had enabled them to identify their risks and provided them the knowledge necessary to develop appropriate solutions. In all schools, Shade Audits identified low cost strategies to reduce UV exposure.

Conclusions: The shade audit process is key to creating sun-safe outdoor environments as it reveals which outdoor activities put people at risk of over-exposure to UV. The process also provides a logical framework for reducing that risk by re-programming activities, better utilization of existing shade and if required, creating effective, UV protective shade.

TH.06.11

Sun exposure and sunburn among a New Zealand adult urban population during selected summer weekends, 1994–2006

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Objective: To describe sun exposure and sunburn experience on summer weekends, 1994–2006, among a large sample of New Zealand urban residents (15–69 years) and investigate associations with sex, age group, skin type and outdoor activity category.

Methods: A series of telephone surveys was undertaken following fine weather weekends during summer months in 1994, 1997, 1999-2000, 2002-3 and 2005-6. Socio-demographic information was sought, along with quantified time spent outdoors during the 11am to 4pm high-risk period and categorised sunburn experience for one day selected from the preceding weekend.

Results: Usable data were obtained from a sample of 6,195 residents across five major cities (Auckland, Hamilton, Wellington, Christchurch and Dunedin) for the five years combined. Overall, 69% of the sample had spent at least 15 minutes outdoors between 11am and 4pm on the survey day. Weekend sunburn, reported by 21% overall, was more common among males, young adults and those with highly sun-sensitive skin than among females, older adults and those with less sensitive skin. Sunburn was also positively associated with greater time spent outdoors. The head (including the face and neck) was the body area most frequently and most severely sunburned. Sunburn occurred most often during water-based (29%) and passive recreational activities (25%), as well as while undertaking paid work (23%). Sunburn frequency varied by survey year, but with no clear pattern, though it was more common during the final year (21%) than at baseline (17%).

Conclusions: Sunburn was quite commonly experienced during summer weekends in NZ with no clear pattern of decline since baseline, despite media campaigns. Sun protection interventions could most usefully be targeted not only towards identified at-risk population groups (males, young adults and those with sun-sensitive skin), but also towards those activities and contexts associated with potentially harmful sun exposure.

TH.06.12

Incidental sun exposure in North Queensland: An application of the prototype willingness (PW) model

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Objective: The prevalence of skin cancer in North Queensland is among the highest in the world (Buettner & Rasch, 1998), yet comparably few individuals report deliberately sunbathing to get a tan. This might suggest that skin damage in this region is due to incidental exposure that is not planned or deliberate. While the theoretical frameworks which have been adopted in past research can account for planned behaviours such as deliberate tanning, such models may not be suited to predicting unplanned behaviour such as incidental sun exposure. Therefore, alternative frameworks need to be explored. The prototype willingness (PW) model is a dual-process model which has been useful in the prediction of behaviours that are considered unplanned or spontaneous such as binge drinking and drug abuse. The current study aims to explore whether the dual pathways of the PW model differentially predict deliberate and incidental sun exposing behaviours.

Methods: Community participants (n=218) from the North Queensland region completed a survey about their sun-related behaviours. Participants also responded to items that assessed standing on the PW model variables. Predictive modelling techniques were used to determine which of the model's proximal antecedents in each pathway was a better predictor of each type of exposure behaviour.

Results: When controlling for age, skin sensitivity and gender; behavioural intention was the sole predictor of deliberate sun exposure ($p<.05$). Incidental sun exposure was predicted by both behavioural intention and behavioural willingness ($p's<.05$). This indicates that while

engaging in deliberate sun exposure may be a deliberative process, there may be a number of cognitive mechanisms influencing incidental sun exposure.

Conclusions: The current research provides support for the use of the PW model to explain variance across a range of sun-related behaviours, particularly incidental sun exposure. To date, skin cancer prevention efforts have focused on decreasing deliberate sun exposure. In North Queensland though, where the ambient ultra-violet radiation is high to extreme all year, incidental sun exposure may need to be targeted in order to reduce the prevalence of skin cancer. The current findings suggest that the PW model may be able to provide possible avenues for future health promotion activities to reduce incidental sun exposure in high risk regions.

TH.06.13

A comparison of online and telephone surveys of sun protection attitudes and behaviours.

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Objective: To assess the validity of an online panel tracking survey for monitoring sun protection attitudes and behaviours through comparison with the gold standard representative telephone survey method.

Methods: In 2010-11, a cross-sectional telephone survey (n=1,039) and a cross-sectional online panel survey (n=577) were conducted with adolescents and young adults (aged 13-24) resident in metropolitan Melbourne over the same 12 weeks of summer. Both surveys included questions regarding awareness of a skin cancer prevention campaign, tanning attitudes/behaviours, skin checking behaviours, weekend sun protection behaviours, and incidence of sunburn. Data were weighted for age and sex according to the 2010 Melbourne population. Prevalence of outcomes were compared for key questions.

Results: There were few demographic differences between participants in the two surveys; however, adult online survey participants were more likely to be students, whereas telephone survey participants were more likely to be working, and to spend at least some of their work time outdoors. For questions using equivalent wording in both surveys, there were no significant differences in the prevalence of tanning attempts or preference, solarium use, or skin checking. There was a small but significant difference in the prevalence of sunburn. For questions examining tanning attitudes and behaviours and weekend sun protection where there were differences in wording, prevalence was mostly similar between the two surveys, but with significant differences for some variables. Despite differences in questions assessing awareness of a skin cancer prevention television advertisement, there was no significant difference in prevalence.

Conclusions: While online survey methods offer a timely and cost-effective alternative to representative telephone surveys and can contribute to the evaluation of skin cancer prevention initiatives, results should be interpreted with caution. Demographic differences between online survey panel participants and the general population can limit generalizability, and differences in methods and question wording can further affect the comparability of prevalence measures.

TH.06.14

Improved sun protection adherence for pediatric organ transplant recipients using text messaging

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Objective: To evaluate the technical feasibility and acceptability of short message service (SMS) based sun protection recommendations for adolescents after organ transplantation following a special sun protection educational program.

Methods: Adolescents after organ transplantation were invited to participate in a special sun protection program ("HIPPOlino"). Thereafter the participants received sun protection recommendations on a daily basis for 4 weeks sent to their mobile phones via SMS, with recommendations tailored to the regional UV index. The baseline survey consisted of a questionnaire which was carried out prior to the sun protection program. There was a focus on behavioral questions, especially with regard to UV-exposure (e.g. "What can you do to avoid a sunburn?"). Sun protection knowledge was also evaluated (e.g. ABCD rule for the evaluation of moles). The follow-up survey (telephone interview and 2nd questionnaire) was conducted after the text messaging intervention.

Results: A total of 26 adolescent (8 females, 18 males) organ transplant patients were enrolled. 19 (6 females, 13 male) of these 26 patients took part in the text messaging intervention. 84% of the participants (16/19; 5 females, 11 males) confirmed the daily receipt of sun protection recommendations on their mobile phones. All participants reported that text messages helped them to remember the most important information of the sun protection training. 52% of the participating youth (11/19; 3 females, 8 males) mentioned that both sun protection