Considering the impact of Social Media on improving Australian Aboriginal Health: A scoping review.

Abstract

**Background.** Social media may have a significant role in influencing the present and future health implications amongst Australian Aboriginal and Torres Strait Islander people.

**Objective.** The aim of this study was to examine the extent of health initiatives using social media that aimed to improve the health of Australian Aboriginal communities.

**Methods.** A scoping review was undertaken by systematically searching databases CINAHL Plus; PubMed; Scopus; Web of Science and Ovid MEDLINE in June 2017 using the terms and their synonyms ‘Aboriginal’ and ‘Social media’. In addition, reference lists of included studies and Indigenous Health Infonet grey literature were searched.

**Results.** Five articles met inclusion criteria. All included studies were published in the past five years and involved urban, rural and remote Aboriginal or Torres Strait Islander people between 12-60 years. Three articles found that social media provided a greater space for sharing health messages in a two-way exchange. Negative portrayal of Aboriginal people and negative health impacts of social media were described in two articles.

**Conclusions.** Social media may be a useful strategy to provide health messages and sharing of content among Aboriginal people when framed with emphasis on positive health messages and portraying the strengths of Aboriginal communities. More research is necessary on social media as a way to connect, communicate and improve Aboriginal health with particular emphasis on community control, self-empowerment and de-colonisation.
Introduction
The need for evidence-based strategies to improve the health of Australia’s Aboriginal and Torres Strait Islander peoples (hereafter referred to as Aboriginal) is essential to bridging the 10 year gap in life-expectancy\[1\]. Addressing behaviours perpetuating chronic disease linked to diet and lifestyle and the underlying determinants is complex and thus require multi-faceted solutions, including screening, assessment and treatment, support for behaviour change and changes to the environment to promote healthy choices \[2, 3\]. Having Aboriginal communities at the centre of the design and delivery of health-related programs is well established to improve outcomes \[4, 5\].

Social marketing applies marketing principles to disease prevention programs to facilitate health behaviour change \[6\]. The increase in use of the Internet and portable devices and applications has increased the use of social media as an avenue for social marketing. Social media is any web-based communications dedicated to participant-based input, interaction, content-sharing and collaboration. Social media is increasingly being used to try and improve health across the entire population \[7\]. This is particularly true for Aboriginal populations where the use of some social media in remote areas has been reported as 20% higher than the national average\[8\]. Some evidence suggests that much of the media portrayal of Aboriginal people is negative and may lead to poorer health outcomes \[9\]. Racial vilification, where the collective trauma of Aboriginal people is publicised triggers painful reminders of colonialism \[10\]. Additionally, sexually explicit content is readily available to youth of illegal age \[3\]. However, other suggest that the ability of social media to support creation and sharing of content, and networking provides opportunities for health messages to be conveyed to a wider social network.\[7\] While there is some evidence to support the role of social media to promote and improve health in Aboriginal people, there is little evidence of its effect.

Of the evidence that exists, it appears social media may provide a contemporary conduit for Aboriginal people’s expression of culture and the ability to access novel ways of health-related knowledge, learning and engagement amongst one another and the wider community \[11\]. Little of the evidence includes the impact or effect of social media to change behaviour or cultural norms \[12\]. There is a need to investigate the role of social media in delivering messages related to health for Aboriginal people.
The aim of this study was to examine the extent of health initiatives using social media that aimed to improve the health of Australian Aboriginal communities.

**Methods**

To conceptualise outcomes relative to our question, we undertook a scoping review of the potential breadth of health implications that social media may have on Aboriginal Australian’s health and wellbeing. A systematic approach, informed by the PRISMA guidelines and PICO was used to construct the research question and search terms.[13, 14] A scoping review approach was selected based on the paucity of evidence in the field. This methodology was chosen to summarise what was known and identify gaps based on the guidelines of scoping reviews developed by Arksey and O’Malley [15] and advanced by Levac [16].

Our methodology included searching and reviewing the literature to examine the extent and type of work being undertaken in relation to using social media to improve health in Australian Aboriginal communities, and to summarise this work and identify gaps. A team of three researchers were involved in the totality of the process, one Aboriginal Australian and two non-Aboriginal Australians.

**Search strategy.**

The databases CINAHL Plus; PubMed; Scopus; Web of Science and Ovid MEDLINE were searched in June 2017 using the terms and their synonyms ‘Aboriginal’ and ‘Social media’ (Table 1). This was followed with citation snowballing from relevant systematic reviews and included full text articles whereby reference lists were scanned. Additionally, the first five pages of the Aboriginal health evidence repository website Australian Indigenous Health InfoNet was searched for grey literature in September 2017 using the same search terms.

<table>
<thead>
<tr>
<th>Databases</th>
<th>Search Terms</th>
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<tbody>
<tr>
<td>Ovid MEDLINE</td>
<td>aborig** OR indigen** OR “oceanic ancestry group” OR “first australian” OR “Torres strait islander”* AND</td>
</tr>
<tr>
<td>Scopus</td>
<td>“social media” OR “social networking site” OR “social network” OR “online social network” OR “online network”*</td>
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<td>CINAHL Plus</td>
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<td>PubMed</td>
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<td>Web of Science</td>
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*truncation
Data management.
In August 2017 results were exported to Covidence software (Covidence Systematic Review Software, Veritas Health Innovation, Melbourne, Australia. Available at https://covidence.org) for screening [17]. Titles and abstracts from searchers were screened by two authors (TW and CP). Differences of opinion were resolved through consensus discussions and where agreement could not be reached a third author (KK) was brought in to resolve.

Inclusion and exclusion criteria.
All study designs were included. Published and unpublished studies were included, however guidelines, protocols, opinion pieces, conference abstracts and review articles were excluded. Systematic reviews were excluded however the reference lists of these studies were searched for relevant papers. Included studies must have reported participants who identified as Aboriginal or Torres Strait Islander as well as some form of evaluative judgement on the role of social media on improving health.

The intervention or phenomena of interest was social media. Outcomes of interest were the acknowledgement, betterment or detriment of Aboriginal-related health. In this instance, Aboriginal health and wellbeing was defined as any potential effects that improved or impaired any element of health recognising Aboriginal people’s broad conceptualisation of health [18]. Studies were excluded where study were not specific to health outcomes in Aboriginal people and concomitantly, where there was an absence of the use of social media in conjunction with a focus on improving health outcomes.

Data analysis.
Data extracted included: author, date, location, sample size and demographics (if known), interventions, potential outcomes and findings related to the study aims. In addition, notes on whether there was Aboriginal involvement in the study were recorded and the impacts of social networking sites on Australian Aboriginal health and wellbeing specifically summarised.

Due to the small number of included studies, this information was used to understand where the evidence currently exists and inform gaps, rather than a synthesis of findings. Narrative summaries of the qualitative studies included comparing and contrasting social media
interventions across studies as well as potential outcomes from each study to assist in informing a summary of the role of social media in improving the health in Australian Aboriginal communities as is typical of scoping reviews.

Quality assessment.

Studies were assessed for quality by two authors (CP and TW) using the CASP tool [19]. Studies were scored out of eight criterion points on the basis of quality assessment. Studies with a score of greater than four (out of eight) were considered good quality; studies with a score of four were considered neutral quality and studies with a score of less than four were considered poor quality.

Results

Study Criteria

The initial search revealed 301 studies, which after duplicates were removed left 234 for screening (Figure 1). Screening 234 titles and abstracts left 25 full-text articles for full-text screening. The full text of the remaining 25 articles was assessed and a further 22 articles were excluded due to not meeting both health-related and social media-related outcomes, or due to not being an empirical study where some evaluation of the intervention was undertaken. Citation snowballing found an additional seven articles, and following full text assessment, one was included. Searching the grey literature in HealthInfoNet produced three articles relevant for assessment. Of the three included, two more were excluded. One was excluded due to the inability to retrieve further information via contact with the author. The second was excluded given absence of health and related outcomes.
Records identified through database searching (n= 301)

Additional records identified through other sources (n= 10)

Screening:

Records after duplicated removed (n= 230)

Duplicates removed (n= 71)

Excluded (n= 205)

Records Screened (n= 230)

Full Text Articles assessed for eligibility (n= 25)

Full-text articles excluded with reasons (n= 22)

Eligibility:

Didn’t use social media with health design (n= 15)
Not a study (n= 3)
Non-Australian Indigenous sample (n= 1)
Not a primary study (n= 2)
Full text unavailable (n= 1)

Included:

Studies included in narrative study (n= 3)

Exclusion of HealthInfoNet sources and citation snowballing sources with reasons (n= 8)
No outcomes (n= 7)
No return in contact attempt from author (n= 1)

Studies from other sources (n= 2)

Total studies included in review (n= 5)

Figure 1: Study selection flow diagram representing selection of studies included in the systematic literature review.
**Included Study Features and Quality Assessment**

Of the five included articles, three used qualitative approaches [11, 20, 21] and two used multiple methods [22, 23]. Based on the quality assessment tool used, from the five studies; two were of neutral quality, two were of poor quality and one was of good quality (Table 2).

All articles were published within the past five years, from 2013 – 2017. The studies involved Aboriginal people between 12-60 years and from both from males and females. The settings for the social media campaigns were initiated in urban, rural and remote Australian locations where they allowed for more widespread involvement. Study durations ranged from one day (15 hours) to present day with ongoing reporting. Participant numbers varied between 28 to 346 people. A key feature and strength of all studies was that Aboriginal people were part of the research project and either involved in gathering experiential data, forming researcher-community partnerships or the research writing itself [24].

Social media was used as a tool to enhance social support in all studies. Whereby community members were connected online. Social support occurred between social media users or users and Aboriginal health organisations by linking real-world events with online conversations and in improving awareness of access to offline social and emotional support. Social media was also used to disseminate information more widely outside the study population as social media was proposed to provide a platform for reaching a broader audience.

One study found that age was associated with social media use for health [21]. Older Aboriginal groups often found using social media for health more complex, and in some cases having detrimental health outcomes [21]. Whereas younger groups were more readily receptive to using social media for their health and wellbeing [11, 20, 21]. All studies mentioned the need for more time for participants to become familiar with utilising social media for it to have an impact on health. The reason acknowledged was the relative infancy of social media use and Aboriginal health within Australia [21, 23]. All studies showed improved health, which included exercise, nutrition, family, mental health, suicide, death and grieving. Furthermore, all outlined the need for future social media health campaigns to take into consideration current Australian Aboriginal health culture and perspective [11, 20-23].
A repeated theme that appeared in three articles was that social media provided a greater space for sharing health messages in a two-way exchange [11, 20, 23]. One paper noted the increased awareness and self-empowerment of Aboriginal people in governing their own health after applying one particular social media campaign [11]. Another study showed that when the aim was to increase the quality and duration of Aboriginal people’s lives, an emphasis on sport and promotion of physical activity using social media as a medium was well received based on overall participation and positive feedback. When this approach was combined with other health behaviours, such as quitting smoking, or decreasing consumption of added sugar and sugar-sweetened beverages, more positive qualitative responses were apparent [22].

Negative health impacts were described in two articles using social media, where it was perceived to represent Aboriginal people in a poor light relative to health related conditions [11, 20]. One study specifically noted it could be inadvertently disrespectful by displaying death notices where Elder Aboriginal people were unable to use or access social media. This included learning of illness, deaths and funeral services belatedly in the family via Facebook rather than in person [21]. Another outlined that the consistent focus on the health implications including chronic diseases like diabetes, obesity and mental health was potentially negative and labelled Aboriginal people into a deficit position[20]. Respondents in these two studies voiced concern with the negative images portrayed in all forms of media of Aboriginal people regarding their health [11, 20].
Table 2. Summary of included studies on the impact of social media on Aboriginal health outcomes.

<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Study Aims</th>
<th>Population</th>
<th>Social Media</th>
<th>Method</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Carlson et al (2015) [21]</td>
<td>To conceptualise ideas surrounding Aboriginal deaths (Sorry Business) and funeral ceremonies alongside the use of social media in notifying families, offering support, grieving and healing.</td>
<td>Ages not specified</td>
<td>Facebook</td>
<td>Qualitative: Online interviews and perspectives from Aboriginal people.</td>
<td>Facebook was used to: 1. Provide notifications of funerals. 2. Offer condolences and extend support. 3. Grieve and heal. Some relatively older Aboriginal people comparatively saw Facebook as detrimental regarding Sorry Business compared with younger Aboriginal people (ages not specified).</td>
<td>N</td>
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<td>Carlson et al (2015) [23]</td>
<td>To gain insights into how Aboriginal people utilise and interact on social media, and how these technologies can assist with suicide prevention strategies.</td>
<td>Aged 18-60 years Eight communities in NSW, SA, QLD and WA. n=not stated</td>
<td>Facebook</td>
<td>Multiple Methods-Qualitative: interviews (n=50) Quantitative: survey (n=not stated) Outlining emphasis on Aboriginal suicide rates and methods to indirectly or directly minimise progression/constancy relative to non-Aboriginal people. Considers the 'cultural context' of Aboriginal suicide compared with non-Aboriginal suicide relative to health and well-being.</td>
<td>Facebook was used: 1. As an online support network - It was a positive, less invasive and daunting way to seek help and engage in two-way discussions about suicide prevention. 2. To reach a broader audience - Facebook provided opportunities to offer help with the possibility of reaching a greater/broader audience to provide those at risk with more help/support. 3. Suicide prevention strategies- Facebook offers a digital method via private messaging and checking in on individuals at potential risk of harm. 4. For rapid information dissemination- Facebook provided a quick and easy way to distribute information to a wide audience. 5. Mediating tragedy – Using Facebook may be detrimental if individuals feel they have a lack of knowledge in giving support and 'advertising' issues in a public space; This negative may be outweighed by greater monitoring and care towards those considering suicide or the use of functions like private messages to inhibit public advertisement concern.</td>
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<td>Sweet et al (2013) [20]</td>
<td>To examine the themes of a day-long Twitter discussion about Aboriginal health and well being.</td>
<td>n=346 individuals n=108 organisations</td>
<td>Twitter</td>
<td>Qualitative analysis of 423 active tweets recorded.</td>
<td>Twitter was used to communicate about health and wellbeing. The most common tweets were about: Social and emotional well-being (n=84 tweets) Empowering (n=49 tweets) Wider determinants of health and health issues (n=32 tweets) Racism (n=28 tweets) Advocacy and political engagement (n=25 tweets) Cultural connections and health and identity and safety (n=36 tweets)</td>
<td>N</td>
</tr>
<tr>
<td>McPhail-</td>
<td>To understand</td>
<td>Ages not specified</td>
<td>Facebook, Twitter</td>
<td>Qualitative:</td>
<td>Identified five key principles underpinning</td>
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<td>Bell et al (2017) [11]</td>
<td>Collaborative ways social networking sites can work for health promotion agendas of social determinants and empowerment in an Aboriginal Australian context.</td>
<td>Specified South East Queensland</td>
<td>Instagram, Twitter and YouTube - A Deadly Choices health campaign</td>
<td>Ethnographic fieldwork observations</td>
<td>The Deadly Choices campaign and betterment of Aboriginal health and wellbeing; 1. Create a dialogue 2. Build community online and offline. Combines offline positive activities/events and promotes them online for increased recognition. 3. Incentivise healthy online engagement 4. Celebrate Aboriginal identity and culture 5. Prioritise partnerships big or small. Social networking sites can be used as a two-way communication to inspire, encourage and reinforce healthy ('deadly') behaviour changes within and between Aboriginal people.</td>
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<td>Berends et al (2016) [22]</td>
<td>To encourage and support positive lifestyle change among the Gippsland Aboriginal community by promoting sporting role models, activities and events using social media.</td>
<td>Aged 16+ years n=not stated Gippsland, Victoria</td>
<td>Facebook, videos on Facebook and own interactive 'Deadly Sport' website</td>
<td>Multiple Methods- Quantitative: Web analytics from Facebook Insights A community survey (n=47) about the #ChooseHealthy social marketing campaign run by Deadly Sport Gippsland Qualitative: interviews (n=3) with stakeholders from partner organisations in Gippsland, who were also interviewed early in the evaluation</td>
<td>The Deadly Sport campaign used social media to host competitions, link to events and provide health information. An overall increased number of followers and reach has been attained since inception of the program. Reported number of 'likes' on Facebook was 1,242 at October 28, 2015 and increased to 1,738 at May 2, 2016. 67% of respondents were women. 61% (n=20) of survey respondents had thought about changing their behaviour. 39% (n=13) of survey respondents reported actually changing their behaviour as a result of the campaign. Combined messages and campaigns within the evaluation included topics like quitting smoking, decreasing consumption of added sugar and sugar sweetened beverages and encouraging physical activity.</td>
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Discussion

The aim of this study was to examine the extent of health initiatives using social media that aimed to improve the health of Australian Aboriginal communities. It found five studies that evaluated the impact of a range of social media strategies on health or well-being. Social media provided a space for providing social support, sharing health-promoting messages and increasing awareness and self-efficacy of Aboriginal people in governing their own health. The co-creation of social media content with Aboriginal people and concepts of both self and community empowerment that aimed to improve health appeared to be well received based on participation and positive feedback.

Literature is scarce regarding the use of social media as a conduit in promoting the health of Australian Aboriginal people. To our knowledge, this is the first scoping review using a systematic approach to evaluating the evidence of health initiatives using social media that aimed to improve the health of Australian Aboriginal communities. A consistent and apparent theme was the concept of a healing and self-empowering dialogue among Aboriginal people. These themes, while often termed in a variety of different ways, centred around the end users, researchers and funders working together to construct contemporary ways to refine, expand and improve Aboriginal health using multiple platforms of social media. Common alternate names used included, but were not limited to, co-creation, self-determination, two-way communication and self-design [11, 20, 25, 26]. Most of the studies focused on the positive elements of improving Aboriginal health. This is in contrast to much of the previous literature, which framed their research around “disease” and the problems associated with disease rather than “health”. Other work has investigated social media and its role in racial vilification [10]. The examples analysed in this study show that social media has significant negative and detrimental impacts on Aboriginal people as they are reminded of colonisation. However the authors acknowledge that their findings highlight the potential vehicle of social media to have conversations that promote change [10]. A recent study has also found that Australian Aboriginal people interact about their health using social media [27]. Our review highlighted that research that addresses and evaluates de-colonisation and self-empowerment will be more likely to improve Aboriginal health outcomes [11, 20, 28]. Sharing health information online may gather traction and community capital among Aboriginal communities when using positive messages related to diet, exercise or smoking rather than threatening approaches frequently used in health media campaigns [27]. When there is an
online sense of community support, with particular focus on self-empowering language that promotes and encourages making better choices related to Aboriginal health and wellbeing, participation in social media may increase. This area shows promise for more work given its positive reception and popularity among Aboriginal people [11]. More evaluation is warranted with framing “health” in a positive way to improve Aboriginal health and its associated outcomes.

Social media was used as a platform for social support in most of the included studies. As social and emotional wellbeing and community connectivity are important for Aboriginal people, enhanced access to social support networks is important for enabling behaviour change [20, 29-31]. Social media, through its increased reach could enhance and enlarge support networks. This is important for all Australian Aboriginal communities where access to support may be limited. Additionally, information dissemination of public health messages and increasing awareness of access to support and health care can be enhanced for those living in remote communities [32]. The unfavourable findings within the included studies was that social media could be perceived to represent the health of Aboriginal people negatively [20, 21, 23] or conjure up emotion when learning about funeral services, death and grieving on social media rather than in person. [21] These are important considerations for future use of social media in Aboriginal communities. Other work has also shown that social media may heighten and increase conflict and violence among feuding families [33]. As social media can be used to increase reach for health messages, it can also be used to amplify stigma, racism and bullying by more widely spreading negative messages. Social media can be used to propagate stigma, and this has been seen in many stigmatised health conditions such as mental health and Alzheimer’s disease [34, 35]. Important lessons were learned from #IHMayDay social media strategy as concerns were prospectively raised about the detrimental impacts of negative framing and participants were urged to engage positively throughout the day [20]. This negative potential of social media must be considered for future interventions.

Respecting and appreciating traditional customs of Indigenous groups in building scientific evidence for Indigenous people has been called for in other work [36-38]. The impact of racism, on psychological health and the overall negative approach taken by the portrayal of Maori people in all forms of media has been previously highlighted [38]. This fault is noted
as a result of adaptation to recent colonisation. A recent systematic review of social marketing targeting Indigenous people across the world found that social marketing interventions primarily used television and radio advertising and appeared to confront health issues of Indigenous populations around the world despite not maximising all elements of social marketing [39]. These findings together provide evidence for the need to consider social media as strategies to improve the health of Australia’s Aboriginal peoples, acknowledging the need to use positive health messaging and portray these communities using a strengths-based focus.

The study is limited to social media and does not include other social marketing campaigns. Studies only focussed on Australian Aboriginal populations and may not be relevant for other Indigenous populations across the world using other platforms for social marketing beyond social media. However, this scoping review has highlighted the lack of studies that actually examine the impact of health-related social media activities in Aboriginal people. While inferences are made toward the perceived or self-reported impact on health or well-being, there was no actual objective measurement in any of the included studies. There is a need for work examining the impact of social media on actual health outcomes.

**Conclusion**

Understanding the potential for social media to improve health and well-being in Australian Aboriginal communities is important for researchers, public health professionals and policy makers. Our scoping review found that there is potential for social media to provide a space for sharing health promoting messages and increase awareness and self-efficacy of Aboriginal people in governing their own health and for social support. The co-creation of social media content involving Aboriginal people with the aim to improve health appeared to influence participation when framed in a positive health context or form of self-empowerment. However, not all social media approaches are positively associated with Aboriginal people and some negative health relationships still exist and require further exploration. There is a need for the development and implementation of co-created messages with the Australian Aboriginal community delivered over social media and the subsequent measurement of its impact on health outcomes.
References


