

“What structural factors will the proposed colorectal cancer screening programme need to consider to ensure equity of uptake for Māori?”

Wanda Owen

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## ABSTRACT

New Zealand is currently piloting the feasibility of a national population-based screening programme for colorectal cancer. Colorectal cancer is one of the most common forms of cancer worldwide, with New Zealand having one of the highest colorectal death rates in the world (Blakely et al., 2010; Shah, Sarfati, Blakely, Atkinson & Dennet, 2012). Considered the most preventable form of cancer, lives can be spared through early diagnosis and intervention. However, evidence of disparities continue to exist in access to healthcare within some population groups, which has an influence on uptake rates in screening programmes (Pitama et al., 2012). Despite improvement in decreased mortality rates in New Zealand's breast and cervical screening, there continues to be a gap in New Zealand's uptake in health screening initiatives, especially within the Māori population. In view of the proposed colorectal cancer screening programme, there is a need for specific guidelines that will guide healthcare services in providing robust strategies that will effectively contribute to equity of uptake for Māori. A critical literature review on the equity of uptake in population-based screening for New Zealand's Māori population was undertaken using a critical social theory lens. The aim was to identify factors that influence equity in uptake of screening in order to recommend robust guidelines in assuring equity of uptake for Māori in the proposed colorectal cancer screening programme.

Sixteen articles from a large body of knowledge were selected and supporting articles and government publications were also used to enhance the review. A thematic analysis of the selected articles identified access to healthcare/screening as the main theme, with structural issues of socioeconomics, health literacy, structural racism, acceptability of service, appropriate services and geographical structures being sub-themes. Recommendations include on-going education to providers, healthcare professionals and the general public, on-going research into equitable access to screening and follow-up treatment, and consideration of Marae-based clinics and/or mobile endoscopy screening units.

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# TABLE OF CONTENTS

Abstract .....	i
Acknowledgements .....	ii
Table of Contents .....	iii
Section One: Background .....	1
Introduction.....	1
Background.....	2
Overview of study.....	5
Section Two: Methodology .....	6
Theoretical Framework .....	6
Method of Research .....	8
Thematic Analysis Chart .....	11
Ethical Consideration.....	14
Cultural Consideration.....	14
Section Three: Discussion.....	17
Introduction.....	17
Access to healthcare and/or screening programmes.....	17
Socio-economic Factors.....	19
Health Literacy Factors .....	20
Structural Racism/Discrimination.....	22
Acceptability of Service .....	24
Appropriate services.....	27
Geographical Factors .....	29
Conclusion .....	32
Recommendations.....	34
References.....	35

## SECTION ONE: BACKGROUND

### INTRODUCTION

This topic of interest stems from my current nursing role as a senior endoscopy nurse within the Bay of Plenty District Health Board (BOPDHB). With a population of approximately 210,000 people and based in Tauranga, the BOPDHB provides health services to those residing from “Waihi Beach in the north-west, to Whangaparaoa on the East Cape, and inland to the Urewera, Kaimai and Mamaku ranges” (BOPDHB, 2014a, p.1). In addition, this DHB’s boundary covers a substantial area of rural townships of which inhabit a greater part of its Māori population (BOPDHB, 2014b).

Part of my role includes provision of nursing care and education to those undergoing investigations that pertain to gastroenterological conditions, including colorectal cancer. Colorectal cancer is one of the most common forms of cancer worldwide, with New Zealand having one of the highest colorectal death rates in the world (Blair, Kahokehr & Sammour, 2013; Blakely et al., 2010; Hulme-Moir, 2012; Richardson & Potter, 2014). However, it is also considered the most preventable form of cancer with early diagnosis and intervention.

Previous statistics indicate Māori have historically experienced lower incidence of colorectal cancer, however they experience higher colorectal cancer mortality than their non-Māori counterparts (Pitama et al., 2012; Shah et al., 2012; Swart et al., 2013). Although it has been reported that late stage presentation has contributed to the higher risk of mortality, multiple comorbidity factors and signs of inadequate access and quality to healthcare services are surmised to be responsible (Haynes, Pearce, & Barnett, 2008; New Zealand Guidelines Group [NZGG], 2011; Weller & Campbell, 2009). Although it is not currently possible to obtain local statistics, my experience supports these authors where Māori appear to be the population least diagnosed with colorectal cancer, but are often diagnosed with late stages of the disease.

In response to New Zealand’s high colorectal cancer rates, the Ministry of Health (MOH) is currently piloting the feasibility of providing a national population-based screening programme that will be available to those aged over 50 (Hulme-Moir, 2012). Although there has been much written on disparities within healthcare that have

disadvantaged population groups worldwide in general (Blakely, Ajwani, Robson, Tobias & Bonne, 2004; Brewer, Pearce, Day & Borman, 2012; Hand, 1998; Harris et al., 2006; Harris et al, 2012; Klonoff, 2008), there still appears to be a gap in how to improve New Zealand's Māori population's uptake of screening programmes. Therefore, there is a need for specific guidelines that will assist healthcare services in providing robust strategies that will most effectively contribute to equity of uptake for all applicable populations, with particular attention to New Zealand's Māori population.

Underpinned by critical social theory, this review critically explores ongoing barriers within healthcare services that contribute to preventing some population groups in accessing health screening/initiative programmes, in particular New Zealand's Māori population. In consideration of the vast factors that affect healthcare access and uptake, this review focuses on structural barriers that may impact on Māori healthcare and screening access and what could be done proactively to ensure the highest uptake. It is intended this review will support the development of robust guidelines that may assist to ensure equity of uptake for Māori in the proposed New Zealand colorectal cancer population-based screening programme.

## **BACKGROUND**

Cancer is one of the leading causes of death throughout the world (Abdoli, Bottai & Moradi, 2014; Sabatino et al, 2012; World Health Organisation [WHO], 2014). With 8.2 million cancer deaths recorded in 2012 alone, cancer accounted for 15.1 percent (%) of all causes of death worldwide (Abdoli et al., 2014; WHO, 2014). Furthermore, the MOH (2013a) identifies cancer as New Zealand's top cause of death, accounting for 30% of all recorded deaths. In response to these high figures, health services worldwide acknowledge the need of raising cancer awareness in today's society (Sikora, 2012; Weller & Campbell, 2009). Therefore, population-based screening for cancer has increasingly become an important element for a nationwide approach in improving early cancer detection or diagnosis.

Although many population-based health screening initiatives already occur worldwide (Sabatino et al., 2012; Sikora, 2012), New Zealand has only offered formalised population-based screening for breast and cervical cancer (MOH, 2013b; National Health Committee [NHC], 2003). Colorectal cancer however, is considered one of the

most common forms of cancer worldwide (Bass et al., 2012; Brotherstone et al., 2007, von Wagner et al., 2011), and as already stated New Zealand has one of the highest colorectal death rates in the world with approximately 100 deaths per month (Blakely et al., 2010; Blair et al., 2013; Bong & McCool, 2011; Hulme-Moir, 2012; MOH, 2013b; Murray et al., 2011; Shah et al., 2012; Shaw, Cunningham & Sarfati, 2008; Swart et al., 2013). Yet with early diagnosis and intervention, colorectal cancer is considered the most preventable form of cancer (Bong & McCool, 2011; Christou, Katzenellenbogen & Thompson, 2010; Hulme-Moir, 2012; Sabatino et al, 2009; Trivers, Shaw, Sabatino, Shapiro, & Coates, 2008; Weller, Patrick, McIntosh & Dietrich, 2009). In response to New Zealand's high rates of colorectal cancer, a four year population-based colorectal cancer screening pilot programme was launched in 2011 (Hill, Sarfati, Robson & Blakely, 2013; Hulme-Moir, 2012). However, a recent New Zealand parliamentary decision has been made to increase available funding to extend this pilot for a further two years in order for more definitive results and will reconsider feasibility in 2017 (Bowel Cancer New Zealand, 2015). Once completed and dependant on results of feasibility, national bowel screening may become available to those aged over 50 (Bong & McCool, 2011).

Although previous statistics have indicated Māori have historically experienced lower incidence of colorectal cancer, Māori experience higher colorectal cancer mortality than their non-Māori counterparts (Ajwani, Blakely, Robson, Tobias & Bonne, 2003; Hill et al., 2010a; NZGG, 2011; Pitama et al., 2012; Shah et al., 2012; Swart et al., 2013). Primary influential factors such as patient comorbidity, smoking, late presentation and inequity in access to health care are considered as major attributions to the survival difference of this population group (Hill et al, 2010a; NZGG, 2011). Statistics from within a ten year period (1996-2006) have reported some significant improvement in colorectal cancer registrations for both male and female of the non-Māori population (NZGG, 2011). However, although male Māori colorectal cancer registration rates remained similar in that same period, Māori female rates increased by 67.7%. In addition, despite some improvement in decreased mortality rates observed in breast and cervical screening within New Zealand, significantly lower uptakes in Māori participation compared to non-Māori continues (Harris et al., 2012; McLeod et al., 2010; Pitama et al., 2012). In order to close the survival gap between Māori and non-Māori, disparities in healthcare access need to be addressed (Blair et

al., 2013; Pitama et al., 2012). This is of particular relevance in view of the proposed colorectal cancer screening programme where equitable access to screening and follow-up treatment for Māori must be fully investigated and supported prior to it being 'rolled out' nationally in order to "avoid the possibility of patterns of low uptake in ethnic and deprived groups becoming entrenched" (Weller & Campbell, 2009, p. S56).

National health statistics indicate New Zealand's increasing incidence of colorectal cancer is, to some extent, the result of a rise in New Zealand's aging population (Bong & McCool, 2011; MOH, 2013a). The majority of cases identified are among the 'over 50' age group, more prevalent in men and have higher mortality rates in Māori than non-Māori (Bong & McCool, 2011; MOH, 2013a; Pitama et al., 2012; Shah et al., 2012; Vedel, Puts, Monette, Monette, & Bergman, 2011). The MOH (2012) predict that by 2026 the older Māori adult population will increase and comprise of 9.5% of the total older person population. However, with early detection and intervention through the proposed population-based bowel screening programme, these figures may be higher if the earlier mortality rate for Māori is reduced by then. Although uptake figures in the current New Zealand colorectal cancer pilot study indicate 42.3% of Māori have participated in the pilot programme, this may not reflect clear statistics for New Zealand as a whole. This is because the region chosen to screen has the lowest proportion of Māori and the lowest proportion of people in the most deprived section of the population compared to the national average (MOH, 2013d). Consequently, it could be questioned whether the pilot study is in fact a true reflection of the targeted population. This is significant in view of preparing for the implementation of the proposed population-based colorectal screening programme within the BOPDHB, as not only does it have a higher proportion of the 'over 50' age group compared to the national average, but also a higher proportion of Māori and people in the most deprived section of the population, than that of the national average (MOH, 2013c).

Another factor to consider is that uptake figures in previous colorectal screening pilots in other countries have indicated a decrease in uptake on consecutive rounds of screening, with a further decrease noted once the programme was officially established nationally (Coutts, 2010; Shaw et al., 2008; Weller et al., 2009). Although an explanation has been difficult to identify, Weller et al. (2009) acknowledge structural barriers such as socio-economic, location and timing of appointments to accessing services as possible influential causes for this decline. Despite positive outcomes of



the current pilot study and Bowel Cancer New Zealand's (2015) recommendations to proceed with a national 'rollout', the New Zealand Government has announced it is too soon to observe any benefit or feasibility of establishing a nationwide service. Further studies will need to be considered prior to or once the New Zealand programme is 'rolled out' nationally in order to obtain a clearer assessment of the groups required to target for intervention (Hulme-Moir, 2012). However, with knowledge gained from the studies already available from established screening programmes, there is a great opportunity to explore and trial new, customised and culturally suitable methods to improve participation uptake (Weller & Campbell, 2009).

## **OVERVIEW OF STUDY**

Section one comprises of the introduction and background of this review in context to the research question: "What structural factors will the proposed colorectal cancer screening programme need to consider to ensure equity of uptake for Māori?" An outline of reviewed literature related to this question is discussed. Section two identifies the theoretical framework which includes methodology of this review. Ethical and cultural considerations are also discussed in relation to the research question and methodology. Data gained from reviewed literature is presented. A discussion presenting major themes construed from the selected literature is provided in section three, followed by the conclusion and recommendations.

## SECTION TWO: METHODOLOGY

This section identifies and discusses the theoretical framework, method, ethical and cultural considerations of this review. In order to effectively answer this research question, a comprehensive review is undertaken investigating relevant literature on factors that empower and/or restrict equity of access to healthcare initiatives and services. A comprehensive literature review provides health care professionals with an “access to pre-digested evidence” (Bettany-Saltikov, 2012, p. 8) which in turn, decreases the time, knowledge and experience normally required in locating, evaluating and synthesizing individual research. It offers an efficient technique in presenting facts, resolving conflicting views and the ability to be applicable to clinical practice through potential guidelines and protocols (Edgar, Glackin, Hughes & Rogers, 2013). Through rigorous, methodical search of information, it utilises a strict criteria for inclusion, exclusion and evaluation (Gerrish & Lacey, 2010).

The aim of this review is to critically analyse findings from selected literature concerned with equity of uptake in screening programmes, with specific reference to New Zealand’s Māori population. Structural health disparities and access to screening initiatives within a New Zealand context are identified, contrasted and highlighted. However, as colorectal cancer population-based screening is yet to be established in New Zealand, there is a dearth of literature related to colorectal cancer screening and its perceived barriers in participation uptake in New Zealand. Therefore global literature pertaining to colorectal cancer and access to screening are included within the critique of this review.

### **THEORETICAL FRAMEWORK**

In view of the scope of this project, this review focuses on structural barriers that continue to be observed in population screening programmes, with specific reference to the equity of uptake for Māori. Underpinned by critical social theory, this review will support the development of guidelines that may assist to ensure equity of uptake for Māori in the proposed New Zealand colorectal cancer population-based screening programme. Using a critical social lens to guide the enquiry helps identify individual, social and/or organisational complexities that need to be considered to ensure equity of uptake for Māori. This approach creates an opportunity for power structures and

those oppressed or marginalised within healthcare systems to be identified (Sumner & Danielson, 2007), thus enabling complex issues that surround the multiple, influential, individual and contextual constraints of inequity and low uptake to be investigated. It supports the 'why', 'how' and 'where' of the issue at hand, not just the 'what', thus allowing for a more in-depth exploration.

With origins in both Marxism and neo-Marxism, and based on 'historical realism', critical social theory emerged with the intention of addressing society's oppressive consequences towards the working-class population (Denzin & Lincoln, 2008; Manias & Street, 2000; Mittwede, 2012). Further developed by social researchers such as Jürgen Habermas and Paulo Freire, critical enquiry represented an analysis of a multitude of issues that shape an 'acceptable reality' in order for it to become 'real' as a consequence of its structural situation. This in turn informed the view that oppression is the result of historical, social and cultural structures within which individuals exist, not of the person's deliberate actions (Fulton, 1996; Tustin-Payne, 2008; Wittman-Price, 2004).

With a critical view of what is seen as world-wide disparities, inequalities, injustices and biases, critical social theory is the process, development and outcome of a transformational agenda that unites numerous theories around "human understanding and misunderstanding, the nature of change and the role of critique and education in society" (Freeman & Vasconcelos, 2010, p.7). Utilising a critical social theory perspective assists researchers to investigate and explore the power in social relationships, including who controls it, who it controls and how it is controlled (Sumner & Danielson, 2007). Critical social theorists believe that through using one's knowledge of a situation, one then has the capability of redirecting and changing the course of events in order to gain favourable and beneficial outcomes. This is of significance within New Zealand where Māori are positioned as a disadvantaged group due to structural barriers that restrict full participation in society. However, in accordance with the principles of the Treaty of Waitangi, the legal agreement between New Zealand's indigenous people and the Crown, healthcare services and New Zealand as a whole are responsible for ensuring equal access to quality healthcare (Durie, 2003). Through raised cultural awareness and education, the incorporation of Māori culture within the

healthcare realm will help to empower Māori and consequently aide in the improvement of the health and wellbeing of this population group.

## METHOD OF RESEARCH

An exploratory search was conducted to review relevant and appropriate literature using the Ebscohost, Nursing Reference Centre, ProQuest, Science Direct, and Google Scholar databases. In addition, the New Zealand MOH, and the ResearchGate websites were accessed in order to gain information and guidelines to practice that appeared relevant to the equity of uptake in healthcare. Initial keywords included: “health initiative”, “screening programmes”, “disparities”, “access to healthcare”, “ethnic inequalities”, “Māori” and “indigenous people”. These were searched both individually and in combination with each other. However, keywords and combinations were altered to help refine the search for relevant literature as shown in Table 1.

<b>Table 1: Main keyword combinations included in the search</b>
Access and healthcare and Maori and/or indigenous people
Access and healthcare and disparities and rural and barriers
Healthcare and Māori and disparities and barriers
Rural and health and indigenous people and barriers
Rural and health and Māori and access
Screening programmes and cancer and disparities and indigenous people
Screening programmes and health and literacy
Screening programmes and access and Māori
Screening and participation and Māori and access and health literacy

All material retrieved was checked using a predetermined inclusion-exclusion criteria process adapted from a combination of literature (Bettany-Saltikov, 2012; Polit & Hungler, 1999; Schneider, Whitehead, LoBiondo-Wood & Haber, 2013). Data from ‘all years’ was indicated in the search, however the majority of relevant literature was chosen from data dated 2004-2014 to provide up-to-date evidence demonstrating how this issue is or can be managed with recommendations and/or potential guidelines. Full text articles and peer reviewed research relative to the proposed question were included. In addition, relevant reference made in grey literature (unpublished data) such as government reports, feature articles and individual opinion articles have been

provided as useful background information for this review. Access to healthcare services, breast and cervical cancer screening practices were also included in order to investigate participation uptake, barriers and/or interventions in improving uptake of healthcare services and screening.

In view of the vast amount of literature associated with healthcare access and the scope of this project, the search was then refined to New Zealand only articles in relation to access to healthcare services, breast and cervical cancer screening practices. As colorectal cancer population-based screening is yet to be established in New Zealand, there was little to no literature related to colorectal cancer screening and its perceived barriers in participation uptake in New Zealand Māori and/or non-Māori populations. Therefore global literature pertaining to colorectal cancer and access to screening was included in the search. A review of article reference lists also occurred in order to search for relevant articles or original work cited within texts that were not found through searching the above databases. These were then accessed through ScienceDirect or Google Scholar.

Exclusion criteria included abstracts only, media reviews, non-English written articles and any duplicated data. Although opportunistic screening programmes were also excluded, articles that discussed prostate cancer were searched to gain a male perspective on screening initiatives. Articles related to immunisation screening were also considered in order to gain wider perspective on barriers related to access to healthcare initiatives. It was pertinent I reviewed, critiqued and analysed the methodologies used in the research literature to ensure it was free of bias to avoid misleading results (Gerrish & Lacey, 2010; Meade & Richardson, 1997). Therefore studies/research that had obvious bias evident were excluded.

The search identified a vast quantity of literature on healthcare disparities in general and I will draw on that information within my critique of the literature chosen. Given the scope of this review and the limitation of time, 16 articles from a large body of knowledge related to this topic of interest were selected and incorporated into this review. Although there were some differing data on sample size and population groups, these articles were chosen as they closely represented common inequalities being observed in healthcare access. Articles consisted of limited local information related to

colorectal cancer management/screening programmes; local information on other population screening programmes; international knowledge on colorectal cancer screening programmes; and information on healthcare disparities. Data collected was a combination of randomized controlled trials, observational studies and literature reviews. Supporting articles and government publications that were originally excluded have been used to enhance the discussion. As the result of a thematic analysis of the 16 selected articles, access to healthcare/screening was identified as the main theme, with structural issues of health literacy, socioeconomics, appropriate services for populations serviced and geographical structures being sub themes. These findings are demonstrated in Table 2.

## THEMATIC ANALYSIS CHART

Table 2: Thematic analysis of selected articles				
Author/Date/Title	Origin	Aim	Method	Main Themes
<b>Colorectal Cancer Management/Screening</b>				
Christou, A., Katzenellenbogen, J. M., & Thompson, S. C. (2010). Australia's national bowel cancer screening program: Does it work for indigenous Australians?	Australia	To explore characteristics of screening programme that may contribute to poorer participation rates.	Critical Literature Review	Lack of awareness/knowledge: CRC and screening. Acceptability: screening methods Geographical factors Role of referrer Health literacy Follow-up care
Jones, R. M., Devers, K. J., Kuzel, A. J., & Woolf, S. H. (2010). Patient reported barriers to colorectal cancer screening: A mixed-methods analysis.	United States of America (USA)	To understand perspectives on CRC screening	A two-part, mixed-methods study: A survey Seven gender- and largely race-specific focus groups	Fear. Accessibility. Socioeconomic factors. Acceptability of screening methods. Lack of information, time, the role of physicians, insurance and access to care. Low self-worth. "Para-sexual" sensitivities, fatalism, negative past experiences with testing. Scepticism: financial motivation behind screening recommendations. Knowledge, motivation, and ability to undergo colorectal cancer screening,
Martini, A., Javanparast, S., Ward, P.R., Baratiny, G., Gill, T.K., Cole, S.R., Tsourtos, G., Aylward, P., Jiwa, M., Misan, G., Wilson, C. & Young, G. P. (2011). Colorectal cancer screening in rural and remote areas: Analysis of the National Bowel Cancer Screening Program data for South Australia.	Australia	To explore/identify participation in the NBCSP in geographically rural and remote areas of SA.	De-identified data from the NBCSP	Uptake of colorectal cancer screening is lower for older rural and remote residents, men, Indigenous people, and lower socioeconomic groups.
Paddison, J. S. & Yip, M. J. (2010). Exploratory study examining barriers to participation in colorectal cancer screening.	Australia	To examine stage of change distribution for CRC screening in a regional Australian community. To identify factors associated with varying positions on continuum of change.	Exploratory study Survey	Attributing greater embarrassment and discomfort to bowel cancer screening Perception Embarrassing Discomfort
Robb, K. A., Solarin, I., Power, E., Atkin, W., & Wardle, J. (2008). Attitudes to colorectal cancer screening among ethnic minority groups in the United Kingdom.	United Kingdom (UK)	To identify attitudes towards colorectal (CRC) screening in all ethnic groups so that barriers to screening acceptance can be addressed.	Survey: face to face interviews	Notable lack of education/knowledge about causes of colorectal cancer. Educational material Embarrassment/shame: most sited barrier Ethnicity Socio-Economic Classification

Smith, S. K., Trevena, L., Nutbeam, D., Barrett, A., & McCaffery, K. J. (2008). Information needs and preferences of low and high literacy consumers for decisions about colorectal screening: utilizing a linguistic model.	Australia	To explore information needs and understanding of those with varying literacy in relation to CRC screening. To consider responses to two types of decision aids.	Qualitative: In-depth, semi-structured interviews	Health literacy-impacts on: Knowledge Poor self-care management Lack of active involvement
Thompson, L., Reeder, T., & Abel, G. (2012). 'I can't get my husband to go and have a colonoscopy': Gender and screening for colorectal cancer.	New Zealand	To gain in-depth understandings of how people made sense of screening	In-depth interviews	Gender factors Perceptions Acceptability of screening
von Wagner, C., Baio, G., Raine, R., Snowball, J., Morris, S., Atkin, W., ...Wardle, J. (2011). Inequalities in participation in an organized national colorectal cancer screening programme: results from the first 2.6 million invitations in England.	UK	To analyse uptake rates for CRC screening programme to identify inequalities in participation	Cross-sectional analysis	Low uptake in the most ethnically diverse areas – geographical/low socio-economic Promote equality of uptake: to avoid widening inequalities in cancer mortality.
Ward, P. R., Javanparast, S., Ah Matt, M., Martini, A., Tsourtos, G., Young, G. (2011). Equity of colorectal cancer screening: cross-sectional analysis of National Bowel Cancer Screening Program data for South Australia.	Australia	To present analysis of equity of National Bowel Cancer Screening Programme (NBCSP) for South Australia. To identify geographical areas and population groups that may benefit targeted approach to increase participation uptake in colorectal cancer screening	Cross-sectional analysis	Unequal participation Inequities in participation based on variety of factors including: Gender, Geographical location, Indigenous status, Home spoken language Fear of cancer Lack of knowledge of colorectal cancer More pressing concerns to deal with. Equity of access/education/ socio-economic factors
<b>Breast Cancer Screening</b>				
Edgar, L., Glackin, M., Hughes, C., & Rogers, K. M. A. (2013). Factors influencing participation in breast cancer screening.	UK	To critically analyse available literature pertaining to factors which influence breast screening participation. To provide recommendations drawn from the reviewed literature	Integrative literature review	Psychological and practical factors Ethnicity Socioeconomic status, Access to information related to harms and benefits of screening
Thompson, Crengle & Lawrenson (2009). Improving participation in breast screening in a rural general practice with a predominantly Maori population.	New Zealand	To explore/describe strategies utilised in increasing participation rates of breast screening in rural GP practice with predominantly Māori population.	Retrospective process evaluation	Geographical location: rural women less likely to partake than urban women
<b>Cervical Cancer Screening</b>				
Brewer, N., Pearce, N., Day, P., & Borman, B. (2011). Time travel and distance to health care only partially account for the ethnic inequalities in cervical cancer stage at diagnosis and mortality in New Zealand.	New Zealand	To explore whether travel time and distance from GP/cancer centres have any correlation to ethnic disparities in cervical screening uptake/stage of diagnosis/mortality	NZ Cancer Registry utilised to identify all cervical cancer cases registered 1994-2001. Geographical Information System.	Travel time Distance Difference in treatment and follow-up



Lovell, S., Kearns, R. A., & Friesen, W. (2007). Sociocultural barriers to cervical screening in South Auckland, New Zealand.	New Zealand	To explore why under screening persists in New Zealand where cervical screening has a high profile	Qualitative Interviews	Socio economic Limitations: financial burdens Acceptability Fear Body Image Shyness/embarrassment Confidence in healthcare provider Accessibility of screening service Lack of information/knowledge
<b>Healthcare Inequalities</b>				
Ellison-Loschmann, E., & Pearce, N. (2006). Improving access to health care among New Zealand's Māori population.	New Zealand	To identify disparities in health care access amongst the Māori population of New Zealand	Peer Reviewed Article	Socio-economic factors Access to healthcare Discrimination Lifestyle factors Ethnicity
Harris, R., Tobias, M., Jeffreys, M., Waldegrave, K., Karlsen, S., & Nazroo, J. (2006). Effects of self-reported racial discrimination and deprivation on Maori health and inequalities in New Zealand; cross-sectional study.	New Zealand	To assess/compare effects of racial discriminations and deprivation on health inequalities in indigenous and non-indigenous New Zealanders.	Cross-sectional Study	Racism: Interpersonal and institutional. Māori more likely to report racial discrimination than non-Māori. Socio-economic inequity result from institutional racism.
Haynes, R., Pearce, J., Barnett, R. (2008). Cancer survival in New Zealand: Ethnic, social and geographical inequalities.	New Zealand	To explore whether effects of ethnicity, deprivation and geographical access to healthcare influence survival of common cancers.	Logistic regression and Cox proportional hazards	Socioeconomic Measures: high levels of residential deprivation (poverty) Geographical Access: travel time for some cancers Ethnic Differences

## **ETHICAL CONSIDERATION**

When undertaking research, including examining another researcher's work, there is an enormous component of ethical values that apply to our everyday way of life such as honesty, dependability, equality and respect to others in order to ensure accurate and non-bias findings are presented (Institute of Medicine, National Academy of Sciences & National Academy of Engineering, 2009). In addition, nurses providing specialised care such as gastroenterology nursing have an ethical obligation to ensure any research involving improved patient outcomes provides safe, informative and educational guidance for the targeted population of the research (New Zealand Nurses' Organisation [NZNO], 2000). Derived from traditional moral standards and values, the Nursing Council of New Zealand's [NCNZ] (2012) 'Code of Conduct' and NZNO's (2010) 'Code of Ethics' for nurses provide an ethical framework to 'do no harm'. Furthermore, as organised screening programmes focus on the health of an entire population, those offering the programme have an ethical obligation to ensure the overall benefit outweighs the overall harm (Sarfati, Shaw & Simmonds, 2010). However, as health care inequalities in general have been "considered to cause harm at the population level..." (Sarfati et al., p.767), cautious ethical attention must be given in order to remove or reduce any inequalities amongst New Zealand's diverse population groups that may transpire as a consequence of screening. This is of particular significance in this investigation into the equity of uptake for Māori in relation to the proposed colorectal cancer screening programme.

In view of this project being a comprehensive literature review and no 'human' participant or client clinical records were involved, ethical and organisational approval were not required. However, as this project pertains to ensuring equity of uptake for Māori in regard to the proposed colorectal cancer screening programme, cultural consideration must be provided.

## **CULTURAL CONSIDERATION**

The 'Treaty of Waitangi', New Zealand's founding document for all New Zealander's health and well-being underpins and guides how healthcare should be safely and fairly distributed, through acknowledging partnership, protection and participation between New Zealand's 'tangata whenua' (Māori) and healthcare providers (NZNO, 2010).

National statistics in health and well-being have indicated Māori are excessively negatively presented and represented (Health Research Council of New Zealand [HRC], 2010). Formed and governed by the Minister of Health, the New Zealand Health Strategy's principles, aims and purposes identify the necessity in reducing the inequalities in health status in order to benefit and improve Māori health (HRC, 2010). As Māori are 'tangata whenua' of New Zealand, significant partners in the Treaty partnership and the priority population that requires appropriate healthcare intervention, it is crucial Māori involvement and participation is considered in any health research.

When considering any research pertaining to or involving Māori, it is important researchers consider the following considerations as endorsed by the HRC (2010):

- Does the research in question involve Māori as a population group?
- How will it impact on Māori health?
- Any benefits for Māori? If so, what?
- How will they be involved?
- Who would be involved?
- If any Māori researchers involved within the research team, can a Māori researcher be the lead investigator?

As a non-Maori researcher, it was of added importance to ensure this research project was culturally safe and receptive (Janssen & Nelson, 2014), therefore initial consultation occurred with the organisational Regional Māori Health Services to discuss this project/topic of interest, its intentions and perceived importance with explanation of the importance of their guidance, knowledge and possible involvement. This enabled an awareness of the project and its significance to Māori as well as an invitation to provide input, contribution, support and guidance in any policy or guideline that may result from this work that will be pertinent to the wellbeing and health outcome of Māori. This provided the opportunity to achieve transparency around the topic of interest, its aims and objectives and expected outcomes (HRC, 2010). Inviting Māori participation enables discussion, development and "provide opportunities for building Māori workforce capacity from within the community"(HRC, 2010, p. 7). Initial consultation also provided an opportunity for Māori to have a 'voice' in a project that may not only have an affect or impact on their own area, whanau, hapu or iwi, but for

all Māori in general (HRC, 2010; Wilson, 2008a). It can also provide the opportunity for Māori to discuss, plan and develop their own ideas in regards to this project/topic of interest.

This section provides the theoretical underpinnings of this review. A critical social theory perspective has been used to guide the process in obtaining sound and relevant literature related to my topic in question. Ethical and cultural considerations have also been discussed.

## SECTION THREE: DISCUSSION

### INTRODUCTION

Although health care as a whole is plagued with disparities (Burgard & Chen, 2014; Klonoff, 2009; Theunissen, 2011), this review focuses on unequal access and uptake in organised population-based cancer screening programmes, with particular attention to New Zealand's proposed colorectal cancer population-based screening programme. Drawing on a large body of knowledge, discussion and critique of the major theme and sub-themes construed from the selected literature is provided in this section, followed by the conclusion and recommendations.

### ACCESS TO HEALTHCARE AND/OR SCREENING PROGRAMMES

Literature (Abdoli et al., 2014; WHO, 2014) indicates there continues to be a need for increasing cancer awareness, improving healthcare service access, and being better prepared to manage cancer symptoms. There is significant global evidence (Abdoli et al., 2014; Haynes et al., 2008; Sabatino et al., 2012; Sikora, 2011; WHO, 2014) that cancer screening programmes play an effective role in increasing community awareness of cancer and early diagnosis. This is evident within New Zealand since the establishment of cervical cancer screening. MOH (2014) identified females dying from cervical cancer have significantly decreased since commencing cervical screening. This decline in mortality is credited to the commitment, education, support and public awareness this programme has promoted in order to decrease mortality rates (McLeod et al., 2010; MOH, 2013a; Sikora, 2011; WHO, 2014).

However, widespread studies (Christou et al., 2010; Robb et al., 2010; Pitama et al., 2012) indicate that countries who have already established cancer screening programmes continue to have major concerns regarding low participation uptake, especially within disadvantaged population groups. This is evident within New Zealand where some authors (Pitama et al.; Harris et al., 2012; Shahid & Thompson, 2009; Thompson, Crengle & Lawrenson, 2009) argue lower participation rates in Māori access to cervical and breast screening programmes continues to be a significant concern. This is despite the contribution of national media and advertising, Māori-led health initiative groups and language specific information packs to improve the awareness and importance of these programmes (McLeod et al., 2010). In view of the

proposed colorectal cancer screening programme, the indication that despite improved mortality rates, there remain significantly lower uptakes by Māori in both breast and cervical screening compared to non-Maori, requires careful consideration.

In order to be effective, efficient and successful, screening programmes need to be centred on sound evidence to ensure the benefits outweigh potential risks (Sarfati et al, 2010; Sikora, 2012). Although considered valuable and beneficial in identifying early cancers, Bretthauer and Kalager (2012) identified concerns that screening may suppress potential weaknesses or downfalls, such as creating false-positive/false-negative test results which in turn may lead to over/under treatment of the disease and/or unwarranted increased anxiety. They go on to argue that some contradictory findings in previous studies of screening programmes have in fact left many confused. These concerns are supported by Sikora who acknowledges further comprehensive population-based research is required to validate any effectiveness and feasibility of introducing new screening initiatives, which may contribute to why the New Zealand government, although investing more money in the pilot, is not yet extending or committing to a nationwide programme.

Sarfati et al. (2010) acknowledge screening programmes encompass a pathway which guides the process of promotion, invitation, recall, timely diagnostic and/or therapeutic treatment. Nonetheless, inequalities can and often do occur at any stage of this pathway. This has been evident in one New Zealand study of cervical cancer screening where the authors argued that although not all disparities showed statistical significance, Māori women appeared the least supported or served in all phases of the pathway (Sarfati et al.). It is of importance therefore that when considering the rollout of any national population screening programme, scrupulous monitoring must occur at all points along the pathway to ensure equity of access for all involved.

Access and participation rates are considered the most important factors in determining the success of any screening programme (Robb et al., 2010; Weller & Campbell, 2009). Furthermore, it is argued that access to healthcare services in general is considered one of the most influential factors of healthcare status within different population groups, with structural origins accounting for the majority of healthcare disparities (Durie, 2005). Results from global studies support the view that disparities in access to healthcare play a vital role in low participation in cancer

screening (Burgard & Chen, 2014; Haynes, et al., 2008; Liss & Baker, 2014; Robb et al.; Taskila et al, 2009; Trivers et al., 2008). The most common themes associated with access to healthcare/screening programmes include socio-economic; structural racism/discrimination; health literacy; acceptability of the service; and geographical factors/barriers (Chapple, Ziebland, Hewitson & McPherson, 2008; Christou & Thompson, 2013; Liss & Baker; Meeran & Smith, 2010; Robb et al.; Weller & Campbell; Taskila et al.; Ward et al., 2011). Each of these factors could be said to relate to access to services. The relationship is demonstrated in the following venn-diagram:



Diagram1: Factors related to and/or influence access to healthcare

### *Socio-economic Factors*

Indicators of lower socio-economic standing includes lower education, income, employment, healthcare insurance and housing status (Edgar et al., 2013). Socio-economic positioning within New Zealand is considered to be greatly associated with ethnicity (Hill et al., 2010b; Hill et al., 2013) and is identified as an important facilitator associated within ethnicity's relationship to healthcare disparities. Changes in New Zealand's socio-economic reforms during the early 1980s had an unfavourable impact

on Māori with outcomes of expanded gaps in education, housing, income and employment status (Durie, 2005). The widening health inequalities seen today are considered the consequence of these reforms. Associated financial burdens related to low income, unemployment and/or transport factors are also common deterrents in access to appropriate care for those of lower socio-economic status (Brewer et al., 2012; Christou et al., 2010; Edgar et al., 2013; von Wagner et al., 2011), which often result in appointments being declined or non-attended. Restructuring of appointment times to coincide with others (relatives and/or friends in same location) attending the same clinic in order to share associated transport issues could aide in improving the service (Edgar et al.; Thompson et al., 2009).

Socio-economic deprivation has also been widely viewed as an analyst in poor survival mainly through effects on stage at presentation and treatment options (Hill et al., 2010a; Woods, Rachet & Coleman, 2006; Ward et al., 2011). Global and New Zealand studies (Edgar et al., 2013; Haynes et al., 2008; Levien, 2007; Liss & Baker, 2014; Lovell, Kearns & Friesen, 2007; Pearce, Dorling, Wheeler, Barnett & Rigby, 2006; Theunissen, 2011; von Wagner et al., 2011; Weller & Campbell, 2009) have identified that those in lower socio-economic areas are subjected to higher levels of morbidity and mortality than those with higher social and economic benefits. Late stage presentation has been observed in those from low socioeconomic and/or deprived populations, which also contributes to decreased participation uptake rates in cancer screening (Haynes et al.; Weller & Campbell). Hill et al. (2013) found that after adjusting for stage and treatment differences, the remaining consequence of socio-economic deprivation was more likely to be due to influential effects of contextual and/or individual barriers to healthcare access. Yet Brewster et al. (2001), focussing on whether socio-economic differences had any effect on cancer survival, reported that at the time of their investigation no apparent differences were noted between the different socio-economic groups studied. Information from this study was then re-analysed by Kaffashian et al. (2003) who identified there was in fact some evidence indicating a significant increase in tumour size at time of presentation in those with increased social deprivation, and this must have a detrimental effect on prognosis.

### *Health Literacy Factors*

Health literacy has also been a major factor in uptake of health screening initiatives (Christou et al., 2010; Kobayashi, Wardle & von Wagner, 2014; Smith, Trevena,



Nutbeam, Barret & McCaffery, 2008b; Thompson et al., 2009; Von Wagner, Semmler, Good, & Wardle, 2009; Weller & Campbell, 2009; Zonderman, Ejiogu, Norbeck, & Evans, 2014). Compared to breast and cervical cancer screening, colorectal cancer screening has had minimal public promotion worldwide, therefore a lack of awareness, knowledge and understanding of the severity of this issue exists (Christou et al.). Although vast efforts have been dedicated to ensuring information and materials are readily available for colorectal screening programmes globally, there continues to be a wide variation in health literacy within populations (Weller & Campbell). Low health literacy has been associated with lower socio-economic and deprived population groups (Lovell et al., 2007; Weller & Campbell; von Wagner et al.; Zonderman et al.). This is of significance within the proposed DHB which has a higher proportion of people in the most deprived section of its population than that of the national average (MOH, 2013c).

Although there has been a huge commitment to providing comprehensive and balanced information and material to promote the significance and importance of screening programmes, due to the complexity of screening processes, there appears to be a deficit in comprehension and understanding especially in those with lower educational achievement as often seen in disadvantaged populations (Senore, Malila, Minozzi and Armaroli, 2010; Smith et al., 2008b; von Wagner et al., 2009; Weller & Campbell, 2009; Zonderman et al, 2014). When providing relevant and pertinent information, it is important to consider issues such as socio-economic and/or geographic factors that may influence different levels of literacy within each population group to which the information is delivered. It is also important to recognise what tool or method, or combination of same, in providing this information would be the most beneficial for each situation (Christou & Thompson, 2013, Smith et al.). For example, in one study by Smith et al., (2008b), visual tools with diagrams and pictures to inform participants about colorectal cancer and screening programmes were utilised. Results included mixed reactions where those of lower literacy found the tool very successful in providing relevant information, whereas those of higher education and literacy found it “patronising, childish and meaningless” (p.128). Giordano et al. (2008) emphasise screening services must provide accurate, accessible and uncomplicated information that reflects potential advantages in decreasing cancer incidence and mortality rates, but must also clarify potential risks and limitations of screening so that all potential target groups are equally informed. This is also applicable when producing relevant

screening invitation letters, as an inability to interpret these letters has been considered to contribute to low screening uptake (Edgar et al., 2013).

Reeder (2011) indicated that some participants thought professional healthcare settings, General Practitioner (GP) or consultancy waiting rooms were more effective than community-based groups, advertising on commercial billboards or national television. Others in the same study felt brochures/leaflets were not considered to be that highly regarded or useful, as “no-one reads them...especially if not wanting to be seen with anything related to the bowels...” (Reeder, p. 13), or female genitals (Edgar et al., 2013; Lovell et al., 2007). Another study (von Wagner et al., 2009) confirms those with low health literacy are unlikely to pursue or obtain written material, unlikely to understand it and are less likely to be well-informed of potential screening benefits. These authors utilised a computerised interactive programme to identify whether low literacy levels impact on understanding health literacy information. Although sufficient reliability was noted, findings were limited however as no prior knowledge or general understanding was measured prior to the interactive activity.

### *Structural Racism/Discrimination*

Wilson (2008b) highlights there is vast growing evidence being directed at the unfavourable relationship “between health disparities and personal and institutional racism, and associated discriminating practices” (p. 182) for Māori. Racism, no matter in what form it may present, is considered to be “the most disturbing of the potential explanations” (Wilson, p. 182) for disparities and inequalities in the access of healthcare services. Many (Ellison-Loschmann & Pearce, 2006; Harris et al., 2006; Hill et al., 2010b; Hill et al., 2013; McKenzie, 2003; Nazroo, 2003; Wilson) acknowledge cultural/ethnic racism is in fact a major public health concern both globally and within New Zealand. Racism is conveyed through attitudes, behaviours and language, therefore, healthcare providers both workforce members and the organisation, need to self-reflect and explore how negative and potentially destructive attitudes and behaviours impact on health outcomes for disadvantaged groups (Ellison-Loschmann & Pearce; Nazroo). Ignoring or not addressing individual and/or organisational racism within healthcare services perpetuates the contribution and participation by the providers in continuing racial discrimination (Wilson). Claims to ‘political correctness’ attempt to mask behaviours and attitudes, and can contradict realities that disadvantaged groups like Māori may encounter. Failure to acknowledge and correct

any adverse impacts of racism could be deemed “a failure in the duty to care” (Wilson, p.182), thus will inadequately empower the participation of the discriminated group/s in improving access to appropriate healthcare services.

The principles and standards of the more dominant groups are more often considered the ‘right’ values in society, thus creating characteristics of negativity, low esteem and self-contempt amongst the oppressed in society (Dickenson, 1999). This in turn exposes passive-aggressive actions that are often seen as unsuccessful and unproductive during deliberations and/or negotiations. As a result, ongoing frustration, potential failure and further low self-worth and self-image is observed (Dickenson; Theunissen, 2011). Significant similarities are evident within New Zealand due to the colonial relationship between the indigenous Māori and the non-Māori populations, resulting in the destruction of Māori social order which became irreparably damaged and continues to require protection today (Levien, 2007). Consequently, this has impacted negatively on areas of Māori health and wellbeing such as access to traditional healing, access to healthcare and correct protocols or ‘tikanga’ around death (Durie, 1998; 2005; Papps, 2002). Post-colonial disparities in healthcare delivery have led to “limited choice and power to exert choice” (Dawson, 2008, p. 7) for Māori. This continues to be evident where the traditional Western biomedical model of healthcare remains the dominant culture within New Zealand’s healthcare system (Richardson, 2004). A predominantly non-Māori healthcare workforce continues to value the scientific model and its conformity, whilst ignoring Māori traditional approaches to health and wellbeing, thus limiting choice and possibilities (Doane & Varcoe, 2005; Papps). Richardson also supports that the consequences of colonisation and cultural ‘suffering’ are clearly linked to Māori’s historically poor health status, decreased life expectancy and/or lower socio-economic status.

Literature (Ellison-Loschmann & Pearce, 2006; Hill et al., 2013) suggests racial/cultural stereotyping, whether consciously or unconsciously by health care professionals, plays a pivotal role in ethnic inequalities within health care services. Although there does not appear to be any New Zealand research that has undertaken an in-depth investigation in stereotyping or discrimination within clinical decision making specifically in cancer screening participation, there is evidence that some health care workers, including nurses, display higher negative racial stereotypes toward Māori than non-Māori (Harris et al, 2006; Hill et al.). In relation to access to health services as a whole, one study

(Harris et al.) found Māori were nearly ten times more likely to experience racial discrimination than non-Māori due to ethnicity. Further evidence is provided by Ellison-Loschmann and Pearce (2006) who add Māori are discriminately less likely to be referred for surgery, specialist services and/or adjuvant treatment. It is vital, therefore that in order to increase Māori uptake rates in screening programmes, New Zealand must address effects of racial discrimination within the healthcare system.

### *Acceptability of Service*

Perceived benefits and barriers contribute to acceptability of health screening services (Anderson, Marshall-Lucette & Webb, 2013; Austin et al., 2009; Edgar, et al., 2013; Jones et al., 2010; Weller & Campbell, 2009). Edgar et al. found women of lower socio-economic status associate healthcare with being unwell and are less likely to partake in breast screening unless they are physically unwell or had symptoms. These women perceived little benefit in seeking medical attention or screening if they were symptom free, and consequently believed they were at low risk for breast cancer. Anderson et al. identified similar findings in their study of non-Caucasian males' perception of the benefits in prostate health checks if they do not experience any signs or symptoms of ill health. This channel of thought highlights the importance of ensuring correct, understandable and accessible information is available for all population groups to be able to make an informed choice about their own health and wellbeing, which includes ensuring the benefits outweigh any potential risks (Edgar et al., 2013; Sikora, 2012)

Acceptability of screening methods has also been shown to be a factor in decreased participation rates (Jones et al., 2010; Marshall et al, 2007; Robb, Solarin, Power, Atkin, & Wardle, 2008; Weller & Campbell, 2009). Faecal Occult Blood testing (FOBT) is the only tool currently used in the New Zealand pilot study (Colorectal Cancer Screening Advisory Group [CCSAG], 2006). This involves collecting and spreading samples of faecal matter onto cardboard sticks provided in a test kit on three separate occasions, an act which many found 'messy', 'distasteful', 'unpleasant' and 'inconvenient' (Chapple et al., 2008; Jones et al.; Meeran & Smith, 2010, Paddison & Yip, 2010; von Wagner et al., 2009; Weller & Campbell). This method has been seen as 'embarrassing', 'humiliating' and 'culturally unacceptable', and has markedly influenced decreased uptake rates in previous global screening programmes (Marshall et al.). In addition, as for many cultures, human waste is disposed of appropriately, not

collected and placed in small envelopes for postage. This is perceived to add to a potentially low uptake of disadvantaged ethnic groups, such as New Zealand's own Māori population, in such screening programmes as their cultural restrictions around human waste are very strict (CCSAG; Meeran & Smith). A review of the FOBt screening method used in the Australian National Bowel Cancer Screening Programme identified indigenous people are approximately twice less as likely to partake in the program (Christou et al., 2010). Findings also identified this population group was significantly less likely to accomplish the test correctly. A previous study (Weller & Campbell) also identified there were lower uptakes of those in the younger range of the targeted age group and men using the FOBt method. Senore et al. (2010) argues that uptake in screening with this method increased when trained non-healthcare personnel delivered and collected these samples from the individual's residence rather than deposited into the public postage system.

Another study (Reeder, 2011) investigating this method of screening identified participants acknowledged increased uptake would occur if more attractive collection methods were available. Colonoscopy or flexible sigmoidoscopy procedures have been suggested to be more appropriate alternate screening methods (Robb et al., 2008; Senore et al., 2010; Weller & Campbell, 2009) where men have appeared to have higher participation with these methods of choice. However, other studies (Anderson et al., 2013; Bass et al., 2012; Jones et al., 2010; Marshall et al., 2007; Paddison & Yip, 2010; Reeder) have identified these alternate methods are also considered unfavourable to some participants, where pain, embarrassment and the perceived sexual overtones attached to any physical rectal examination were key factors in low participation uptake in healthcare screening.

Despite improvements to breast and cervical cancer screening, similar fears still present as influential barriers that may prevent participation (Pitama et al., 2012). Two studies (Edgar et al., 2013; McLeod et al., 2011) identified that many participants continue to perceive exposing breasts or genitals to be a violation of modesty and cultural beliefs. Furthermore, Māori women view these areas of their bodies as being "sacred, only for their husbands to see and touch" (Lovell et al., 2007, p. 145). Thus, cervical examinations have been considered by many Māori females as invasion of the area they closely relate to sexual intimacy. As with men's perceived fear of sexual connotations associated with colorectal cancer screening and rectal examinations

such as colonoscopies and/or flexible sigmoidoscopies (Jones et al., 2010), Lovell et al. acknowledged that although the majority of women undergoing breast and/or cervical screening request female screeners, many indicated fear related to potentially suspicious intentions of the screener.

However, general consensus from participants interviewed in a study exploring flexible sigmoidoscopy as a preferred method of screening acknowledged embarrassment was not a major impediment to participating (Austin et al., 2009). Instead, the same participants voiced fear of the actual results and the consequences as the most contributing factor to not attending any method of colorectal screening. Similar fears have also been identified as perceived barriers in some breast and cervical screening studies (Edgar et al., 2013; Lovell et al., 2007; Shahid & Thompson, 2009).

Global research (Bass et al., 2012; Brotherstone et al., 2007; Reeder, 2011; Robb et al., 2010; Thompson, Reeder & Abel, 2012; Trivers et al., 2008; von Wagner et al., 2009; Weller & Campbell, 2009) indicates men in general are less likely to attend colorectal cancer screening than females. This could be attributed to the fact that women have had a greater awareness of health screening benefits through their association with breast and cervical screening over the past few decades. Reeder adds men have historically perceived health issues as a female matter and therefore do not view health in the same context. Furthermore, many men consider access to healthcare services as a threat to their identity, a weakness or 'let down' of macho-ness (Anderson et al., 2013; Bass et al.; Chapple & Ziebland, 2002; Reeder; Thompson et al.; Williams et al., 2003). Thompson et al. add Māori men historically held the belief that "nothing will go wrong" (p. 243), and that seeking support and assistance constituted weakness.

As discussed, only breast and cervical population-based screening occurs in New Zealand. Although population-based prostate cancer screening is not recommended by the MOH, opportunistic screening is widely practiced throughout New Zealand. Nacey, Morum and Delahunt (1995) acknowledged in their study of male perceptions in opportunistic prostate screening, Māori men in particular were less likely to partake in prostate screening. Common deterrents included lack of knowledge, fear and suspicion of westernized treatment, the belief symptoms being related to sexual behavior and an innate dislike in discussing their overall health and wellbeing. Similar

findings have been observed with males of African descent in England who appear reluctant or the least likely to present for prostate screening or healthcare checks (Anderson et al., 2013). As the proposed population-based colorectal cancer screening programme will be New Zealand's first official male inclusive population-based health screening programme, it is important to better understand current male perceptions and attitudes toward preventative health issues as these may be different to that of their female counterparts (Chapple & Ziebland, 2002; Weller & Campbell, 2009). Although similar global and national findings observed in the above mentioned studies have been reported with colorectal investigations (Bass et al., 2011; Jones et al., 2010; Thompson et al., 2012; Williams et al., 2003), there is no literature specifically investigating the New Zealand male's perception on colorectal cancer screening (Reeder, 2011). Therefore further studies with specific approaches to New Zealand male's perspectives, attitudes and participation towards preventive health initiatives should be considered prior to introducing this programme nationally (Reeder; Weller & Campbell).

### *Appropriate services*

In view of the proposed colorectal cancer screening programme, and despite extensive literature claiming screening is valuable and beneficial in identifying early cancers, it can also be questioned whether population-based screening programmes are in fact the appropriate service for all population groups (Senore et al., 2010). The most important objective in any screening initiative is to help lower the incidence and mortality of the screened health issue without causing any adverse harm to the overall health status of the intended population group. Like all healthcare initiatives there needs to be governmental and organisational commitment in ensuring equal access is achieved.

As associated with health literacy, socio-economic and cultural factors have some influence on access to appropriate healthcare services both globally and within New Zealand (Hefford, Crampton & Foley, 2005). A national health care system was established in the early 1930s with the intention to provide free healthcare to all New Zealanders (Ellison-Loschmann & Pearce, 2006). Overtime this was modified to a government-paid funding system where secondary care was state-run and funded, and primary care, although largely state funded was maintained by individual healthcare medical practitioners. This continued well into the 1980s until restructuring of the public

sector saw major changes to social services using a competitive market model. Then in 2002 and based on the principles of the Alma Ata Declaration, the restructuring of primary healthcare was announced by the New Zealand government in the attempt to improve access to healthcare as the way to “tackling inequalities in health” (Hefford et al., 2005, p. 10). While New Zealand healthcare is predominantly state-funded, approximately 60% of the income of primary care practitioners is obtained through patient co-payments. This is of significance, as disparities viewed in this context could reveal delays in access to healthcare may in large be due to financial barriers, not just the non-financial factors. Furthermore, Māori are considered twice as likely to avoid healthcare due to related costs (Ellison-Loschmann & Pearce), thus adding to the above evidence that cost is a significant concern in accessing appropriate services (Ellison-Loschmann & Pearce; Hefford et al.).

A lack of funding in cancer care services is also considered to have an impact on the quality and waiting times of healthcare services, which may lead to differential reductions in healthcare access for those in the lower, disadvantaged socio-economic population groups (Hill et al., 2013). Despite some services being free, associated costs add to access inequities in healthcare services. Participants in one study (Jones et al., 2010) claimed access to both free and user-pays screening programmes can be limited. With added associated costs such as travel, accommodation and medical fees, these programmes become unaffordable and unattainable. Although the current public health system’s objective is to deliver equal access to healthcare for all those residing in New Zealand, and despite the majority of cancer care being provided by public hospitals, rapid access to some services is available for those who have private healthcare insurance and/or pay directly to privately operated facilities (Hill et al., 2010a; 2013). Thus, increased survival prospects are benefited from shorter wait times and uncomplicated access to advanced services for prompt diagnosis and treatment. However, Māori are less likely to pay for private healthcare or have health insurance (Hill et al., 2013; Swart et al., 2013) and as mentioned, more likely to be socio-economically deprived, therefore less likely to receive timely, appropriate care and treatment.

As a result of the above mentioned health reforms, and as part of New Zealand’s commitment to improving the health status of its indigenous people, two Māori-led initiatives predominantly related to improving access to healthcare services were



introduced: “the establishment of Māori health care provider services and the development of cultural safety education” (Ellison-Loschmann & Pearce, 2006, p. 614). Fundamental approaches and philosophies that strengthen Māori-led primary healthcare include the use of Māori models of health, such as the ‘Te Whare Tapa Wha’ or ‘Te Wheke’ models of health, and the “promotion of positive Māori development” (p.614). Strategies used to help combat recognised access issues to appropriate services by these providers include the utilisation of mobile services, community and/or Marae-based clinics, provision of free or low-cost healthcare and care provided primarily by Māori clinicians (Durie, 2003; Ellison-Loschmann & Pearce; Jeffreys et al., 2005). This is successfully evidenced in one Māori-led organisation, the Korowai Aroha Health Centre in Rotorua, who is committed to providing culturally, appropriate nursing care to the region’s Māori population (Hand, 1998). Fully provided by Māori for Māori, this organisation continues to thrive and support equitable access to appropriate services for Māori. Literature (Ellison-Loschmann & Pearce; Hand) supports Māori healthcare providers have made an enormous impact on the overall health status of Māori, and without Māori participation poorer healthcare outcomes may be worse than they are. Nonetheless, Durie (2003) argues provision of healthcare that combines the conventional, westernised mainstream service with Māori-led services can exist in unison providing the appropriate service is the most beneficial in achieving individual needs.

### *Geographical Factors*

Pearce et al. (2006) argued there had been little, to no consideration given to the geographical or regional disparities in access to healthcare. However, on review of a vast body of literature (Ajwani et al., 2003; Christou et al., 2010; Haynes et al., 2008; Martini et al., 2011; Silva & McNeill, 2008; Smith, Humphreys, & Wilson, 2008a; von Wagner et al., 2011), geographic disparities in access to healthcare have now been well-discussed. Nonetheless, inconsistencies associated with remoteness or distance from healthcare facilities and cancer mortality and survival have also been identified (Brewer et al., 2012; Haynes et al.; Gill & Martin, 2002; Jeffreys et al., 2005). Although Haynes et al. found no evidence that travel time and distance had any significance to late stage presentation, they did acknowledge chance of survival dramatically decreased for those who experienced longer travel times to either a GP or healthcare facility for colorectal, breast, cervical and prostate cancers.

As with other countries (Martini et al., 2011; Talukdar & Reddy, 2012), geographical disparities in access to healthcare services vary within New Zealand (Brewer et al., 2012, Smith et al., 2008a). New Zealand’s major service-specific healthcare services such as cancer centres are generally situated in central populated areas (Hill et al., 2013). Although this centralisation is considered to have some improvement on the overall quality of care for many, it is also believed to have exacerbated access inequities for disadvantaged population groups. Studies (Brewer et al.; Haynes et al., 2008; Hefford et al., 2005; Hill et al.) have indicated Māori more than non-Māori tend to reside in relatively remote and/or rural areas thus have further to travel to appropriate and/or accessible services. This is of significance to the proposed DHB as majority of its 26% Māori population live within its rural boundaries (BOPDHB, 2013, 2014b). Divided into five territorial authorities, data gathered from the New Zealand Census (2013) identified the proportion of the BOPDHB population that have Māori ethnicity (BOPDHB), as shown in the following diagram:

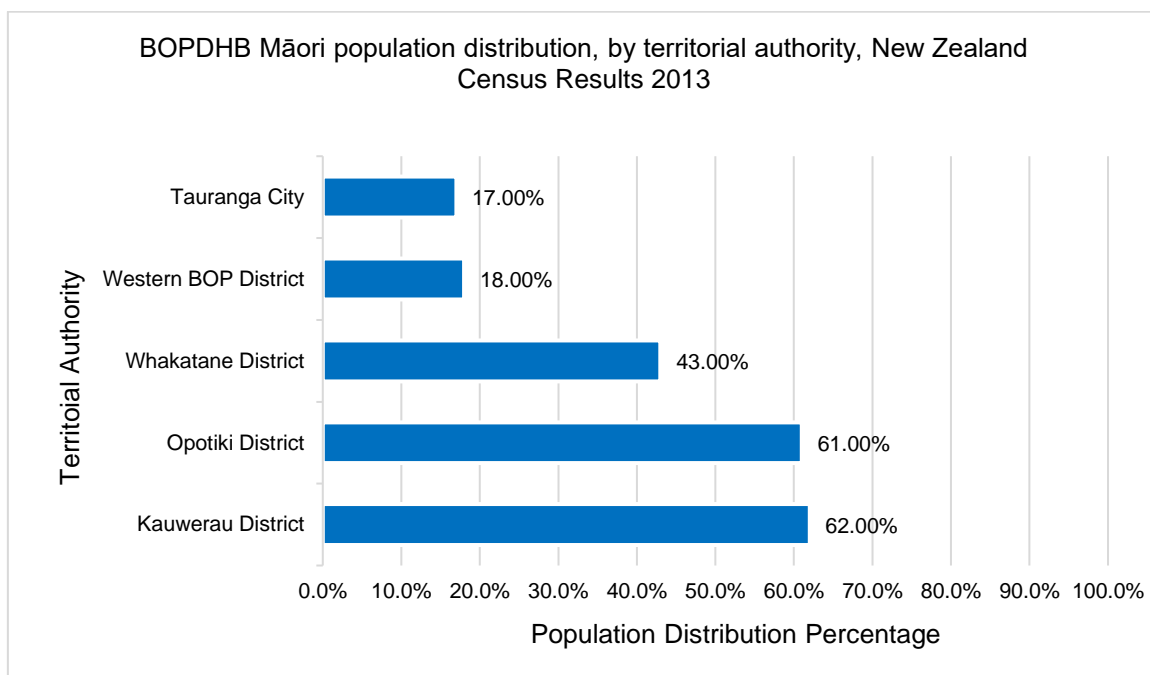


Diagram 2: BOPDHB Māori population distribution by territorial authority, 2013. Adapted from BOPDHB (2014b).

A recent review of the Australian National Bowel Screening Program (Christou et al., 2010) also identified considerable discrepancies related to geographic location. Higher participation uptake in screening for colorectal cancer was noted within inner urban regions while people in rural or isolated regions were less likely to partake. Similarly, New Zealand literature (Brewer et al., 2012; Pearce et al., 2006) identified distinct

regional trends had an impact on life expectancy, with significantly higher life expectancy in those within urban populations and much lower in those within the more sparsely populated areas such rural/remote sections of the region. Therefore, prior to national roll out of the proposed colorectal cancer screening program, New Zealand needs to take heed and learn from these findings to avoid similar occurrences.

Inadequate access to health care services amongst remote and rural communities has been evidenced within New Zealand, especially since the closure of rural hospitals (Bax, Shedda & Frizelle, 2012). Consequently, the availability of appropriate services within these communities has deteriorated or is non-existent. Despite reported inconsistencies related to distance from healthcare services, associated financial burdens, distance and transport factors feature as major geographical deterrents in access to appropriate care (Brewer et al., 2012; Christou et al., 2010; Smith et al., 2008a). No vehicle or reliable vehicle, petrol costs, loss of income and axillary costs such as support person, childcare, food and/or accommodation are commonly voiced by those in rural/remote regions who require secondary and/or tertiary healthcare services (Keresztury, Faulkner, & Ostien, 2011). As discussed, scheduling or re-scheduling of appointment times to coincide with others will help with transport, childcare and other associated costs (Brewer et al., 2011; Thompson et al., 2009).

Bax et al. (2012) suggest provision of mobile services to rural and/or remote communities could be a beneficial resolution. Although New Zealand has employed mobile oral/dental, breast screening and surgical bus services to accommodate rural communities (MOH, 2011), no evidence has been obtained in supporting a designated mobile colorectal cancer screening service to date. However, this resolution would contribute to less time spent travelling, accommodation costs in urban centres and less disruption to daily activities such as less time off school or work time for both the individual and/or their support person (Bax et al.; Brewer et al., 2012). However, it needs to be understood that although mobile services may enhance access to care, there will still be some access barriers for some groups/individuals getting to the units that will need addressing (Keresztury, et al., 2011.). These include support and transport associated costs in getting some individuals to where the unit may be situated.

## CONCLUSION

As noted in the literature, disparities continue to exist in access to screening programmes which have influenced uptake rates within disadvantaged populations. The status of indigenous health and wellbeing varies worldwide and is uniquely influenced by post-colonial political and societal conditions (Ellison-Loschmann & Pearce, 2006, Hand, 1998). Inequities and disparities in access to equal and fair healthcare services for New Zealand's Māori population have been evident since the days of British colonisation of New Zealand. Geographical factors, availability of health care, structural and/or ethnic discrimination and socio-economic status are considered significant deterrents to equal access. As evidenced throughout this review, access to primary, secondary and/or tertiary healthcare services for Māori markedly differs to that for non-Māori. Despite some improvement in decreased mortality rates observed in breast and cervical screening both nationally and internationally, there continues to be a gap in how to improve New Zealand's uptake in accessing any health screening programmes/initiatives, especially within the indigenous Māori population. In order to improve access to all aspects of care, it is crucial for New Zealand as a nation to address these concerns.

A critical social theory lens can be beneficial in exposing prejudices or factors that may influence inequality and low uptake in cancer screening programmes. It is with particular relevance in view of the proposed colorectal cancer screening programme that this issue is addressed prior to when it 'rolls out' nationally. Critical theorists like Freire believed that education and knowledge is a way in which oppressed groups can develop an awareness of their non-dominant positioning and the historical traditions sustained by their oppressor which may lead them to emancipation (Matheson & Bobay, 2007). He argued that the only one who can reinstate a person's humanity is in fact the person them self through a process of change or transformation. Habermas also promoted that by critically exploring knowledge and how it is acquired, and applying that to both social and cultural situations, one is then able to critique social structure and challenge this power of domination (Freeman & Vasconcelos, 2010). In doing so, viewpoints and experiences of everyday practice can be utilised in a manner that empowers the development of a wider understanding of the purpose of that practice within society (Freeman & Vasconcelos; Sumner & Danielson; Wittman-Price, 2004).

The implementation of cultural safety has played an influential role towards improving the provision of optimal care and access to mainstream services for Māori (Ellison-Loschmann & Pearce, 2006; Jeffreys et al., 2005). Introduction and implementation of Māori-led initiatives have also proven to have had some impact on improving healthcare services for Māori (Ellison-Loschmann & Pearce, 2006). Nonetheless, further research and/or education in improving perceived attitudes of healthcare workforce and acceptability of healthcare providers, both within mainstay healthcare organisations and Māori-led organisations is recommended (Jeffreys et al.).

Future research needs to gain a better understanding of disparities and their underlying factors which may help towards improving uptake rates. Although causes surrounding disparities are complex, cultural and/or structural barriers such as transport, location or family commitments have been associated with later stage presentation. Strategies in reducing these structural barriers, such as modifying service hours, provision of travel vouchers, childcare allowance and/or consideration of mobile screening units, would be beneficial incentives to help increase uptake participation (Sabatino et al., 2012; Weller & Campbell, 2009).

Specifically in relation to the proposed screening for colorectal cancer, FOBt is the current testing tool used in the New Zealand pilot study and has been shown to be a global factor in decreased participation rates (CCSAG, 2006; Jones et al., 2010; Marshall et al, 2007). Additional exploration is warranted to investigate whether substituting this tool with the appropriate method for each individual and/or individual preferred choice would improve/increase screening uptake.

Equitable access to screening and follow-up treatment for Māori requires full investigation and support prior to being 'rolled out' nationally. Although Bowel Cancer New Zealand (2015) acknowledge there has been positive outcomes from the current pilot study, the New Zealand Government proclaims it is too soon to observe any benefit or feasibility of establishing a nationwide service. It is vitally important therefore that any extra funding allocated for the pilot should be utilised to explore the issue of equity of uptake.

## RECOMMENDATIONS

- Ongoing research into equitable access to screening and follow-up treatment for Māori.
- Promote service provider/healthcare professionals awareness of colorectal cancer screening benefits: clinical staff education.
- Promote public colorectal cancer screening awareness: multi-media campaigns; community group sessions/notices when the national rollout commences.
- Provide robust guidelines and recommendations that may ensure equity of uptake for Māori in the proposed New Zealand colorectal cancer population-based screening programme.
- Consideration of Marae-based clinics to provide screening service and/or endoscopy service for Māori.
- Consider provision of designated mobile endoscopy screening unit for remote/rural regions.
- Further research on participants preferred screening methods that may enhance screening uptake for different populations.
- Consider education, training and utilisation of personnel to deliver and/or collect FOBt samples if this method is to continue as the chosen screening test once national 'roll-out' occurs.
- Further research and/or education in improving perceived attitudes of healthcare workforce to disadvantaged population groups and acceptability of healthcare providers; both within mainstay healthcare organisations and Māori-led organisations.

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