QSKIN Sun & Health Study

news

Issue 13 Summer 2018

Welcome to the thirteenth edition of the QSKIN News

Another year has almost passed, and it has been a busy one for the QSKIN team. This 13th issue of the QSKIN Newsletter includes findings from new analyses, an outline of our melanoma risk prediction tool, a summary of the international Sunscreen Summit held at QIMR Berghofer earlier in the year, and an update on team members and students. We hope that you will enjoy the newsletter - please be in touch if you have any suggestions, comments or queries.

Summer is upon us again – remember to 'Slip Slop Slap', slide on sunglasses and seek shade when you are enjoying the outdoors.

Professor David Whiteman
Principal Investigator of QSKIN

QSKIN Online risk predictor helps identify people at high risk of melanoma

You may recall that one of the main aims of the QSKIN study was to develop a tool that helps doctors and patients to identify those at high risk of developing melanoma. We recently developed the tool using 3.5 years of follow-up data from QSKIN participants. Using some very powerful computers, we compared the characteristics of people who developed melanoma to those who didn't. Overall, we found that the most important predictive factors were age, sex, tanning ability, number of moles at age 21, hair colour, number of previous sunspots or skin cancers frozen or burnt off, and sunscreen use. Importantly, we also found most that most people are not very accurate in determining their own level of risk. This is because the effect of each of the 7 factors has to be 'weighted' accurately to derive an overall measure of risk that combines all of the factors – unfortunately, we humans are not very good at this type of complex computation.

The risk calculator will help identify those people with the highest likelihood of developing melanoma, so that they and their doctors can decide how to best manage their risk. It is believed that regular screening of those at highest risk may help to detect melanomas early, well before they can spread to the lower layers of the skin or other parts of the body.

The risk calculator is available online:
(https://publications.qimrberghofer.edu.au/Custom/QSkinMelanomaRisk/)

It has been very popular - over 200,000 people have used the risk tool since March 2018. The launch of the melanoma risk calculator was also widely reported in the media, with over 220 reports in international, national and regional newspapers, TV and radio news bulletins and other online media outlets, reaching an estimated audience of over 14.5 million people!

A research paper about the development and performance of the risk prediction tool was published in the prestigious Journal of the National Cancer Institute. In future research, the QSKIN team will trial the online melanoma risk predictor among skin cancer doctors and their patients to test how it performs in the clinic.

SOURCE: Olsen CM, Pandeya N, Thompson BS, Dusingize JC, Webb PM, Green AC, Neale RE, Whiteman DC; QSkin Study. Risk Stratification for Melanoma: Models Derived and Validated in a Purpose-Designed Prospective Cohort. J Natl Cancer Inst. 2018 Oct 1;110(10):1075-1083.

https://www.ncbi.nlm.nih.gov/pubmed/29538697

QSKIN PhD Student Jean Claude Dusingize completes his studies

Jean Claude Dusingize, a medical doctor from Rwanda, won a competitive international scholarship to undertake his PhD studies at QIMR Berghofer. Jean Claude has completed a comprehensive program of research in the course of his studies. The aim of his thesis was to assess whether cigarette smoking, obesity (estimated by body mass index) and height are independent risk factors for BCC, SCC and melanoma using various epidemiological and statistical techniques. A large part of Jean Claude's research involved data from the QSKIN study, and also using linked data from the Queensland Cancer Registry, Medicare and pathology laboratories to examine these relationships. The findings from his analysis of smoking and melanoma is reported under 'QSKIN Publications' on page 4.
Other findings included:

- Compared with never smokers, current smokers had significantly lower risks of developing basal cell carcinoma, but significantly higher risks of developing squamous cell carcinomas

https://www.ncbi.nlm.nih.gov/pubmed/28414022

- Obesity was not associated with melanoma in QSKIN or in a large pooled analysis (meta-analysis) of other cohort studies
- Genetic predictors of BMI were also not associated with melanoma in a large pooled analysis of international consortium data
- There was some evidence that taller men have higher risks of melanoma than shorter men, but no such association in women
- Genetic predictors of adult height were significantly associated with melanoma in a large pooled analysis of international consortium data

Jean Claude is now in the process of finalising his thesis which is due to be submitted in December. We wish Jean Claude all the best in this final phase of his studies.

In the next issue of QSKIN News, we will provide an update on the QSKIN Genetic analyses, and tell you about our exciting new plans to recruit more people into QSKIN.

Sunscreen Summit

March 19—20, 2018

Sunscreen Summit success

QSKIN Principal Investigator Professor David Whiteman (lower left corner above) convened the inaugural Sunscreen Summit in March 2018, bringing together many stakeholder groups in one forum to review the latest developments in skin cancer prevention. The aim of the summit was to adopt a consensus approach to sunscreen policy. The summit was hosted by the Australian Skin and Skin Cancer Research Centre (ASSC) and was held at QIMR Berghofer on 19-20 March.

The most influential people in the field attended the invitation-only event. The summit included presentations and workshops on key topics such as: sunscreen testing and formulations; Australian and international sunscreen policies; the effectiveness of sunscreen; results from molecular studies of how sunscreen affects humans; and barriers to sunscreen use, such as sunscreen regulations, sunscreen in social media and consumer concerns about sunscreen.
The Sunscreen Summit was timely, with new research released by Cancer Council Australia

announcing that one in nine Australians don't know when they need sun protection. There is lack of consistency in how prevention advice is communicated to the public, especially advice concerning the use of sunscreen and this undermines efforts to reduce the burden of skin cancer.

By bringing together Australia's best and brightest sunscreen experts to Brisbane, the Sunscreen Summit organisers, the ASSC and QIMR Berghofer are hoping to develop new strategies to educate Australians about sunscreen's role in sun protection and find new ways to improve public understanding of how to prevent skin cancer.

Visiting scientist
Dr Magdelena Claeson, Gothenburg, Sweden

"I am delighted to have recently joined the QIMR Berghofer as a post-doctoral visiting scientist. In my position as a clinician dermatologist in Gothenburg, Sweden, I have had the privilege to meet with a lot of patients, many of whom were diagnosed with skin cancer. Skin cancer rates in Scandinavia have increased considerably over the last decades, making Sweden one of the countries in the world with the highest burden of melanoma, after Australia and New Zealand. This attracted my interest in cancer control and thus, my PhD thesis focused on data from Swedish cancer registries. The thesis described data on melanoma incidence rates, data on thin (early detected) melanomas, as well as data on patients who developed multiple melanomas over time.

As a new member of the QSKIN research group, I will participate in the analysis of this very large and exclusive data set. Also, I hope to contribute with some of my clinical knowledge of skin cancer detection, treatment and follow-up."

QSKIN publications

The past few months have seen a number of scientific manuscripts from the QSKIN Study published in the peer-reviewed literature.

Smoking and risk of melanoma

QSKIN PhD student Jean Claude Dusingize examined the association between smoking and risk of melanoma, using data from 38,697 QSKIN participants who had not been diagnosed with melanoma prior to study entry.

Jean Claude observed complex associations between current and former smoking and risks of melanoma. Overall however, there was no evidence to suggest that smoking increases the risk of cutaneous melanoma. The paper was published in Cancer Epidemiology, Biomarkers and Prevention in August this year.

SOURCE: Dusingize JC, Olsen CM, Pandeya N, Thompson BS, Webb PM, Green AC, Neale RE, Whiteman DC; QSkin Study. Smoking and Cutaneous Melanoma: Findings from the QSkin Sun and Health Cohort Study. Cancer Epidemiol Biomarkers Prev. 2018 Aug;27(8):874-881.

https://www.ncbi.nlm.nih.gov/pubmed/29789324

Other recent QSKIN publications:

Costs of treating skin cancers
https://www.ncbi.nlm.nih.gov/pubmed/29168287

Pigmentation and other risk factors for melanoma
https://www.ncbi.nlm.nih.gov/pubmed/30367874

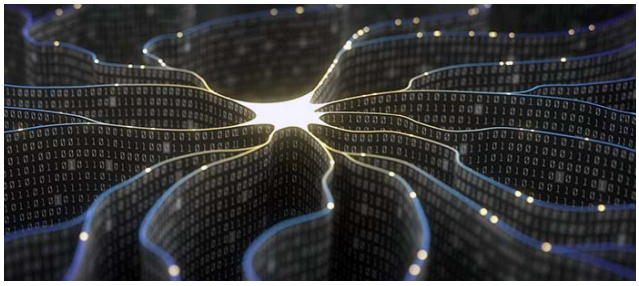
Feedback?

If you have any comments or updated information (e.g. change of address), please contact us:

1800 222 600

qskin@qimrberghofer.edu.au

www.qimrberghofer.edu.au



Getting the computers do the work! - QSKIN uses artificial intelligence to process pathology reports

Machine Learning experts from Max Kelsen are currently working with the QSKIN team to develop an automated method for processing detailed clinical information from pathology reports. We keep track of events in QSKIN by working closely with pathology companies around Queensland (such as: QML, and S & N Pathology). The pathologists send reports to us relating to skin cancers among QSKIN participants. For the first few years of the study, QSKIN investigators read and processed every single report (almost 30 000!) to extract relevant details about the skin cancer diagnoses, and then manually entered all of the information into a database. The Machine Learning experts are now using the database to "train" a computer program to use the words in the reports to extract the relevant information. As we continue to receive new pathology reports, the QSKIN study team will be able to use the computer program to automatically retrieve data about each diagnosis. The computer program will be able to do this in a fraction of the time that it would take our staff to achieve the same result!

QIMR Berghofer
Medical Research Institute