Pacific Media's Portrayal of Type Two Diabetes

A thesis presented in partial fulfilment of the requirements for the degree of

Master of Science

in

Health Psychology

Massey University, Palmerston North, New Zealand

Chelsea Eden

2024

Abstract

Pacific countries experience the highest rates of type two diabetes (T2D) in the world. Type two diabetes is a chronic health condition, resulting from the bodies inability to regulate insulin, and when left untreated can result in serious health consequences. Diabetes is the nineth leading cause of death worldwide, and T2D is the most prevalent, accounting for 90% of diabetes cases. Little is known about how media frames T2D across New Zealand and the Pacific. This study used reflexive thematic analysis to examine Pacific print media, to identify the messages about T2D. Specifically, it looked into how T2D is described and portrayed, and the causes, effects, and solutions that are reported across the articles. The study analysed 103 online Pacific print media articles. Key themes were: the description of what T2D is, and the causes, effects and solutions of T2D. New Zealand articles tended to present a broader perspective, considering wider factors such as globalisation, neoliberalism and determinants of health, and the differing impact this has on populations. Contrastingly, the majority of articles originating in the Pacific, focussed on a specific aspect of T2D, such as a specific, cause, effect or solution. Articles varied in framing of T2D, its impacts, and explanations regarding its causes and effects. These framings included T2D being presented as a life-long condition, a treatable illness, a disease, and a lifestyle issue. However, the articles tended to lack depth of discussion, such as framing healthy eating as a solution and cure but not unpacking what this means. Western, neoliberal ideology dominated the media articles with no articles covering Pacific models of health. Many of the causes of T2D and its more serious consequences were attributed to the individual's choices and globalisation. The effects across articles were often presented as dire and extreme, with articles generally focused on one effect (such as amputation). Solutions across articles again very much focused on what the individual should do, with articles focused on a single solution with little justification or alternative provided. There were few articles examining sustainable and value aligning changes that could be made to reduce the incidence of T2D and its consequences. Overall, the media portrayed T2D as a serious noncommunicable disease that is a burden on society with Pacific people positioned at risk.

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Introduction

The aim of this research was to examine how type two diabetes (T2D) is portrayed in the Pacific media. Type two diabetes is a growing and significant concern worldwide, with some of the worst affected countries being in the Pacific (Li et al., 2023; Tukuitonga, 2016). Pacific cultures are considered collective cultures where people are other-centred. Their models of health are holistic, and include the wider facets that create the person's health, woven together rather than focusing on illness or disease, and may not centre on the individual (Béres & Mila, 2016; Tamasese et al., 2005). This differs from the biomedical model where the person is at the centre and the external factors that contribute to disease and illness are around the outside (Checkland et al., 2008). In this study, the Pacific media was examined as a source of information and knowledge for Pacific people as well as a representation of the Pacific voice. This study examined Pacific media to identify the messages that are given about T2D. Specifically, it looked into how T2D is described and portrayed, and the causes, effects, and solutions that were reported across the articles.

Type two diabetes (T2D)

Type two diabetes is a chronic health condition resulting from the body's inability to regulate insulin (Atkins et al., 2005), which is is a hormone that regulates blood glucose (Qaid & Abdelrahman, 2016). When T2D is left untreated, it can result in serious health consequences, such as stroke, kidney failure, limb amputation, and premature death (Philips, 2020). Type two diabetes is one of the leading causes of blindness and visual impairment worldwide (Atkins et al., 2005; Resnikoff et al., 2004). A global study conducted by the World Health Organization (WHO) and other global collaborators found diabetes to affect 460 million people worldwide, with T2D accounting for 96% of all diabetes cases globally, which approximates to 509 million people worldwide (Ong et al., 2023). Most of these people live in low- and middle-income countries, with the highest incidence of T2D in the Pacific (Philips, 2020).

Diabetes is the ninth leading cause of death and disability worldwide (World Health Organization, 2021). T2D is linked to various determinants of health, such as ageing, urbanisation, and globalisation; however, approximately 90% of T2D causes are related to

obesity, diet, and lifestyle factors (Wagner & Brath, 2012). It is estimated that 15% of people in the world live with a disability (World Bank, 2021), while the majority who need rehabilitation services live in the western Pacific (Cieza et al., 2020). I chose to use a database from the World Bank as it provided comparable data across Pacific countries (see Table 1), although, as can be seen in Table 1, T2D statistics varied across sources. Countries in the Pacific sustain the highest prevalence rate of T2D in the world (Saleem et al., 2022).

Table 1

The Percentage of Pacific People with T2D

Country	Percentage from World Bank	Percentage from countries' Ministry of Health/ governments	Citation for Minsitries of Health/governments
Fiji	17.70%	33.00%	(Ministry of Health & Medical Services, n.d)
New Zealand	6.20%	5.00%	(Best Practice Advocacy Centre New Zealand, 2021)
Samoa	9.20%	20.00%	(LaMonica et al., 2022)
Tonga	15.00%	19.00%	(Taumoepeau et al., 2021)
Vanuatu	15.60%	Not available	
Niue	Not mentioned	Not available	

Note: Information under column titled "Percentage from World Bank" adapted from World Bank (2021b).

Type two diabetes is a noncommunicable disease (NCD). A NCD is a disease that progresses slowly and is not transmissible or caused by injury (World Health Organization, 2007, 2023). Noncommunicable diseases are reported to be one of the most prevalent health challenges of the twenty-first century (Savage et al., 2020). The most prevalent NCDs include T2D, cardiovascular diseases, cancer, and chronic respiratory diseases (Anderson, 2013; Win Tin et al., 2022). There are other health conditions that are classified as NCDs, but these four account for the majority of NCD deaths. Noncommunicable diseases are responsible for 74% of overall global deaths (World Health Organization, 2023). Moreover, the WHO reported that if NCDs continue to grow at the same rate, it predicts that NCDs will account for 86% of worldwide deaths in 2050, which is a 90% increase from 2019 (United Nations, 2023).

Moreover, the NCD growth is presenting a major threat to people, families, communities, and countries (Habib & Saha, 2010; Lönnroth et al., 2014).

Noncommunicable diseases used to predominantly affect developed nations but have now become a significant concern in the developing world for countries with low and moderate incomes (Wagner & Brath, 2012). These individuals face an elevated risk of falling ill or succumbing to NCDs. This is reflective of rapid economic growth; unplanned urbanisation, often leading to more sedentary lives (Tolley et al., 2016); and lower levels of per capita income (Suhrcke & Urban, 2010). As countries develop, numerous environmental, social, and structural changes occur, some improving health, lifestyle, and longevity, but others resulting in increased exposure to chronic diseases (Popkin et al., 2006). Evidence suggests that this heightened vulnerability stems from increased exposure to various risk factors, including unhealthy dietary practices and the harmful consumption of alcohol, tobacco, and drugs (Engelgau, 2011; Sanders, 2023).

The World Health Organization estimates that over 80% of all deaths in the Pacific result from NCDs and that 80% of the total number of diabetes cases are T2D (Ong et al., 2023). Furthermore, a substantial number of these deaths are deemed premature and preventable, with NCDs standing as the primary contributor to disabilities in the Pacific. The proportion of deaths considered potentially preventable in New Zealand is twice as high for Pacific people at 47.3% compared to non-Māori and non-Pacific populations, which is 23.2% (Sporle et al., 2002).

Noncommunicable diseases often stem from lifestyle causes and risk factors, such as insufficient levels of physical activity, alcohol consumption, poor diet choices, and smoking. Examples of poor diet choices include a high salt intake, high saturated and trans-fatty acid intake, and low fruit and vegetable consumption (Cecchini et al., 2010). These contributing factors are high in low-income countries and communities (Kessaram et al., 2015; World Health Organization, 2007). Nearly 80% of NCD deaths, close to 30,000,000 people per year, occur in low- and middle-income countries, where diet and lifestyles have undergone significant changes in recent years, becoming more Westernised and convenience-food-based (Kelishadi, 2019; see Table 2 for mortality rates). Furthermore, the rate of NCDs is projected to increase (World Health Organization, 2011). Noncommunicable diseases impact

quality of life, affecting individuals and families through disability and premature death, caring burdens, healthcare costs, and lost productivity, and placing a substantial burden on health systems, adding to other effects on health caused by climate change and globalisation (Anderson, 2013; McIver et al., 2016; Tolley et al., 2016; World Health Organization, 2014). Reporting rates for NCDs in the Pacific vary between sources as some report predicted rates and some report actual as well as other variables not listed. Moreover, many of the individual countries that self-reported rates through their Ministry of Health, diabetes association, or a research article are higher.

Table 2

Mortality Rate from NCDs in the Pacific in 2016 of People Between the Ages of 30–70

Country	Percentage by Word Bank in 2016	Percentage by WHO
Fiji	30.60%	84.00%
Samoa	20.60%	81.00%
New Zealand	10.10%	89.00%
Tonga	23.30%	83.00%
Vanuatu	23.30%	74.00%
Niue	Not provided	Not provided

Note: Information under column titled "Percentage by World Bank in 2016" adapted from World Bank (2021), and data under column "Percentage by WHO " adapted from World Health Organisation (2018)

The Pacific

The Pacific region is a loosely defined group of countries and territories that share a border with the Pacific Ocean. The region, sometimes referred to as Oceania, is made up of Micronesian, Melanesian, and Polynesian populations and is diverse in its cultures, ethnicities, economic development, and living standards (Horwood et al., 2019). Pacific people share a genealogical-based identity, with people identified through and in connection with their family, land, and origin (Manuela & Sibley, 2015). There is a range of terms used for Pacific people, and these include "Pacific Islanders", "Pacific nationals",

"Pacific peoples", and "Pasifika" or "Pacifica" (Teaiwa & Mallon, 2005). The term "Pasifika" has historically meant people who come from one of the Pacific nations that were previously governed or colonised by New Zealand, including Tokulau, Nuie, Cook Islands, and Samoa. This variety of terms is utilised at all levels of society and includes people that were both born in New Zealand and migrated to New Zealand (Enari & Haua, 2021). There is not one term that is consistently used in New Zealand or across the Pacific, and many Pacific people identify with their specific nation (Chu, 2016). For the purpose of this thesis, I have elected to use the term "Pacific people" because it is commonly used across literature and is a term recognised across the various Pacific countries (Ministry for Pacific Peoples, 2022).

The Pacific is home to 13.7 million people and twenty-one countries (World Population Review, 2024) and is categorised by diverse geography, culture, communication, relationships, and views (Papoutsaki & Harris, 2008; Papoutsaki et al., 2011). Figure 1 shows the geography of the Pacific countries.

Figure 1

Map of The Pacific

Note: Map sourced from South Pacific Community (2016). Reprinted with permission. This map of the Pacific was used with the addition of the "world equator and arrow" with permission granted by South Pacific Community.

Papua New Guinea makes up 76% of the total Pacific population. The countries in Micronesia are Guam, Kiribati, Micronesia, Northern Mariana Islands, Marshall Islands, Palau, and Nauru. Melanesia comprises Papua New Guinea, Fiji, Solomon Islands, Vanuatu, and New Caledonia. Polynesia is made up of French Polynesia, Samoa, Tonga, American Samoa, Cook Islands, Wallis and Futuna Islands, Tuvalu, Niue, and Tokelau (Worldometer, 2024).

Population growth is highest in Melanesian countries, which have significant rates of rural to urban migration. Melanesian countries are generally large and mountainous, and have fertile soil and mineral resources (Overton, 1999). Micronesian and Polynesian countries are typically smaller, varying between volcanic islands to low-lying coral atolls. These countries commonly have extensive reefs, which have provided food for local communities. The countries' capitals and major infrastructure are mostly located on the coast (Connell, 2013). Gross domestic product growth (per capita) has been slow in the Pacific (Gibson, 2019; Matheson et al., 2017), but Papua New Guinea is an exception due to its extraction industry, which is largely made up of oil, liquefied natural gas, gold, copper, and silver (Wu, 2009). Other Pacific countries have what is considered a narrow economic base due to being geographically isolated from global markets because of their vast expanses of surrounding ocean (Gibson, 2019). Moreover, they rely on few items for export. These items include—in generally small quantities—agriculture, forestry, fishing, minerals, and gas. Further, these Pacific countries are subject to frequent natural disasters, such as cyclones, earthquakes, tidal waves, erosion, flooding, high winds, and droughts, which also impact export abilities (Matheson et al., 2017).

The Pacific countries used in this research were ones where people can be classified under the term Pacific people. Pacific countries are the islands immediately north and south of the equator, which are predominately inhabited by Melanesian, Micronesian, and Polynesian people, and they had news media sources with freely available online news articles (Baba, 1985). A Google search was used to access media sites as this is what the general population in the Pacific with internet access can use to read media articles. Countries had to have a media landscape with enough scope for meaningful analysis—articles needed to contain enough content for themes and meaning to be extrapolated (Braun & Clarke, 2022).

New Zealand was selected for comparison because it is situated in the Pacific region and has a substantial population of Pacific residents. New Zealand is home to a significant number of Pacific people and has been a focal point for research involving Pacific communities (Sanga, 2004). Other countries where media sources came from included Fiji, Samoa, Tonga, Niue, and Vanuatu. Despite being a sizable Pacific nation and like other research comparing Pacific countries, Papua New Guinea was omitted from this research because of its size in terms of population and landmass, which differs significantly from other Pacific nations, leading to disproportionality in such an analysis (Taylor, 2012). The audiences of Pacific media are generally relatively small due to population size and thereby produce less news (Ross, 2020). Depending on availability, up to five of the largest print media sites were chosen from each nation (see Table 3).

Table 3

Estimated Population in Pacific Countries (as at January 2024) in Land Area by World Population Review

Country	Population total	Land area (km squared)
Fiji	939,718	18,270
New Zealand	5,249,491	263,310
Vanuatu	338,438	12,190
Samoa	227,345	2,780
Tonga	108,230	720
Niue	1,935	261

Note: Information adapted from World Population Review (2023).

Health in the Pacific

The most prevalent noncommunicable diseases (NCDs) in the Pacific are T2D, cancer, hypotension, cardiovascular disease, and obesity (Low et al., 2015; Reeve et al., 2022; World Health Organization, 2023). Pacific people face an unequal burden of risk factors, with

higher prevalence rates of smoking, hypertension, obesity, and infectious diseases (Reeve et al., 2022; Savage et al., 2020). These factors contribute significantly to the increased risks of long-term conditions within the Pacific community. The number of Pacific people enrolled in general practitioner (GP) services is the same as non-Pacific people; however, in the Pacific population, reduceable and avoidable illnesses are much higher than for the non-Pacific population (Southwick et al., 2011).

The outcomes related to T2D could be indicative of two possible scenarios related to health literacy and health behaviours (Lilo et al., 2020). Firstly, Pacific communities may have health knowledge and be able to identify the differences between healthy and unhealthy foods, yet they continue to consume unhealthy foods due to preference, cost, convenience, and cultural practices. For example, despite the need for individual health attainment, it is culturally valued in cultural settings that the sharing and consuming of such foods is necessary to show respect and common courtesy (Lui, 2003). The risks to health are significant as social gatherings occur frequently and foods are available in large amounts (Lui, 2003; Rush, 2009). Secondly, consuming such foods as part of cultural practices could indicate low health literacy in this population (Lilo et al., 2020).

Food insecurity contributes to health consequences and inequalities (Lloyd et al., 2011; Ni Mhurchu et al., 2012). It has been found that Pacific and Māori people in New Zealand are more likely to experience food insecurity (Parnell et al., 2011), and there are a range of intersecting factors that contribute to this. Pacific people, on average, have lower levels of education, lower incomes, and often poorer working conditions, which influence their ability to afford adequate housing, contributing to precarity and food insecurity. In addition, access to health can be impacted due to issues with transport, medical care, and getting good health information. These difficulties can lead to increased psychological strain, which also has an impact on physical health. These factors can influence individuals' capacity to work effectively and make it challenging to sustain employment. Consequently, this leads to reduced financial resources that are essential to afford necessities (Ryan et al., 2019).

Pacific people around the world, including in New Zealand, experience food-related health issues (King et al., 2012). This is evident through the high rates of disease and poorer health statistics, including the "obesity epidemic" (Hughes et al., 2005, p. 1). This issue is being

addressed to some extent as it becomes more visible. Pacific people adjusting to new Western cultural and environmental settings is a problem locally and globally for Pacific people due to the introduction of processed and cheaper commodities. Diet quality has been identified as the primary contributor to poor health and the subsequent onset of disability, globally and throughout the Pacific (Forouzanfar et al., 2016). It has been found that Pacific people tend to have lower food-related illness rates when living in traditional settings rather than Western settings (Davis et al., 2004). In New Zealand, obesity rates are suggested to be 32.2% of all adults in New Zealand, and statistics suggest that 68.7% of Pacific adults in New Zealand are obese (Manatu Hauora Ministry of Health, 2019).

Health in the Pacific is strongly affected by the determinants of health, health system responses, and accessibility to health professionals and services. Health is closely linked to socioeconomic status in New Zealand, and Pacific people are disproportionately represented in lower socioeconomic groups. Evidence suggests this is a contributing factor to the disparities in health outcomes experienced by Pacific people (Ryan et al., 2019). The National Health Committee (1998) reported the most significant determinants of health are income levels, employment rates, education, and housing, with Pacific people having a relatively poor experience across all categories. Despite this report being written some time ago, more recent research shows that New Zealand's Pacific population's socioeconomic situation has barely changed, with Pacific people still poorly represented across determinants of health, such as lower skills, lower income, and higher unemployment (Ryan et al., 2011). The Ministry of Health report, '*Ala Mo'ui*, noted that Pacific people do not only want higher quality health care but they would also like culturally competent healthcare services. Pacific people commonly cited that the barriers to seeking primary health care in New Zealand include: language, health literacy, family commitments taking priority, difficulty meeting appointment times, difficulty understanding the nature or necessity of the appointment, cost, lack of access to transport or after hours care, communication barriers, discomfort discussing health issues with a non-Pacific practitioner, and complicated or multiple providers and appointments (Gribben, 2003; Ministry of Health, 2008).

Investment in health per person in the Pacific has been dropping. On average, in 2012, Pacific nations spent one sixth of the world's average spending on health resources (Matheson et al., 2017), with no literature available citing improvements since 2012. Pacific

health officials blamed the lack of improvement on the challenges of implementation of new policies or procedures, which reflects poor economic growth (Matheson et al., 2017). Improving economic growth in the Pacific to levels similar to the rest of the world is difficult due to the Pacific's location (vast ocean), small population sizes, and density of people (Haque, 2013). Moreover, the Pacific is reliant on diminishing commodities, such as fish, forests, minerals, and gas and has experienced the detrimental effects of global warming. Many Pacific food supply chains have changed, with a downturn in local subsistence living that contributed to nutritious local/homegrown food consumption. Instead, it is now more common for Pacific people to consume low-quality imported food, high in fat, sugar, carbohydrates, sodium, and salt (United Nations, 2015). Furthermore, food security also remains a significant challenge in the Pacific (World Health Organization, 2010).

Media and T2D in the Pacific

The media is a common method for members of the community to gain knowledge and the reproduction of meaning about health and social concerns (Berns, 2004; Caldas-Coulthard, 2003; Hoffman-Goetz et al., 2003; Lupton, 1999) as well as learn about social issues (Berns, 2004), gain knowledge, and offer ideas (Prilleltensky & Prilleltensky, 2003). The media can influence people through two methods: agenda setting and framing (Gollust & Lantz, 2009). Agenda setting occurs through the media selecting which topic or issues to cover and the prominence they give the topic (Iyengar & Kinder, 2010). Framing is the media's way of providing interpretive frameworks that influence the social and cultural aspects of communities. Moreover, people are often unaware of this influence (Cottle, 2000; Hodgetts et al., 2007; Van Dijk, 2000). The media influences the importance of public topics, including health, and stimulates discussion within communities (Atkin & Wallack, 1990; McCombs & Shaw, 1972); communities can also influence the style and reporting in the media (Van der Wardt et al., 1999). Scholarly articles report that the public form opinions on the public health crisis from the media (Nwakpu et al., 2020). Moreover, as also reported by Sandell et al. (2013), this suggests that the media influences the community's perception and potential behaviour. Previous research has found that the media in New Zealand commonly portrays Pacific people as unhealthy, unmotivated troublemakers, and uneducated, and having criminal issues and being heavily dependent on the New Zealand welfare system (Loto et al.,

2006). This impacts New Zealand media consumers' perception of Pacific people and their rates of T2D.

Information pathways are complex and based on choices around usage of various media platforms as well as broader concerns, such as availability and access. Research suggests that a wide range of modes of communication are utilised in the Pacific, impacting development and social change These include mass media, which is a channel that is developed to create, develop, gather, construct, and disseminate news and entertainment, such as radio, television, print media and internet. Other forms of media include community dialogue and community and information technology (Harris, 2013; Watson, 2011). The Pacific has been noted to have a rich although complex media landscape (Papoutsaki & Harris, 2008). The largest media industries in the Pacific are in Fiji, Papua New Guinea, Samoa, and Tonga.

Many media industries in the Pacific have undergone privatisation in the last decade. Privatisation of the media is a phenomenon that has occurred globally and has been attributed to governments worldwide adopting neoliberal communication policies, such as market deregulation and lessening of state media control (Jin, 2007). However, Pacific media has not followed the same trajectory, with some governments maintaining a level of influence or control over the media. For example, the Tongan government owns one of the three newspapers and runs the national television. State-owned media abide by government policies (Singh & Prakash, 2006). Prior to the 1987 military coup, Fijian reporters had more freedom. However, since then, the media has gone through different levels of regulation and censorship, with a prominent Fijian journalist stating that "whistle-blower" journalists are viewed the same as troublemakers who cause unnecessary friction (Prasad & Singh, 2008).

New Zealand's media landscape has seen various changes over the last decade. New Zealand now encompasses state-owned media, shareholder-owned media, as well as the majority of independent and privately owned media companies (Baker et al., 2020). It has been suggested that the New Zealand media has high levels of media freedom, and the country is considered to have a robust independent media industry, which has been linked with a country's level of wealth.

Types of media in the Pacific

Traditional media, such as radio and newspapers, is still an important media platform for communication across vast distances and diverse audiences. In the Pacific, most radio consumption occurs while utilising public transport and in communal spaces. The television landscape has evolved with the introduction of satellite and cable television, which has often reduced the level of local television content and increased the accessibility to preferable overseas content. There are also newspapers and newsletters whose distribution has also developed with the ability to be circulated online (Tacchi, 2015).

Beyond traditional media, contemporary forms of information and communication circulation, such as digital content, have emerged in recent times. Studies conducted prior to and in 2008 considered access to digital media infostructure, particularly on topics such as political power, climate, and regional maintenance (Duffield et al., 2008). More recent studies have found that information and communication technology are becoming more important although still not being used to their full potential (Cave, 2012; Watson, 2012), especially in developing countries such as those in the Pacific (Ra et al., 2016; Titifanue et al., 2017).

Multiple researchers have found that people are increasingly using their mobile devices to access radio programmes (Cave, 2012; Papoutsaki et al., 2016). The language of media content is a notable constraint that particularly affects those living outside urban areas. In Fiji, media content is commonly provided in English, Fijian, and Hindi, while in Vanuatu, it is mainly provided in English, French, and Bislama, despite the many indigenous languages (Papoutsaki et al., 2016). In Samoa, media content is provided in Samoan and English (Elkus, 2012), and in Tonga, Tongan is commonly used in the media although English is also used (Vikilani, 2010). In Niue, the media is published in English and Niuean, with their national paper being published 75% in Niuean and 25% in English (Papoutsaki et al., 2016).

Media associations

The digital divide between Pacific countries and some Western countries, such as New Zealand, reflect varying media freedom policies and priorities (Papoutsaki et al., 2016). The viewpoints of media associations across the Pacific vary, and, in countries with existing and

functioning media associations, there are concerns with regards to organisational structure, management, governance, representation, conflicts of interest, collaboration, funding, resourcing, development of codes of ethics, and membership. Media associations in small Pacific nations, such as the Cook Islands, are often dormant or non-existent (Papoutsaki et al., 2016). As at 2016, Palau, Niue, Fiji, and Papua New Guinea were the only Pacific countries that had a media code of ethics (Papoutsaki et al., 2016).

Many Pacific countries grapple with significant media freedom concerns. These concerns include cultural values, small communities and the standards of media creating conflicts of interest (Morris, 2017). The Fijian Prime Minister stated that the media's role is to provide "balanced and responsible information" (Morris, 2017, p. 17), while Loto (2007) stated that the media is a place where "information and explanations are circulated, elaborated, challenged and used for making sense of health" (p. 68). However, the Pacific media and journalists are constrained by cultural values in regards to what is considered acceptable to write about. The issue of small communities is significant because journalists are mindful of writing about something in a way that could negatively impact their own immediate community (Loto et al., 2006; Papoutsaki et al., 2016).

Dealing with the media can cause difficulties for Pacific people, such as what they are comfortable disclosing and how they portray information that will be shared on a platform. Accessibility to various forms of media still presents an issue in the Pacific. Furthermore, with the multiple Pacific media companies present nationally and Pacific wide, many have conflicting aims and goals (Perrottet & Robie, 2011). Pacific governments have been slower than their Western counterparts in implementing freedom of information legislation, which has impacted what the journalists feel they are able to report. When new legislation is introduced, there is fear of backlash from those who do not feel the same about media freedom or freedom of opinion (Perrottet & Robie, 2011). Simpson (2011) suggested that some journalists in the Pacific as not as confident—or some would say aggressive—as they may have previously been due to the Public Emergency Regulations in Fiji, causing them to question their reporting due to possible consequences by authorities. The Public Emergency Regulations give authorities media censorship powers, which enable them to punish and investigate journalists who they deem to not publish "balanced and responsible" information (Morris, 2017, p. 17). Moreover, Vanuatu is an example of an intense media

climate in the Pacific that does not have official censorship regulations such as Fiji has (Papoutsaki et al., 2016).

Journalism training

Papua New Guinea, Fiji, Samoa, Tonga, and Vanuatu have institutions that offer one- and two-year media courses, while Niue does not, and people need to travel to attend education or training in journalism (Papoutsaki et al., 2016). New Zealand offers a range of journalism programmes, ranging from one-year courses to master's level (Hannis, 2017). Table four provides an overview of the media landscape in the Pacific.

Table 4

Media Landscape in the Pacific, Broken Down by Country

Country	Form of government	National languages	Adult literacy	Internet access	Threats/Factors that impact media	Media sites available online	Owners of Pacific media
Fiji	Currently democratically elected and formally periods of military regime	English, Fijian, Hindustani	94.4%	16.6%	Main treats to Fijian media have been ongoing censorship introduced by military backed government. The media industry developed decree had different effects and lead to the sale of Fijis major media source at the time.	*Fiji Times* *Fiji Village* *Fiji Sun*	*Fiji Times* is owned by Motibhai group. *Fiji Village* is owned by Communications Fiji Limited. *Fiji Sun* is owned by CJ Patel.
Vanuatu	Constitutional monarchy	English	82.0%	7.6%	Vanuatu has a developed mediascape, with both state and privately owned outlets. Through months of political upheaval in Vanuatu with minority governments and a revolving door leadership with more than five changes of prime minister over the year, there has been heightened sensitivity by the government to media issues. The media was banned from a no-confidence vote in Parliament during December 2010, prompting a protest by the country's media bodies (Vanuatu media disappointed, RNZI, 3 December 2011). The Media Association of Vanuatu has continued to campaign for freedom of information legislation in Vanuatu, as has the local office of Transparency International. Although there is no media council.	*Vanuatu Daily Post*	Is owned by an individual in Vanuatu
Samoa	Republic	English, Samoan	98.0%	4.7%	Despite a history of harsh restrictions and legal cases against publishers in Samoa, since 2011 media has been relatively free of incident. Some draconian laws in Samoa constantly threaten journalists and their profession. The Printers and Publishers Act 1992 demands that journalists reveal confidential sources if a court order rules in favour of such a request by a member of the public. The same Act allows for government members to access public funds to finance legal actions against newspapers and other media outlets.	*Samoa Observer*	Five local newspapers in Samoa are owned by the government and the rest such as *Samoan Observe* r are owned independently.
Tonga	Constitutional monarchy	Tongan, English	99.2%	8.4%	Tonga has had a history of media abuses.	*Matangi Tonga*	Is owned by an independent Tongan company with no government or political allegiance.
Niue	Associated state (Self-government in free association with New Zealand)	Niuean, English	95.0%	88.9%	Limited media operates in Niue which has a high internet penetration and the population access international news through the internet. No cases of censorship or threats against journalists were reported.	*Television Niue*	Is the sole television and radio station in Niue and owned by the government as is most on Niue's media.
New Zealand	Constitutional monarchy	English, Māori, Sign	99.0%	83.9%	New Zealand enjoys a free media climate and has boasted having the highest number of radio stations per capita in the world (Perrottet & Robie, 2011). New Zealand Herald is the highest-circulation newspaper. Stuff is New Zealand's largest digital and print news publisher. RNZ is crown owned (Baker et al., 2020). New Zealand journalists enjoy shield laws * Shield laws are the right to refuse to disclose confidential or unpublished information sources (Johnston & Wallace, 2017)	*New Zealand Herald* *Stuff* *RNZ* *Tangata Pasifika*	*New Zealand Herald* and *Stuff* are owned by New Zealand companies. Tangata Pasifika is run by Pacific people in New Zealand and funded by the New Zealand government.

Note: Based on information taken from Papoutsaki et al. (2016).

Research rationale

Climate change and the rise in NCDs are globally some of the most significant challenges of this century (Costello et al., 2009; Mackay et al., 2018; Savage et al., 2020), and the Pacific is one of the regions facing the worst effects of these (Kim et al., 2022; McIver et al., 2016). Type two diabetes is an NCD and has also been framed as an epidemic of the century (Jaacks et al., 2016; Lancet, 2023; Tabish, 2007), with Zimmet (2017) going as far as to say it is the largest epidemic in human history. Type two diabetes is a worldwide epidemic (Chan et al., 2014), with the Pacific experiencing some of the most detrimental effects (Hawley & McGarvey, 2015). Moreover, the Pacific is made up of low- to middle-income countries with less resources to put towards managing the rapid rise in T2D cases (Hawley & McGarvey, 2015; Seiglie et al., 2020).

The media, however, often promote the importance of individual behaviour change and personal responsibility (Davidson et al., 2003). This is particularly relevant to lifestyle diseases including T2D where the social aspects are ignored in favour of biomedical understandings (Hodgetts & Chamberlain, 2006; Howell & Ingham, 2001; Thorson, 2006). This perspective generally neglects public health perspectives, such as social determinants of health (Hodgetts et al., 2008). Critical perspectives bring a different set of assumptions to research, and, through identifying themes present in individual settings and articles, one can identify common themes and meaning that are created in the community (Weedon, 1996), which provides a richer understanding of communities. Mainstream or empirical research often ignores power differentials across groups in society (Ford & Harawa, 2010; Lynch, 2000). For example, the media often reflects professionals' perceptions of health, illness, and disease, neglecting community or lived experience perspectives (Hodgetts et al., 2008; Schwitzer et al., 2005). Media representation of healthy people can work to construct individual lifestyles as producing health (Lyons, 2000) and often function to infer blame and responsibility on the individual, ignoring problems at a cultural or societal level. Critical examinations of media representations enable analysis of the social, cultural, and political contexts that impact health and illness, including T2D (Lupton, 1999). This can be important to gain an understanding of how the different media sources across the Pacific are framing and talking about T2D.

Research aims

This research aims to investigate the Pacific media's portrayal of T2D. The objectives of this study are to examine how Pacific media from countries, including Fiji, Samoa, Tonga, Vanuatu, and Niue—and New Zealand, as a point of comparison—define and label T2D. The study aims to explore how the media discusses the causes and effects of T2D and to identify any solutions that may be offered. The other objective is to explore how deficit and culturally focused the media messaging around T2D is.

Literature review

This research is interested in the intersection of health, culture, food, and T2D and how this is framed in the media. This literature review will cover relevant theories and literature around these topics.

Definitions of health

The World Health Organization (2010) defines health as a positive state of mental, physical, and social wellbeing, not just the absence of disease. While this definition is not universally accepted (Bowling, 2005), there appears to be three overarching definitions of health: health is the absence of disease or impairment; health is the ability to adequately deal with all facets of daily life; and health is a balance that an individual establishes between themselves and their social and physical environments (Sartorius, 2006). The definition of health that guides Pacific people is a combination of all these definitions. For Pacific people, health is about harmonious relationships and the values in their life being balanced. Pacific people consider health to be holistic, which means incorporating cultural, spiritual, physical, and mental health, and social wellbeing (Finau et al., 2004).

Social construction of health

There are different viewpoints and models used to construct health (Lawrence, 2010; Southwick et al., 2012; Yardley, 2000). The historically more common model was known as the biomedical model, which suggests health, illness, and injury are biological problems that require biological solutions (Farre & Rapley, 2017). This perspective leads to the thought process that when someone is sick or injured, then they need to be treated (Engel, 2012). An alternative model is the viewpoint that aligns more closely with Pacific people's models of health known as the biopsychosocial model of health, which assumes that illness, injury, and health conditions have biological, psychological, and sociocultural components. The biopsychosocial model was developed as the medical model did not fully capture the social, psychological, and behavioural elements of illness (Engel, 2012). Diagnosis and treatment should consider all of these components, searching for multiple causes and effects of a health condition or problem and, thus, recognising the complexity and multifaceted nature of health conditions (Snooks, 2008).

The biopsychosocial model is not the only alternative to the biomedical model; however, it is now the best-established alternative model (Wade & Halligan, 2017). The biopsychosocial model holds many similar characteristics to the commonly used Pacific models of health and is usually referenced in the journal articles critiquing and introducing these models. In essence, these models encapsulate the collective factors that Pacific communities believe contribute to overall health, encompassing various social, behavioural, and psychological elements, which can be interpreted to include spiritual, environmental, and family health (Finau, 1994).

Pacific models of health

Pacific people's worldview is holistic, and all aspects and relationships of health and wellbeing, such as people, nature, and those living and non-living, are interconnected and woven together. Ponton (2018) reported that from an ontological perspective, this highlights Pacific people's worldview as an interpretation of themselves in relation to others or as the relational self; in relation to space, time, rights, and responsibilities, they are all relationally situated (Bush et al., 2005; Lupe, 2007).

Wellbeing is a difficult concept to define and measure as it has different meanings for each individual and community. Identity and wellbeing have been found to be strongly linked (Phinney, 1991; Phinney et al., 2001; Yip & Fuligni, 2002). However, many standardised measures of psychological wellbeing are thought of in terms of individual satisfaction, contentment, and personal agency as in the Western concept of the ideal self as being autonomous and independent (Ingersoll-Dayton et al., 2004). In the Pacific cultural context, wellbeing and health are holistic concepts intertwined with a spiritual state. One of the fundamental objectives or values of a flourishing self is gauged through the individual's connection with their family, community, ancestors, spiritual realm, and environment. Foremost, wellbeing is associated with relationships and connection. The self is not well if any of the related factors are not well and in harmony. It is also the sacred (Autagavaia, 2001) spaces between these relationships and values, otherwise known as *Va*, or the space that connects and holds high significance; this is a place that can be felt but not seen (Mila-Schaaf, 2006).

Le Va, a prominent Pacific health organisation in New Zealand, introduced principles that significantly contribute to enhanced health outcomes for Pacific people and consequent improved wellbeing ("Pasifika People's", 2022). These principles encompass several vital components. One is high-quality healthcare, characterised by access, equity, effectiveness, efficiency, and patient-centred care. They also include cultural safety, the esteem of family and community, the cultivation of respectful relationships, the embracing of diversity, the acknowledgement that Pacific individuals' perspectives are deeply rooted in their comprehensive cultural beliefs and values, and, ultimately, fostering Pacific wellbeing. Notably, a survey conducted by Le Va highlighted the important role of connection, relationships, and support in nurturing Pacific wellbeing ("Pasifika People's", 2022). Family is a central or core value, which contributes to identity and a feeling of belonging, as is collectivism or communitarianism, which refers to the community working together towards a common goal. Spirituality is important and, in the Pacific, particularly Christianity, attributing life events to a higher power and often guiding beliefs and health practices (Mila-Schaaf, 2006). Moreover, reciprocity (mutual help and interdependence) is valued as well as respect, particularly towards elders, parents, women, and people in positions of authority (Te Whatu Ora–Health New Zealand, 2022).

I have summed up the factors that the Ministry for Pacific Peoples (2022) listed as being central to wellbeing in the Pacific (see Figure 2). The idea of the diagram is to show how many factors contribute to wellbeing—the sense of mutual interests and goals, spirituality, physical, environment, and mind—to provide the life balance for wellbeing. Identity is then linked to family, reciprocity, balance between family and environment, and wellbeing. The consensus is that everyone should be consulted and decisions made with the agreement of all and for the good of the group (Manuela & Sibley, 2015). Factors that contribute to wellbeing include the community, social wellbeing (housing, literacy, employment, and poverty), mental wellbeing (mental illness, abuse, crime, violence, and delinquency), and spiritual wellbeing (religiously and creed; Pollock & Finau, 1999). Understanding the Pacific health context requires an understanding of all these multitude of factors, not as distinct but interwoven (Tuitional & Finau, 1997).

Figure 2

Central Values That Contribute to Pacific People's Wellbeing

Note: This figure was created based on literature from the Ministry for Pacific Peoples (2022).

A further path to unwellness in the Pacific worldview is the imbalance of harmony through the breakdown of relationship with any of the important attributes of wellbeing, which include way of life, people, people and environment, cultural, ritual, spiritual, and any disturbance of wellbeing (Tamasese et al., 2005). Moreover, there exists a belief or understanding that the misdeeds of one individual can have repercussions for others, including family and community members (Te Pou, 2010). Tamasese et al. (2005) conveyed when Samoans discuss mental health, it is not isolated as a distinct facet of wellbeing; instead, it is intertwined with the holistic health and prosperity of both the people and their natural surroundings, encompassing the land and sea. This is substantiated by a multitude of authors who engage in Pacific research, highlighting that within traditional Pacific knowledge and customs, the mind, body, psyche, and spirit are not isolated (Ihara & Vakalahi, 2012) as they are often perceived in Western models and ideologies. Tukuitonga (2013) described the traditional Pacific health lens as socioecological to explain his research's comprehensiveness.

In many Pacific cultures, the whole self cannot be separated from relationships, or spiritual and physical elements, which is why all these elements must be well in order for an individual to be well (Tamasese et al., 1997). The *va*/*va'a*/*vaha* is a pan-Pacific notion that describes the spatial and relational context within which secular and spiritual relationships unfold. This explains the connection or space that holds and connects social, spiritual, and relational contexts, allowing and enabling personal and collective wellbeing and growth through knowledge generation, social action, and cultural transformation.

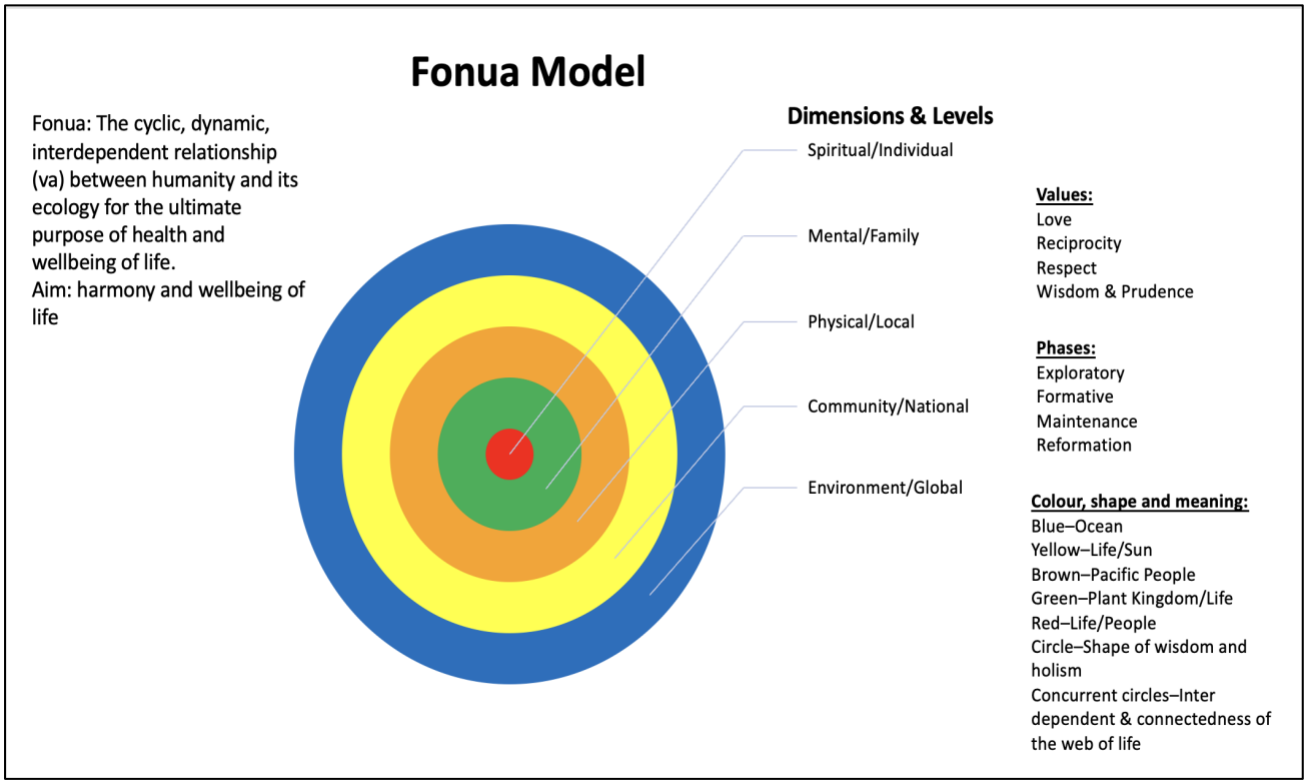
Vainui is another pan-Pacific term coined to represent the sacred collective space of wellbeing for Pacific people (Hayward et al., 2020). This term roughly translates to coconut water in most Pacific nations and represents the meaning of fluidity, sustenance, resilience, and innovation, and the husk of a coconut is what binds tightly, providing another metaphor (Patterson et al., 2018). Pacific notions of wellness are understood in relation to sacred and connected relationships between humans and nonhumans, such as environment and spirit, examples that are portrayed by Tu'itahi et al. (2021). People are intrinsically linked to the *fonua* (land) and, conversely, the fonua is an extension of us. Before Christianity (religion), death, sudden illness, pain, or visits from spirits were understood as a consequence or punishment for not following culture, expected values, or community or family protocols (Esera, 2001; Tamasese, 2002; Te Pou, 2010). Another example is that in the Samoan language there is no word for individual, with the closest translation being *tagata noa,* meaning person in nothingness (Alefaio-Tugia, 2022). Moreover, wellness has its own term in each Pacific nation, and this sacred place of wellness is represented in Pacific health and wellbeing models. Some of these interconnected Pacific models used in healthcare include Fonofale, (Pulotu-Endeman, 2001), Fonua (Tu'itahi, 2007), Fa'afaeleuti (Tamasese et al., 2005), Vanua (Nabobo-Baba, 2006), Meihana Model (Pitama et al., 2007), and Te Whare Tapa Wha (Durie, 1995). All these models include an interconnected and comprehensive approach to health and wellbeing. This is not an extensive list. While many are country specific, some are pan-Pacific. Some of these are based on metaphors or such as Fonofale or reality such as Fonua Ola. I briefly discuss these two models.

Fonua Ola

The Fonua model is a Tongan framework of health that comprises five dimensions of life, which are interdependent and complementary to each other. To maintain harmony in life, health issues must be addressed at all dimensions (Tu'itahi, 2007). In addition to the five dimensions, there are four phases in the natural order of Fonua (Tu'itahi, 2007). In the Fonua model, there are five dimensions and five levels (see Figure 3).

Figure 3

Fonua Model



Note: This figure was recreated based on the Fonua model created by Sione Tu'itahi (2007).

The five dimensions are interwoven like a mat. All must be cared for equally to maintain holistic wellbeing. In 2017, this model was revisited and researched by Sione Tu'itahi for the to ensure that the elements that make up wellbeing were more explicit, adding the cultural and ecological components, (as seen in Figure 4) which were not explicit in the previous design (see Figure 3). Ola means holistic wellbeing, or life and is term recognised across many Pacific countries. Fonua Ola (as seen in figure 4) represents the interconnectedness of components of Pacific people's wellbeing Tu'itahi (2015).

Figure 4

Relationships in Fonua Ola

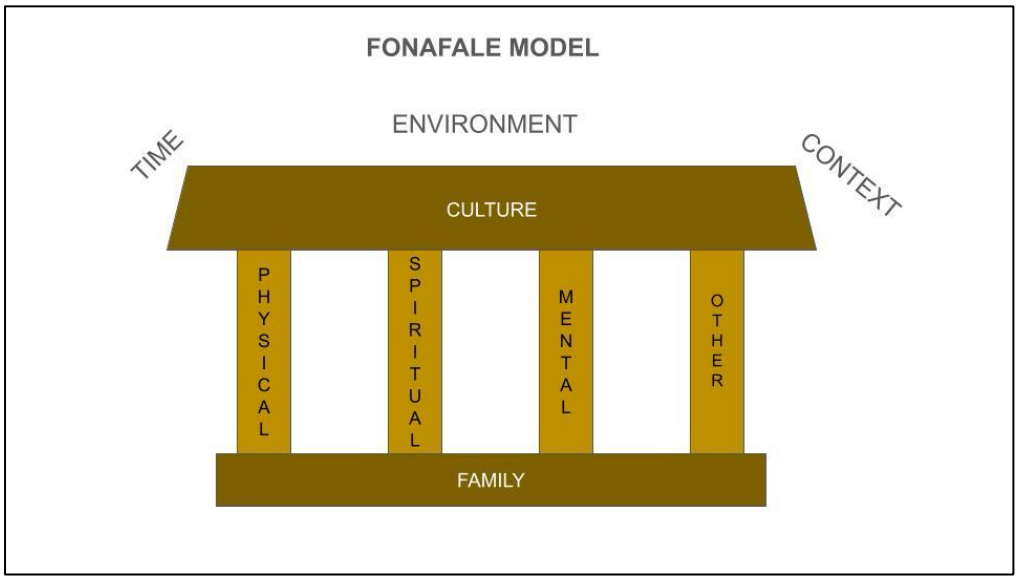
Note: This figure was recreated based on the Fonua Ola model created by Sione Tu'itahi (2015).

Fonofale

The Fonofale model incorporates the values and beliefs of Samoans, Cook Islanders, Tongans, Niueans, Tokelauans, and Fijians. Like the Fonua model, health encompasses different foundations of life, including family, cultural values, and beliefs as well as spiritual, physical, mental, and other aspects. These foundations are interrelated, and health is about maintaining and sustaining balance between these foundations (Pulotu-Endeman, 2001; see Figure 5).

Figure 5

Fonofale Model



Note: This figure was recreated based on the Fonafale model created by Karl Pulotu-Endemann, on "Health Promotion Forum of New Zealand (n.d).

Health interactions

For indigenous Pacific people, the concept of unwellness is traditional, which means the response to poor health needs to also be traditional (Te Pou, 2010). Furthermore, Pacific people possess distinct experiences and perspectives where beliefs can vary widely and occasionally even contradict each other (Pulotu-Edemann & Faleafa, 2017). Pacific people traditionally have strong spiritual beliefs that guide their understanding of illness, health, healing, and dying, with much of the cause being attributed to a higher power, such as God, or wrongdoing by family members or ancestors (Tukuitonga, 2013). The perceived role of health services is fixing/curing illness rather than maintaining function or preventing illness (Southwick et al., 2012).

Interestingly, literature also highlights that this fixing/curing stance is like the approach of many health professionals, generally due to a competitive and time-poor sector that remains tasked with the need to ensure a high quantity of patients can be seen while maintaining patient satisfaction (Clemes et al., 2001). Thus, while there is more awareness of the

different cultural understandings of health and wellbeing, often the healthcare system and structures do not allow for genuine engagement (Metzl & Hansen, 2014). Stereotypes and prejudice can then lead to discrimination and poorer outcomes (Stuber et al., 2008). Research has found that Pacific people commonly feel overwhelmed and disorientated when diagnosed with a health condition (Southwick et al., 2012), and some of this may be attributed to poor relatability and lack of understanding or support. These feelings, however, can then impact their community and place further stress on the individual. Qualitative research with Pacific people has also identified that understandings of wellness are strongly underpinned by precarity, poverty, and limited resources (Ryan et al., 2019).

Determinants of health

The link between social and economic inequality and ill-health is well established. On virtually all health indicators across countries of all types, health outcomes from the most obvious, such as mortality rates and life expectancy, to the more subtle, such as mental health problems and chronic disease, are related to levels of inequality (Pickett & Wilkinson, 2010). Health is not exclusively determined by access to medical care and services or lifestyle practices; rather, health is impacted by adverse material circumstances (Chadwick, 1842; Hodgetts & Chamberlain, 2006). It has long been known that health is impacted by socioeconomic status, gender, ethnicity, and environmental factors, which include crime, housing, accessibility to necessities (medical care, shelter, and food and water), and social cohesion (Ajwani et al., 2003; Campbell & Gillies, 2001; Coleman & Thorson, 2002). These are known more broadly as determinants of health (Braveman et al., 2011; Williams, 2003). Research adds that the importance of economic, structural, social, political, and material determinants of health cannot be ignored (Hofrichter, 2003; Scambler, 2002).

Research worldwide has established the link between poor health outcomes and deterioration in the determinants of health, such as income, housing, food security, employment, stress, and educational opportunities (Blouin et al., 2009; Marmot et al., 2013). Poor social conditions are not accidental but are the result of neoliberal policies, which affect not only mortality but also morbidities, such as obesity, mental health, and health risk behaviours. In New Zealand, these relationships have been demonstrated over decades (Public Health Association of New Zealand, 2016), with health risks from

neoliberalism borne disproportionately by Māori and Pacific people (Marriott & Sim, 2015) and exacerbated by the experience of cultural loss, colonisation, and racism (Reid et al., 2019).

Poor health outcomes are arguably "downstream" effects but tackling "upstream" causes requires policies to improve levels of social and economic wellbeing that will help people to live healthy lives (Hunter, 2016; Rogers & Pilgrim, 2023). This involves recognising the continuing presence of income and social inequality; for example, in New Zealand in the 1980s, someone in the richest 10% earned five times as much as someone in the poorest 10%, but, in 2010s, they earn eight times as much (Rashbrooke, 2015). Previous research suggests that media tend to privilege downstream individualised biological or behavioural causes of chronic illness over upstream environmental or social structural determinants (Brown et al., 2001; Conrad, 1997; Lantz & Booth, 1998).

Research on the cost of illness and disease suggest NCDs pose a significant financial burden on individuals, communities, businesses, and the economy (Hanly et al., 2015; Javanbakht et al., 2011; Kirigia et al., 2017; Pearce et al., 2018). NCDs can have detrimental effects on countries' economic output and growth (Abegunde & Stanciole, 2006; Bloom et al., 2014; Bloom et al., 2018) as those with NCDs are more likely to get sick regularly, which reduces their work efficiency (Abegunde et al., 2007) and effective use of technology and machinery diminishes (Suhrcke & Urban, 2010). These effects not only impact those with NCDs and their workplaces, but the influence is wider reaching as family members and members of the community need to support those affected, such as others taking time off to support the unwell person (Chand et al., 2020). Notably, the collective nature of many Pacific communities results in households, families, and communities utilising their shared income to cover healthcare expenses (Alleyne et al., 2011). As a result of the increased healthcare expenses faced by individuals with NCDs and their families, there is also a diminished capacity for economic investment (Kankeu et al., 2013).

Health and wellness in Pacific society is guided by culture, history, and family rather than solely considering the unwell person's physical health and symptoms (Canary et al., 2019). The most influential factors on Pacific health are social, cultural, and economic factors, which are interrelated and impacted by education, such as unemployment. Pacific people

are disproportionately employed in lower skilled jobs, which means lower annual income, less income security, and a higher likelihood of being unable to afford an adequate house and living conveniently. Living in inconvenient locations increases transport costs and makes it more difficult to get to work, and access healthcare, healthy food, and schooling (Kapeli, 2021). As mentioned above, there are other determinants of health that are often not considered in the media. The purpose of this section is to focus on literature on Pacific health influences globally, locally, and individually in relation to food practices and NCDs.

Globalisation

There are several other factors that contribute to health, and one of these is globalisation. Globalisation is categorised by changes in economic infrastructure, and the emergence of global markets and trading systems, making the sharing of information and experience possible (Huynen et al., 2005). Moreover, Borghesi and Vercelli (2004) argue that globalisation affects the sustainability of development through three channels: economic growth, environmental deterioration, and inequality. While the International Monetary Fund (2000) reported that globalisation has improved living conditions in several countries, it has also degraded quality of life through unhealthy diets, tobacco, alcohol and substance use, and inequality of income distribution (Bourguignon & Morrisson, 2002; Wade, 2001). Western countries lobbied for the elimination of trade barriers, and many developing nations obliged. However, Western countries have upheld their barriers, disadvantaging developing countries' trade and health (Stiglitz, 2002). This means that Pacific countries have not benefited from these new trade agreements in the same way Western countries have, and they still face high costs of food and health-related products.

Other than the growth effects of better health, it has been noted that deteriorations in economic performance resulting from diseases are likely to compound social and human effects (Dixon et al., 2001). Further, others note that the high incidence of diseases can undermine economic growth or growth in per capita incomes (see, for example, Bonnel, 2000; Cuddington & Hancock, 1994). Health is a multidimensional concept that cannot be fully measured using a single indicator. However, one of the widely used measures for health is the probability of death, which is captured by life expectancy and the infant mortality rate (Weil, 2014). These measures of health are inaccurate for measuring the likes

of NCDs and T2D as the life expectancy with an NCD or T2D is adjustable, depending on determinants of health, and they are not commonly a condition faced by infants. This highlights the common misreporting of health statistics.

Neoliberalism

Neoliberalism has been a dominant ideology contributing to health and health outcomes and has been embraced and implemented by big global institutions and governments guiding economic and political decisions (Swinburn et al., 2015). These decisions have led to more competitive markets and reduced expenditure on social services. Neoliberalism is championed by many politicians and embedded globally in policies, programmes, and institutional reforms (Peck & Tickell, 2017). Moreover, many of the leaders of these initiatives purported that they would enable freedom of choice. However, this was seldom the case, and these initiatives have negatively affected health and wellbeing of communities, particularly communal communities, such as Pacific people and people in lower social economic groups. In the Pacific, research shows that neoliberalism has led to an unequal distribution of "determinants of health", which disproportionately affects those often already disadvantaged (Barnett & Bagshaw, 2020).

Neoliberalism is commonly spread through governmentality; people internalise responsibility to self-govern and police each other's behaviour (Phillips et al., 2018). This perspective is reinforced by the media and public literature promoting individual responsibility and particular discourses and themes. One such phrase is a financial term suggesting people "invest" in their health, positing the individual as responsible and placing a level of blame. Other phrases include labels like "irresponsibility" if one does not look after their health. Guttman and Salmon (2004) report that when disease is presented in individualised terms, the social and political factors that can help or hinder health are disregarded. Neoliberalism has been described as a transition between micro governance of the state to the individual and this extension into commercial markets (Pirie, 2016). In New Zealand, neoliberalism began to emerge in 1984 and could be seen through economic restructuring or market privatisation, an increase in commercial freedom, and a reduction in public expenditure in areas such as healthcare, making health more of a commercial commodity, instead focusing on deregulation and the promotion of individual responsibility.

Crawford (2006) developed the concept of healthism. The concept and its development originated from a while middle-class American perspective alongside neoliberalism (Crawford, 2006). Awareness began in the mid-1970s as a form of health consciousness and supported the notion that people had control of their health, and, therefore, people should live healthy, eat well, and look after their bodies and they would be healthy. Crawford's (2006) research reported the importance of health has increased significantly since the 1970's. Health was defined as a personal responsibility that is maintained and achieved (or not) through lifestyle, such as diet and exercise (Madden & Chamberlain, 2010). People are responsible for maintaining their own health, and deciphering medical jargon and often contradicting advice they receive from different professionals, literature, and society (Madden & Chamberlain, 2010). Such messaging is problematic as it fails to recognise the different circumstances, such as social, economic, cultural, and environmental factors; instead, the assumption is built that one has control and is responsible for their ill-health (Brown, 2018; Riley et al., 2019).

In summary, neoliberalism is multifaceted, although its purpose is clear—to drive the global market, disregarding the exploitation, blame, and unfairness people and communities face (Schrecker, 2016). It has had direct and indirect impacts on health, including T2D.

Health literacy and health outcomes

Health literacy plays a crucial role in this research, given its interconnectedness with the media, encompassing both those producing media and those consuming it. The New Zealand Ministry of Health (2015) defines health literacy as the "capacity to find, interpret and use information and health services to make effective decisions for health and wellbeing" (p. 1). The WHO also has a definition of health literacy that is more detailed and points to cognitive and social skills, and is not just about individuals but communities. This definition also signifies health literacy's role in empowering people as, when people understand a concept, they generally gain confidence (Nutbeam, 2000). The WHO (n.d.) defines health literacy as:

> The cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain

> good health for themselves, their families and their communities. Health literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment. (p. 1)

Health literacy is an interesting concept that largely positions the individual as responsible for their own health literacy as well as health behaviours. Typically, a lower level of health literacy is associated with other determinants of health, such as socioeconomic status (Ishikawa & Yano, 2008; Marks et al., 2010; McCleary-Jones, 2011; Sarkar et al., 2010). Alternatively, health literacy is blamed for individuals not following health promotion messaging, not complying with medical information, or being bad health citizens (Kickbusch et al., 2005). Health literacy is important at the community level as it mobilises communities to address the social, economic, and environmental determinants of health. Governments, health organisations, and relevant nongovernmental organisations (NGOs) need to present clear, accurate, appropriate, and accessible information for diverse audiences rather than placing the blame and focus on the individual (WHO, 2019). While health literacy is seen as a determinant of health, this was not the focus of this research.

Social support and family

Perceived social support is a well-researched psychosocial factor that has a positive impact on physical health (Berkman et al., 2000; Cohen, 1988; Holt-Lunstad et al., 2010; House et al., 1988; Pinquart & Duberstein, 2010; Uchino, 2004). Moreover, there is also limited research available that suggests social relationships may have a positive effect on living with chronically stressful physical health conditions. For example, having a supportive role model can buffer against systematic inflammation, such as metabolic symptoms like obesity, for adults living with low socioeconomic status (Chen et al., 2013). Moreover, epidemiological studies indicate that individuals with low levels of social support have higher mortality rates (Barth et al., 2010; Berkman et al., 1992; Orth-Gomér et al., 1993). Social support has been linked to appraisal patterns (Dunkel-Schetter et al., 1987) as well as greater feelings of control, self-efficacy, and self-esteem (Atienza et al., 2001; Shaw et al., 2004; Symister & Friend, 2003). High levels of social support are also related to lower perceptions of stress,

less stress exposure, and lower rates of depression (Russell & Cutrona, 1991; Sarason et al., 1990).

Social relationships impact physical health through a bidirectional relationship, both buffering and causing stress, which, in turn, impacts physical health. There is increasing research looking into this relationship in different communities to investigate the impact and effect conditions and opportunities people experience have on their health and wellbeing (Kearns, 1993; Law et al., 2005; Ramsey & Smit, 2002). It should be noted that social support can include family (whanau) and all concepts of what family means. Social support and the role of family in supporting health is considered in the media sources for this study given that Pacific people are seen to be community and family focused.

Culture

Culture as a concept is complex, with multiple connotations and use as, for example, youth culture versus Pacific culture (Tamasese et al., 2010). I acknowledge that as a word, "culture" is problematic, but, for the purpose of this thesis, I will use this word to capture a sense of connectedness and a shared set of beliefs and practices because culture can be linked to health inequities. This is one way to capture the different cultures within the Pacific but also a set of shared understandings. Culture can be defined as a learned set of collective beliefs, norms, practices, characteristics, behaviours, values, attitudes, and goals. Culture binds people, groups, and communities together (Hall & Johnson, 2020; Hyter & Salas-Provance, 2021). People display expressions of culture both visibly—through attire, music, art, and cuisine—as well as through more imperceptible avenues, like cognitive processes, child-rearing methods, religious observances, work motivations, and beliefs about illness (Padilla et al., 2019). All aspects of a person's life can be influenced by culture, guiding how people eat, sleep, live, and view and deal with health conditions such as T2D. Culture consists of communication and practices that people share and have in common or can collectively define them (Stockman et al., 2004), including food practices.

Culture can be seen as an integral defining characteristic of all people, including Pacific people (Lui, 2003). Culture influences an individual's and family's health beliefs, practices, and behaviours and exerts a notable influence on individuals, especially shaping the

perspectives, comprehension, and responses of Pacific people to physical and social phenomena. Health behaviour depends on how one understands the cause of illness and treatments, and is tied to cultural systems (Macpherson, 1990; Minnesota Department of Human Services, 2004). Pulotu-Endemann and Tu'itahi (2009) stated that cultural values and beliefs are the shelter for life and can be protective for health. Previous research on Pacific people in New Zealand has shown that mothers and children with stronger cultural alignment experienced superior health (Borrows et al., 2011).

Despite the diversity present among Pacific people, there are enduring shared cultural values, including family, collectivism, communitarianism, spirituality, and reciprocity (Ryan et al., 2019). Woven together, much of their cultural contexts, worldviews, and understandings of holistic health and wellbeing are tightly linked to family, community, faith, spirituality, and the environment (Ryan et al., 2019). Many Pacific people share the common values of holding family as a central or core value, which contributes to identity and the feeling of belonging, collectivism, or communitarianism, meaning the community works together towards a common goal. Research indicates that Pacific individuals tend to experience fewer food-related health problems when residing in traditional settings as opposed to Western environments (Davis et al., 2004). Spirituality is important, attributing life events to a higher power and involves reciprocity and respect (Alefaio-Tugia, 2022; Te Whatu Ora -Health New Zealand, 2022). Spirituality is commonly included in Pacific models of health, and religions, such as Christianity, influence Pacific people's choices and values, such as how they treat health (Mila-Schaaf, 2006).

Weight and body size are attributes shared by cultures worldwide, and research suggests Pacific people are known as being accepting of larger body sizes (Knight et al., 2010). In the Pacific, a person's status is defined by kinship, seniority, gender, and achievements. Moreover, those of lower rank are supposed to serve those of higher rank and status (Mavoa & McCabe, 2008). This continues at events or occasions where the higher ranked are generally served first and given the best food (Mavoa & McCabe, 2008).

Previous research has highlighted the importance for Pacific people to identify with their culture and feel their belonging in a collective identity (Akbar et al., 2022). As such, health was not a central priority (Schmidt-Busby et al., 2019) and, for this reason, it was important

for them to complete their “duties”, such as feeding the family and community at events, prior to taking care of their T2D (Akbar et al., 2022). Cost, such as the cost of medicine, going to a health practitioner to get their script, or people with T2D no longer being able to work or retiring earlier, was a significant concern noted in prior research on the lived experience of those with T2D. Furthermore, an emotional cost was also noted through the worry of the unknown and the impact T2D will have, and this concern is shared by those who know the person with T2D. Shame was another feeling that was mentioned as people explained living with the burden that they had caused themselves to become sick (Pupi et al., 2018; Schmidt-Busby et al., 2019).

Climate change

Research has consistently reported that agriculture and food production will be negatively affected by climate change (Porter et al., 2014). The majority of studies on the effects of climate change on agriculture are at a global level, focused on rice, wheat, and maize, which are not common products in the Pacific (Bell & Taylor, 2015; Myers et al., 2017; Porter et al., 2014). A review by Taylor et al. (2016) suggested that long-term climate change, such as temperature changes and more common and intense weather events, will adversely affect food and agriculture production in the Pacific. Resilient staple crops, like kumara, cassava, taro, bananas, and breadfruit, are commonly grown in the Pacific (Bell & Taylor, 2015). However, these crops still face the impact of pests and climate conditions. A Tuvalu study found that drought led to a significant reduction in local food production and insufficient water for household gardens (McCubbin et al., 2015). A Samoan study found that following two cyclones, the availability of fruit fell by 75% and starchy root vegetables by 78% (Seiden et al., 2012).

The effects of climate change that cause weather events in other parts of the world also impact Pacific people, such as increased prices due to lower availability of the produce (Porter et al., 2014; Taylor et al., 2016). Taylor et al. (2016) developed the Food Imports Capability Index as a scale to measure food security in Pacific nations. The scale stated that a ratio above 50% indicates high reliance on imported food, which also indicates food security vulnerability. Therefore, it was concerning to see Vanuatu recorded 140%, Samoa 260%, Tonga 198%, and Kiribati 750%.

Fisheries are a key element of the Pacific food system, providing a primary source of protein to many Pacific people, particularly in coastal communities and after an extreme weather event (Barnett, 2011; Bell & Taylor, 2015; Bell et al., 2013; Charlton et al., 2016; Eriksson et al., 2017). Pacific island reef systems are predicted to increasingly experience the effects of climate change, such as coral bleaching, and reef and mangrove damage, which disrupts food webs and ecosystems, leading to declining reef fish stock (Bell & Bahri, 2018; Hernández-Delgado, 2015; Nurse et al., 2014).

Climate change is also contributing to migration globally, with the Pacific being more susceptible to climate change and its effects (Campbell, 2014; McMichael, 2013). Short-term migration from rural areas to urban centres also occurs across the Pacific to earn better income as there are more employment opportunities available and due to food shortages following weather events, such as cyclones and drought (Elwyn et al., 2006; Eriksson et al., 2017; Gwatirisa et al., 2017; Pascoe, 2015; Siméoni & Ballu, 2012). Migration and urbanisation are the movement of people to new food environments, which often leads to changes in diet, such as an increase in processed convenience foods in urban environments (Hawkes et al., 2017; McMichael et al., 2012). While urbanisation offers greater access to services like health and medical care, it is also associated with access to a diverse range of food. However, more income is also needed to purchase foods due to city costs, and people have less land and time, meaning less ability to grow their own food (Connell, 2011; Hawkes et al., 2017; McMichael et al., 2012).

Research has also found correlations between migration and increased NCD rates, such as obesity and T2D, which, in turn, increases the burden on already struggling health systems in the Pacific. These health systems already lack the necessary equipment, resources, and qualified staff (Connell, 2011; Dain & Hadley, 2012; McMichael et al., 2012). Reportedly, climate change can increase the risk of diet-related NCDs like T2D (Friel et al., 2011; Kjellstrom et al., 2010; McIver et al., 2016). Furthermore, migration can lead to disruption in familiar cultural and traditional societal social relationships (McMichael & Lindgren, 2011; Pielke Sr, 2013; Watts et al., 2015). Social support and reciprocity between family and community are highly valued in Pacific communities, and this includes sharing of food within the community and family during a food shortage (Tamasese et al., 2010).

Food security is defined as people having physical, social, and economic access to sufficient, safe, and nutritious food that also meets their dietary needs and food preferences. This definition comprises four dimensions of food: availability, access, and utilisation, and the stability of these over time (Food and Agriculture Organization [FAO], 2015). Diet quality, diversity, cultural acceptability, intrahousehold distribution of food, caring practices, and hygiene are also important (FAO, 2015; Hwalla et al., 2016; Noack & Pouw, 2015). Climate change impacts food security by influencing prices. When the supply of items decreases, higher demand leads to increased prices due to consumer demand (Porter et al., 2014). Severe food insecurity and hunger are associated with a lower risk of obesity. However, mild to moderate food insecurity is associated with a higher prevalence of obesity in vulnerable populations (Swinburn et al., 2019).

There are two main reasons for a decline in food security in the Pacific. This first reason is made up of numerous contributors: political, social, demographic, cultural, and economic changes. A significant change that occurred in the colonial era and arrival of European settlers was the expansion of the cash economy. This included the introduction of commercial planting and traditional exchange systems becoming less existent for a variety of reasons (Campbell & Gillies, 2001). Capitalism has been blamed for convivence-store-bought food, such as rice, biscuits, canned fish, and meat, replacing preserved food and a way of dealing with seasonal food shortages. The second overarching change was related to traditional forms of disaster resilience as Pacific countries are exposed to natural disasters and environmental extremes, such as large (king) tides, droughts, cyclones, extreme rain, sea level rise, and temperature change. These reduce agricultural productivity through wind damage, water logging, salinisation, and soil moisture stress (Campbell & Gillies, 2001), which, in turn, impact food production.

Modernisation and food in the Pacific

Modernisation can be defined as improved standards of living in more developed countries and continued development in less developed countries (Inglehart & Baker, 2000). As well as globalisation, modernisation and development have impacted and changed the food landscape. The shift in food landscape has included increased consumption of unhealthy processed food due to the increased availability (Saleem et al., 2022). Furthermore, Saleem

et al. (2022) attributed the changing phenomenon to Pacific people as they are exposed to increased levels of unhealthy food, such as food containing a high number of processes, fat, sugar, and salt content and having less fibre (Bera et al., 2021; Bhattacharya et al., 2022), and increased reliance on imported and packaged food rather than traditional food (Evans et al., 2001; Thomas, 2002).

Modernisation has led to rapidly changing diets, fostering an obesity epidemic that, in turn, has contributed to the rapid increase in rates of T2D across Pacific countries (Cassels, 2006). Cassels (2006) attributed the changing food landscape to influence by foreigners, dependence on foreign aid, and the easing of the global food trade. Saleem et al. (2022) believe that there are multiple reasons for the rise in processed food, such as changing sociocultural eating patterns, the rising economy, industrialisation, changing nutritional preference, availability of food, and how food is marketed.

Many Pacific countries have been settled relatively recently, ranging from 1,500 to 8,000 years ago; some have the oldest food cultures globally, with consumption traditions dating back 28,000 years (Hughes & Lawrence, 2005). However, since the 1920's, significant changes to demographics, lifestyles, food supplies, and consumption have occurred due to contact with the Western world, which has introduced trade and development. Pacific people have become more dependent on developed countries, both for food and economic support (Hughes & Lawrence, 2005). Moreover, people develop dietary preferences based on factors such as accessibility and affordability in their context (Mintz, 1986; Wardle & Cooke, 2008). For example, the neighbourhood or community food environment influences availability and affordability (Mikkelsen & Chehimi, 2007). Food companies and manufacturers impact the food environment by enticing customers to purchase and consume their products through using flavouring to meet customer preferences, advertising, and influencing perceptions of appropriate portion size through packaging, all of which can also encourage the customer to consume the product more often (Barnes et al., 2004; Kessler, 2010). Furthermore, price analysts set prices that influence consumer acceptance of the product (Crawford, 2006).

Food, diet, and eating

Food is an essential part of life. It offers essential nutrients that provide energy, support health, and enhance human functioning to enable growth, development, and wellbeing. There is a large body of research that highlights the importance of humans consuming a balanced amount of nutrients to support metabolic and psychological functioning, muscular activity, growth repair and production of bodily tissue, and achieve optimal health (O'Kane, 2012; Truswell & Mann, 2012; World Health Organization, 2020). However, diet relates to more than just fuel for our bodies; it is also influenced by a range of personal, social, and social considerations. Food consumption is a result of the interplay of multiple mediating factors, including culture, economic circumstances, and social, political, and technological factors (Kniazeva & Venkatesh, 2007). In a cultural context, food can be symbolic; for example, food can be a way of remembering and retelling past events and important occasions as well as celebrating current achievements and events. Food can also be used to symbolise values, histories, and culture. Eating traditional food connects people on a symbolic level and helps to maintain identity (Williams et al., 2012).

Globalisation has modernised food processing, marketing, and distribution techniques, which are mostly linked to the Westernisation of diets (Mendez & Popkin, 2004). In addition, climate change, migration patterns, and other global factors are impacting how people eat, what they eat, who is producing the food they eat, and how it gets to the table. One global trend is the replacement of fresh markets by multinational, regional, or local large supermarkets, which are usually part of larger chains. Supermarket use has spread across both large and small countries, from capital cities to rural villages and from upper- and middle-class families to the working classes (Hu et al., 2004). Supermarkets are large providers of processed higher fat, added sugar, and salt-laden foods in developing countries. Global agricultural policies have built in a long-term focus on creating cheaper grains and animal-source foods (Popkin, 2006), but these policies, alongside others around climate change, are still changing.

Historically, biological needs have dictated healthy food choices; however, it is documented as times have changed that food preferences have become more complicated and more subject to social and cultural influences (Nestle et al., 1998). Research indicates this is the

reason why, historically, humans have consumed healthier diets; however, this started to change in the nineteenth century and has been impeded by the increased fat and sugar in human diets, changing humans' relationships with food, as well as habits (Ross, 1993). Food carries important social functions, connecting and disconnecting people, as well as creating tension and peace, being able to nourish, and creating significance at gatherings (Kniazeva & Venkatesh, 2007). In summary, food can be a powerful tool in relationships—it establishes connection and can also cause disconnection (Kniazeva & Venkatesh, 2007). Williams et al. (2012) found that cultures that have experienced oppression value cultural food practices.

Consumption of unhealthy ultra-processed food is rising due to a variety of choices available by suppliers, at restaurants, and in supermarkets. This is a significant concern in the Pacific (Baker et al., 2020). People often choose easy, fast, and cheap options. Ultra-processed foods undergo multiple physical, biological, and/or chemical processes, typically involving the addition of food additives, usually during manufacturing (Monteiro et al., 2019). Many people do not realise that ultra-processed foods use multiple chemical processes to eliminate the nutritional value of food, adding flavouring agents, emulsifiers, artificial flavours, colouring, sweeteners, and other food additives. The process makes foods less healthy and increases the risk of diseases such as obesity and T2D (Bhattacharya et al., 2022; Bhattacharya & Thakur, 2016; Saleem et al., 2022).

Significance of food to Pacific people

The focus of this research is on how the media are portraying T2D throughout the Pacific. I note that to understand how people view healthy eating, their meaning of healthy eating needs to be understood in addition to the sources from which they gather meaning from. Moreover, what people value as meaningful can also shape food choices and feelings around food and, therefore, how people interpret meaning around health and T2D (Smith et al., 2012). Hence, this section covers the impacts of colonisation and history of eating through to current food practices.

Prior to colonisation in the Pacific, there was very little obesity (Dennett et al., 1988). Historically, Pacific people consumed a low-energy density diet and engaged in significant levels of physical activity due to farming, food gathering, and getting around (Ohtsuka &

Ulijaszek, 2007). During colonisation and Westernisation in the Pacific, people, particularly those in urban areas, began to consume energy-dense foods imported from Australia and New Zealand, such as rice, canned fish, canned meat, lamb/mutton flaps, vegetable oil, beef tallow, and instant noodles (Hodge et al., 1995; Horwood et al., 2019). Thus, it has been argued that many of the poor health outcomes experienced by Pacific people come from adjusting to a Western environment and colonsiation.

In addition to more food being imported and exported between countries in the Pacific, migration patterns suggest more and more Pacific people are migrating to New Zealand and Australia. Most of this migration is to urban centres and, with that, comes easier access to supermarkets with processed food, fast food outlets, and pressures to consume Western diets (Rush & Rusk, 2009). Furthermore, Pacific people can lack time and resources, resulting in a disconnection from their food production, which can cause food to lack the same meaning and spiritual connection (King et al., 2012). Moreover, the lack of spiritual connection may explain why, despite Pacific people understanding the health risks of eating unhealthy food, they continue to consume it (King et al., 2012). Traditional Pacific food practices have undergone modifications within the New Zealand context, leading to the promotion of unhealthy dietary patterns and choices (King et al., 2016; Lanumata et al., 2008). In addition, with the increased availability of unhealthier non-Pacific options, the quality of food has worsened (Skudder, 2014).

Food and culture are interwoven. Within Pacific culture, food has profound cultural significance. Food fosters a powerful sense of connection with others (Padilla et al., 2019). Food is highly significant to Pacific people, and it is an important symbol of their culture, connectiveness, and spirituality at individual, family, and societal levels (Manuela & Sibley, 2015). There is minimal research about food practices in the Pacific, although Manuela and Sibley (2015) found Pacific people eat food to celebrate life and survive it. There was consensus about the way in which food was prepared as this was critical, with the traditional Pacific way of cooking in the earth oven preferred. Manuela and Sibley (2015) suggested that an abundance of food shows wealth, and a large body size portrays high social status, reflecting affluence.

The act of offering food in the Pacific is inherently linked to hospitality while accepting food signifies the establishment of relationships (Tamasese et al., 2010). This perspective summarises the significance of Pacific people's food experiences and underscores the central theme emphasised by Tamasese et al. (2010), who highlight that food holds a meaning far beyond its physiological role—it is a vital aspect of people's lives and a fundamental part of Pacific identity. To fully comprehend this, one must grasp all facets of cultural food customs, encompassing the what, where, how, and why of eating (Riquelme, 2007). These cultural norms play a pivotal role in shaping an individual's identity, dietary choices, communication patterns, and values within the community (Hyter & Salas-Provance, 2021).

Tupai-Firestone et al. (2016), in examining Pacific cultures and health, noted the challenges associated with constructing meaningful results, due to differing interpretive and investigation methods. Sharing of food at gatherings is expected, regardless of formality or occasion. Food preparation, consumption, and distribution are community-oriented activities that are filled with meaning and ritual, which imparts wellbeing. This highlights the importance of all components of food, such as the value of spiritual and emotional aspects in Pacific culture (Walton et al., 2010). Moreover, the quantity of food is considered more important than the quality of food and signifies the generosity of the host/s as well as the level of wealth (Alexeyeff, 2004; Keating, 2000). It is also suggested that the traditional Pacific focus on the importance of food and its contribution to a person's wellbeing is derived from the island environment. In the traditional island environment, there were periodic food shortages, which lead to the feast or famine mentality (Fitzgerald, 1980) and also lead to the symbolic importance of having an abundance of food when possible and providing this freely to guests, thus suggesting wealth, prosperity, and status (King et al., 2012).

Pacific Island families play a cultural role in providing for their respective families in New Zealand as well as their immediate or extended families living in the Pacific Island they originated from (Rush, 2009). Pacific people traditionally see food as a source of satisfaction, and this includes physical, emotional, and spiritual satisfaction; being part of a holistic understanding of communal wellbeing, which encompasses not just health but relational harmony; and symbolising economic prosperity, otherwise known as *malie*. Malie derives

from food being produced from a land that one has relationship with as well as by people with whom they have relationship (King et al., 2012).

Food sovereignty/Food insecurity

Food sovereignty encompasses people's rights to have access to healthy and culturally appropriate food, including the right to define their own food and agricultural systems (Beuchelt & Virchow, 2012). Food insecurity is a socially defined construct that encompasses poor availability and low quality as well as the uncertainty of food supply (Hart, 2009), often as a result of accessibility and affordability. Furthermore, food insecurity is found to be a precursor to obesity, health conditions, and poor health (Dietz, 1995; Tarasuk, 2004). Thus, food security is integral to physical and psychological wellbeing. To be food secure implies that one has adequate access to food incorporating four domains: availability, access, utilisation, and stability (McCall, 2005).

A proportion of households within Aotearoa New Zealand suffer food insecurity, which means they are not always able to buy the amount and quality of food desired due to insufficient household income and the high prices of food. The 2008/9 Adult Nutritional Survey, which was the last national assessment of food insecurity in New Zealand, portrayed that 7.3% of the adult population was food insecure (Parnell et al., 2011). Food security was found to be a concern for 20% of New Zealand households (Carter et al., 2010). Houses with seven or more people—as many Pacific households have—were found to be more likely to experience food insecurity (Gorton et al., 2010; Schluter et al., 2007). Pacific households report they are able to eat properly 47% of the time compared to 86% for the European New Zealand population (Parnell et al., 2011; Russell et al., 1999).

The two national surveys (1997 National Nutrition Survey and Children's nutrition Survey, 2002) provide clear evidence that up to 50% of New Zealand's Pacific adults and children experience burden due to food security issues, more so than other ethnic groups. The money available in households to spend on food, which is determined by both income and household expenses (Walton et al., 2010), was identified as an important factor for food security. For households on the minimum wage, their food required 27% to 34% of household income and, if receiving income support, required 41–52% of household income

(Mackay et al., 2018). Rush et al. (2007) found that food insecurity is prevalent in Pacific Island families, with 43.36% saying they often run out of food and are more likely to reduce their variety of food due to lack of money.

In 2018, the United Nations Food and Agricultural Organization and the WHO reported that 14% of New Zealanders experience food insecurity; however, 37.1% of Pacific people experience food insecurity (Huang et al., 2020). The Sustainable Development Goals included reducing all forms of global hunger as well as targets for people with disabilities and vulnerable people (Saalim et al., 2021), which adds to the importance of finding out more information about Pacific people's food insecurity. Food insecurity has consequences for nutrition and health. Foods consumed in food-insecure households may be of high calorie content but low in other key nutrients. One of the goals of this research was to explore if factors like food insecurity are covered in relation to T2D (Huang et al., 2020).

Food literacy can be described as the ability or skills of a person to obtain, interpret, understand, and describe basic food and related information and services and to be able to use them in a health-enhancing manner. This includes food, diet, meal preparation, cooking, and nutrition. Having this food knowledge enables communities to be in control of food and diet choices (Gallegos & Vidgen, 2010; Nowak et al., 2012; Smith, 2009). Food literacy also includes understanding of culture, and the conceptualisation of human experience in relation to food, access, growing, cooking, and production (Snyder, 2009).

Diet in the Pacific

Traditional food is commonly understood to encompass products that are crafted from specific raw materials, follow a recipe with a long-established history, or undergo a specific, time-honoured process (Cayot, 2007). The Pacific food system and diet is diverse, spanning a broad area, and is poorly researched (Andrew et al., 2022). Traditionally, Pacific people have eaten a lot of food from the sea along with a traditional staple of root crops (Hughes, 2003). However, Pacific people have also been susceptible to trade, which has been dictated by global trade dynamics out of Pacific nations' control due to the nations' small sizes. The 1980s has been noted as the time when Pacific diets began to change due to the introduction of Western convenience foods. Moreover, Pacific nations have been impacted

by external contributors, such as climate change and globalisation. Climate change has affected water and air temperatures, impacting crops/agriculture and animal species. Growth has also caused changes in weather patterns, further affecting food production (Bell & Bahri, 2018; Bell et al., 2011; Bouteiller et al., 2017). Furthermore, globalisation has also created less time for growing and collecting food, and climate change has made it more difficult to farm, resulting in Pacific people's food patterns changing.

Studies on Pacific food profiles exist, but the majority of these tend to focus on deficits, emphasising how their "traditional" diets may pose risks (Hughes, 2003). For example, it has been reported that Micronesian and Polynesian Pacific countries consumed high amounts of fat (38%-42%) in their diets, mostly coming from coconut cream (Hughes, 2003). Fry (1957) found that a typical diet in the Cook Islands consisted of white bread, sugar, taro, coconut, pandanus, kumara, banana, pawpaw, breadfruit, and fish. Pollock (1992) highlighted that Pacific people were vegetarian 85% of the time, and meat and fish, and pork were only eaten by the wealthier people in Polynesian societies.

Fiji contributes the highest volume of research on diets, but it is important to acknowledge that much of this research is dated, conducted by non-Fijian researchers, and primarily aimed at identifying dietary patterns rather than comprehensively understanding eating practices within their cultural context. Langley's (1953) research conducted in Fiji revealed a shift in the dietary patterns of the Fijian population, with an increase in consumption of store-purchased foods that he listed as rice, bread, biscuits, and flour; he also noted that cassava appeared to be the root crop of choice and that store-bought foods were becoming the breakfast of choice, replacing cereal products like rice, bread, biscuits, and flour. Another Fiji-based study conducted by Parkinson and colleagues (World Health Organization, 2003) found an increase in the consumption of fats, carbohydrates, and protein, with these findings being attributed to increased consumption of sugar, rice, and wheat starch. Wilkins (1963) also highlighted consumption of similar items by Fijian people when Fijians were asked to recall the foods consumed in the previous twenty-four hours. Wilkins established that the most common foods were cassava, taro, rice, breadfruit, coconut cream, fresh fish, tinned fish, taro leaves, and bele (green leafy vegetable). Wilkins was surprised at the low fruit consumption considering the abundance available.

Research findings from other Pacific countries are available. Mitikulena et al. (1993) did a 24-hour dietary recall survey in 1987 with participants in Niue. The population was found to predominantly consume imported protein, staples, fat, and sugar, mostly rice and flour. Furthermore, their consumption of vegetables was low, and they consumed slightly more fruit compared to vegetables (Mitikulena et al., 1993). In Samoa, Bindon (1982) administered 24-hour recall questionnaires to Samoans in Hawaii in 1982. The traditional Samoan diet had changed over the previous 150 years after exposure to traders, the military, and missionaries, and the data reflected an increase in a processed diet rather than traditional items. Canned corned beef, canned fish, and fresh beef had become important sources of calories and protein, and bread and rice had partially replaced the traditional starchy crops. Although the typical diet has also changed with urbanisation, surveys show Samoans prefer traditional foods. The traditional eating pattern of Samoans includes taro, yams, coconut, bananas, and breadfruit as staples. Domestically farmed pigs and chickens were eaten although mostly on special occasions (World Health Organization, 2003). In surveys done in Tonga, Englberger (1983) found excessive energy and high-protein intakes among adults. Starchy root crops, fruit, coconut, and fresh fish were generally found to be the most common foods, particularly in rural areas, and, at that time, urban and rural differences in dietary patterns were increasing, with a high consumption of sugar recognised. Younger people were eating more imported foods than the older age groups in Tonga. Research showed an increase in fatty meat, specifically lamb flaps (World Health Organization, 2003). In urban Port Vila, the capital of Vanuatu, animal foods, margarine, and oils have progressively replaced the traditional coconut as a source of fat. Moreover, white rice, white bread, and sugar had also become alternatives to traditional root crops, resulting in a decrease in dietary fibre intake, and, with increasing urbanisation, there was greater use of salt (World Health Organization, 2003). These research examples of traditional Pacific diets and what more modern Pacific diets commonly consist of give context to the research.

What this research surveying diet does is provide a snapshot of diet, but it does not reflect the social aspects of eating. Family and community relationships influence diet hugely in Pacific countries (Pollard et al., 2014); thus, the families' or communities' understanding or perception of media articles can therefore impact individuals (Loto, 2007; Robie, 2019). Family meal culture impacts younger family members' perceptions of food and influences

their future behaviour (De Vet et al., 2011). Most Pacific communities have strong social connections, often centred on church and community activities. Social cohesion and connectedness are related concepts linked to health. Social cohesion means cohesive community relationships with levels of participation in communal activities and public affairs, and a high number of community groups. Evidence shows beneficial links between social cohesion and health. Societies with diminished social cohesion have higher mortality rates and worse social outcomes than those with high levels of social cohesion (Stansfeld et al., 2006). Strong connections are also made between high levels of stress and poor health.

Food is a critical aspect of Pacific people's culture, and it is central to any gathering (Vunibola & Leweniqila, 2021). Pacific food consists of local traditions as well as the influence from people and cultures who have migrated to the Pacific (Wilson, 2016). Pacific people's diets have changed over time due to the impacts of colonisation, climate change, and migration, but traditions and cultural practices continue to influence food practices, eating, and the meaning of food. What is not well understood is if these factors are considered at all in media framing of T2D throughout the Pacific. This research will aim to explore this.

Media's place in health

Schwitzer et al. (2005) stated that for most people, the news media is their most consistent and important source of health information. The media report on stories that are individual, social, and ideological and are produced in a social context, reflecting the available and prominent cultural and social narratives (Sonn et al., 2013). However, stories do not equally reflect all people in society, and it is often those who are marginalised or in less powerful positions whose stories are devalued or silenced, reinforcing problematic discourse, such as neoliberal and racist frames. Additionally, these marginalised communities generally do not have equal access to media (Messer & Bell, 2010; Rappaport & Seidman, 2000). In addition, research has shown that media reporting has overlooked the importance of determinants of health in disease prevention of NCDs (Clarke & Everest, 2006), reinforcing dominant neoliberal and Western ideologies of individual responsibility for health.

The media offer a plethora of health articles that provide information and inform community discourse (Malone et al., 2000). Moreover, the media is a significant source of information

for not only the community and public but also for health professionals and researchers to disseminate information (Bradshaw, 2022). The news media is a common way many people learn about social issues (Berns, 2004), particularly health conditions (Briggs & Hallin, 2016; Hodgetts & Chamberlain, 2006; Snyder et al., 2004), how to navigate health concerns, treatment options, and hope, and are educated about "successful recovery" (Gwyn, 2001; Hodgetts & Chamberlain, 2006; Seale, 2003). Moreover, research has found the media is an important channel, with Smith (2007) attributing this power to the media's central place in society. This has the effect of enhancing the media's ability in communicating critical information on health, illness, and disease (Dahl et al., 2004; Finlay & Faulkner, 2005).

News articles do not exist separate to culture, society, institutions, and language, which means researchers should consider how discourse and knowledge intersect with news (Hjarvard, 2008). Moreover, for many people, news media is one of the few resources they engage with to learn about social issues (Berns, 2004), and, while there is debate around the extent to which news media constructs knowledge, it is not disputed. Researchers have found media representations of health to be commonly biomedical, promoting medicine and biomedical resources for supporting (Gwyn, 2001) or combating disease (Clarke & Everest, 2006; Wallis & Nerlich, 2005).

Debates exist on the news media's influence on knowledge construction and the role it plays in health and disease. Some researchers argue the knowledge of health is only partially informed by news media (Anastasio & Costa, 2004; Gillespie & McLaughlin, 2002). Furthermore, Gillespie and McLaughlin (2002) stated that people's existing sociocultural and political situations inform their knowledge of health and illness in addition to news media. Similarly, Carlyle et al. (2008) and Bullock and Cubert (2002) reported that news media is a link between audiences' pre-existing assumptions and reported events. Boda and Szabó (2011) and Roberts (1992) noted the difficulty in measuring the news media's impact on people's knowledge and its effect on values and assumptions, highlighting that research in this area is more focused on opinion rather than knowledge.

Consumption of news media is an active practice, requiring readers to draw on existing knowledge to understand what is presented because articles consist of a selection of information rather than objective truths (Broersma, 2010). However, researchers argue that

the media has a significant although passive and constructive role in social knowledge (Anastasio & Costa, 2004). News media does not necessarily present audiences with unbiased views of health (Briggs & Hallin, 2016). Hodgetts and Chamberlain (2003) reported that the media may offer more than information as it can promote distrust or trust in health professionals, processes, and organisations. Media stories are made up of curated snippets of information. A significant amount of research reported that the news media is one of many sites where social, political, and cultural structures and public attitudes are constructed and reinforced through literature/discourse. Health professionals reported that the media *sensationalise* and *oversimplify* medical constructs (Briggs & Hallin, 2016). News media is not an objective representation of facts; rather, the media is a cultural construct that can portray values (Caldas-Coulthard, 2003).

Historically, medical practitioners dominated media coverage of health and illness information; however, nowadays, health information and advice in the media is provided by a variety of people, including members of the community, academics, journalists, politicians, business owners, medics, and more (Bury, 2013). Featherstone and Hepworth (2005) echo this statement that much of the public's ideas on health and illness arise from common media sources. Clarke et al. (2003) found a shift in the media's reporting on health and illness in approximately the mid-1900s. They reported the shift changed from medicalisation to extending medical practice and forms of authority (Zola, 1972), evolving to what is termed "biomedicalisation". Biomedicalisation goes beyond biomedicine and considers other factors that affect and impact health, such as social structures, industry, the media, politics, technology, science, and the increase and diversification of biomedical information through various public channels. These all influence how audiences identify and self-construct health and illness (Rose, 2007).

Media can portray lay and expert accounts, whose stories get interpreted and become reflected as experiences that people draw on for knowledge and understanding (Berns, 2004; Caldas-Coulthard, 2003). However, newspapers are a key source of health information for the public; people seek information from newspapers for health awareness (Ahmed & Bates, 2013), to avoid health risks (Rachul et al., 2011), and to live a healthy life (Gollust & Lantz, 2009). It is important to investigate the media's portrayal of health conditions such as T2D as much of the public's knowledge and understanding about health and illness like T2D

comes from consumption of the news media (Kenez et al., 2015). It should be noted that there are other forms of media that provide health information; some are more collaborative than others, such as social media, the internet (Dr Google), blogs, and videos (Lee et al., 2014; Mekaru & Brownstein, 2014). This is not the focus of this research though as articles produced by journalists are different to more personal accounts.

News media can fail to provide culturally appropriate or specific information (Hoffman-Goetz et al., 2003). Furthermore, the media often publishes information on the health condition or illness but neglects to provide follow-up facts or behavioural change information (Hoffman-Goetz et al., 2003). People's ideas about health, health conditions, illness, and disease are not developed in isolation; rather, they are influenced and pieced together from information gleaned through exposure to society, cultures, and lifestyle factors that surround them (Featherstone & Hepworth, 2005). Furthermore, dominant constructions of health, health conditions, disease, and illness in the media influence how people feel and behave and construct their own meaning in regards to these conditions and related issues (Lyons, 2000). Research has shown that print and mass media have overlooked the importance of determinants of health when considering the prevention of NCDs (Clarke & Van Amerom, 2008). Petersen (1994) stated that humans have become increasingly reliant on media for reference of what is *normal*. Somewhat in agreement, Holbert (2005) wrote that from a *democratic perspective,* it is the media's job to inform people. Hodgetts et al. (2008) wrote that *all* journalists emphasised medical and lifestyle stories as central in health-related news, presenting lifestyle intervention and biomedical settings as normative. Moreover, determinants of health were considered difficult to cover or one-off topics.

Marková and Farr (1995) wrote that commercial organisations have exploited the representation of health and illness to sell products. Petersen (1994) expanded on this, reporting that ownership of media sources has become narrower, drawing closer the links between institutions, government, and big business, which provides fewer alternative perspectives. This statement is particularly relevant to the Pacific with big business who have stakes in food companies also owning prominent media outlets (Friel et al., 2011; Mialon et al., 2016). Ownership of media sources was outlined in the introduction in Table 4 (page 19).

Thus, the media's coverage or representation of health is not simply a reflection of prominent health issues in society but reflects a competitive process of multiple contributing stakeholders competing for space to define a problem, assign blame, and infer who is responsible to solve the issue (Blumer, 1971; Hilgartner & Bosk, 1988). This is particularly the case with noncommunicable health conditions. The media's effect on human behaviour and psychological processes has been researched extensively from a quantitative perspective (Andzulis et al., 2012; Ferguson & Kilburn, 2009; Klin & Lemish, 2008; López-Guimerà et al., 2010; Sisask & Värnik, 2012; Zeng & Gerritsen, 2014), but there remains a lack of qualitative exploration of media representations of T2D.

Media framing

The definition of media "frames" has been adapted from Gamson and Modigliani (1989), who define frames as rhetorical idea packages, displayed through metaphors, exemplars, and themes. Moreover, the combination of these allows for cultural interpretation and responsibility. Gounder and Ameer (2018) suggested there are two main ways the media frames issues: episodic and thematic. Stefanik-Sidener (2013) built on this, suggesting there are many ways media can frame issues; however, episodic and thematic framing styles are most relevant to this current research. Episodic framing individualises an issue through using individuals as examples while thematic framing frames the issue within a wider societal context. Episodic framing focuses on individual-level decisions and responsibilities, suggesting personal behavioural solutions (Wallack, 1993). Wallack (1993) included an example, highlighting that someone who developed T2D after struggling with their weight being published would be using an episodic (behavioural) frame. This frame would give the reader the impression that weight problems cause T2D, which is not always accurate. Thematic analysis frames illness in a broader social and political context, suggesting public policy solutions (Wallack, 1993). For example, when people read about national rates of poverty or unemployment, they tend to identify broader causes and solutions. In comparison, when stories are only presented about individuals, it often leads to individual blame and limits awareness of more comprehensive approaches to health problems.

The other types of frames are briefly discussed to provide a more comprehensive understanding of the diverse health media landscape. Conrad et al. (2010) introduced the

medical frame, which they report distances individuals from blame, portraying health conditions as outside individual control. This would infer that medical framing falls within thematic framing. However, this framing decreases controllability and, therefore, those with the health condition may lack empowerment (Kvaale et al., 2013). Furthermore, this frame also increases the risk of negative stereotype, stigma, and discrimination (Saguy & Almeling, 2008). Comparatively, Lawrence (2004) presented the behavioural frame, which he stated views behaviour through the frame of behavioural deviance, considering the element of controllability and causation; therefore, people with the noted health condition's behaviour are seen to cause their health condition. Dorfman et al. (2005) reported that utilising the behavioural theme utilised a market justice argument, which means valuing freedom of choice and personal responsibility for behaviour and control. Moreover, this is particularly common when the cause of the illness is labelled as behavioural, and more stigma is likely to assigned/encountered in these cases (Taylor-Clark et al., 2007; Weiner et al., 1988). In summary, the medical and behavioural frames are both individualised frames although the controllability between the two varies.

Jenkin et al. (2011) discussed the complexities of using different frames, such as a medical and behavioural frame verses a structural frame, and the consequences for T2D. For example, in T2D, a contentious dynamic emerged between the food and marketing industry and the public health sector regarding concerns associated with T2D. Jenkin et al. (2011) expanded on this, saying that the food and market industry used a market justice argument that perceived T2D as a medical concern creating a burden on the health system. The public health sector examines the condition through a social justice lens, characterising it as a growing epidemic with consequences that can adversely affect society. Gounder and Ameer (2018) reported that recent research suggests the media's emphasis on health framing has shifted due to a growing awareness of structural determinants. Sei-Hill and Willis (2007) stated that behavioural framing dominates the media, medical framing has been decreasing, and societal responsibility has been increasing, although it is the least prevalent of the three frames. Moreover, Zhang et al. (2016) supported this claim, reiterating that the emphasis in the health media is on individual cause and solution responsibility, despite societal solutions attracting increased media attention (Lin et al., 2016).

Stefanik-Sidener (2013) suggested that neither the behavioural nor the medical lens seek to address systemic problems or "eliminate root causes" of societal health concerns. This suggests a third wider, structural frame, the *societal frame,* which locates human agency within the individual, and socioeconomic and environmental constraints as she stated it is these factors that impact the availability and affordability of health-related choices (Dorfman et al., 2005). This societal frame is aligned with Pacific models of health, such as the Fonofale model or Te Whare Tapa Wha, which consider the multiple factors that weave together to impact one's health. However, a key feature that may be missing from the societal frame is the concept of family as Pacific people are collective, and actions are influenced and impacted by those around them.

Kinder and Sanders (1996) reported two further themes the media utilised to report on T2D: social group frames and causal frames. Notably, these themes influence public opinion. For example, frames that highlight T2D as a bigger issue for minority or poorer groups influence the public to be more concerned about social justice and policy to reduce disparities (Benford & Snow, 2000; Gamson, 1992). However, this frame can lead to the opposite effect when framing social groups disproportionally affected by T2D due to unsympathetic radical stereotypes of the population the article is about (Gilens, 1999). The second theme Kinder and Sanders (1996) present is content regarding T2D's causes, which has been found to support negative stigma as people search for meaning or reason.

Beeney and Fynes-Clinton (2019) expanded on and simplified the theory of framing in their research, discussing how the media could frame T2D in a negative and worrying frame or a positive and more hope-filled frame. Additionally, they found that loss frames dominate T2D in the media even though gain-framed messages have been found to be more effective in promoting prevention behaviours and encouraging health behaviour change (Gallagher & Updegraff, 2012). There is little research available on the benefits of loss-based framing in the media (Simmons, 2020). Rothman and Salovey (1997) presented an explanation of the use of loss-and-gain-based theory, and they suggested that when reporting is gain framed, people tend to avoid risks, and, therefore, it should be superior when reporting health behaviours that are viewed as low risk. Alternatively, when reporting is loss framed, people tend to be more tolerant of risk, which highlights that this frame is more beneficial when promoting perceived risky behaviours. Hodgetts et al. (2008) discussed the recurring

features in medically ordinated stories, drawing on Kitzinger's (2000) concept of media templates and suggesting that health stories are rewritten based on a set format but with a new example. Moreover, reporting using this style enhances the biomedical frame and keeps stories simplistic, with clear links between cause, consequence, and solution.

Although there has been limited research on the *best* way for the media to report on health, studies have reported that due to the media being a source of information for the public, it is important that it portrays a clear, well-informed perspective (Happer & Philo, 2013). Avraham (2002) specified that when primary sources used in news media are from official bodies or experts, such as the Ministry of Health, a medical association, or a medical expert (doctor/surgeon), the publics or community's opinion is less likely to be provided. This influences the framing portrayed in the newspapers as it provides no alternative voice; instead, a taken-for-granted view is provided.

Different perspectives

Researchers have published various claims on the voices represented in the media (Gillespie et al., 2013). These include the journalists, owners of the media companies, advertisers, governments, health professionals, and the public. The way in which the media frames complex multidimensional health concerns such as T2D is important because of who is producing the articles and for what purpose. Moreover, the way in which such issues are anchored in the media influences the possibility of change (Flora et al., 1989). Exploring how T2D-related discussions are framed in local print media is key in improving T2D awareness and sensitivity, improving intervention strategies, and informing public law (Gounder & Ameer, 2018).

Much of the time, the media does not capture the complexities of health experiences (Briggs & Hallin, 2016). Rather, stories are constructed based on journalist assumptions of the narrative and what they believe the audience wants to read (Avraham, 2002; Hodgetts et al., 2008; Rupar, 2006). One of the reasons for this is because stories the media report on health and T2D are not obtained as objective information but are constructed and transformed through the journalists' process of news gathering and applying themes and discourse (Sacco, 1995). A second reason for the media's preference for reporting more

extreme stories in relation to health and T2D is because these are more likely to attract the audience's attention and increase revenue. As a result of journalist bias and reporting precedence, little attention is placed on daily health (Hodgetts et al., 2008; Seale, 2003). A further important factor in news reporting on health topics is decontextualisation, with the news media frequently leaving out details from individual cases of T2D, health, and illness more generally (LaPoe et al., 2022). Journalists have reported difficulty in reporting on determinants of health due to these not reflecting presumed experiences of the typical target media audience, who are considered to be the affluent white middle class (Hodgetts et al., 2008).

Journalists' understanding and interpretation of health and illness are integral in the reporting of health news. Journalists are not objective writers who present objective information to audiences. They are exposed to social practice and rely on assumptions and stereotypes to construct meaning. Moreover, journalists create stories that are influenced by ideologies related to social values, journalistic norms, socioeconomic factors, politics, sexism, racism, classism, biased sources, news organisations' values and opinions, and the structural hierarchy in media organisations (Hart & Gilbertson, 2018).

Journalists in New Zealand of Western descent reported difficulty engaging Māori and Pacific people's perspectives, stating this is due to the poor relationships between the two communities and mistrust of the media (Hodgetts et al., 2008). These findings suggest journalist's stories represent taken-for-granted meaning, influenced by the perception of audiences' wants, finances, and professional norms (Breed, 1955; Ewart, 2005; Rupar, 2006; Singer, 2006). Thus, how health and illness are framed in the media can portray the lack of reliability, biases, and exaggerated manner that the media report (Hodgetts & Chamberlain, 2006). Journalists are perceived as a crucial part in the feedback link to ensure improvements in quality of life can be sustained rather than leading to irreversible damage for humans and nature (Dixit, 1997). In summary, journalism goes beyond who, what, when, and where, which is considered the basic inverted pyramid of journalism, and instead asks how, why, and what now (Fleury, 2004).

The emphasis of news and information provided in the media and whether it aligns with risks has been questioned. Auliciems et al. (1997) found significant differences in reporting

on death in respect to the number of words an article was given, finding over- and underemphasis. They found several explanations to explain their findings: competition for readers, novelty or situation, drama, and commercial interests, and they found less concern about relative risk. Researchers found food-related risk attracts disproportionate attention (Carslaw, 2008; Forsyth, 2001; Harrabin et al., 2003) due to journalists commonly sourcing news from individuals and organisations who are working in the industry, such as universities, government departments, or charities, who have their own opinions and perceptions (Cooper et al., 2012). A similar study was done by the BBC on the accuracy and equal treatment of the coverage of science (including medical topics) that found reliance on a limited number of scientists, and scientific organisations and institutions, which risks biased stories (Picard & Yeo, 2011).

Van der Wardt et al. (1999) reported that media coverage of chronic disease (such as T2D) impacts community members' perceptions of cause, treatment, and effects of health conditions. The media informs the public about health concerns, and their reports may not be balanced or accurate, which could lead to uncertainty and health concerns (Hoffman-Goetz et al., 2003), or contain wrong and potentially harmful information (Pribble et al., 2006). For example, promotion of one health concern more than another can impact risk perception (Borson et al., 2001). Another example is given by Moynihan (2003), who observed that the media commonly exaggerates the benefit of medication and underreports on medication side effects.

The manner in which the media frames a topic such as T2D is important as it impacts the audience's perception on the issue. Several theories have been developed on this. Communication theory states that the media does not mirror reality but, rather, it represents the people, places, events, ideas, and institutions that constitute our world (Gaschler & Frensch, 2007). Agenda-setting theory suggests that the media has the power to direct attention towards specific issues (Gupta & Sinha, 2010). Lastly, framing theory reports emphasising aspects of a perceived reality to draw attention to particular features of a story while minimising others (Shih et al., 2008). In summary, the media has the power to shape audience perceptions and emotions (Eveland & Scheufele, 2000).

There is very little research looking at how diabetes is framed in New Zealand or other Pacific media. Gounder and Ameer (2018) conducted a study investigating how diabetes was defined and responsibility was assigned in the New Zealand print media. Notably, this study considered all types of diabetes (gestational, type 1, and type 2). The discovered results were that the media generally do not specify the type of diabetes they are discussing. Moreover, findings suggested there was significant reference to obesity, with diabetes defined as an individual's medical concern resulting from behavioural choices and causal factors. When diabetes is mismanaged, it can result in in amputation, blindness, kidney disease, and coronary disease.

There has been some international research. Stefanik-Sidener (2013) conducted a study looking at the framing of diabetes in the *New York Times*, suggesting the behavioural frame was most commonly used. Foley et al. (2020) conducted a framing analysis of United Kingdom print news between 1993 to 2013, and they concluded that the framing of diabetes in the media had moved from medical to behavioural, and obesity had become a causal factor rather than a risk factor while other risk factors were noted, such as the term "epidemic" increased dependence on biomedicine. Gollust and Lantz (2009) conducted research looking a major United States news sites to quantitatively evaluate the construction of T2D between 2005 and 2006, and they took a "population health" approach. Findings suggested that exposure to the determinates of health in an article with no mention of T2D affected groups of people differently, depending on their prior values. Rock (2005) used qualitative and quantitative methods to look at how the news media had portrayed diabetes as newsworthy in two major Canadian newspapers, finding that diabetes was portrayed as a sinister medical condition in the Canadian media. Hellyer and Haddock-Fraser (2011) researched the extent to which five leading United Kingdom News Papers reported lifestyle factors associated with cardiovascular disease and T2D, finding that diabetes was less reported than cardiovascular disease and diabetes was not reported as much in popular papers as it was in other papers. Research also found that in a closed diabetes group on social media, the main interest was self-management (Balatsoukas et al., 2015; Coughlin et al., 2018), and the responses people were most interested in related to diabetes research and innovation. The researchers suggested this may be due to people feeling more

comfortable discussing personal issues and self-management in a closed group (Gabarron et al., 2018).

Sociologists argue that linguistic and visual representations of health, medicine, illness, and disease influence the construction of knowledge, beliefs, and experiences of these phenomena (Nettleton, 2002). Researchers report language is not neutral or value free but, rather, language is fundamental to the way people live their lives (Berger & Luckmann, 2023; Gergen, 1985). Language is functional and constructive (Potter & Wetherell, 1987), and it enables information to be shared. Moreover, meaning is embedded in the terms and phrases selected to portray topics (Lyons, 2000). In summary, the words, themes, and imagery displayed in the media are not objective or neutral and can represent competing ideas within society, which have the ability to influence all members of the public's perception of T2D, whether they have the condition or not (Clarke & Robinson, 1999; Lyons, 2000). Thus, the media and journalists need to carefully and responsibly use language (Speight et al., 2012). Moreover, the media is a significant source of health information for communities and the public and has a significant influence on the public's perception of health issues (Gollust & Lantz, 2009; Seale, 2003). People's position in society can be seen as somewhat constructed from media accounts. For example, the concern is the way in which the media portray T2D and the meaning they suggest (Davies & Harré, 1990; Joffe, 2011). Dominant representations influence how people understand physiological changes and the meaning they attach to illnesses (Lyons, 2000) like T2D.

In summary, the determinants of health associated with T2D are typically poorly reported, and there is little culturally specific research that explores how the media is framing T2D. The aim of this research is to address this gap.

Methodology

This chapter begins with a brief overview of the research design, discussing the epistemological and theoretical perspectives that informed the overall methodological approach. I outline the qualitative research design used and the rationale for this. I also discuss ethics and my data analysis process. This study conducted a media analysis from Pacific mainstream media, and the data set was then analysed using Braun and Clarke's (2022) reflexive thematic analysis.

Epistemology: Social constructionism

Epistemology is how one knows what they know and is determined through the lens one uses to make sense of the world (Crotty, 1998).The epistemology for this research is social constructionism that understands that the social reality one experiences is a human construction, which can therefore also be changed by human action (Hjelm, 2014). Social constructionism has led to a shift in thinking about the nature of knowledge (Savin-Baden & Major, 2023). According to this perspective, people are born into a culture or way of thinking and being, which shapes their development (Scotland, 2012). Social constructionism encompasses the way that a group of people collectively think and communicate about the world. Crotty (1998) stated that humans are born into a world of meaning, inheriting a system of significant symbols and viewing things with the lens bestowed by culture. Therefore, one's view is culturally influenced and constructed, determining multiple lenses of truth.

Within the framework of social constructionism, it is believed that there is no universally accepted knowledge; instead, knowledge can be subjective, potentially conflicting, and ever changing, and the process of constructing and disseminating knowledge should be approached critically (Burr, 2015; Padgett & Powell, 2012; Tolley et al., 2016). This emphasises the role of social processes in the creation of language, focusing on language as a domain for the exercise of power and creation of meaning. Language is seen as a critical site of knowledge construction (Burr, 2015). Language, comprehension, attitudes, actions, and ideologies are shaped through the influence of context, religion, pollical factors, social norms, and historical and cultural factors (Braun & Clarke, 2022; Gergen, 1985; Patton, 2002).

Social constructionism enables a critique of dominant power structures (Dreher, 2016; Gamson & Modigliani, 1987), such as the media (Kellner & Share, 2005; Van Dalen, 2012), political agendas, religion, industry, and social relationships (Harding, 2004). Culture impacts how people categorise, clarify, and recognise parts of their world (Burr, 2015), including health and illness. A democratic media system—in an ideal world—would provide readers with an unbiased understanding of social issues affecting their daily lives. However, this rarely occurs, and, instead, the media tends to promote distrust due to using curated techniques to report a "good" story (Lowney, 2008). Chamberlain and Hodgetts (2008) report on how the media provide experiences and "educate" on how life, including health and illness, are constructed. Moreover, people use the media to access news stories with which they construct their beliefs and narratives, both negative and positive, about health and illness. Use of social constructionism enables the researcher to consider the language and meaning that the media portray and, therefore, what the audience perceive as true.

Dominant discourses and systems of power created and portrayed through the media create norms, which are then maintained by society (Foucault, 2011). Since these stories are part of the "social process," it is crucial to analyse them meticulously, using methods, as suggested by Chaney (2002), that involve viewing the familiar as unfamiliar and the ordinary as extraordinary to uncover their meaning (Lowney, 2008). This can also enable the researcher to consider variability (Lawrence, 2004), which, in this research, may occur between Pacific countries or between New Zealand as a more developed Western country and Pacific Island nations.

By using a social constructionist epistemology, I can examine how T2D is portrayed and manifested in the media, which impacts how T2D is conceptualised by people in the Pacific (Galbin, 2014). Social constructionism is relevant to my research as it encourages the researcher to consider the sociocultural context and analyse the language and discourse used in media articles. Moreover, it can also support and enable enquiry of power and control through looking at how language is used to portray power and knowledge (Mumby, 1989). Through an interpretive lens such as social constructionism, one can seek meaning to explain and interpret others' physical, social, emotional, and spiritual viewpoints (Thorogood & Green, 2018). This method of research requires a level of reflexivity from the researcher to minimise researcher bias, which is later discussed (Yanchar et al., 2005).

Research design

The research conducted a reflexive thematic analysis of Pacific media of T2D. Table 5 illustrates the media sources selected from the specified Pacific countries, along with the respective number of articles included in the dataset for each country. A complete list of media sources used is in Appendix A. Depending on availability, up to five of the largest article media sites were chosen from each nation. The audiences of Pacific media are generally relatively small due to population size and thereby produce less news (Ross, 2020).

Table 5

List of Countries and Media Sources Selected

Country	Media sources	Number of articles
New Zealand	New Zealand Herald, Radio New Zealand, Tangata Pasifika, Pacific Media Network	40
Samoa	Samoan Observer	12
Tonga	Matangi Tonga, Kaniva Tonga	6
Vanuatu	Daily Post	5
Niue	TV Niue	3
Fiji	Fiji Village, Fiji Times, Fiji Sun	37
Total		**103**

The Pacific countries used in this research were ones where people can be classified under the term of "Pacific people" (Baba, 1985) and had news media sources with freely available online news articles. A Google search was used to access media sites as this is how the general population with internet access are able to access media articles. Countries had to have a media landscape with enough scope for meaningful analysis. This meant articles needed to contain enough content for themes and meaning to be extrapolated (Braun & Clarke, 2022). New Zealand was selected for comparison because it is situated in the Pacific region and has a substantial population of Pacific residents; it has also been a focal point for

research involving Pacific communities. Including New Zealand enabled a broader and more inclusive perspective of Pacific voices, which also assists in reducing bias or prejudices that can arise from a narrower perspective (Alefaio-Tugia, 2022; Anae, 2010). Moreover, including New Zealand and Pacific nations supported more awareness of cultural nuances evident in Pacific nations (Abel et al., 2001). Other countries where media sources came from included Fiji, Samoa, Tonga, Niue, and Vanuatu. Despite being a sizable Pacific nation, Papua New Guinea was omitted from the research due to its substantial size, both in terms of population and landmass, which differs significantly from other Pacific nations (Taylor, 2012).

A comprehensive exploration was done to gain a broad perspective. Therefore, the search criteria included the key word “diabetes” typed into the search bar on Pacific media sites, and “Pacific diabetes” typed into the search bar on New Zealand media sites. Many of the media sites only included articles from the last five years, but for those available, articles published within the last ten years were considered. After the initial media analysis that identified all articles that mentioned diabetes, I narrowed these down to articles focusing only on T2D to exclude those focusing on type one diabetes and gestational diabetes, or articles that only briefly mentioned diabetes but were focused on another topic.

Analysis of these articles began when the news websites were being reviewed and titles assessed. Each article was read to gain familiarity with the article’s content to see if it was relevant. Relevance included whether T2D was a dominant focus in the article; if it was only mentioned once in relation to another topic, the article was not selected. This process involved browsing Pacific media websites and rereading articles to become familiar with the content. The titles and links to these websites were then collated into an Excel spreadsheet, (as seen in Appendix 1) where the content of each article was summarised and coded according to the country where the article originated and given a number, such as N1, F30 (see Table 6).

Table 6

Country and Affiliated Code

Country	Affiliated code
New Zealand	NZ
Fiji	F
Vanuatu	V
Samoa	S
Tonga	T
Niue	N

Research process

The research process undertaken to analyse how T2D is portrayed in Pacific media articles involved several steps, starting with a content analysis and moving to reflexive thematic analysis. Firstly, the analysis involved reading each of the articles, coding, writing notes, and rereading. The immersion in the articles enabled similarities and differences between articles to be noticed and to be able to compare different nation's articles, different media site's articles, and different voices within the articles. I did an initial coding sheet to determine codes, and the frequency of terms in the media headlines, then in the media content, and created graphs to summarise information across the different countries. I then moved from codes to explore themes and meaning that occur across articles.

The articles collated from the media websites ranged from those that were short and concise, specifically focused on a particular topic in relation to diabetes information, to advice reporting on an event. In order to investigate where discourse was located within social processes in media articles, the articles were closely examined and read numerous times to find recurring themes. The articles were collected directly from news sources as

this enabled them to be analysed in the same form they were intended to be consumed by audiences. Assessing media articles and developing themes aided in gaining understanding of the Pacific media's portrayal of T2D.

Data analysis

Data was collected through a media analysis and analysed using Braun and Clarke's (2022) reflexive thematic analysis. Reflexive thematic analysis is a method that can be used to systematically identify, organise, and suggest insights into patterns of meaning or themes across data sets (Braun & Clarke, 2012). This enables the researcher to make sense of collective and shared meaning of experiences (Braun & Clarke, 2012), aligning with the study's aim of exploring Pacific media's portrayal of T2D. A significant advantage of reflexive thematic analysis is flexibility: it does not specify an ontological or epistemological framework, nor is it linked to a specific theory or dictate how data should be collected. Braun and Clarke's (2022) steps provide a clear description and guidance for analysis, and this is key as it provides clarity for the reader and enables them to evaluate the trustworthiness of the findings (Nowell et al., 2017). Reflexive thematic analysis allows the researcher to identify and analyse the patterns related to the area of interest within the data as well as organise and describe the data. Reflexive thematic analysis is commonly used in qualitative research and is useful in aiding meaning construction. Furthermore, interpretive research values subjectivity and aims to richly describe multiple realities (Merrigan et al., 2009). This is relevant in the current study as different perceptions of the same phenomena are being analysed.

Reflexive thematic analysis is not dictated by prior knowledge of the topic; rather, the interpretation of the literature is based on the researcher's interpretation of theme frequency, patterns, information recurrence, and meaning located. It is important that reflexive thematic analysis is conducted in a precise, consistent, methodological manner in order to yield accurate and meaningful results from sometimes complex or nuanced qualitative data (Nowell et al., 2017). The stages of reflexive thematic analysis allow for a systematic, traceable, and exhaustive map of data analysis.

The objective of the analysis was to identify the media's portrayal of T2D in the Pacific, what they are portraying around T2D,; how they are portraying it, such as negatively or positively; and whose are the predominant voices being portrayed in the news media. Reflexive thematic analysis has been identified as useful for investigating conceptualisations around social constructs of meaning (Willig, 2013), with the ability to go beyond the inferred meaning and investigate the underlying assumptions and ideas presented about T2D (Cain et al., 2017). Moreover, reflexive thematic analysis enabled patterns within the data to be identified, and this enabled the data to drive the generation of key themes (Barnett-Page & Thomas, 2009). No prior theories defined the coding process—codes were discovered from the data (Glaser & Strauss, 2017).

Phase one—Familiarisation

Familiarisation with the data commenced with immersion in the data, reading and rereading the selected articles. Notes of thoughts and impressions were made in a column in the spreadsheet during this process, and commonalities and different voices and styles were noted in the articles. Initially, this phase involved reading the data as data (Braun & Clarke, 2012). Following on from this, analysis involved more active engagement with the data, thinking about what the data means and being guided by questions suggested by Braun and Clarke (2022): how the article makes sense of T2D, what might be influencing this perspective, and assumptions suggested in the article.

Phase two—Generating initial codes

Codes were developed after immersion in the entire data set, enabling the researcher to connect with the data and develop themes and codes that encompassed the data as a whole. When researchers engage with data and start to become familiar with it, they begin to notice what stands out, such as behaviours, voices, events, activities, strategies, states of mind, meanings, patterns, relationships, actions, and consequences (Savin-Baden & Major, 2023). Moreover, this enabled the researcher to establish meaning and different language, and gauge the importance of the topics. Words, phrases, or meaning that was perceived as being similar, such as obesity, obese, fat, pounds, bulge, and weight, were grouped together, or phrases that related to solutions or T2D. A master coding document was

created, and documents were reviewed to ensure accuracy of coding and to enable further development of thoughts and ideas.

Phase three—Searching for themes

The third phase involved reviewing the master coding document and organising the codes into substantial topics and/or concepts. Some of the initial codes were disregarded, and some of the codes were combined when alignment was found. The boundaries and definitions of codes were considered as each theme needed to hold meaning to justify itself (Braun & Clarke, 2022). During this stage, it was aimed that core concepts would start to be identified as shared patterns of meaning, leading to initial themes.

Phase four—Reviewing themes and refining and naming themes

This stage involved reviewing initial themes, providing quality control, and reorganising themes. This stage was used to ensure that themes were distinct from one another yet still aligning with the research question (Stainton Rogers & Willig, 2017). This stage was also used to check experts for their suitability. Furthermore, during this phase, theme names were considered for meaning and to ensure they accurately reflected the data (Terry et al., 2017). During phase four, and continuing into phase five, analysis moved from being data driven to theoretically informed interpretation of the data. Given the time constraints of the research, I was aware that, at points, exploration had to stop, despite the ability to further explore rich data. My interpretations of data are only one interpretation of the presented reality, and others may offer different explanations/interpretations (Clifford & Marcus, 1996).

Phase five—Defining themes

Stage five involved looking at the stories created through the themes and how these contribute to the research question and overall data. This phase also involved the finalising of theme names.

Phase six—Writing up

This is where the final stage of analysis was undertaken. Data analysis and relevant literature and research were woven together to present and portray findings and representations of T2D in articles on Pacific media sites (Terry et al., 2017).

Ethics

To produce rigorous research, I have engaged in constant reflexivity during the research process. This included critical questioning and awareness of my assumptions, values, and social position and is addressed in the reflexivity section. The ethical issues were considered minimal due to articles used in the research being publicly available media sources. A low-risk ethics application was approved by the Massey University Human Ethics Committee (Ethics notification number: 4000028428).

Reflexivity and rigour

Reflexivity is an important aspect of qualitative research because a researcher's sense of identity has an influence on the research design, methodology, and data interpretation (Marsters, 2017). Qualitative research is contextual, so it is therefore important to acknowledge factors that may influence the researcher's perspective, process, and assumptions to support the applicability and transparency of the findings (Dodgson, 2019). Interpretive data is reliant on the researcher's lens; however, the continuous practice of reflexivity through documentation of thoughts and process can improve reliability in the research (DeCuir-Gunby et al., 2011).

To produce rigorous research, I have engaged in constant reflexivity during the research process. This included critical awareness and questioning of my assumptions, values, and social position in society. This process took place throughout the duration of my research. I had a clear selection criteria for the media articles and chose and followed appropriate qualitative methods after consultation with my supervisor. Reflexivity was particularly important during the analysis process while reading and interpreting data to account for subjectivity. During the generation of initial codes, I noted that coding would inevitably be influenced to some degree by my personal experiences and education, making particular

meanings or experiences more salient or obvious (Gerstl-Pepin & Patrizio, 2009). Throughout the process, I continued to engage with my supervisor and review my research.

Acknowledging positionality is also important in qualitative research (Gerstl-Pepin & Patrizio, 2009). I have been working and researching in Pacific health and have spent twenty years of my life living in Fiji, so I am passionate about health in the Pacific. I am also studying health psychology. While I am not Fijian, I still spend long periods of each year in Fiji. I originally was going to research dysphasia and interview Pacific people about their experiences of swallowing difficulties, and I spent many hours consulting with Pacific people about this project, but I found it very difficult to recruit participants, possibly as I only speak English. Therefore, I decided to change my research to investigate T2D in the Pacific media. This was a topic I was passionate about due to rising T2D rates in the Pacific and because I have done some work in Fiji supporting people with diabetes. Using media sources was practical from a research perspective as the articles already existed online. I was also curious as to how media has portrayed T2D in the Pacific as media is an important source of information for pacific people, shaping perceptions of health issues such as T2D, the effects and the solutions (Chamberlain & Hodgetts, 2008; Cottle, 2000; Van Dijk, 2000) and I came with some knowledge as well as studying health psychology. Media has important power in current society, and it was important to me to compare New Zealand with other Pacific media source depictions.

Results

This chapter begins by highlighting the relevant findings to the research question: how does Pacific media portray T2D? Four overarching themes were developed from the dataset: (1) defining T2D, (2) the causes of T2D, (3) the effects of T2D, (4) and how T2D can be addressed in Pacific communities. The findings for each theme are presented below.

Theme 1—What is type two diabetes?

This theme is intended to firstly describe how T2D was labelled and described across all the sources through an initial content analysis. T2D was very much framed as a disease—something to prevent, tied to the way of modern living, and intertwined with contemporary lifestyles, regardless of country or source of the media. The most common classification in the media for T2D was *disease,* with 33% of articles classifying this, as shown in Table 7.

Table 7

Number of Times and Percentage (%) the Term is Used to Describe T2D in Pacific Countries in Selected Media Articles

	Countries													
Terms	**Fiji**		**New Zealand**		**Samoa**		**Vanuatu**		**Niue**		**Tonga**		**Total**	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Disease	11	30%	10	25%	9	75%	3	60%	0	0%	1	17%	34	33%
Diagnosis	7	19%	14	35%	4	33%	1	20%	0	0%	1	17%	27	26%
Problem	1	3%	10	25%	1	8%	2	40%	1	33%	0	0%	15	15%
Epidemic	0	0%	4	10%	2	17%	0	0%	0	0%	1	17%	7	7%
Condition	2	5%	11	28%	7	58%	1	20%	0	0%	1	17%	22	21%
Crisis	2	5%	4	10%	0	0%	0	0%	0	0%	0	0%	6	6%
Issue	2	5%	5	13%	2	17%	1	20%	0	0%	0	0%	10	10%
Illness	0	0%	6	15%	2	17%	1	20%	0	0%	0	0%	9	9%
Preventable	1	3%	2	5%	2	17%	1	20%	0	0%	0	0%	6	6%
Non Communicable Disease	12	32%	1	3%	0	0%	1	20%	1	33%	3	50%	18	17%
Total Number of Articles in Study	37		40		12		5		3		6		103	

When looking at the totals in Table 7, disease, diagnosis, condition, and NCDs were the most common codes across all the sources, followed by problem and issue. This is not surprising given the seriousness of T2D. Boyd (2000) stated, “disease is the pathological process, deviation from a biological norm. Illness is the patient’s experience of ill health, sometimes

when no disease can be found. Sickness is the role negotiated with society" (p. 10). The media emphasised the biomedical aspects of the disease initially, but, later, addressed it as an illness when discussing the likelihood of many people being unaware of their condition.

Most of the articles from New Zealand media presented T2D as a disease (33%), diagnosis (26%), and condition (21%) caused by lifestyle—so, it was considered a lifestyle disease attributed to the way people now live and eat. After this, there was a lot of variation, but T2D was coded as a problematic health condition. It was unexpected how T2D was framed as a disease so attributed to lifestyle. Interestingly, only 4% of the total articles specifically named T2D as a lifestyle disease, which is surprising when most research would imply T2D as a disease attributed to lifestyle (see, for example, Manderson & Jewett, 2023) without specifically stating this. For example, NZ19 called T2D a "*disease related to the way which we eat and live*". In the Pacific sources, two Samoan articles (17%) and one article (3%) published in Fiji referred to T2D as a "*lifestyle disease*" as seen in Table 8.

Table 8

Number of Times and Percentage (%) the Different Descriptions of Disease that T2D is Framed as in Pacific Countries' Selected Media Articles

	Countries													
The different descriptions of diseases that T2D is framed as	**Fiji**		**New Zealand**		**Samoa**		**Vanuatu**		**Niue**		**Tonga**		**Totals**	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Disease singular	1	3%	4	10%	3	25%	0	0%	0	0%	1	17%	9	9%
Disease relative to age	0	0%	1	3%	0	0%	0	0%	0	0%	0	0%	1	1%
Disease Preventable	0	0%	1	3%	0	0%	0	0%	0	0%	0	0%	1	1%
Disease refrenced as a NCD	9	24%	0	0%	1	8%	4	80%	1	33%	2	33%	17	17%
Disease referenced to lifestyle	1	3%	1	3%	2	17%	0	0%	0	0%	0	0%	4	4%
Killer disease	1	3%	0	0%	0	0%	1	20%	0	0%	0	0%	2	2%
Total number of articles that mention disease	12		7		6		5		1		3		34	33%
Total number of articles in study	**37**		**40**		**12**		**5**		**3**		**6**		**103**	

The articles from Fiji showed a more balanced distribution between disease (30%) and NCD (32%) compared to those from New Zealand. F1 called T2D "*a lifestyle disease that can be prevented*". V1 labelled T2D as a "*silent disease*" due to an International Diabetes Foundation (2015; although uncited) report, which found that 50% of those with the disease

were unaware of having it. F31 wrote "*it is a silent killer in our midst*!" when referring toT2D. In F23, the Diabetes Fiji Chief Executive referred to "*Diabetes being the second killer disease in Fiji*". However, the article does not clearly identify the disease they found to be the primary cause of death but contrasts with several sources that assert T2D as the leading cause of death in Fiji.

The second most common classification across all articles was *diagnosis*. This is interesting considering that the Pacific region has an estimated 50% of undiagnosed T2D cases (Chan et al., 2014). Undiagnosed diseases lead to a rising incidence of the disease and other comorbidities as it is more difficult to fix a "problem" when unaware or, in this case, without more awareness (Saeedi et al., 2019). Moreover, early diagnosis decreases complications (Falagas et al., 2007). Diagnosis is a medicalised term implying somebody else has authority (Jutel, 2014) in determining what the person with T2D is or is not. None of the articles articulate what the threshold is or what it means to be diagnosed with T2D.

NZ5 relayed a doctor's statement: *"If you're diagnosed in your 20s, you're in your 40s when you have your heart attack or kidney failure."* Additionally, the same article quoted an individual with T2D, advising, *"message to people newly diagnosed or currently managing the disease is to educate themselves".* NZ11 reported, *"Diabetes Foundation Aotearoa member … was diagnosed with diabetes in 1990 and is taking Empagliflozin".* In S2, a member of a health-based NGO, METI (Matuaileoo Environment Trust Incorporation), stated, *"Moving to a plant-based diet would enable patients diagnosed with lifestyle diseases such as diabetes to address their health challenges".* It is evident across the articles from different countries in the dataset that diagnosis is commonly associated with acting against T2D, potentially preventing or improving its prognosis. Consequently, it raises uncertainty about whether the same diagnostic criteria are consistently used by all "diagnosticians" within one country or across various countries.

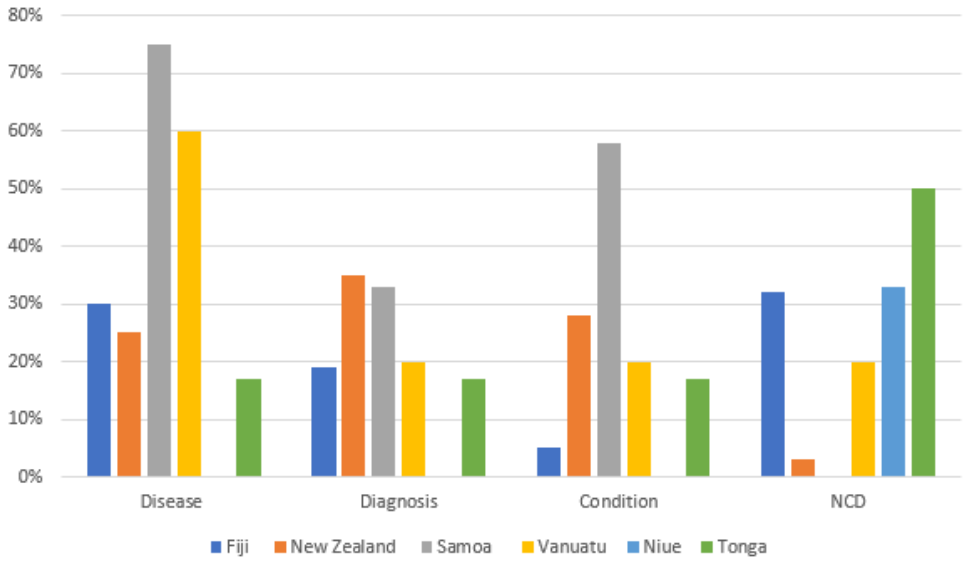
V5's statement was associated with this, showing that an earlier diagnosis enables better treatment for T2D and not such dire consequences. This article stated, "*What we'd like to see is for people to be getting diagnosis of their diabetes and their blood pressure problems at an earlier stage. Too many people are waiting until they become very ill before seeking*

medical help". The theme of diagnosing T2D early to enable better health outcomes recurs throughout the articles that mention diagnosis.

As seen in Figure 6, another common term used was *NCD*. Noncommunicable diseases are often categorised differently in research and media (Adjaye-Gbewonyo & Vaughan, 2019). This term appeared in 17% of the articles. Interestingly, none of these articles were from Samoan publications, and the sole article from New Zealand discussed T2D as a NCD within the context of Pacific countries. Type two diabetes was referred to as an NCD in articles from Fiji (32%), Tonga (50%), Vanuatu (20%), New Zealand (3%), and Niue (33%). Notably, NCD appeared to be a more common term used in Pacific media as opposed to New Zealand articles. This is a medical term used to describe diseases that are not spread between people through things like infection, but, rather, they are due to unhealthy behaviours (Gani, 2009). In epidemiology, these types of disease are written about as bigger threats in low- and middle-income countries (Tolley et al., 2016). Noncommunicable diseases are the leading cause of mortality, morbidity, and health expenditure in the Pacific (Hou et al., 2016; Japan International Cooperation Agency, 2013). Framing T2D as an NCD rather than just a disease imposes more individual blame, suggesting the individual has caused themselves to get the illness through their lifestyle choices (Herrick, 2017). Furthermore, the framing could also be impacted by perceived audience knowledge based on the country's health messaging. For example, in Fiji, there is a lot of messaging from authorities, like the Fijian Government, Ministry of Health, and Diabetes Fiji, about NCDs.

Figure 6

The Four Most Common Words Used to Describe T2D by Percentage and Country



Twenty-eight percent of all New Zealand articles (as seen in Figure 6) used the term *condition*, prefacing this with strong descriptors, mostly negative, such as *long-term* condition, *lifelong threating* condition, *countries fastest growing health* condition, and occasionally with *chronic yet treatable* condition. In NZ5, the article said, "*if left untreated the condition can ravage the body"*. This statement sounds quite threatening. The conveyed message appears to assign considerable blame to the individual, implying that they have autonomy or control over acting. However, if they "choose" not to act, their body will suffer severe consequences. The term "condition" labels the person with T2D in an "othering" frame that divides people from other members of society (Akbulut et al., 2020).

Other terms used to describe T2D in New Zealand included *tidal wave, epidemic, explosion, one of the biggest killers in New Zealand, sad, and preventable*. In NZ5, a doctor is quoted as saying, "*type 2 diabetes (T2) is a tidal wave set to devastate our health system*". NZ5 also stated, "*New Zealand is on trajectory to reach a disease of epidemic proportions*". This statement exemplifies the magnitude of the problem. Additionally, NZ5 wrote, "*Experts are accusing the Government of ignoring a disease that's set to bankrupt the health system. New Zealand is on a trajectory to reach epidemic proportions of the disease in the next 20 years*". NZ5 used experts (health professionals and health groups) to add weight to the issue and frame the problem as a public health and financial burden. Moreover, the article seemed to

place blame on the government, potentially causing individuals with T2D to lose confidence in government support. This could foster fear and uncertainty regarding the accessibility of a supportive health system for them. Notably, the New Zealand media, exemplified by NZ18, employed emotive language, like, *"facing blindness, a result of the diabetes explosion*". Although NZ18 was the sole article using *"explosion",* the term suggests a rapid surge, akin to a pandemic, highlighting the swift occurrence of T2D. NZ6 framed T2D as an epidemic, linking it to a region in New Zealand with a high population of Pacific people: *"South Auckland's diabetes epidemic is the subject of a new study released in The Lancet medical journal".* While acknowledging the disproportionate impact on Pacific and Māori communities, the New Zealand media also portrayed it as a broader population issue. For instance, NZ17 highlighted, *"Diabetes is one of New Zealand's biggest health challenges",* and NZ25 reported it as *"one of the biggest health issues New Zealand is grappling with*", even describing it as "*one of the biggest killers"*.

In the other Pacific media articles, T2D was also framed as a significant health issue. Tonga media included, "*alarming figures, heavy weight* and *easily avoided"*; in Fiji, comments included "*significant, alarming"* and the more positive *"controllable"* and *"diabetes survivor"*. S5 framed T2D as a global problem: "*Diabetes has become one of the greatest global health challenges of the 21st century*". While S5 refers to T2D being a global problem, F12 referred to what wants to be achieved at a global level: "*There is a globally agreed target to halt the rise in diabetes*". However, none of the articles addressed the issue of how other nations are going to help Pacific nations address the problem or reach the target.

Type two diabetes was framed as preventable in 6% of the articles. NZ21 quoted a student saying the reason T2D is sad is because it is preventable. S8 further reported, *"the disease can be prevented for little money"*, prefacing this statement by saying it causes sadness. NZ7 highlighted that T2D ranks among the leading, potentially preventable causes of death for both Māori men and women as part of a broader list of NCDs. S6 quoted the Head of the Kidney Foundation discussing patients who were undergoing dialysis treatment and also suffering from other illnesses/diseases such as T2D, remarking, "*diseases are preventable*". V1 quoted their Minister of Health, stating, *"the good news is the disease is preventable"* in relation to their rising cases of T2D. F16 quoted the Chairperson for Diabetes Fiji, attributing

individual responsibility to people by stating, *"Diabetes is preventable and measurable, yet people do not take necessary measures".*

Type two diabetes was also linked to emotions, with 3% of articles reporting feelings of sadness. It is evident that emotion is not regularly reported regarding how people with or affected by T2D feel. "*It's sad, it's preventable and I want to be part of the change"* (in reducing T2D cases) was a comment made by a student in NZ21. In S8, the director of a diabetes NGO commented, *"The story of diabetes in the Pacific is saddening"*. The use of sadness as an emotion through personal stories was only mentioned in one article from a New Zealand source. In NZ30, a Samoan man with T2D was quoted as saying, *"It's very sad for me"* in relation to how he feels, and the article goes to say he is mistreated, ostracised, and isolated by others, including his family. Other media used the language to inspire fear indirectly through the scope of the problem or through the effects. As is seen in V4, *"development is killing us"* and in NZ30, *"they say it is a sort of dangerous thing".*

Anger and frustration were sentiments mentioned in several New Zealand articles although not explicitly stated but, rather, implied. These emotions are linked to the perceived lack of access to medication or the disparities in those affected by T2D. NZ11 highlighted delays, mentioning "*Māori and Pacific Islanders who are bearing the costs of death and dialysis, Baker said. 'It's led to untold suffering and countless patients progressing to renal failure'".* NZ8 reported: "*Diabetes Foundation accusing Pharmac of 'penny pinching' on drugs".*

Theme 2—Causes of T2D

This theme covers how the media talks about the causes and rise of T2D within the Pacific. The main causes that the media articles have highlighted are food and/or diet, weight gain and/or obesity, globalisation and/or development, lack of access and/or medicine, and money and/or cost.

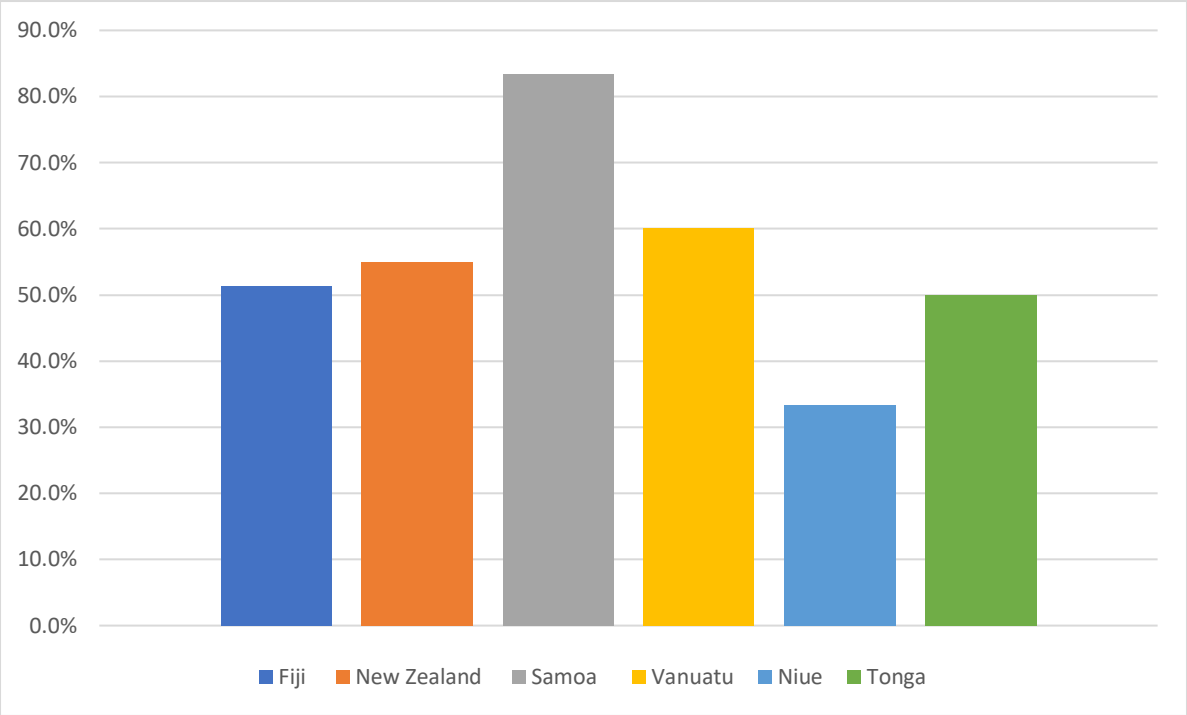
Food and/or diet

Food and/or diet is the most commonly discussed factor related to the cause of T2D in the Pacific. Food and/or diet was mentioned in 56.3% of the total articles, as seen in Figure 7.

This was broken down by country as follows: diet/food was mentioned in 51.4% of Fiji articles, 55% of New Zealand articles, 33.3% of Niue articles, 60% Vanuatu articles, 50% of Tongan articles, and 83.3% of Samoan articles.

Figure 7

The Percentage of Articles That Mention Diet and/or Food by Country



Many of the articles consistently suggest specific food groups are to blame across the countries. As see in Table 9, the common foods groups mentioned as causes were processed food, junk food, and sugar, or the articles did not specify what foods they were blaming.

Table 9

Food Groups That Have Been Attributed to Causing T2D

	Countries													
Type of food that has been mentioned:	**Fiji**		**New Zealand**		**Samoa**		**Vanuatu**		**Niue**		**Tonga**		**Totals**	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Does not specify the type of food	2	25%	2	33%	1	14%	0	0%	1	100%	0	0%	6	6%
Processed food	1	13%	1	17%	2	29%	0	0%	0	0%	1	50%	5	5%
Junk food	1	13%	2	33%	3	43%	0	0%	0	0%	0	0%	6	6%
Sugar	0	0%	1	17%	1	14%	1	100%	0	0%	1	50%	4	4%
Red Meat	4	50%	0	0%	2	29%	0	0%	0	0%	0	0%	6	6%
Total articles that mention food causing T2D	8	22%	6	15%	7	58%	1	20%	1	33%	2	33%	25	24%
Total articles in study	37		40		12		5		3		6		103	

The consistent message across all media sources reinforced the idea of food as a cause for T2D. Specific food groups and individual items are consistently identified and directly associated with health issues. This further positions specific food groups as undesirable, suggesting they should be avoided and that people who consume them are responsible for this decision. For example, in S4, the Executive Director of METI stated, "*staying away from animal-based products and oil*" will prevent and cure T2D. The message in F6 appeared to be suggesting that *"risk factors … such as fatty, oily and fried foods, eating large amounts of butter and ghee, red meat, fast food, foods high in salt, sugary drinks and foods, high-carbohydrate and starchy foods*… [are] … *caused by the over-consumption of foods that are high in cholesterol, fat, sugar and salt"*. In NZ26, a United States professor visiting New Zealand suggested, "*high carbohydrate and fat foods, such as potato chips, … were causing health problems"*. He further stated that an *"overuse of sugar in processed foods had seen a massive rise in diabetes around the world"*. In T2, a Tongan nephrologist said, *"people should avoid eating fatty food"* and that "*consuming too much high-sugar soft drinks … may lead to weight gain, diabetes"*. Thus, it was not the volume of and type of food such as fried and oily types of food that were the focus of things to avoid or limit. Food was also deconstructed to components such as sugar and fat, as opposed to a diet, food practices, or socially located eating.

Red meat as a risk factor impacting T2D was mentioned in 6% of articles. One third of these articles were from Samoa—an example of this is S2 reported that *"consumption of meat was not encouraged"* with the information being a part of articles that promoted vegan (style) eating—and the other two thirds were from Fiji. In F6, it was reported, *"risk factors associated with them … red meat"*; in F23, *"quit eating red meat"*; in F24, *"red meat … must be avoided"*; and in F25, *"eating healthy was important … lean meat"*. F25 was suggesting lean meat was healthier while the other Fiji articles were suggesting not to eat red meat to avoid or improve T2D. Thus, there is some inconsistency in how red meat is covered in the media from avoidance to fat content. These inconsistencies could be leading to confusion for the readers of the articles.

It was common for the Pacific Island media sources to use global health sources, such as WHO, in their articles to strengthen arguments. For example, in F5, the WHO (though

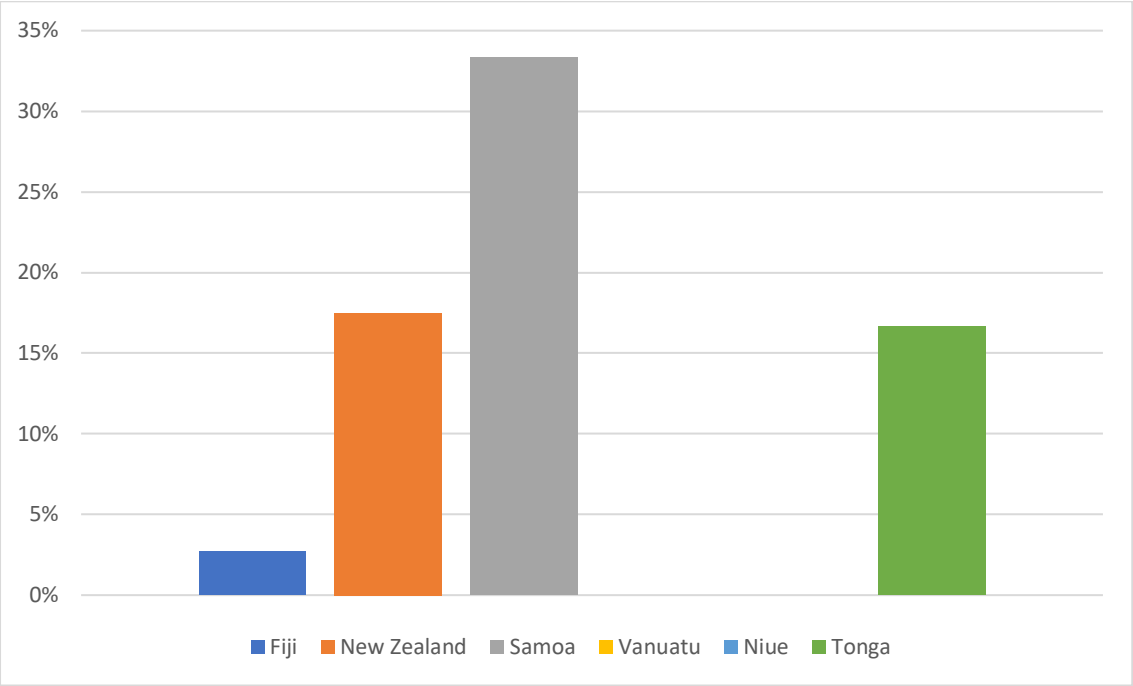
uncited) said, "*abandoning traditional food and moving towards processed and modified food*" is a cause of diabetes mortality in Fiji. Interestingly, the Fijian and Samoan media started to unpack diet with a little more complexity, pointing to Western styles of eating, food preparation, consumerism (processed food), and cultural practices of eating. S12 reported, "*Samoans' weakness is food*". F6 classes T2D as a NCD but one that is communicated through families and generations: "*create a vicious cycle within multiple generations of the same household, because dietary and lifestyle habits are learned behaviour"*.

In comparison, the New Zealand media pointed to more systemic factors contributing to change in diets but, largely, did not indicate food precarity. Within NZ19, a Pacific chef in New Zealand stated, *"there's no shortage of food. There's just a shortage of food with the right nutrition and a lot of these—we wouldn't even call them food—have replaced the traditional diet*". NZ5 reported a Māori health and nutrition lecturer's opinion, stating *"Limits on the marketing of unhealthy food to children is another must … That could be hard because they are exposed to 26, on average, junk food adverts a day. Just walking to school they're bombarded"*. Conversations began to touch on the complexities of, and intersections between, the advertiser's role, marketing strategies, and the diverse nuances in food and eating practices across the countries, but this was very limited and only with New Zealand sources.

There is some direct mention of the links between diet, obesity, and exercise at times as being leading causes of T2D, but, at other times, the links between eating practices and weight are very much assumed and not explicitly mentioned. The majority of the articles that discuss diet and weight suggest that poor diet choices lead to weight gain and/or obesity, which can lead to T2D. This was seen in 16% of articles. As seen in Figure 8, all countries, apart from Vanuatu and Niue, draw a correlation between diet increasing weight and leading to T2D.

Figure 8

The Percentage of Articles that Mention Diet Increasing Weight and Leading to T2D.



Between the different countries, the messaging was very much the same. NZ1 quoted a mother in the Pacific New Zealand community with diabetes who is battling with her weight as saying, "*I have tried every diet and new food fad going*". In NZ21, a person with diabetes comments, "*you have got to be considerate of your diet*". In S10, a community member with T2D stated, "*basically it boils down to eating the wrong food, eating food with high amounts of sugar, and the body can't deal with such volumes*".

As seen in Table 10, two articles from Tonga (T3 and T5) discussed obesity as a cause of T2D without mentioning diet. S11 reported obesity as the result of a lack of exercise, which, in turn, leads toT2D. NZ31 reported on type two *"diabetes and obesity as separate entities … diabetes and obesity are major problems"*. Thus, while food and/or diet is the most commonly discussed factor related to the cause of T2D in the Pacific, it is important to note that New Zealand media messaging was framed differently except with regards to weight.

Table 10

How Often T2D and Weight are Mentioned Together in the Articles

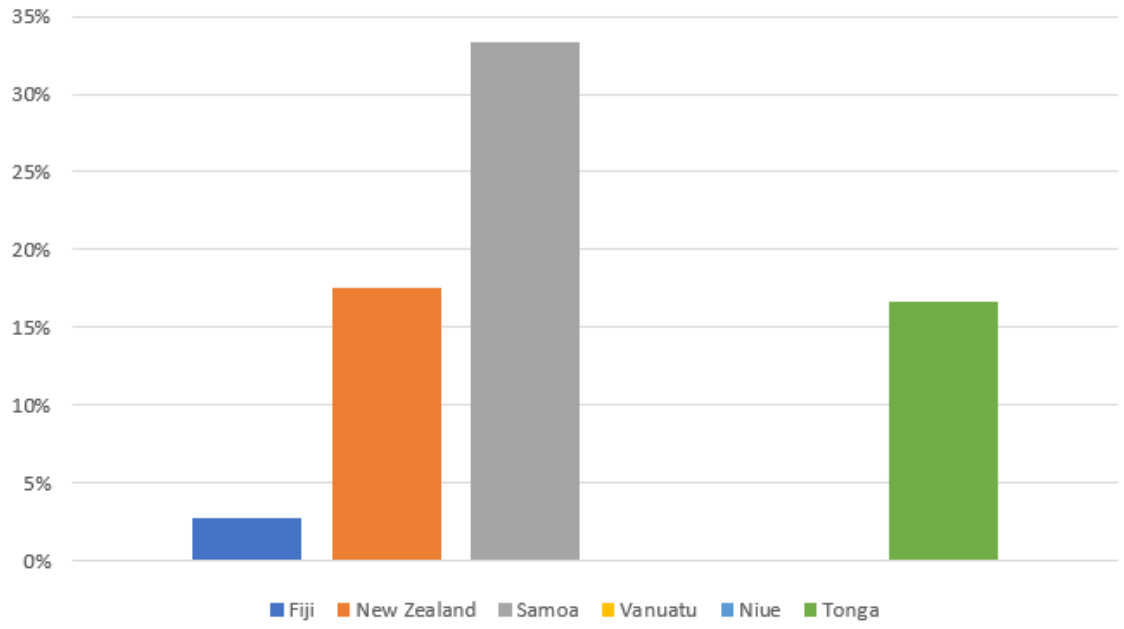
	Countries													
Type of food that has been mentioned:	**Fiji**		**New Zealand**		**Samoa**		**Vanuatu**		**Niue**		**Tonga**		**Totals**	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Does not specify the type of food	2	25%	2	33%	1	14%	0	0%	1	100%	0	0%	6	6%
Processed food	1	13%	1	17%	2	29%	0	0%	0	0%	1	50%	5	5%
Junk food	1	13%	2	33%	3	43%	0	0%	0	0%	0	0%	6	6%
Sugar	0	0%	1	17%	1	14%	1	100%	0	0%	1	50%	4	4%
Red Meat	4	50%	0	0%	2	29%	0	0%	0	0%	0	0%	6	6%
Total articles that mention food causing T2D	8	22%	6	15%	7	58%	1	20%	1	33%	2	33%	25	24%
Total articles in study	37		40		12		5		3		6		103	

Weight

Unsurprisingly, the media also discussed weight in relation to T2D with 14% of the articles discussing obesity or weight. This equated to 8% of the Fijian articles, 18% of the New Zealand articles, 17% of the Tongan articles, and 25% of the Samoan articles (as seen in Figure 9).

Figure 9

The Percentage of Articles That Mention Weight or Obesity by Country



This type of framing of obesity as a problem, an epidemic, and an issue facing New Zealand was common in the New Zealand media with statistics and medical language being used to emphasise the extent of the problem. NZ32 *stated that in "South Auckland 7 out of 10 adults … are overweight or obese…* [and] [t]*he population experiences relatively high rates of ill-health"*. NZ33 reported, *"obesity is a massive cost to our health system"*; this quote adds to the stigma people with T2D experience, enhancing blame by suggesting they are adding to the costs of the general population. NZ32 quoted the WHO, stating, "*WHO defines obesity as abnormal or excessive fat that presents risk to a person's health"*, further stating a *"BMI over 25 is considered overweight; over 30 is obese".* In this way, the New Zealand media frames the causes and links between obesity and diabetes as both global but also local with South Auckland targeted for mention, being a location in New Zealand where many Pacific people live. The first example (NZ32) is about the potential effects of being overweight while the other quotes in this paragraph are pointing to the links between obesity and T2D.

Article S8, one of the two non-New Zealand articles addressing BMI, originates from Samoa and provides a doctor's perspective, and reported, *"Type two diabetes mellitus trends attribute BMI increases to 31% (men) and 16% (women) after adjusting for age"*. Additionally, it notes, *"Type two diabetes and obesity have surged across all age groups in Samoa for both sexes across all age groups".* S9 reported on obesity and T2D, but it was the migrants to New Zealand who were discussed. The source was from the perspective of a visiting American medical anthropologist who found that *"people* [in Auckland] *are moving away from living a sustenance diet, buying processed foods, high in sugar and salt, and eating fatty meats"*. Another Samoa media example did link obesity and T2D, but instead of focusing on adults, it focused on children. S1 stated, *"obesity is a concern because children can develop diabetes".* Thus, the links are made between being obese or overweight and T2D consistently in the New Zealand media and inconsistently in Pacific media except for Samoa. It was often the immigrants to New Zealand who were discussed in all media as being at risk. Everyone, regardless of source, however, was framed with a medical risk lens if they were overweight.

There were very few personal stories of people making sense of their T2D diagnosis. NZ34 wrote of a seventeen-year-old's perspective: *"if you've got poor control of your diabetes and you're obese, you are looking at a pretty bleak future".* NZ30 reported a Samoan man in New

Zealand's experience of discrimination due to T2D, which could possibly be due to his weight; however, the article does not expand on what aspect of his T2D caused discrimination. There were no personal stories like this about weight, obesity, and causes of T2D in the Pacific media except for one Fijian source. F9 wrote about a Fijian man, who said "*he was obese and in rugby terms really just dropped the ball"*, also pointing out that his father had got sick (with an NCD) and died young but stating he was not obese.

There is awareness across all articles that weight and obesity is correlated with T2D. There appears to be a trend across articles from all nations that people's weight is increasing, although sometimes the links to T2D are not clearly articulated.

Development and lifestyle

Lifestyle, diet change, and the onset of T2D and its symptoms are linked to globalisation and development in many of the media articles. No articles specifically mentioned globalisation despite implying it, and it is an underlying contributor to many of the factors the articles do point to causing T2D. Lifestyle as a contributor to T2D was reported in 35.6% of articles. F7 quoted a doctor's perspective on the increase in T2D cases, attributing it to *"the changing lifestyle".* V4 stated *"development is killing us",* quoting the perspective of the Director of the Museum of Tahiti, and later stating, "the move to an *'inactive Western lifestyle',* [and promotion] *of poor-quality 'fast food' and the promotion of an unhealthy 'Western' lifestyle of the type also promoted as part of the 'modern way to go'. Developments seem to be leading to similar health results in Vanuatu and in many other areas of the Pacific"*. Another article published in Vanuatu (V3), referring to the importation of convenience packet foods, stated, *"dependency on imported food is very high".* It is evident that the Pacific media is linking development to the increase of packaged foods available in the Pacific and blaming the Western lifestyle as the *problem*. However, none of the media articles discussed what led to, caused, or forced the change in lifestyle.

Another concern with development that runs through the articles is the extra pressures of life and time constraints. NZ2 stated, *"patients are working long hours, often double shifts, where there is little time left in the day to pick up a script".* S1 attributed high T2D rates in Samoa to various factors, like, *"have the changes in the way of life, including a shift away*

from farming and fishing towards more sedentary occupations, and the increasing consumption of energy-dense imported food".

Article NZ5 is written from a doctor's perspective, stating:

> *All these things we know impact on their ability to manage diabetes, and we're not helping here. We're not building the walls to protect them from those, we're not allowing them to thrive. People should just be being gorgeous in this country, and it's awful … it's tiring.*

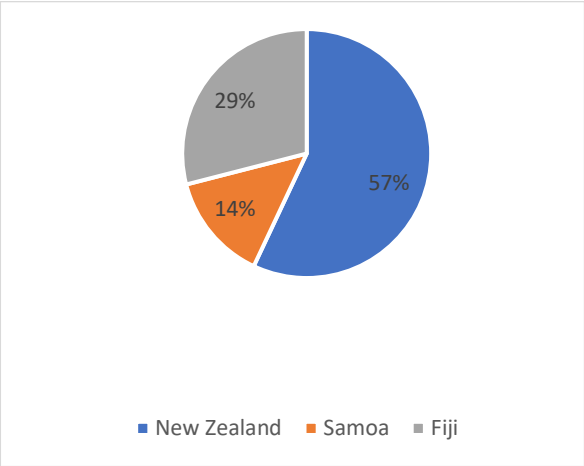
The doctor in this article suggested *"the focus needs to be on access to healthier food, and education, advocacy and support needs to be provided by people—'not necessarily with degrees'—from within the communities most affected. People need to be empowered to make changes in their lives".* Few articles have broken down the determinants of health that have led to T2D, and New Zealand articles have illuded to these factors more strongly than any other country. The extent to which other Pacific countries have mentioned this is seen in the few who have blamed the move away from a traditional lifestyle. Importantly, there were no comparative articles discussing people who were healthy and living traditionally within any of the articles.

Lack of access to medical support

Medicines and drugs are mentioned in 13.59% of articles. Among these, the context commonly revolves around the accessibility of selected medicines. Most of these articles were from New Zealand (57.14%) as seen in Figure 10.

Figure 10

The Percentage Breakdown of Articles by Country That Mention Medicine



NZ40 reported a shortage in T2D drugs, *"but* [the shortage is] *definitely because of their use outside of diabetes",* blaming a "*global surge in demand for drugs used for weight loss by US celebrities* [being] *behind the shortage of a vital medicine used by type 2 diabetics in New Zealand"*. NZ41 stated the *"cost to people who have suffered in South Auckland through a lack of access to these new drug",* talking about Empagliflozin, a medication that helps lower blood sugar levels that is beneficial for people when they are not able to do this through diet and exercise. In a statement on World Diabetes Day, a politician discusses what is needed to reduce NCDs in Fiji and stated in F9, *"basic steps … accessible medication on time".* NZ14 reported on researchers' perspective: *"access to health care also contributed" as well as being able to … "afford to visit the doctor for a check-up"*.

S1 discussed medicine treating the disease, not the cause of T2D:

> *The present routine treatment of Type 2 diabetes by conventional medicine consists in prescribing pharmacological drugs like Metformin and or Insulin that unfortunately only treat symptoms but fail to tackle the root cause of the disease, which is the wrong diet consumed by the patient*.

NZ25 stated:

> *… medicines which have been available since 2014 in Europe are close to being introduced here, but due to the cost, Pharmac wishes to prioritise those most at risk of developing harmful complications. The rolling out of these medications has been delayed as the drug-buying agency considers public feedback about who will be able to access the medicine*s.

S9 reported about what impacts people's decisions: *"how long symptoms take to resolve or medication takes to work shape the kinds of medical decisions people make".* F5 reported: *"amputees cannot attend clinics as they do not have access to transportation while in other countries, health professionals travel to them—but in the Fijian health system, there is no money for Community Rehabilitation Assistants".*

The lower number of articles discussing medication or drugs originating in the Pacific and from Pacific people's perspectives can likely be linked to the quote in F30 by a Fijian doctor: "*preference of traditional medicine, non-compliance with medications*", which is also supported by a quote in S2 by a member of METI: *"thy food as thy medicine".* Many Pacific people still feel that medicine is a Western concept and would prefer to treat illness through traditional means (Mehl-Madrona, 2007).

It is evident throughout the articles that accessing medications and determining treatment is linked to country according to the media. Further, not all communities have the same access to treatments. It is seen across the Pacific countries that they are reliant on treatment from visiting medical specialists and that money is also a defining factor in whether people can access support. Pacific people are very much affected by the determinants of health, or factors outside of their control, which is a term only mentioned in New Zealand media.

Cost

The words *money, dollars,* or *cost* were used in reference to cost of living in 17.48% of the articles included in the dataset. Money and cost are commonly framed as a barrier to a healthy lifestyle or not being able to afford healthy food. V3 was the only article that explicitly stated this: "*at lunch we eat noodles and bread. It cost us less than VT200"*.

Moreover, being time poor was another issue that was more evident with *convenient food* referred to being *"closely linked with the rapid introduction (and promotion) of poor-quality 'fast food' and the promotion of an unhealthy 'Western' lifestyle of the type also promoted as part of the 'modern way to go"* (V4) and *"working group* [people who work] *have now become highly dependent on processed food"* (F2). T1 reported on changes in consumer behaviour in Tonga, stating that the *"price of healthy foods* [is] *out of reach for some, forcing people to resort to cheaper less healthy options".*

Money was also discussed in articles as factors that impacted T2D development and treatment. NZ32 discussed the T2D medicine Empagliflozin and the time it took to fund, "*but it [Pharmac] took almost six years for it to announce funding".* NZ35 refers to the "*economic and social cost of type 2 diabetes in New Zealand*" after a report was released. NZ35 reported a GP's perspective, stating *"Type 2 diabetes and obesity, is a major cause of health inequities for Māori and Pacific people, particularly where economic issues compound the problem"*. Reporting on the cause of the problem in the Pacific population in New Zealand, NZ14 said *"there were several factors at play, such as being able to afford health care".* NZ16 reported on an eye clinic appealing for funds and the need for their service, saying that *"for as little as $25, a New Zealander can pay for someone, somewhere, in a poorer country where health services are more threadbare".* A politician in F5 stated, *"there has been so much talk about dialysis, but very little meaningful help is provided for those with no money".* The politician added that *"people in the villages* [are] *waiting to die because they can't access dialysis".*

Money and cost are barriers reported across the articles from all nations, and it is evident that T2D disproportionately affects those with lower income. All the countries represented in the data are countries that revolve around monetary exchange. Some of the articles discuss traditional lifestyle; however, none of the article's report on the population who are still living rurally or living a traditional lifestyle. Cost and money have been found to be significant driving factors to changing lifestyles, impacting how and what people eat, where they live, and how and if they can access health care. In summary, cost has been shown across articles in varying degrees to impact how Pacific people live and what preventive measures they take towards health and illness such as T2D.

Theme 3—Effects

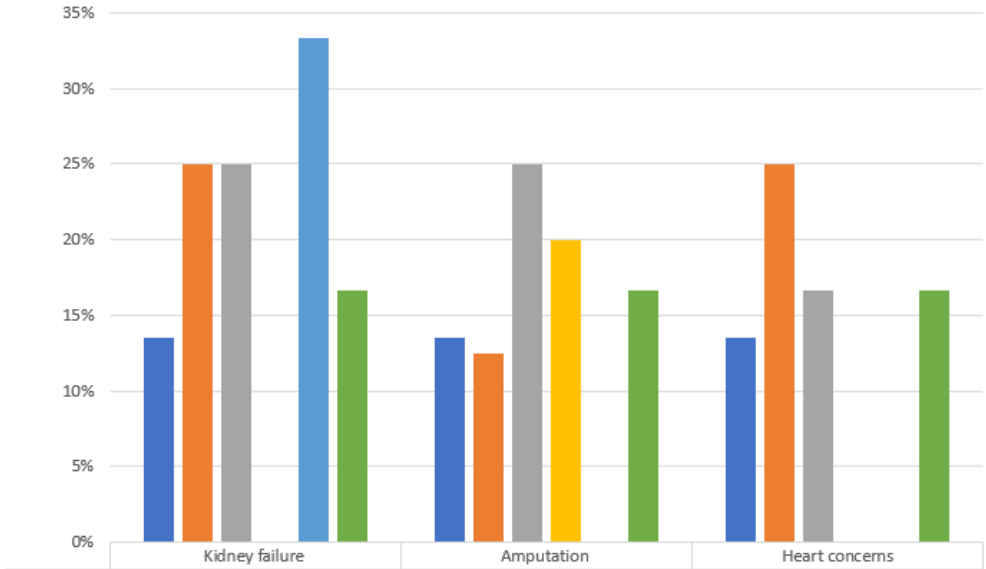
The effects of T2D that were discussed in the articles included physical effects, (the) stigma experienced, and the effects T2D had on families of those affected.

Physical

The physical effects T2D causes are the most common effect mentioned compared to psychological or wider societal effects. The physical effects reported are similar across articles and those mentioned included kidney failure; kidney disease and needing dialysis, affecting the liver; amputation; blindness; heart disease; heart damage; heart attack; renal disease; renal failure; renal impairment; cardiovascular disease; hypotension, which is a type of cardiovascular disease; cardio metabolic disorder; and effects on blood pressure. T2 stated, "*diabetes is the leading cause of kidney failure*". As seen in Figure 11, the three most mentioned physical effects of diabetes are kidney failure, amputation, and heart concerns.

Figure 11

The Three Most Commonly Mentioned Physical Effects of T2D Mentioned in the Articles by Country



	Kidney failure	Amputation	Heart concerns
Fiji	14%	14%	14%
New Zealand	25%	13%	25%
Samoa	25%	25%	17%
Vanuatu	0%	20%	0%
Niue	33%	0%	0%
Tonga	17%	17%	17%

NZ3 discussed:

> *the diabetes problem ... is massive and it's not just the illness itself, but the fact it affects every organ in the body,* […] *whether its people having limbs amputated due to the disease, to losing their eyesight, or suffering from kidney failure, it has such a serious impact on their lives*.

NZ25, when discussing the effects of T2D, said, *"it's a leading contributor to heart disease—one of the biggest killers in New Zealand—as well as kidney failure, and causes hundreds of amputations each year"*. S9 stated, "*the complication of diabetes is so severe that we get to see some patients with diabetes foot in the* [hospital] *ward who immediately need amputation"*. T2 articulated a doctor's perspective: *"diabetes is the leading cause of kidney failure"*. NZ35 reported the perspective of a senior Pacific doctor in New Zealand who said, *"it takes time for the complications for diabetes to come about, like kidney disease and amputations".* F1 reported a Chief Medical Advisor's view, reporting that T2D *"resulted in significant loss of healthy life, compromised quality of life for affected individuals due to early and high levels of disability, and mortality from the lack of effective treatment and timely access to health care".*

All the articles mentioning physical effects emphasised the seriousness of T2D and how the entire body is at risk. There was very little difference between countries in the seriousness or language used, but the types of issues differed. For example, Vanuatu only covered amputation and Niue kidney issues whereas the other countries discussed all potential effects.

Stigma

The concept of stigma is evident in the articles in relation to how people perceive they are being judged for having T2D and for what other people say to them. A lot of this was personal stigma, such as NZ5, who reported on an individual's T2D experience, and said, *"everyone looking at me knows it's diabetes ... thinks it's my fault for doing it to myself. It's hard not to feel ashamed."*

In NZ30:

> *A Samoan-born man said he suffers reproach and discrimination from people just because he has diabetes. Living with diabetes for 22 years, he says he often has to 'fight off' 'hurtful' comments because of his condition. Very hurtful sometimes and I feel like I am from a different society sort of thing. When I say I am diabetic, they sort of depart or move away from me.* [They say] *it's sort of a dangerous thing and I don't want to disturb their presence.*

These are some strongly emotive statements that highlight the stigma of T2D and the blame associated with a disease assumed to be caused by the person.

New Zealand media consistently pointed to South Auckland as being a problematic place being predominantly made up of Pacific and Māori people (Pacific Health, 2020). NZ17 stated, *"the prevalence of diabetes is higher in Māori and people of Pacific and Indo-Asian descent, who tend to get it younger, develop more complications and die earlier because of it".* NZ32 reported*, "it's Māori and Pacific Islanders who are bearing the costs of death and dialysis",* and, later in the article, an endocrinologist said, *"It's led to untold suffering and countless patients progressing to renal failure … and South Auckland is the region most affected".* The New Zealand articles point to Pacific people being disproportionately affected by T2D. This type of media coverage can contribute to public stigma and attitudes of a place being unhealthy and the people who live there as at risk.

Psychological and family

The burden of T2D psychologically was mentioned only briefly. NZ21 relayed a Master of Health Science student's perspective, saying, *"she saw first-hand the emotional burden it had on patients"*. Pacific sources tended to look out to families, communities, and countries. V1 reflects a person in Vanuatu's opinion: "*diabetes causes suffering, it causes disability, adds financial and social burdens which contributes to poverty*." Comments that were made were all in relation to the immense burden on individuals but also communities and families.

Type two diabetes affects not only the person diagnosed with it but also those around them. The impact on family members was specifically mentioned in two Fiji media articles. F2

reported that T2D *"has a devastating effect on many families every year in Fiji"*, and F12 wrote, *"diabetes and its complications impact harshly on the finances of individuals and their families and the economy"*. T2 said, *"this is apart from other problems, including distress caused to other members of the family who played the caring role and the negative impact on their health and their children's education."* T2 also stated: *"there is an upward trend of Tongan children being orphaned in New Zealand due to their parents dying young because of diabetes-related conditions"*. NZ3 acknowledged the effect T2D has on families, stating, "*interventions to help families*". NZ15 reported on support by saying, *"community education programmes for at-risk families"*; however, they did not clarify what it meant to be at risk. NZ17 reported that people with T2D are *"active participants in their own care, supported by family".* T2 reported *"NCD's will continue to cripple our families, our communities and our nation unless we are strong and take decisive action*". This shows the significant effect the media imply T2D will have on families and is evident in the articles from a variety of nations. In T4, a Tongan doctor said:

> *this was the day during the years the world has dedicated to making sure families and patients knew the signs, symptoms, and risk factors of this rapidly growing epidemic. He said it was important that families and patients knew about the link between diabetes and a healthier lifestyle.*

F19 reported that *"the risk of developing NCDs can be lowered by Fijians making healthy choices for themselves and their families".* It is evident that family members' health is of high importance to Pacific people, and they also appear to feel obligated to support family members with T2D. However, this obligation is not expanded on or explained further in the articles, such as how different positions in the family could influence expectations of supporting each other.

Theme 4 – Solutions

Of the total number of media articles, 13.6% reported solutions to deal with T2D. Of these, 78.6% focused on long-term solutions. Of the long-terms solutions discussed in the articles 36.36% of these solutions came from a community collective perspective. Of the articles that offer long-term solutions, 45.5% were from New Zealand, 27.3% were from Samoa, and

27.3% were from Fiji. NZ13 acknowledged that, "*long-standing problem* [type two diabetes] [New Zealand] *Health Board hopes to build on partnerships with iwi and other organisations*". In NZ17, the Minister of Health said, "*conservative and collaborative efforts are needed to avoid lifelong and life-threatening condition*". S5 communicated the words of a health expert and surgeon who believed: *"in the future, having a clearer definition of type two diabetes remission, long-term safety and satisfaction of low carbohydrate diet"*. In S6, a Samoan doctor said, "*long-term solutions include identifying the diseases and programmes charged with delivering care to patients in Samoa, promoting screening and healthy lifestyles for diabetic and obesity patients, and raising awareness through mainstream and social media"*. In S9, a Chinese doctor visiting Samoa said, "*long-term solutions include identifying the diseases and programmes charged with delivering care to patients in Samoa, promoting screening and healthy lifestyles for diabetic and obesity patients, and raising awareness through mainstream and social media*". The wording from these articles was very similar yet two different doctors are cited.

Food and diet

"Healthy eating" is a solution highlighted across articles from all Pacific nations; however, few articles expanded on what this means with prevention, reversing, or remission, all used as reasons for eating healthily. Some of the articles in the Samoan media expanded on the meaning of "healthier eating", with five articles (S1, S2, S3, S4, and S5) informed by METI, who specifically promoted a vegan-based diet. S5 stated, "*if you follow a plant-based diet and stick to it 100 per cent, you can reverse diabetes"*, and S1 said, *"these findings provide further support for our recommendation of increasing whole grain consumption as part of a healthy whole food plant-based (WFPB) diet for the prevention of Type 2 diabetes"*. S4 reported:

> *Type 2 diabetes is reversible if the patient is willing to follow a plant-based diet. We have on many occasions printed testimonies of people that followed the whole food, plant-based diet—the METI diet—which in a matter of weeks turned around or as we say 'reversed', their Type 2 diabetes.*

S5 stated, *"a new international study has found that consuming fewer carbohydrates can potentially put Type 2 diabetes … into remission".* The articles that present METI's perspective offer this as the best and only solution. It is important to note that only this one perspective is given on how different diets improve T2D in the Samoan media.

In T2, a doctor stated, *"eating the right food and doing more physical exercise could help people avoid these chronic diseases".* In F23, a T2D survivor referred to "*fresh healthy food over processed food",* saying this should change to live a *"long healthy life".* F24 reported:

> *sugar, red meat, refined carbohydrates, and fried food must be avoided. The focus should be on whole foods, plant-based diet, staple foods, fresh and natural foods that are available in abundance in Fiji. Eating this way will contribute to the long-term solution.*

F34 stated, *"Fijians need to change their lifestyle and diet to live longer".* S2 quoted the METI director as saying, *"food as thy medicine, which simply means your medicine will be your food"*. This quote can be interpreted in various ways. It could suggest that T2D can be managed through dietary changes, implying the role of food as medicine. However, this notion may clash with the traditional view of medicine in the Pacific where medicine is commonly perceived as a Western concept (Mehl-Madrona, 2007). Additionally, breaking down the meaning of "food as medicine" could be seen as condescending.

Other specific advice included in S1 from METI was:

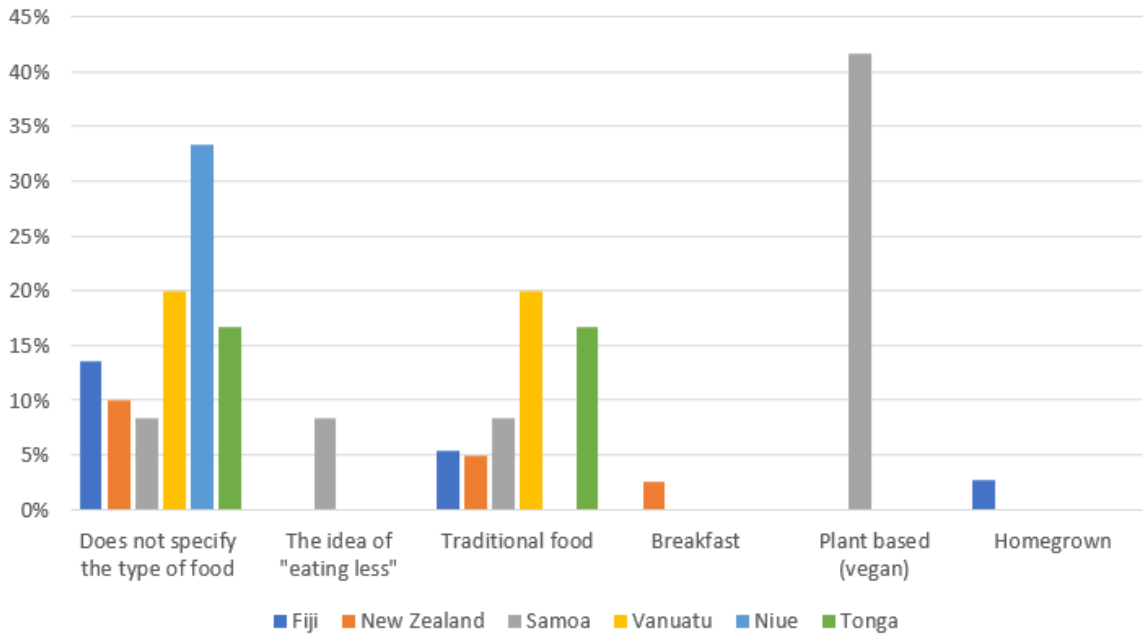
> *as a first step in getting patients to adopt the WFPB diet, we encourage all diabetics to at least have one meal a day with the oatmeal recipe that is found in METI's WFPB Cookbook: uncooked, large sized, oatmeal mixed with plant milk and fruits. It is an economical, yet highly effective tool to achieve better blood sugar control in patients with type 2 diabetes and as a first step to switching to a full WFPB diet.*

Additionally, Samoa is the only country that discusses the benefits of a vegan-based diet as seen in Figure 12. The other countries, apart from Niue, suggested it was best to eat a traditional diet that is free from sugars, and packaged and processed foods. Cooking methods impact managing and developing T2D (Williams et al., 2023). The only types of

cooking methods that are mentioned are negative comments towards fried and oily food. For example, F6 stated, "*risk factors associated with them such as fatty, oily and fried foods".* Further, F24 reported*, on a Diabetes Consultants perspective; "fried food must be avoided …* [and that] … *"Generally, I see people tend to eat a lot of junk food, a lot of fried food, so that becomes a part of their normal diet".* All the articles about fried food were from Fijian media sources. S4 reported staying away from oil as a solution, which implies oil could be a cause of T2D. Suggestions to improve incidence of T2D are nonspecific in all the media sources, regardless of country, as, for example, warning against eating packaged food. There was no discussion in any of the articles about food patterns changing over time and whether these lead to T2D—for example, people now eating packaged meals on their way to work rather than sitting down for a family meal. That is, the lifestyle factors related to diet and eating were rarely mentioned.

Figure 12

Food/Diet That is Mentioned to Improve T2D Across the Articles



Vague terms were commonly used in the articles when eating was mentioned as a solution. A New Zealand article, NZ10, quoted a fitness instructor, suggesting *"eat good food",* and they said,

> *it's like an equation—when you have fitness you also add food to become whole. For Pacific people, we have lovely healthy food, but it's the amount that's the problem. I'd like to see Māori and Pacific eating healthier, lowering rates of diabetes.*

Moreover, T2 reported, *"eating the right food".* A New Zealand media article mentioned a return to eating traditional food while other articles wrote that Pacific people's diets were healthier in the past. V1 stated, "*the government through the Ministry of Health calls on the people to change their lifestyle of eating, particularly to make the right choices and choose the right types of food*". NZ19 also advocated, *"promote healthy food incentives".*

S9 discussed the appeal of a visiting team of Chinese doctors, who stated:

> *A team of Chinese doctors have appealed to Samoans to return to their traditional diet as a solution to the high rates of diabetes. According to WHO, the high incidence of diabetes in Samoa can be reduced if people changed their lifestyle*.

T1 advocated a solution: "*by rebalancing diet and improving nutrition through re-focusing on home-grown healthy foods*". Moreover, a second article (T2) stated, "*eating the right food … could help many people avoid these chronic diseases*".

Articles from various countries suggested specific dietary recommendations. V3 suggested from a Surgery Ward Nurses perspective:

> *I encourage every people to eat healthy food and have good heart and think positive in order to prevent the disease as the proverb says: 'prevention is better than cure'. Diabetes is a problem of diet, do not eat too much sugar and salt and eat three kinds of kakai, energetic food, healthy food and vitamin foods during per dish, for each meal*.

The article does not expand on what these food groups mean. F23 stated, *"follow the doctor's advice … and eat vegetables"*. F24 reported, "*the focus should be on whole foods, plant-based diet, staple foods and fresh natural food*". F25 relayed, "*eating healthy was*

important. Bread preferably wholemeal or wholegrain, all vegetables, lean meat, skimmed milk and cooked rice less than 200g is encouraged when eating healthy". It is evident across articles that a healthy diet will improve T2D. There were differing opinions on what this would look like, but all the articles agreed that a healthy diet would be low in sugars and processed food and high in fresh and/or traditional foods. The common food groups mentioned in the solutions were traditional food, eating breakfast, eating less, homegrown (food), or not specifying the type of food, as seen in Figure 12.

Sugar was frequently linked to T2D in the articles and was consistently depicted in a negative context. Reducing sugar and developing lower sugar or sugar-free alternatives was a solution offered across the articles. NZ26 suggested during a symposium to:

> *encourage in New Zealand the development of sugar-free alternatives to sugar-laden food and drink*". NZ20 reported a researcher's perspective: "*New Zealand must step up to help curb consumption of sugary drinks in the Pacific Islands. She urged the government to support Pacific nations to control the quality of food and drink imports*.

S6 mentioned that an "*alarming number of lifestyle diseases in Samoa is due to locals abandoning their traditional diet for foods that are high in sugar"*. This comment suggests that reducing sugar in the diet would improve T2D incidence.

Other lifestyle factors

Reducing fat or obesity was highlighted in numerous articles as a method to improve life with diabetes, reduce the incidence of diabetes, and improve health. When the word "fat" was used, most articles referred to BMI, as the method for measuring fat. Two Samoan articles (S9 & S S6) cited BMI; S6 stated, "*Diabetes mellitus period trends attributable to BMI increase",* and S9 quoted a visiting Chinese doctor who said, "*BMI in Samoa has been attributed to the changes in the way of life, including a shift away from farming and fishing towards more sedentary occupations, and the increasing consumption of energy-dense imported food"*. Four New Zealand articles (NZ38, NZ40, NZ28, and NZ29) referenced BMI. NZ38 stated, "*In terms of people who would qualify for this service, there are over 100,000 adults in south Auckland with a BMI of 35 plus".* This was made in a statement from, New Zealand public health agency Te Whatu Ora to determine whether people are eligible for the

service. NZ40 stated, *“there are more people with a high (BMI) in Counties Manukau than any other health region in the country”,* and *“A (BMI) over 25 is considered overweight. Over 30 is obese".* NZ28 further explained, *“but you are more likely to have a higher BMI, which is kind of strange because you expect a larger person, someone with a larger BMI, would be more at risk of type II diabetes”.* No articles mentioned how fat or unfavourable weight were defined or measured.

New Zealand media discussed exercise as a solution to help people withT2D. NZ5 stated, *"Healthy Active Learning is another initiative to promote and improve healthy eating and physical activity in schools, kura and early learning services across Aotearoa"*. In the Samoan, Tongan, Vanuatu, and Niue articles, exercise was only mentioned once. In T2, the doctor said, *"eating the right food and doing more physical exercises could help many people avoid these chronic diseases”.* It could be questioned whether healthy lifestyle could be presumed to include exercise. In F15, exercise was narrated as a “*proactive event based around being physically active*”. A person with T2D in F36 relayed, “*yoga, balanced diet and regular check-ups helps me control my diabetes*”. Yoga was the o

Money/budget/cost

Taxes were mentioned in 4.85% of articles that were solely from New Zealand articles but not in articles from other countries. The types of taxes that have been suggested, including a sugar tax (recommended by an experienced professor in NZ25)—more specifically, sugary drinks and processed sugar (noted by the Chief Executive of Diabetes New Zealand in NZ14)—and a food tax, more specifically a tax on unhealthy food (suggested by an Associate Professor in NZ20), fast food, and junk food. NZ27 stated that the “*Green Party is calling for a tax on sugary drinks to discourage their over-consumption and to change the public health environment in which people make their food and drink choices”*. The same article also stated: *“the evidence supporting sugary drink tax is far stronger than evidence for the other twenty-two strategies”* in a report supported by seventy-four health professionals. NZ40, which reported a member of the Ministry of Health’s perspective, stated, *“greater regulation of fast food and junk food industries through sugar and fat taxes need to be looked at for as a long-term solution”*.

F10 suggested, *"higher price as a positive reason to change their lives, especially our youth who, as future leaders of the nation, need to be healthy in body, mind, and soul. Youth leader urged Fijians to find healthier alternatives".* In the same article, it was said, "*some politicians are aggressively speaking out against the sugar price change and heavily politicizing the issue, while spreading misinformation"*. Cost was largely said to be too high except for two exceptions in Tonga and Vanuatu where they talked of low-cost options. T1 wrote about the *"implementation of low-cost, and low-energy devices that can contribute to local food production",* and V3 reported, *"It cost us less than VT200. This cheap and quick to prepare menu is very popular in Port Vila".*

Access to health

It was evident in multiple articles from New Zealand and the Pacific that Pacific people with T2D often do not have access to the same level of medical care and health for a variety of reasons. In the Pacific, specialist medical practitioners often face the challenge of extensive travel, and financial constraints were frequently cited as another barrier. F12 communicated the words of Fiji's Minister of Health and Medical Care: "*the fundamental components of diabetes care were to access insulin, access to oral medicines, access to self-monitoring, access to education and psychological support, access to healthy food and a safe place to exercise"*. F5 discussed from a politician's standpoint: "*relevant education, accessible care centre, availability of transportation, mobility devices and reasonable welfare assistance are basic steps. These must be combined with improved healthcare facilities and accessible medication on time".* S10 further reported: *"At the moment it's free for the public until a time when we will decide to start charging fees mainly for administrative and operation functions of the clinic. We haven't decided how much it will cost".* F22 stated, "*foot care services and cardiology services should also be available. She noticed that because the humidity level was high, fungal disease was most common in people. All of the skin disease can be treated and doctors in Fiji are doing well*".

In New Zealand, barriers to healthcare include the issues of accessibility and financial limitations, which are widely acknowledged. NZ2 reported, *"For those living in areas of low population density, a trip to a pharmacy is often a major undertaking*". Access to medication, health professionals, health equipment, and healthy food were discussed across the articles

as a solution to T2D. NZ2 also relayed: *"Changes, which have seen the removal of co-payment prescription charges, have enabled us to expand a new health care model and eliminate access barriers which might prevent a patient from getting the care they need"*. NZ6 stated that *"cost and access to primary healthcare is one factor contributing to the higher mortality rate for Māori and hospitalisation rates for both Māori and Pacific Islanders"*. This comment emphasises the significance of making healthcare more affordable and reducing costs as these measures are likely to contribute to the reduction of T2D. NZ8 reported:

> *These drugs are relatively expensive, with the approved options in New Zealand costing approximately NZ$58 per pack ... But these treatments have the advantage of not only optimising diabetes management and quality of life for patients, but also potentially reducing the likelihood of diabetes-related hospital costs down the track.*

In NZ9, a doctor in New Zealand conveyed that *"funding the drugs for one patient would cost between $696 and $1380 a year, whereas putting someone on dialysis for 12 months costs $50-$90,000".*

New Zealand media differentiates Pacific (and Māori) from the rest of the New Zealand population as experiencing worse rates and effects of T2D, and New Zealand articles referred to culturally specific access to healthcare. NZ3 appealed to "*help families manage and treat diabetes based on Pacific models of care*". NZ22 relayed the words of the Chairman of a Pacific health NGO, Pacific Health Plus, as saying: *"Around 60 percent of the centre's patients are high-needs, and 'much more accurate targeting' of resources was needed. Pacific people often rank below Māori in deprivation statistics. The bicultural model doesn't fit for Pasifika"*. NZ3 wrote that the

> *Minister for Pacific Peoples announced more details on the funding package, designed to support Pacific healthcare providers and reduce diabetes among Pasifika in south Auckland. This will include a mix of primary, community, and tertiary care interventions to help families manage and treat diabetes based on Pacific models of care.*

It was predominantly the New Zealand articles that suggested Pacific people would prefer a different model of care, and changes would need to be made for this to happen. The Pacific sources primarily pointed to poor outcomes. V4 reported that:

> *Unfortunately for Pacific islanders, many foreign organizations and nations—and certain Pacific nations themselves— are often following aspects of development models that are not only unsustainable and short-sighted but also often have, because of the 'baggage' that comes with them, certain results that are downright dangerous*.

N2 reported that, according to the health department annual report, *"The high numbers are also concerning in terms of costs for healthcare with the government footing the bill for medications and general healthcare needs of the local population".* F6 stated that "*NCDs are costly for the country as sick people need medicines, hospital visits and major surgeries like amputations".* Interestingly, in V5, a doctor said, *"There are diagnostic testing facilities for blood sugars and blood pressure at some of the churches and pharmacies and this is a wonderful opportunity for people to check their health with a very minimal test and get themselves established onto treatment at an early stage".*

Medicine

Of the articles, 13.59% discussed medication as a solution for T2D with the New Zealand sources mentioning specific drugs and the funding agent Pharmac. NZ23 stated that *"Medsafe's approval of a new drug for type 2 diabetes could dramatically change the lives of thousands of people in South Auckland, according to Diabetes Foundation Aotearoa".* Article NZ9 reported that "*more modern drugs, such as Empagliflozin and Dulaglutide, which are needed to treat the condition, aren't currently funded by Pharmac"*. NZ8 elaborated:

> *the controversial 2021 decision by the Government drug-buying agency Pharmac to prioritise Māori and Pacific patients in its funding of two game-changing new diabetes drugs appears to have paid off. Traditional approaches to managing diabetes in New Zealand include medications such as metformin and insulin*.

In NZ6, a doctor said Pharmac needed to fund medicines like Empagliflozin and Dulaglutide to help treat people with diabetes, also adding the need to *"address inequalities in*

healthcare". NZ7 stated that deaths were considered potentially preventable if they could have been avoided by having access to high-quality and timely medical interventions. NZ8 reported that

> *these drugs are relatively expensive, with the approved options in New Zealand ... But these treatments have the advantage of not only optimising diabetes management and quality of life for patients, but also potentially reducing the likelihood of diabetes-related hospital costs down the track.*

The significant cost associated with these drugs renders them unaffordable for many. NZ25 reported that the "*buying agency considers public feedback about who will be able to access the medicines. Dr Betty says these will be crucial to New Zealand's treatment of diabetes, and the sooner they're greenlit, the better*".

While one Samoan article (S1) mentioned medications for T2D, it portrayed these treatments in a negative light, suggesting they only address symptoms without targeting the underlying cause. Furthermore, there was little mention of cost in the Pacific articles, which is hardly surprising given the cost concern in the New Zealand articles. Most of these medicines in the Pacific are seen as unaffordable.

Community factors, including education

Community- and society-level initiatives as solutions to T2D were only addressed in New Zealand articles and made up 8.74% of the total articles. Articles discussed the benefits of community and support for individuals living with and managing T2D. F5 stated that *"partnership is the key and working together and bringing our resources together is the way to go".* F4 discussed faith-based organisations, reporting that they *"will support community members to address these issues as have a lot of direct connections with the people. They will break the lack of physical activity and poor eating habits by spreading and sharing messages with their members and people"*. NZ38 reported, *"instead of taking a victim blaming approach, as a society we need to change our lifestyles and diets*". T4 added:

> *Her Majesty Queen Nanasipau'u Tuku'aho has called on families, schools and towns to stand together and fight against diabetes. She said these sections of the community*

> *must unite so that they could attract the support of the public to help those who suffered from diabetes*.

NZ17 communicated that *"we need conservative and collaborate efforts to ensure our people have the right information and support to avoid this".* S3 added, *"a very important concept of this is the concept of 'Samaria Agalelei'. The person who seeks help from us will look for someone who will be his or her partner, and we work together with them".*

Educating the community and the promotion of healthy lifestyle were suggested across the articles. In New Zealand the Healthy active learning initiative is as an example of public health promotion in the community, although not always specific to T2D. NZ5 reported the perspective of a person with diabetes: *"his message to people newly diagnosed or currently managing the disease is to educate themselves, take care of their health, and ignore any stigma or embarrassment they may feel"*. NZ10 communicated: *"in schools, they're now delivering healthy programmes which are teaching our young ones what is the right choice. It's part of our community now—there are initiatives promoting healthy living, healthy lifestyles"*. NZ13 discussed a promotion: *"what we're trying to do is to shine a light on those inequities so that we can take action to address them."*

In article S6, the Head of the National Kidney Foundation

> *has appealed for more investment in lifestyle disease prevention programmes as more patients continue to seek treatment …. Dr. Leituala said long-term solutions include identifying the diseases and programmes charged with delivering care to patients in Samoa, promoting screening and healthy lifestyles for diabetic and obesity patients, and raising awareness through mainstream and social media*.

F2 said that a "*little bit of specialist care and education on that particular condition is important so that people are aware as to why it is that they have this condition and get the outcome or prognosis of it*". NZ12 stated it is *"really good to get them to understand through awareness education how to counter this disease".* NZ18 also described a "*Cooking show aimed at encouraging Pacific Islanders to return to eating traditional food".*

In summary, the solutions proposed in the media articles were mostly individual focused with approaches encouraging personal changes to diet, exercise, and lifestyle. Across media articles, a change in lifestyle was the predominant cause alluded to, to reduce chances of developing T2D and to improve life for those with T2D. While all articles had recommendations the Pacific articles emphasised the perspectives of visiting health professionals or teams whereas New Zealand sources tended to offer solutions including people withT2D. There was minimal discussion of Pacific models of health or community or society factors, and minimal positive coverage, with most articles pointing to poorer outcomes and bad effects or outcomes.

Discussion

This research conducted an analysis of how different Pacific media portray T2D. The findings overall suggest that media articles from the Pacific and New Zealand do not capture the complexity of T2D. Rather, the articles tended to focus on a specific aspect of T2D, including definitions and descriptions of T2D, causes, effects, and solutions and then generally a specific element related to lifestyle, such as diet or exercise. There was very little coverage of lived experiences situated in different countries and very little culturally specific coverage using Pacific health models with biomedical models and understandings of T2D the most prevalent. The next aim was to compare across the different media, primarily comparing New Zealand with the other Pacific sources. Pacific articles tended to allude to a single determinant of health, such as migration, weight, or food, rather than looking broader to the wider determinants that lead to these effects. As such, the social, environment, economic, or political factors—or a combination of these factors—leading to causes, effects, or solutions were not reported in combination. As Pacific models of health highlight, no phenomenon happens in isolation—they are all interconnected or woven together. Articles tended to focus on the isolated impact or the impact to the individual. New Zealand articles went into slightly more depth, alluding to interconnections between determinants of health, society, and wider impacts—like migration—that may have impacted an individual's actions with regards to T2D. Thus, overall, there was largely a deficit-focused coverage of T2D (poorer outcomes for Pacific and Māori people in New Zealand) and a biomedical focus in the Pacific aimed at education and individual responsibility for health.

Media/journalism

Limited research has considered news coverage of the Pacific or Pacific people and even less about T2D. Moreover, the limited available research generally disregards Pacific people's values (Nairn et al., 2006; Taouma, 2004). Additionally, journalism is largely a Western concept, and training is based on a Western model of objectivity and truth-seeking (including in the Pacific), which involves privileging Western ways of thinking on health and majority perspectives (Hodgetts & Chamberlain, 2006; Rojas et al., 2005). Western journalism schools prioritise journalists as detached observers, and, as a result, they

reportedly underperform in cultural diversity (Robbie, 2023). This tends to suggest that insider perspectives are not valued (Anae, 2010).

An interesting point Madraiwiwi (2014) raises about journalism is the confrontational manner commonly exhibited by journalists and how this is opposite to the common value of respect in the Pacific and avoiding questioning, criticism, and conflict, particularly of leaders and elders (Madraiwiwi, 2014; Williams, 1999). Dr Colin Tukuitonga, a key figure in Pacific health, stated that Pacific journalists are typically less inquisitive than foreign journalists, and they rely heavily on press releases (Singh, 2017). Husband (2005) suggested that Pacific people are socially positioned in media according to majority or more powerful groups of people. This is a possible issue for the sources used in this analysis as the journalist or editor has authority to define people and issues (Couldry & Curran, 2003). Moreover, this is compounded with illness often being portrayed and perceived as a Western issue (Kaholokula et al., 2008). This was somewhat evident in the data, with Pacific sources seemingly relying on biomedical messaging, press releases, or visiting health professionals to share content on T2D rather than personal stories or community solutions. What was not evident in the analysis was the impact this had on consumption of this media.

Previous research has criticised media for the negative portrayal of minority groups (Adebanwi, 2004; Hodgetts et al., 2004; Pietikäinen, 2003; Van Dijk, 2000). In health-related media, this has been linked to stigma (Lee & An, 2016; Saguy & Gruys, 2010). This was evident in New Zealand media articles, with South Auckland mentioned as a problematic place for NCDs and T2D because of who lives in those areas and statistics used to further empathise health disparities for Pacific people. Differentiating between society in this way can promote individual blame, stigma, and shame as individuals are made to feel responsible for their T2D as if they have not done enough to prevent its development (Browne et al., 2013). For example, T2D is commonly framed as a lifestyle disease in media articles in the dataset and in research articles, and this positions the individual as responsible for their T2D (Browne et al., 2013) and can have the effect of singling out and emphasising members of society who are experiencing challenging circumstances, contributing to stigma. Interestingly, none of the Pacific media split society into different groups or compared their home country to New Zealand. The only differentiation that was made was some mention of gender and age, highlighting that T2D is affecting children. NZ14

stated that males have a higher rate or T2D than females, and T5 quoted WHO statistics for Tonga, noting that females have higher rates of T2D. These were the only statistics reported across the dataset. Articles from the different countries' children were reported on in relation to the number of children developing T2D increasing.

Previous findings have suggested that media publish limited community member wisdom, instead focusing on government agencies (Sharp & Papoutsaki, 2008). While members of the communities' opinions were published, these were limited. The stories that were published in the articles in the dataset illustrated T2D's effect on the individual or family and what they were doing about changing their diet. The opinions of authorities, like health professionals, government, or WHO, did dominate, and, notably, health professionals were labelled by the media as the "experts" rather than communities being the experts of their own health.

Message characteristics and framing

Many of the articles did not specify the type of diabetes, although this became clear for someone with diabetes knowledge when reading the article. These findings align with previous research by Stefanik-Sidener (2013), who conducted a content analysis of *New York Times* articles on diabetes between 2000 and 2010. The reasoning they suggested for these findings was T2D accounts for 90 to 95% of diabetes cases worldwide, and gestational diabetes is poorly documented due to ceasing after pregnancy. These reasons align with the limited available data in the Pacific on this topic. The lack of differentiation in Pacific media may be due to the low number of type one diabetes cases in the Pacific (James et al., 2022; Tin et al., 2015) and can be problematic as the types of diabetes vary considerably in cause and treatment (Stefanik-Sidener, 2013). While the prevalence of gestational diabetes in the Pacific is not established in the literature (Fuka et al., 2020), it is possible that when T2D and obesity rates are high, this would suggest the Pacific would also have high rates of gestational diabetes (Yessoufou & Moutairou, 2011).

Media framing is important as it influences how a community perceives an issue, shaping their understanding of the causes, effects, potential solutions, and the overall severity of the matter (Coleman et al., 2011). The language used in the media can shape the way health is

understood and perceived. Media coverage of health conditions—such as T2D—has raised concerns due to the impact on people's understanding of the condition and the influence the media has on behaviour and choices, which, in turn, impacts the individual, their family, and community (Picard & Yeo, 2011). The lack of balanced discussion and synthesis of causes and solutions related to T2D in the media articles is found to impact the way people, societies, and governments react, construct, and assign responsibility for T2D (Baker et al., 2020; Gollust & Lantz, 2009). Moreover, this reporting style can perplex readers. One day, they may encounter an article asserting that a particular factor caused their T2D and can improve it only to find the next day's article suggesting something different without addressing the information presented in the previous piece (Goldberg, 1992).

Most of the articles in the Pacific used episodic framing, and only the New Zealand sources used thematic framing (Wallack, 1993). This focus may be due to previous research findings that food-related risks for NCDs often attract disproportionate attention in the competitive world of print media (Carslaw, 2008; Forsyth, 2001). Pacific articles were more individually focused than New Zealand media articles. Pacific articles placed more blame on the individual and what the individual with T2D could do to help their situation. However, articles were not specific in providing a clear achievable framework for solutions or clear guidance on what is 'bad' or unhealthy. This was seen in relation to diet, weight, and exercise using Western-related data or global statistics.

Fear appeals and loss frames were evident across all the media articles. This aligns with Beeney and Fynes-Clinton (2019), who also found that loss frames dominate media coverage of T2D. Rothman and Salovey (1997) suggested loss frames are common when trying to get people to change risky behaviour; however, Simmons (2020) argued there is very little research that directly explores this link and that gain and hope frames are more successful. It was evident that the loss and fear frames (not hope or gain frames) were the most common way the articles framed T2D in the guise of prevention of or education about T2D. There were very few personal stories in the media with the exception of weight struggles, but damming statistics and financial burden to society were used frequently, supposedly to inspire change (Hinnant et al., 2013; Tashkinov, 2014). Looking at the statistics of T2D across the Pacific, this messaging is potentially unsuccessful.

Health messaging surrounding T2D in the media

Determinants of health provide context and understanding for people and communities (Cullen, 2014). Previous research suggests that the media tends to overlook determinants in the prevention of NCDs (Clarke & Van Amerom, 2008) and was also evident across media articles in the dataset. How health is depicted in the media influences the public's understanding (Scheufele & Tewksbury, 2007). New Zealand was the only country whose media differentiated groups of people within the country, stating who was at highest risk of T2D due to circumstance and living conditions and who had the highest rates of T2D. New Zealand media stated that Pacific and Māori people were at highest risk of T2D, and two articles reported on getting medication subsidised and improving access to medication for these populations. This highlighted the populations that were most affected, but it also segregated groups of people, which can lead to possible thoughts and judgement of the groups highlighted. Previous research has found that separating groups of people in relation to the determinants of health appeals to some groups, particularly those who are more community minded (Gollust & Lantz, 2009). As the news media influences public opinion (Boykoff & Roberts, 2007), this impact is particularly pronounced in smaller Pacific nations with less diverse populations that report needs to resonate universally rather than cause division (Petty et al., 2002).

Causes, effects, and solutions

Notably, although articles did provide different advice and state causes for T2D that were distinct, there were common themes in articles across all the target countries. All media mentioned food, weight, and lifestyle factors (usually individually). There was minimal coverage in the Pacific sources regarding wider social and other causes, such as development; access to healthcare, including medications; or money. Health was framed as a biomedical concept predominantly, with no mention of Pacific models of health. Pacific models of health convey Pacific people's lives and are made up of a complex array of interconnected factors that include relationships, culture, spirituality, environment, time, context, and physical and mental health (Mila-Schaaf & Hudson, 2009; Suaalii-Sauni & Fulu-Aiolupotea, 2014). All the models include the overaching principle that each interconnected component needs to be functioning well to maintain an indervidual's health and wellbeing.

This was not mentioned at all in the media coverage of T2D. Culture guides a community's way of thinking and doing. Moreover, culture is an integral value and guiding principle in the Pacific (Singh & Drugunalevu, 2016), helping to provide community, family, and autonomy to the people (Masoe & Prescott, 2011). A key feature of all articles is that they were lacking the cultural nuance of Pacific people, and there was a sense that the articles could apply to any culture.

Healthy lifestyle was the most common solution presented as a method to reduce the development of T2D and improve T2D for those who had already had the disease. Across articles, there were a limited number of times multiple factors of T2D were mentioned in the same article in reference to a healthy lifestyle reducing the risk of T2D. These articles would list—but tended not to discuss—points like healthy eating, exercise, and quitting alcohol and smoking. For example, the article that reported on yoga only discussed yoga to improve T2D. Also, the articles that reported on a plant-based diet reported this as the only option; no comparisons or discussion of alternatives or limitations of such a diet were given. Thus, while there was a high prevalence of overt messages of individual blame in regard to health status, which is common for T2D (Saguy & Gruys, 2010), there was ambiguity in the recommendations among all articles. There was no reporting on the recommended amount of exercise, or diet portions and how these might vary based on age, gender, and body size (Franz et al., 2002). That is, the articles tended to lack the necessary discussion of the wider variables related to T2D and healthy lifestyle to cater for different groups of people, whether that be age, gender, lifestyle, or spiritual needs, which are necessary and beneficial for communities (Braveman, 2014; Walsh-Childers & Braddock, 2022). This is problematic as it implies that there is a single cause, effect, or solution to T2D, and, therefore, in order to reduce the likelihood of developing T2D, one needs to implement such a single solution (Kim & Willis, 2007).

The complexities of food practices, like eating, preparing, and meaning-making, were largely ignored in the media coverage, with even less coverage of culturally specific food practices. Pacific bodies were framed as being more at risk due to weight, ethnicity, and socioeconomic status or because of where they lived due to factors such as access to Western healthcare in the Pacific Islands. Most of the articles that discussed food or solutions to T2D suggested healthy eating. However, *healthy eating* does not have a

universally agreed definition, particularly within different cultural contexts, ranging from adhering to a traditional diet and consuming whole foods to following a vegan diet and avoiding sugar. As a result, it is open to diverse interpretations. Two commonly mentioned, but not clearly explained, definitions in the articles revolved around the idea that traditional diets are healthy. This idea tended to be based on the notion that the incidence of T2D has rapidly increased in more recent times due to colonisation, migration, and other global factors, which also aligns with the move away from a traditional diet and increase in Western or packaged food (Hawley & McGarvey, 2015). This is a complex concept as what this traditional lifestyle means in contemporary times was seldom explored. Many Pacific people are now living more urban lifestyles, having relocated to cities for increased opportunities, including work and education (Connell, 2010). This also implies that they dedicate more time to travelling and working. Additionally, they may not have the same level of support from an extended family, making it challenging to engage in activities like growing, farming, and hunting for their own food.

Discussion about weight and obesity was a dominant topic across media articles from all countries, and weight was never reported from a favourable perspective, which previous research has reported common in reporting on minority groups (Poole, 2002). Pacific cultural values of weight (or any other cultural values) were not mentioned in any of the articles despite Tukuitonga (2018) stating, “health is cultural” (p. 5). Weight reduction is reported to rarely consider social norms or culture, both of which have a significant influence and cited as reasons for unsuccessful weight reduction in the Pacific (Pollock, 1995). While, traditionally, Pacific people have been perceived as valuing bigger bodies (Knight et al., 2010), research has demonstrated that body norms and acceptance across the Pacific is changing. Becker and Stick (2017) found Pacific people did not want bodies that were too fat or too thin, placing importance on controlling weight. Other studies reporting on findings of yo-yo dieting, stress about eating, and fear about NCDs (Becker, 2004; Becker & Stice, 2017). Obesity and T2D are described as global pandemics, and Pacific people are among the worst affected by obesity and T2D in the world (World Health Organization, 2013). Being overweight or obesity is described as a risk factor for T2D, and this was very much reflected in all the media coverage of T2D.

The findings in the current media analysis support prior research, which found that health media is dominated with messages of individual responsibility and causality in regard to health and weight (Kwan, 2009). In all the Pacific articles, only one single perspective was presented without discussion of related or counterarguments to balance the perspective. That is, multiple perspectives tended not to be presented or discussed. For example, if an article was about the importance of eating healthily to address T2D, this was presented as the only solution; other solutions, modifications, or issues related to this were not discussed. Considerable research points to the negative impact of individualising health in the media (Barry et al., 2013; MacKendrick, 2010; Roslyng, 2020). Assuming everyone has the same level of opportunities and access to the components of a healthy life (Tolvhed & Hakola, 2018), singling out and assigning blame in this way can lead to discrimination in other areas of life and limit opportunities (Weiss et al., 2006). It can also lead to a lack of openness from people with T2D, which can, in turn, have health consequences as they do not seek timely medical treatment (Wellard et al., 2008).

Medication was discussed as a solution across articles, mostly from New Zealand; however, medication was only framed as in a positively. This aligns with prior research suggesting that the media rarely report the side effects of medicine (Moynihan, 2003). Access to medication as problematic was only explicitly reported on in 4% of the articles, all from New Zealand. Hodgetts and Chamberlain's (2003) research found that media reporting on medical services minimised the role of social injustice in accessing medicine and medical care. Findings from New Zealand media articles do start to discuss health inequities, including poor access to medical care and medicine as well as the cost of medication needed for T2D. These same concerns were not alluded to in Pacific articles, although articles from differing Pacific countries highlighted the need for visiting health professionals, who were often labelled as the "experts". This suggests that Pacific people did not have easy access to the required health care but is not explicit in the media coverage in the Pacific. Health in the Pacific is a complex and broad topic that the articles failed to capture. As such, Prasad and Singh (2008) suggest that health is more than medication and medical services and is influenced by good governance, human rights legislation, culture, migration, faith, and traditional values. These are some of the factors that were largely missing in the T2D media coverage.

Globalisation and neoliberalism

Globalisation has caused diminished control of food supplies and food security, with increased dependence on higher powers, whether it be suppliers or governments (Lawrence et al., 2013). According to Mihalache-O'Keef and Li (2011), food has become a commodity, increasingly controlled by wealth and power. In Pacific articles, globalisation was alluded to in discussion about the move away from traditional food or towards eating more packaged food. Many Pacific articles also addressed Western influence regarding food, medicine, and accessibility. The articles in the dataset did not specifically name globalisation as the cause of T2D but, rather, the articles reported on phenomena that are caused by globalisation, linking these to T2D indirectly.

Within the findings, the most common point of discussion in all the media was food and diet followed by weight and exercise. It was evident across the articles that diets across the Pacific have changed, and this was attributed to rates of T2D. While it was not explicitly stated, it was acknowledged that globalisation had changed food patterns and consumption, such as increased sugar, and these had contributed to NCD rates. However, changes to food industry regulations were infrequently mentioned, with tax on unhealthy food or sugar the only regulation mentioned. This might be attributed to profit as well as the size and influence of food industry because while the media acknowledge the food industry for creating and promoting an unhealthy lifestyle (Lawrence, 2004), they also rely on the food industry for funding through advertisements (Picard, 2004).

Food practices could be further influenced by the neoliberal stance present in Pacific countries and New Zealand, particularly in the context of health (Barnett & Bagshaw, 2020). These findings link with the common thread of neoliberalism found throughout many of the articles from New Zealand and Pacific media and link to Briggs and Hallin's (2007) findings, which label the media as framing neoliberalism as the "actively responsible individual" (p.44). Neoliberalism is a term that is used in various ways. In this context, neoliberalism is a combination of policies, practices, and agendas (Venugopal, 2015). The Pacific was exposed to colonial processes with the arrival of European settlers, who thought indigenous people required new structures and civilisation. This leads to a key feature of neoliberalism that is seen in the Pacific—an appearance of freedom of choice and will while imposing Western

views and products (Bargh, 2002). Moreover, European settlers in the Pacific have attributed this kind of media portrayal to the privatisation of the health industry, capitalisation of medical technology, and nonmarket relationships of citizenship (social citizenship, state paternalism, charity, and market relationships), which have all lead to a health-related individual burden. This tendency began in the 1970s in America (Hibbard & Weeks, 1987), while the shift to individual responsibility in health became more dominant in healthcare in the 1980s (Haug & Lavin, 1981).

Although sometimes subtle, this advance of neoliberalism was very much evident throughout the media articles. Neoliberalism prioritises economic growth, deregulation, competitive markets, and individual responsibility, devaluing state protectionism and welfarism (Swinburn et al., 2015). A powerful way this is spread is through the media, prompting people to monitor and evaluate the behaviour of others (England & Ward, 2016; Foucault, 2011). Furthermore, neoliberal governmentality impacts people's moral narratives through implying that it is irresponsible individuals who put themselves at risk (Ayo, 2012). When T2D prevention is framed individualistically, it fails to recognise the social, environmental, and political factors that impact health (Salmon, 2004). The voices that are privileged—and, even more, the opinions that do not get published—highlight power (relations) in society (Radley et al., 2005). This supports Radley et al.'s (2005) findings—shown in the data—through those working in health commonly given the "expert" title and their voices and those of government officials reported in the majority of the articles. Moreover, there was no negative opinions voiced towards society or the effects of globalisation, rather it was implied personal blame primarily stated as the cause of T2D. This shows how globalisation, policies, and regulations can create and exploit unhealthy lifestyles while blaming those with T2D for not taking actions beyond their means to prevent developing T2D (Schrecker, 2016). While no articles directly discussed neoliberalism, a thorough examination revealed its discernible impact on Pacific countries.

New Zealand was the only country that explicitly mentioned globalisation. However, many Pacific countries did point to the effects of globalisation as the cause for increasing T2D rates, which was seen through the discussion about changing lifestyles. Globalisation was referred to indirectly with mention of topics like moving to urban areas, increased sedentary

lifestyles, and the move away from traditional lifestyles and food towards more packaged food.

Limitations and future research recommendations

The size of the study was limited by time and the constraints of a master's project. Future research could collate a bigger sample size (including Papua New Guinea, for example) and a wider variety of media (rather than being limited to what was available online). An analysis of social media would also add to the picture of T2D experiences, health promotion campaigns, and the amount of discussion about T2D in the Pacific. Another limitation is that this analysis did not evaluate the impact of the media sources, including readership, so future research could explore this more from both qualitative and quantitative perspectives.

Grouping Pacific people as one is one dimensional (Radley et al., 2005) and, due to this, the findings may have missed some of the nuances between the different Pacific cultures. Future research could do more community-focused research within each Pacific country that is led by and for each country. Future research would also benefit from looking at Pacific people's perceptions of the selected media articles to gain another perspective and a richer understanding and include media like blogs that comprise personal stories.

Conclusion

Type two diabetes remains one of the most common NCDs across the Pacific. T2D coverage across the Pacific is relatively extensive but is predominantly biomedical and deficit focused. It must also be acknowledged that media articles are generally written through a Western lens, rather than utilising a Pacific lens when reporting on T2D in articles. The articles predominantly focused on a single factor of T2D, such as a single factor of the cause, effect, or solution. Underlying messaging across the articles alluded to the change in lifestyle—such as globalisation and neoliberalism being the leading cause to these claims—but this was very limited. There were some notable differences between New Zealand media and Pacific media, with New Zealand media expressing clearer links to T2Ds' unbalanced effect on communities and having a more significant impact on poorer communities, with New Zealand also pointing to ethnicities separately within articles.

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Appendix A – Media sources used in analysis

Code	Source	Date	Headline
NZ1	NZ Herald	August 14 2023	Mum of three Paula Kurei endorses virtual 'inject' weight loss programme
NZ2	NZ Herald	August 2 2023	Free medicine deliveries will help address healthcare inequity for Māori and Pasifika - pharmacist
NZ3	Stuff	May 26 2022	100 new health coaches to help Pasifika with diabetes in south Auckland
NZ4	Stuff	Aug 22 2022	Lessons to be learned from Southern Pacific Covid response, leader says
NZ5	Stuff	May 02 2021	Type 2 diabetes: 'A tidal wave that will devastate the NZ health system'
NZ6	Stuff	Oct 16 2020	The Lancet publishes major study on south Auckland's diabetes epidemic
NZ7	Stuff	Mar 29 2019	Half of Māori and Pasifika deaths potentially avoidable, study finds
NZ8	Stuff	Mar 23 2023	Pharmac prioritised Māori and Pacific patients for access to new diabetes drugs – did it get it right?
NZ9	Stuff	Oct 09 2020	Death and dialysis: South Auckland's battle with diabetes
NZ10	Stuff	Mar 16 2017	Meet the man getting Pacific communities moving
NZ11	Stuff	Dec 06 2021	Critics blame diabetes deaths on Pharmac taking years to fund new drug
NZ12	Stuff	Oct 03 2021	Pacific Island Food Revolution: How a reality TV show is inspiring Pacific cuisine
NZ13	Stuff	Apr 01 2021	Waikato DHB equity report 'puts pressure on' health board to improve health of Māori and Pacific people
NZ14	Stuff	Jun 10 2016	Research shows huge difference in diabetes rates across Auckland suburbs
NZ15	Stuff	Mar 11 2016	Coca-Cola cash went to NZ health organisations and research
NZ16	Stuff	Oct 02 2022	This clinic cures blindness – but a looming threat to eyesight has doctors worried
NZ17	Stuff	Oct 19 2015	Diabetes plan launched at Middlemore
NZ18	Stuff	Apr 18 2009	Guide dogs struggle with Pacific Islanders

Code	Source	Date	Headline
NZ19	Stuff	Dec 12 2019	New cooking competition Pacific Island Food Revolution serves up Pasifika cuisine
NZ20	Stuff	May 27 2021	NZ exporting more sugary drinks to Pacific Islands
NZ21	Stuff	May 02 2017	Auckland study about impact of breakfast on type 2 diabetes in need of volunteers
NZ22	Stuff	Jun 16 2020	'It's weak for equity': Health and Disability review could do more for Pacific people, say experts
NZ23	Stuff	Aug 12 2021	Thousands of south Aucklanders could benefit from Medsafe approving new diabetes drug
NZ24	Stuff	Feb 13 2023	Pasifika woman wins Winston Churchill Fellowship
NZ25	Stuff	Dec 01 2020	The Detail: How do we tackle the problem of diabetes?
NZ26	Stuff	Feb 19 2014	Sugar like 'alcohol for children'
NZ27	Spinoff	Feb 20, 2017	Sweet disorder: Why New Zealand needs a sugar tax now
NZ28	RNZ	19 July 2023	Can a traditional Samoan diet combat type two diabetes?
NZ29	RNZ	April 18 2023	Type 2 diabetes: Health researcher calls for ministerial taskforce
NZ30	Pacific media network	Nov 2 2022	'It's very hurtful sometimes' - Samoan with diabetes faces discrimination and reproaches
NZ31	Pacific media network	Nov 3 2022	TikTok weight loss trend helps drive global shortage of type 2 diabetes drug
NZ32	Tagata Pasifika	Dec 7 2021	Critics blame diabetes deaths on Pharmac taking years to fund new drug
NZ33	Tagata Pasifika	Nov 26 2021	Diabetes Action Month: Tackling one of NZ's fastest growing health problems
NZ34	Tagata Pasifika	March 20, 2021	A quarter of Pasifika in NZ will have Type 2 diabetes in 20 years, new report predicts
NZ35	Tagata Pasifika	March 17, 2021	Covid-19 urgency needed to address an "avalanche of diabetes" amongst the Pacific community
NZ36	Tagata Pasifika	April 12, 2023	Seventeen-year-old to have bariatric surgery as part of youth obesity programme
NZ37	Tagata Pasifika	June 8, 2020	Pasifika GP practice first in Wellington to use in-house rapid blood testing for diabetes

Code	Source	Date	Headline
NZ38	Tagata Pasifika	March 28, 2023	New unit aims to tackle south Auckland's huge obesity problem
NZ39	Tagata Pasifika	Oct 13, 2022	Diabetics won't be made to pay for alternative medicines, Pharmac says
NZ40	Tagata Pasifika	Mar 22, 2023	Seven out of 10 adults in Counties Manukau overweight or obese, new report claims
S1	Samoa Observer	April 16 2023	Addressing Type 2 diabetes
S2	Samoa Observer	July 22 2021	Plant-based diet perfect for diabetes
S3	Samoa Observer	July 21 2021	METI help address my diabetes: Maiava
S4	Samoa Observer	Nov 3 2020	Plant-based diet can reverse Type 2 diabetes, M.E.T.I. says
S5	Samoa Observer	Feb 3 2021	Low-carb diet key to overcoming diabetes crisis: study
S6	Samoa Observer	Nov 19, 2020	Kidney Foundation appeals for prevention investment
S7	Samoa Observer	October 16 2020	Local diabetes treatment to be studied
S8	Samoa Observer	Jan 29 2020	Diabetes donation en route to Samoa
S9	Samoa Observer	Nov 6 2019	Return to traditional diet to reduce diabetes – Chinese doctors
S10	Samoa Observer	Aug 29 2019	Diabetic Clinic re-opens at Saleufi
S11	Samoa Observer	June 10 2019	Over 300 get treatment to prevent blindness from diabetes
S12	Samoa Observer	Dec 10 2017	Spreading the word on diabetes
T1	Matangi Tonga online	Dec 1, 2022	FAO and Pacific Nations look for solutions to growing climate and nutrition challenges
T2	Kaniva Tongan	July 6 2022	More Tongan children will be orphaned in New Zealand by rising diabetes-related deaths

Code	Source	Date	Headline
T3	Kaniva Tongan	Nov 10 2016	Diabetes crisis grows as one in seven babies born with the disease
T4	Kaniva Tongan	Nov 16 2018	Queen Nanasipau'u calls on community to stand together against diabetes
T5	Kaniva Tongan	Nov 19 2022	King hopes United Arab Emirates' diabetes centre will deliver services in Tonga
T6	Kaniva Tongan	Oct 3 2016	New research says Tongan diabetes rates have fallen and WHO figures are flawed
V1	Daily Post	Apr 8, 2016	DIABETIC NATION
V2	Daily Post	Dec 19, 2018	Desperate Measures to Fight Diabetes
V3	Daily Post	Jul 28, 2021	VCH records a high number of diabetics this year
V4	Daily Post	Nov 20, 2015	Anthropologist Kirk Huffman alarmed at our Diabetes rating
V5	Daily Post	Sep 4, 2015	Check diabetes and high blood pressure problems early: Specialist
N1	Television Niue	12 months ago	Eye specialists finally arrive on the island after three years
N2	Television Niue	2 years ago	Minister of Health highlight alarming NCD statistics in Health report presented to the Fono Ekepule
N3	Television Niue	3 years ago	Health Minister's cautionary message about eating habits; a timely reminder at the Avatele Show day
F1	Fiji Village	July 9 2023	70-80% of total deaths are attributed to NCDs alone
F2	Fiji Village	June 29 2023	1 in 3 adults in the country is likely to have diabetes - Akbar
F3	Fiji Village	June 15 2023	Eye care health is neglected in the Pacific countries – PacEYES President
F4	Fiji Village	April 11 2023	Faith-Based Organizations to lead lifestyle improvement in Fiji
F5	Fiji Village	Nov 15 2022	We often see people in the villages waiting to die because they can't access dialysis - Kiran
F6	Fiji Village	May 11 2022	Over 12,400 deaths because of NCDs in the last 2 years: We're always concerned that productive members of the society are falling ill because of NCDs – AG
F7	Fiji Village	29/01/2022	NCDs are deadly on their own but COVID-19 can turn them into more efficient killers – Dr Fong

Code	Source	Date	Headline
F8	Fiji Village	07/03/2022	Non-communicable diseases cost the Fijian Economy between $248.6 million to $406.4 million in 2015 – Dr Waqainabete
F9	Fiji Village	25/02/2022	All Black and Samoa rugby legend Va'aiga Tuigamala - 'Inga the Winger' - dies aged 52
F10	Fiji Village	26/01/2022	Reducing sugar will save many lives - FNUSA: Some politicians are signalling to our youth that they have no real interest in saving lives – Lal
F11	Fiji Sun	26/08/2022	Specialists From India Here To Look At Our Diabetes And Nutrition Cases
F12	Fiji Sun	3/12/2021	Health Minister: Diabetes On The Rise Here
F13	Fiji Sun	26/08/2021	Diabetes Hub At Lautoka Hospital
F14	Fiji Sun	12/03/2021	Top Surgeon: Diabetes Amputations Pushing Other Surgeries Aside
F15	Fiji Sun	10/11/2018	Petero Civoniceva Launches 5km Charity Run For Diabetes
F16	Fiji Sun	30/08/2018	348 Diabetes Related Amputations This Year
F17	Fiji Sun	30/08/2018	Daughter’s Backyard Garden Keeps Diabetes Away
F18	Fiji Sun	23 Jun 2018	Dr Waqainabete: 25% Of Adults Will Have Diabetes By 2020
F19	Fiji Sun	19/06/2018	Ministry And WHO Clarify Report On Fiji’s Diabetes Rate
F20	Fiji Sun	11/06/2018	Yoga Sessions Focus On NCDs, Battle Against Diabetes
F21	Fiji Sun	29/05/2018	Ministry To Verify Report On The Nation’s Shocking Diabetes Rate
F22	Fiji Sun	10 May 2018	More Specialists Needed To Control Diabetes Complications: Dr Tappoo
F23	Fiji Sun	11/11/2017	Diabetes Survivor Tells Story Of How She Overcame The Disease
F24	Fiji Times	20/08/2023	‘1 in 3 Fijians have diabetes’
F25	Fiji Times	14/08/2023	‘Diabetes a major health problem’
F26	Fiji Times	9/02/2023	Diabetes demand
F27	Fiji Times	27/11/2022	Go get checked; 20 new cases of diabetes recorded at free public outreach program
F28	Fiji Times	6/11/2022	‘Combat diabetes’

Code	Source	Date	Headline
F29	Fiji Times	26/08/2022	People as young as 20 developing diabetes; over-consumption of junk and fried food
F30	Fiji Times	24/02/2022	Surgeon: Fiji amputating every 8.5 hours for diabetes
F31	Fiji Times	27 Jan, 2022,	Editorial comment: Diabetes reality
F32	Fiji Times	23/01/2022	176,000 treated for diabetes
F33	Fiji Times	20/11/2021	Managing diabetes – Dr Turagava: Sometimes amputation is necessary to save a diabetic patient's life
F34	Fiji Sun	10 Aug 2018	Envoy Pleads For Lifestyle, Diet Changes
F35	Fiji Sun	21/03/2015	Diabetes Fiji Wary Of Increase
F36	Fiji Sun	24 Jan 2015	'Diabetes Can Be Controlled'
F37	Fiji Sun	21/05/2013	Cut Smoking, Watch Diet, Says Surgeon