exists to address the issue of skin cancer primary prevention and implies a commitment to action and the seeking of solutions. Policy criteria provide measures for monitoring progress towards meeting policy guidelines. Hat wearing is an important preventive strategy, in particular, as skin cancers frequently occur on highly sun exposed areas of the head and neck, where surgical treatment can be invasive and visible.

The SSAP defines 12 minimum criteria, two of which concern student hat wearing. First, when outdoors during intervals, lunchtimes, excursions and similar activities, students are required to wear a suitably sun protective hat, that is, one which provides protection for the face, neck and ears as well as the eyes (Gies et al. 2006). For this study, hat types were categorised and allocated a protective score based on a conservative interpretation of existing SSAP criteria. Policies that definitely met the criteria both for 1) specified hat type(s) and 2) dimensions were allocated the highest score of 3. Hat types included one or more of three options: “broad brimmed (minimum 7.5cm brim), legionnaire or bucket hats (minimum 6cm brim, deep crown).” Dimensions were not specified for legionnaire hats. A score of 2 was allocated for policies which specified that either a ‘sun protective’ or ‘sun’ hat was required, but the specific hat dimensions were not available. A score of 1 was allocated where the policy mentioned the need to wear a hat when outdoors, but lacked sun protective specificity. Finally, a score of zero was allocated when the policy either did not mention the requirement to wear a hat when outdoors or specifically permitted the wearing of a ‘cap’, whatever the other requirements described. The latter

is not acceptable for SunSmart accreditation because it does not provide good protection for the face, neck and ears. An exception was made in two cases where caps were permitted for specific sports activities, but only when explicitly required to be worn in conjunction with sunscreen. No other exceptions were permitted. Where cap wearing is permitted among senior students, it may become attractive to younger students, thereby undermining programme goals.

The second criterion in the accreditation policy requirements specifies that if a hat is not worn then that student is required to play in a shaded area. This was scored as either 1 (met the specified criterion) or 0 (failed to meet the specified criterion). The two hat scores were then added to produce an overall score, range zero to 4.

School policies were sought for the 1,243 (of 2,013) schools participating in the 2017 national survey about sun protection in all schools attended by primary level students in NZ. Overall, 1,138 schools reported having policy, but only 446 provided a copy. A further 397 policies were located from either school webpages or the SunSmart Schools database. Inter-rater reliability (ACLP & AIR) was, initially, tested against 20 sequential policies and adjustments made to clarify definitions. Reliability for the full study, using revised criteria, tested between two researchers (BM & AIR) against another 100 randomly selected policies, was 93%. Any scores clearly in error were corrected.

Discussion

Although more than 80% of schools met the criterion for specifying shade use when a hat was not worn, most did not meet the optimum score for hat type. Overall, 90 schools had policies that only recommended (or encouraged, requested etc.), rather than required, hat wearing and, therefore, were conservatively scored as zero for the first criterion. Schools where the wearing of caps was permitted either in general ($n=10$) or in specified circumstances, but without being complemented by the requirement to wear sunscreen ($n=1$) were also similarly conservatively scored. The suggestion of negative consequences for not wearing a hat were specified by 66 schools – for example, “no hat, no play” rather than “no hat, play in the shade.” Evidence of any positive reinforcement for hat wearing was lacking. Overall, 202 (24%) schools used the “School docs” template. When the two scores were summed, the distribution was as presented in Table 2.

Table 1. Numbers and percentages of schools with hat type and shade scores

Score components (Highest=best)	Schools (n=843)	
	n	%
Hat score		
0	113	13.4
1	84	10.0
2	286	33.9
3	360	42.7
Play in shade score		
0	149	17.67
1	694	82.33

Table 2. Numbers and percentages of schools with score totals

Overall score (Highest=best)	Schools (n=843)	
	n	%
0	52	6.2
1	95	11.3
2	101	12.0
3	247	29.3
4	348	41.3

Conclusions

There remains considerable scope for improvement towards meeting optimal hat wearing criteria in primary schools' sun protection policies in NZ. Actual practice is likely to be even less protective. As the study sample was not randomly selected it is likely to reflect a positive bias. Further observational studies (Gage et al. 2017) would be useful to help confirm actual practices.

It is concerning that some, albeit few, schools still permit the wearing of caps, and that in at least one case this appeared to be a reward for seniority. It was promising to see that at least two schools had recently phased out the wearing of caps. The brim width criteria for legionnaire-style hats should be better defined.

The lack of explicit description of using positive reinforcement indicates that there may be opportunities to develop such strategies. The use of "School docs" or a similar service for policy development should be

encouraged because it ensures the unambiguous specification of recommended criteria and consistency between schools as well as encourages optimal practices. Currently, schools have to pay a fee for this option. It would assist equity in sun protection if the Ministry of Education met the cost to schools of using such a service.

Note: A headstart is defined as "a favorable or promising beginning" (Merriam-Webster dictionary)

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