HEALTHY SKIN WORKSHOP OUTCOMES SUMMARY PAPER: Developing a framework to enable a coordinated approach to Healthy Skin across the Top End

"All this medicine is useless if it is not attached to real social reform"

This paper provides background and objectives of the Healthy Skin Workshop, an overview of the presentations, summarises the key themes and messages which emerged from the workshop and, the priority areas and recommendations identified by participants. Based on the outcomes of the Workshop, the organising partners will identify the most appropriate mechanisms and organisations to properly scope and act on the identified priorities and recommendations.

Background

Held on the 4th May 2016, the Healthy Skin Workshop was attended by approximately 50 representatives from key sectors including policy, clinical practice, research and the community to share knowledge and experiences, to provide education about diagnosis and treatment to health care providers and to provide information and strategic direction for policy to improve skin health in northern Australia.

The workshop was convened by Menzies School of Health Research in partnership with Rheumatic Heart Disease Australia (RHDA), One Disease and Telethon Kids in response to the continued unacceptable high incidence of skin disease in the Northern Territory (and other top end communities). The workshop focused on issues related to scabies, crusted scabies, skin sores (impetigo) and tinea. A series of presentations (as summarised in this paper) provided research and policy updates as well as providing clinical education on the diagnosis and treatment of skin disease. This was followed by a priority setting discussion. The workshop built on previous workshops, programs and policy initiatives:

YEAR AND EVENT – HEALTHY SKIN PROGRAMS
Mid 1990's First Australian scabies household treatments in remote NT communities & commencement of healthy skin days
2000 Second Australian scabies MDA in another remote NT community
2000 Ongoing Healthy Skin Days in further remote NT communities
2000 East Arnhem Regional Healthy Skin Project initiated
2003 NT Healthy Skin Guidelines 1st ed
2003 Healthy Skin program launched
2007 Darwin Healthy Skin round table
2008 East Arnhem Regional Healthy Skin Project: Final report 2008
2009 Skin Sore Trial and Ivermectin Mass Drug Administration (MDA) commenced
2010 NT Healthy Skin Guidelines 2nd ed.
2012 WA Healthy Skin Healthy Lives workshop
2015 NT Healthy Skin Guidelines 3rd ed. Revision of
2016 Menzies Healthy Skin workshop Stage 1

Specific objectives:

1. To share information on strategies for the prevention of skin infections and the promotion of Healthy Skin and the current issues and activities in this area across Australia by using a mind map

2. To commence an open dialogue on issues relating to Healthy Skin with a specific focus on areas where service provision could be improved by bringing together stakeholders from policy, clinical practice and research to improved outcomes for those affected by poor skin health
3. To commence:
   - an assessment of the current national and jurisdictional policy contexts with respect to housing, environment, education, research and clinical and public health management
   - a review of international experience and recommendations
4. To build relationships with and amongst key stakeholders, and to develop a platform for ongoing engagement.

Key messages and themes

A number of key messages and themes emerged or recurred during the course of the day. The overarching message was that **we have proven prevention and treatment methods, what is needed is improved health systems (clinical education, delivery, surveillance, community education) and integrated services to support their systematic and consistent application.**

1. The 'normalisation' of skin sores must be constantly challenged.
2. There is a clear need for more or improved clinician education: reports of misdiagnosis, missed diagnosis and over diagnosis are common. Literature shows that skin infections are either under-diagnosed, misdiagnosed or not treated appropriately.
3. The link between skin sores and the downstream chronic effects must not be ignored.
4. Use of resident community experts works: what is needed is "real training, real jobs, real commitment" to ensure the acquired knowledge remains and grows in the community.
5. The One Disease model of chronic care case management appears to be effective but there are questions about its sustainability and whether it could be taken to scale by a health department.
6. Guidelines exist but improvements could be made in distributing, promoting and evaluating these for evidence of impact.
7. Primordial prevention is the key - "all this medicine is useless if it is not attached to real social reform"
8. Things need to be done to address both functional and structural overcrowding e.g. the difference in drivers between Australia and New Zealand (NZ) – in NZ lack of heating leads to overcrowding, different drivers here.
9. MDA's – seen as the great hope BUT this will not work if targeted at individual communities. Population level interventions are needed to address population mobility. Whether this is feasible or cost-effective is not known.
10. There is a disconnect between housing, health and environmental health: 'joined-up' government services are lacking.

Priority Setting and Recommendations

Workshop participants were presented with a model for assessing the current situation in the Northern Territory in each of the "Five Pillars of Healthy Skin". For each 'pillar' a number of questions were posed to guide thinking and a brief assessment of the current situation and possible gaps in service delivery was presented.

FIVE PILLARS OF HEALTHY SKIN

Participants were then asked, in groups, to identify priorities for action in each area.

Housing:

1. Focus on partnership and multi-agency approaches e.g. tenancy support program should incorporate health information. Specifically, an evaluation of the health outcomes of the Tenancy support program would be welcomed.
2. Develop community education on the impact of overcrowding/how to care for your house (delivered by residents to residents). Unpacking the causal links between overcrowding and disease transmissibility for community members.
3. Focus on informed design: houses must be designed with both structural and cultural issues in mind
4. Start conversation NOW on what happens post the National Partnership Agreement (NPA) on housing – led by Indigenous peak bodies and informed by evidence and evaluation

Education:

1. Identified that story telling could be the basis of health promotion / education. In light of this, aim to develop a standardised process for developing the skin story (e.g. using Quality Improvement Planning System QIPPS) within each community and evaluate the implementation of this.
2. Develop the local workforce (health, EH, health promotion) to deliver the messages.
3. Highlight the need for training in the recognition and treatment of skin infections for all health workers and develop core clinical training modules for this. Skin health should be a priority education module for anyone working in the sector
4. Develop a corporate/cultural knowledge repository of health promotion programs akin to the Indigenous Health Info Net for skin health

Environment:

1. A policy recommendation that local Indigenous Environmental Health Worker positions should be funded with appropriate training packages/professional development, organizational structure (appropriate/supportive management), and employment pathways.
2. Evaluate the available tools used for household assessments
   - Focus on household level education, find out what is out there and what has been done previously e.g. Liz McDonald's work, Sunrise, Ngaanyatjarra health, Healthy Community Assessment Tool (HCAT)
3. Develop community wide assessment and support processes and responses
   - Priorities based on community need (like my health website/ my schools website), "NAPLAN of environmental health", Focusing on communities that don't always get seen

Public Health and clinical:

1. Develop surveillance systems – are we having an impact?, use existing system e.g. PCIS
2. Support and provide dedicated funding to proven, successful healthy skin programs (e.g., healthy skin days in communities)
3. Fund a 'Healthy Skin program' for the NT that coordinates the above initiatives
4. Explore options for a NT Mass Drug Administration program
5. Position skin health as a government priority to address

Research:

Many research questions were discussed, and the top three were prioritised:

1. Design a mixed methods study to prepare the ground work for a broader MDA program for scabies. Specifically this would focus on community movements, burden of disease tracking, seasonality and community acceptability. Moxidectin might be a possible option to test as an MDA for scabies in the future, but the basis for this study design needs to be developed across the region.
2. Test the components (diagnosis, treatment, health promotion, environmental health) of a comprehensive, community wide skin disease control program in a stepped wedge study design to rapidly translate learnings from research into practice.
3. Identify, develop, pilot and validate improved scabies definitions and scabies diagnostics (see "Is it scabies?" below)
4. Use data linkage to evaluate the housing improvements program over the last 8 years – Have there been any changes in hospital admissions (as an example) for key infections that could be attributable to this program? What data is available for housing that could be linked to this?

Summary of presentations

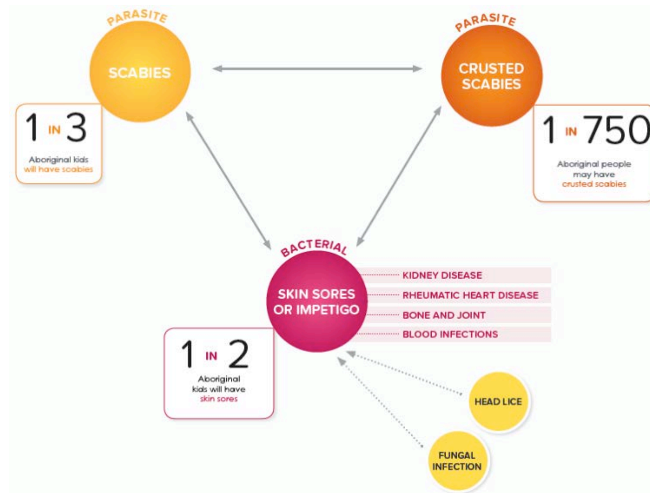
Copies of presentations and supporting journal articles can be found on the Menzies website.

Welcome and overview, Bart Currie

There is an undisputed extreme burden of scabies & skin sores in children in remote Indigenous Australian communities. Skin sores have become 'normalised' by clinic staff, hospital staff, parents and community members which leads to under-diagnosis and reporting. The burden can only be reduced through a holistic approach involving social reform, public health responses and appropriate clinical care.

Epidemiology of Skin Conditions – the story so far, Asha Bowen

Parasitic and bacterial skin conditions are commonplace among Australian Indigenous children.



43% of Indigenous children have impetigo – representing the highest burden in the world and equating to 16,000 in remote Australia at any one time. Scabies affects over 30% of indigenous children. The downstream effects of untreated skin conditions are chronic and sometime fatal (e.g. kidney disease, rheumatic heart disease).

Recent research – cotrimoxazole, transmission, antimicrobial resistance, modelling, Steven Tong

Research shows that we have interventions that work (BPG, cotrimoxazole, ivermectin MDA). However, none are perfect, there are concerns about antibiotic resistance and which interventions are applicable, sustainable and translatable to our setting. It is important we continue to build the evidence base and improve surveillance data. Recently published research (Fig. 3, Bowen et al. *Epid Infect* 2016) demonstrated the complexity of GAS infection in communities. We have commenced a GAS transmission modelling project which will use genome sequencing, population data and GIS technology to try and better understand transmission in and across communities with a view to finding interventions that are sustainable, cost effective and feasible to reduce the endemicity of skin sores.

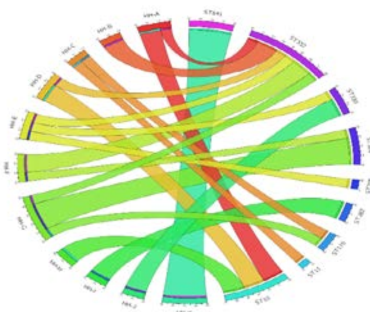


Fig. 3. Group A Streptococcus (GAS) sequence type (ST) distribution in households. Segments on the left of the circle represent 11 households (HH) and segments on the right represent nine GAS STs. Denoted within each segment are the number of participants with GAS recovered from an impetigo lesion within each household, and similarly the number of isolates within each ST.

Is it scabies, crusted scabies or whatever? Bart Currie

Scabies is both under recognised and over diagnosed and a key issue is that diagnosis continues to be purely based on clinical judgement. There are a number of methods which provide additional criteria for the diagnosis of scabies (microscopy of skin scrapings, dermatoscopy (epiluminescence microscopy) and microscopy of adhesive ("sticky") tape. Advances such as video-dermatoscopy (allowing a dermatologist to remotely diagnosis) may improve accuracy of diagnosis. No accurate serological diagnostic test currently exists. These novel diagnostics will become more important as the prevalence of scabies hopefully reduces in the near future, as when it is an uncommon condition we will need improved diagnostics to be confident that it is scabies.

Healthy Skin and Primordial prevention, Pasqualina Coffey

Primordial prevention focuses on preventing the very existence of disease risk factors. Scabies and GAS skin infections remain a disease of poverty: primordial prevention should be the goal focusing on empowerment and behavior change. Poverty is a complex concept e.g. in the Australian context the role of colonisation and associated disempowerment cannot be ignored. Multiple studies over the years have established risk factors and environmental conditions which enable GAS transmission.

Lessons & Legacy of the East Arnhem Healthy Skin program, Therese Kearns and Ros Dhurrkay

The EAHSP led to significant reductions in skin sores and scabies for school age kids. However, it had limited impact on scabies in little kids and high levels of tinea remained. A lot was learnt about the role of outreach and community workers and it was obvious there was confusion among health staff around scabies diagnosis (infected scabies often referred to as crusted scabies). The MDA component of the project initially lowered scabies & pyoderma prevalence. Ivermectin was acceptable (96% receiving at least 1 dose) but labour intensive (everyone must be weighed and females pregnancy tested). However, there were no sustained reductions in scabies and skin sores – potentially as a result of a case of crusted scabies moving to the community.

Tangible outcomes from the project include changes to CARPA for treatment of pyoderma and scabies and changes to CARPA to include crusted scabies as a chronic condition. As a result of the MDA, ivermectin product information was changed to include use for crusted scabies and scabies that is not responding to first line treatment. Community monitoring has become easier with use of electronic health reports.

Local community workers played an essential role in educating and engaging community members. An important component was making sure these workers had 'real' jobs, proper accredited training and future opportunities.

The role of dermatologists in promoting healthy skin in the NT, Dev Tilakaratne

Missed diagnosis, over diagnosis and unexpected diagnoses are common stories in the NT. There is a role for remote diagnosis (using USB microscopy) and innovations such as UV fluorescent labelling of mites are being investigated. Recommendations for improved dermatology services in the NT included the role of a nurse practitioner, the establishment of a day unit and increased use of tele-dermatology (all proven strategies in other jurisdictions). As a priority, there should be increased lobbying for a dermatology nurse practitioner position, run out of RDH with outreach trips to communities accompanying the Dermatologist, and increased funding for research into diagnostic techniques for scabies detection.

Ivermectin MDA, Myra Hardy

Mass Drug Administration for Scabies: The Fiji Experience (SHIFT). RCT of standard care vs permethrin MDA vs ivermectin MDA across three island communities in Fiji. MDA was highly effective and safe strategy for reducing community scabies prevalence in Fiji, with ivermectin being the most effective.
http://www.nejm.org/doi/full/10.1056/NEJMoa1500987

Housing update and interventions, Jason Randall

The National Partnership on Remote Indigenous Housing is a 10 year strategy (commenced 2008) which targets 73 Indigenous communities. The stated aims were to increase the supply of new houses and to improve the condition of existing houses in remote Indigenous communities; significantly reducing severe overcrowding in remote Indigenous communities; and ensuring that rental houses are well maintained and managed in remote Indigenous communities. Delivery is challenging with responsibility ranging from appropriate design, meeting supply targets, ongoing maintenance, and tenancy management. There is little capacity to work collaboratively with other agencies although there are some examples of community specific initiatives. Some houses have been built in NT communities during the National Partnership on Remote Indigenous Housing. The vast majority of all houses are of a 3 bedroom design. Metrics on whether overall household crowding has declined and/or are not available which demonstrates the need for further investigation. Ongoing funding for continuation of this program is unclear at this stage.

Environmental health update, Nicola Slavin

The 'no germs on me' health promotion tools (developed in conjunction with Menzies) have been the keystone of EH's health promotion strategy. This continues to be developed and rolled out across the Territory. EH intends to roll out the use of the Healthy Community Assessment Tool (HCAT) (developed by Dr Liz McDonald of Menzies) and work with communities on the development of community action plans. HCAT was designed to determine how well remote and rural community environments support healthy living. The EH team are constrained by resources (there are only a handful of EH workers now in community) and have

limited collaboration with agencies such as housing. They do partner with community based people and resources e.g. health workers, families as first teachers program.

NT Healthy Skin program guidelines, Ella Meumann

Provided an overview of the guidelines, content and where to find them.

National Guidelines & systematic review, Pippa May

A systematic review, led by Telethon Kids, is underway to inform the development of National healthy skin guidelines. The rationale for the development of National guidelines:

- Aboriginal populations are not bound by borders
- People presenting to any clinic should receive the same treatment
- Priority to update and adopt clinical management using the best available evidence across Australia
- Gaps in current knowledge need identification