

Cancer Screening among Indigenous peoples

Prof Diana Sarfati

Session outline

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- How can cancer screening make inequities worse?
 - Prof Diana Sarfati
- A framework for considering health equity for Māori in cancer screening
 - Dr Melissa McLeod
- Improving bowel cancer screening for Indigenous Australians.
 - Prof Gail Garvey
- Challenges and solutions for cervical screening in Samoa
 - Dr Malama Tafuna'i

Indigenous peoples

- more than 370 million indigenous people in 70 countries worldwide.
- These are hugely diverse populations
- Indigenous peoples are the first peoples of a country or region with distinct traditions, and social, cultural, economic and/or political characteristics.
- In many countries, Indigenous peoples face disadvantage and have worse health than non-Indigenous people

How can screening affect inequities?

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- Choice of priorities
- Measuring inequity and impact on access
- Model of delivery (e.g. location of services, nature of health promotion material, type of test)
 - Impacts on unequal participation
- Access to and through diagnosis and treatment services

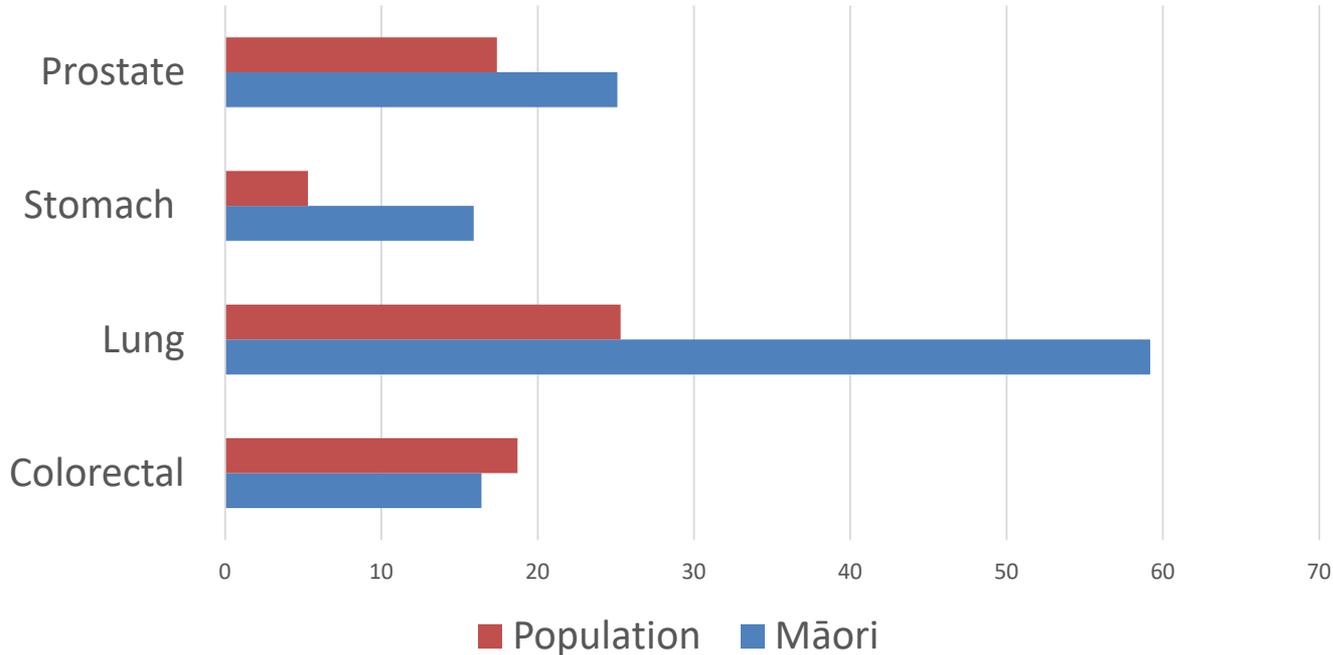
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Which screening programmes would you implement first?

Cancer mortality by site (male)
per 100,000 age standardised



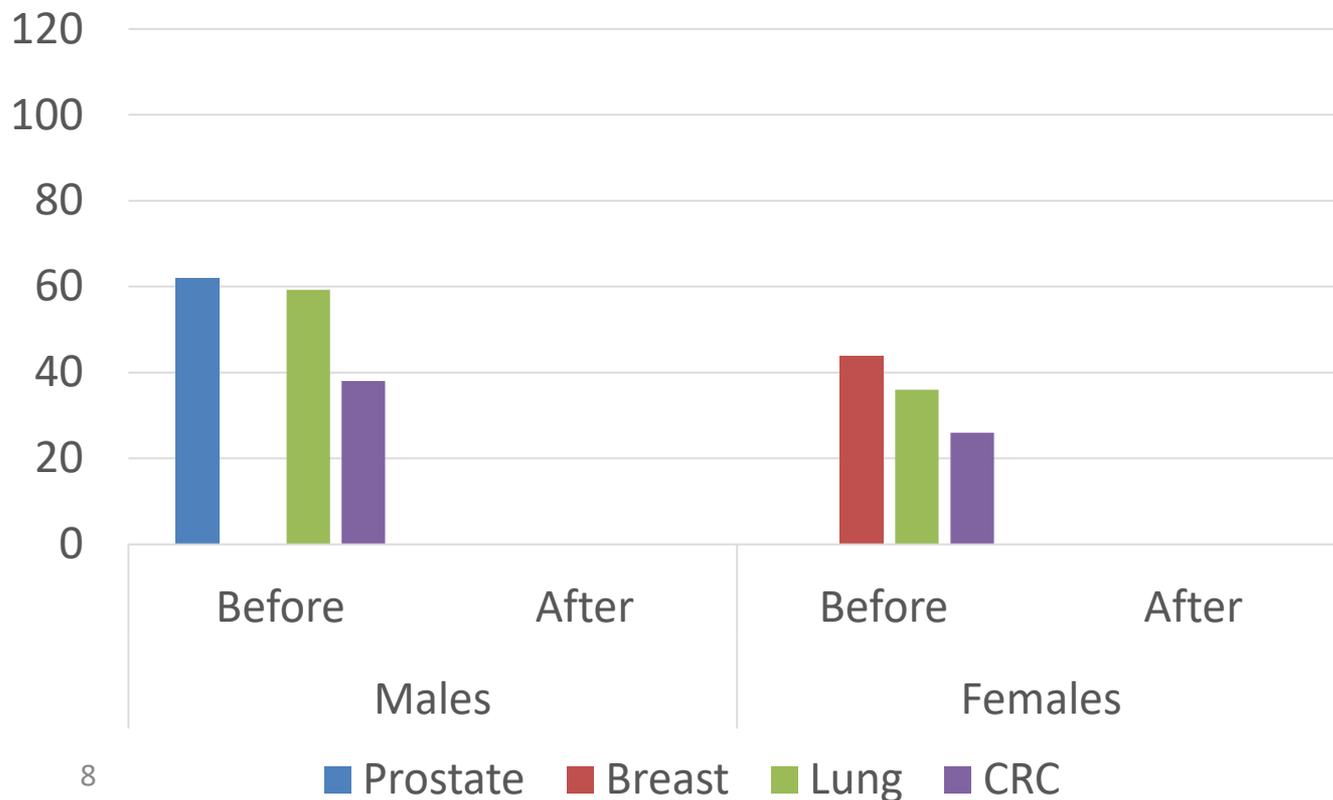
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Cancer incidence rates of American Indians before and after linkage (1988-93, per 100,000)

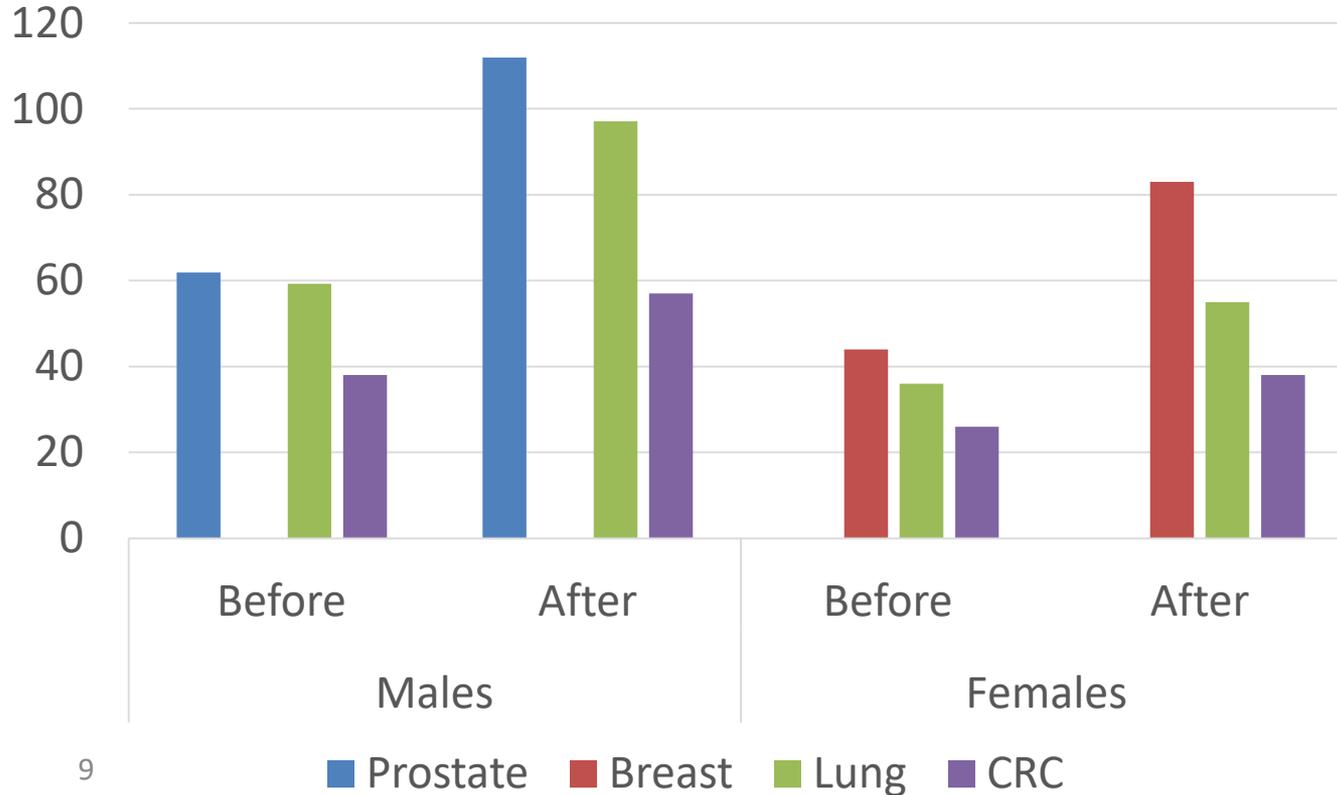
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Parkin et al Am J
Public Health, 1999

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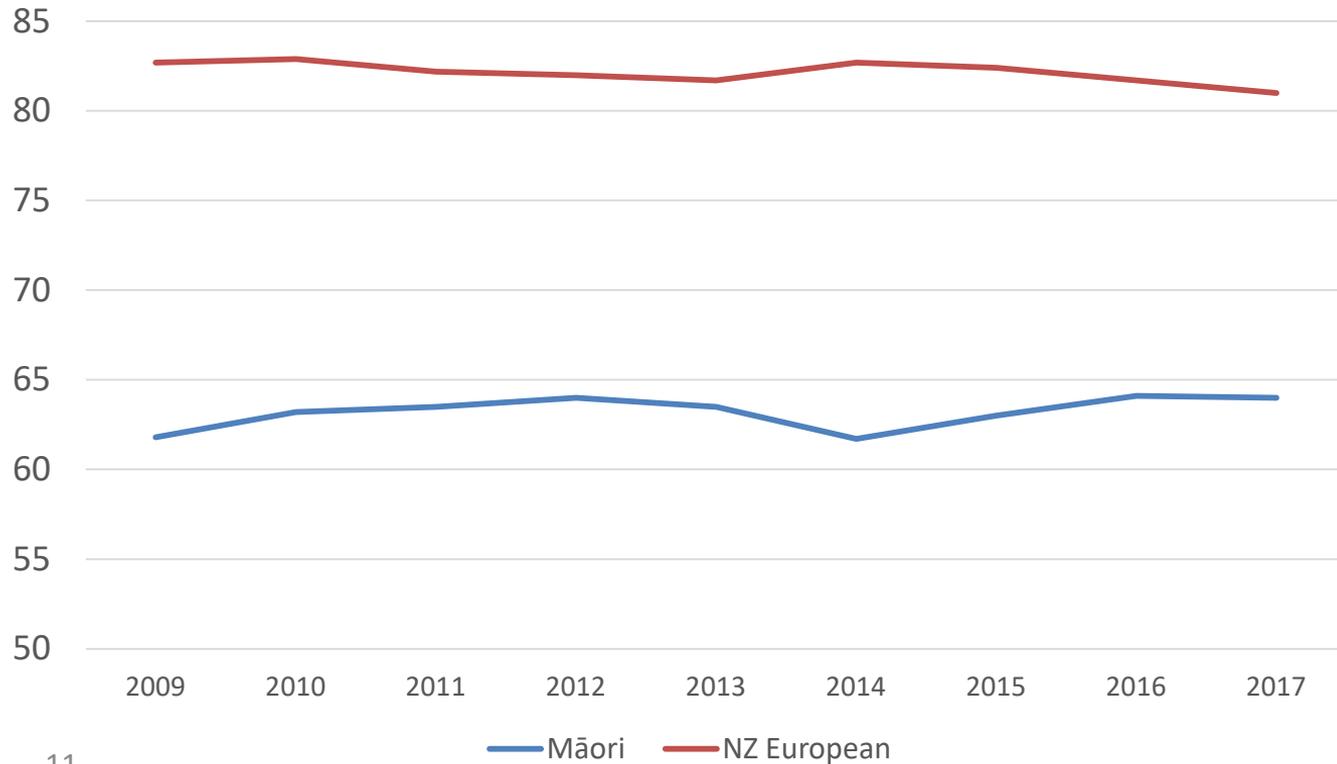
How can screening affect inequities?

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Cervical screening coverage (%) by ethnicity, women aged 25-64 yrs (screened in last 3 years)

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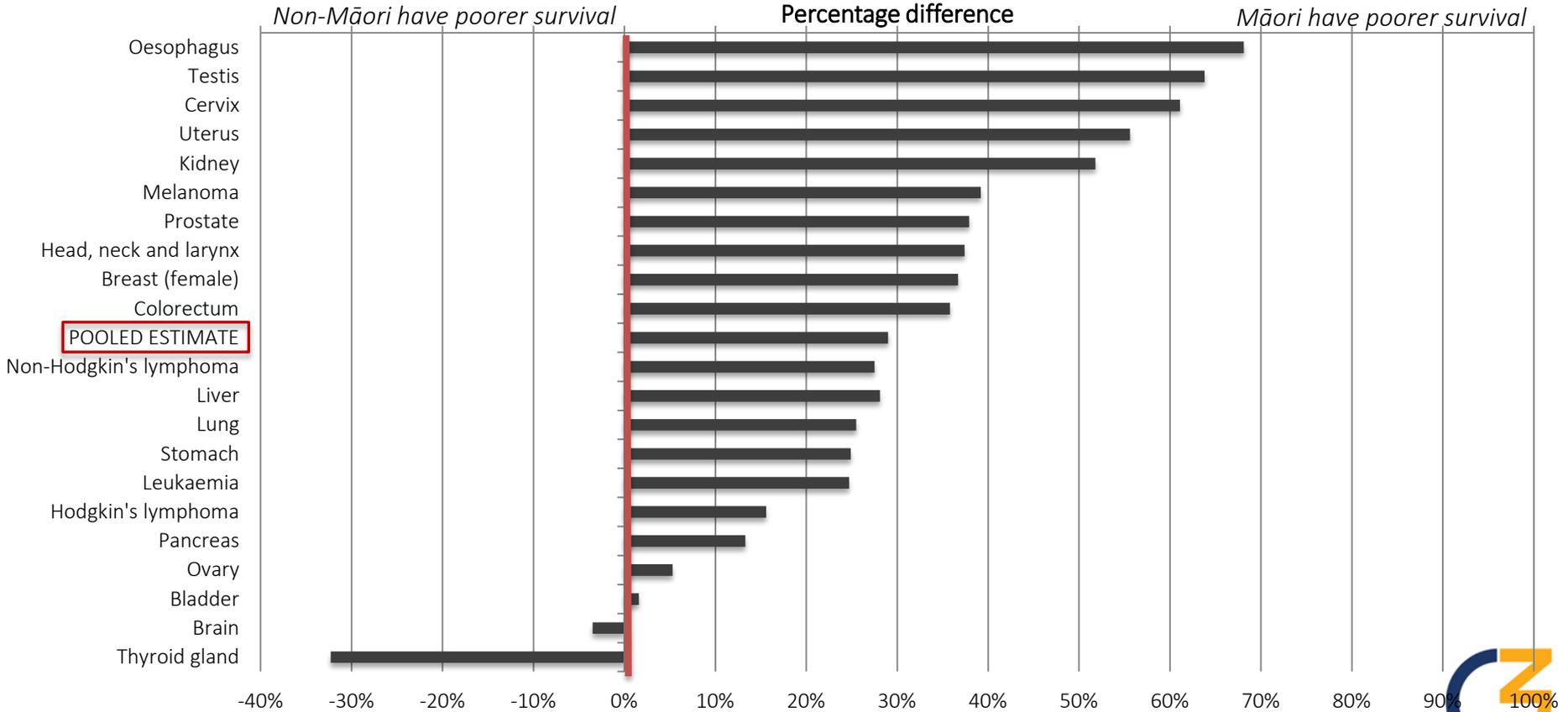


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Percentage difference in cancer mortality between Māori and non-Māori, 1991-2004



Source: Soeberg, Blakely, Sarfati et al. 2012. Ethnic and socioeconomic trends in cancer survival, New Zealand, 1991-2004

General principles

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- Programmes should be designed with reducing or eliminating inequity as a principle goal
- All components of the screening pathway should be considered regarding implications for equity
 - from governance down to operational aspects
 - Including monitoring

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New Zealand
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CRC screening: will it be equitable for Māori ?



Dr Melissa McLeod (MBCChB, MPH, NZCPHM)

Senior Research Fellow

University of Otago, Wellington NZ

Overview



PhD on modelling equity

McLeod et al. Colorectal cancer screening: Variation in health gain and cost-effectiveness by ethnic group, and the optimal age-range to screen. [Cancer Epidemiol Biomarkers Prev.](#) 2017

BODE³ programme funded by HRC

Māori PhD scholarship from
University of Otago

The logo for the BODE3 programme. It features the word 'bode' in a lowercase, sans-serif font, with a yellow circle replacing the letter 'o'. A blue superscript '3' is positioned to the right of the word. The entire logo is set against a white background.

bode³

Burden of Disease Epidemiology, Equity
and Cost Effectiveness Programme

Outline of presentation



☞ What is equity?

☞ Key questions:

1. What is the likely impact of the CRC programme on inequalities in health for Māori compared to non-Māori?
2. How can we push the model (the screening programme) to achieve 'equitable' outcomes and processes for Māori
3. How does CRC screening compare to other cancer interventions?

What is equity?

Health equity as an outcome

Equality of health between Māori and non-Māori in New Zealand.

Equitable processes required to achieve health equity

Fair processes and non-discrimination in the opportunity for access and utilisation of healthcare given health need, and high quality of care for all New Zealanders.

The achievement of health equity for Māori depends upon addressing broader social conditions (including racism).

Equity framework



- ❧ Non-discrimination in cost-effectiveness assessments (e.g. standardising life expectancy) (see McLeod et al Population Health Metrics 2016)
- ❧ **Using modelling to explore equity-relevant scenarios (e.g equal access, equal treatment, equal outcome)**
- ❧ Giving greater value to health gains for those with the least health (e.g equity weights)
- ❧ **Directly measuring the impact of interventions on inequalities in health**

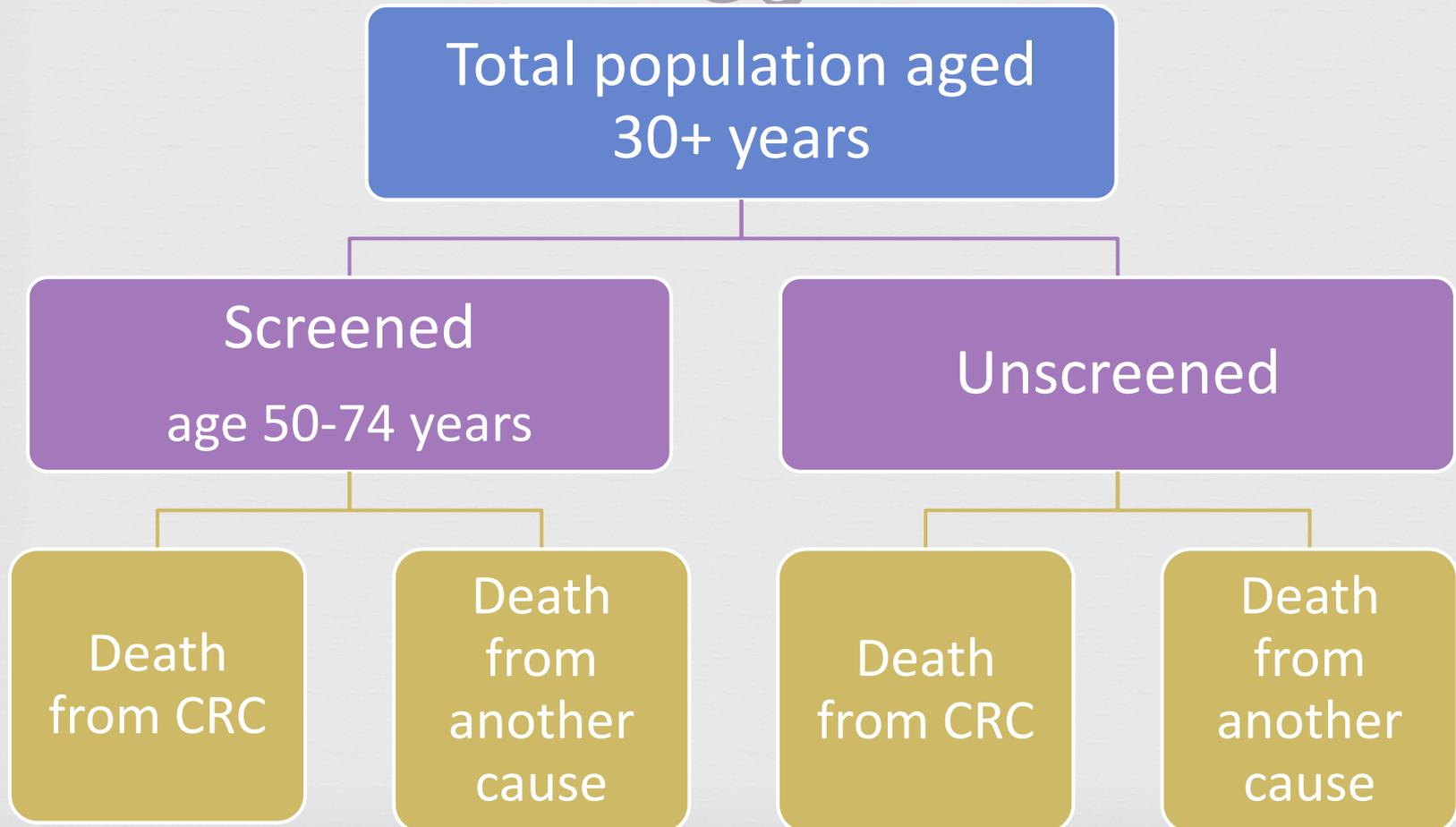
CRC screening background



- ✧ NZ **national rollout** of CRC screening programme biennial FOBT for men and women aged 60-74 years
- ✧ Explicit commitment to have an 'equity focus'

- ✧ NZ CRC pilot programme from 2010
 - ✧ Biennial FOBT for men and women aged 50-74 years
 - ✧ Lower coverage for Māori (45%) vs non-Māori 58%
- ✧ Māori have lower incidence of CRC than non-Maori but worse survival

CRC screening model



Key questions



- 1. What is the likely impact of the CRC screening programme on inequalities in health for Māori compared to non-Māori?**
2. How can we push the model to achieve outcome and process equity for Māori
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Impact on inequalities for Māori ?

1. Lower health gains

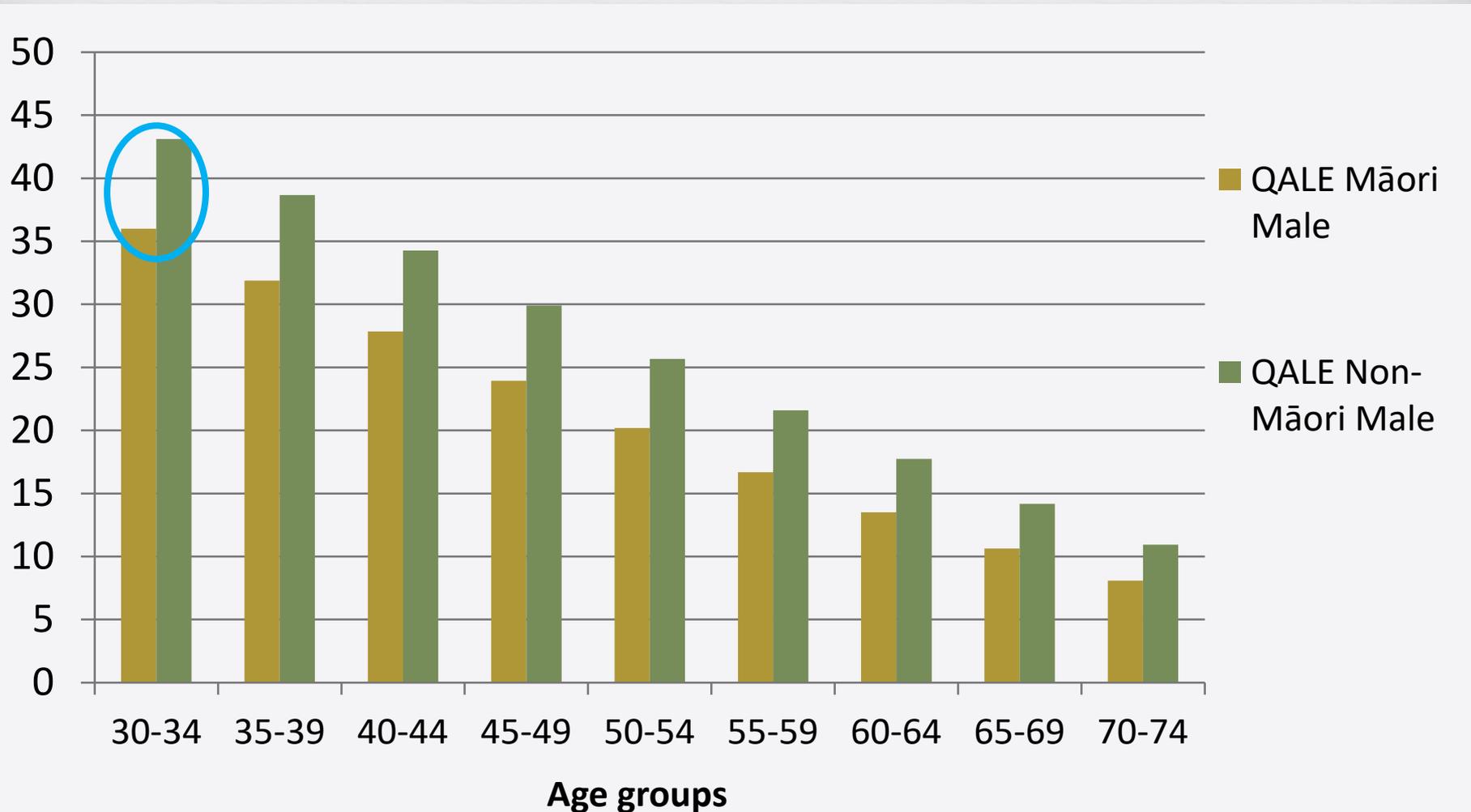


**Age std (30-74yr total population) QALYs gained
per capita**

	All
Non-Māori	0.047
Māori	0.027

Due to lower background life expectancy,
Lower CRC incidence,
And lower expected screening coverage (based on pilot
round 1)

2. Quality-adjusted life-expectancy



Increased inequalities in QALE



- QALE increases more for non-Māori than for Māori with CRC screening
- Non-Māori gained an additional 7.2 (-3.9, 17.8 in women aged 30-34) to 25.6 (12.5, 40.3 in men aged 60-64) healthy days over Māori.
- CRC screening is likely to increase absolute and relative inequalities in QALE.

Key questions



1. What is the likely impact of the CRC screening programme on inequalities in health for Māori compared to non-Māori?
2. **How can we push the model to achieve outcome and process equity for Māori?**
3. How does CRC screening compare to other cancer interventions?

Screening coverage

	Never screened	Screened per round	Per capita QALY gain
Non-Māori	0.3160	0.5830	0.047
Māori	0.3898	0.4540	0.027
Māori (10%)	0.3574	0.4994	0.03
Māori (20%)	0.3250	0.5448	0.033
Māori (30%)	0.2926	0.5902	0.036
Māori (40%)	0.2602	0.6356	0.040
Māori (50%)	0.2278	0.6810	0.043
Māori (60%)	0.1954	0.7264	0.048

Screening age range

	Māori		Non-Māori	
	Age range	Healthy days	Age range	Healthy days
5 year	60-64	3.21	65-69	4.98
10 year	60-69	+1.60	60-69	+2.28
15 year	55-69	+2.15	60-74	+3.09
20 year	50-69	+1.12	55-74	+1.82
25 year	50-74	+1.64	50-74	+2.27
30 year	45-74	+0.85	45-74	+1.28
35 year	45-79	+0.95	45-79	+1.54



NEW ZEALAND / HEALTH

Health officials under pressure for earlier bowel cancer screening for Māori

6:49 am on 2 October 2018

Share this



Karen Brown, Health Correspondent

[@RNZHealth](#) [✉ karen.brown@radionz.co.nz](mailto:karen.brown@radionz.co.nz)

The Ministry of Health is being urged to review a bowel cancer screening decision, to reduce health inequity.

Key questions



1. What is the likely impact of the CRC screening programme on inequalities in health for Māori compared to non-Māori?
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Framework output	CRC screening	Trastuzumab (females only)	Tobacco taxation
Total QALYs gained by Māori	6,578 (4,760 to 8,730)	128 (125 to 130) in women only	12,400 (6,600 to 21,100)
Population per eligible person QALYs gained	0.026 (0.020 to 0.034) per capita for those aged over 30 years	1.38 (1.35 to 1.40) per case in females aged over 30 years	0.018 (0.01 to 0.031) per capita for those aged over 35 years
Per capita gain in healthy days over non-Maori	<i>14.39 days gained by non-Māori over Māori</i>	0.113 days gained by Māori females over non-Māori females	13.69 days gained by Māori over non-Māori
Cost effectiveness (ICER)	\$10,500 (\$4500 to \$17900)	\$59,300 (\$39,200 to \$83,700)	Dominates/Cost saving

Summary



- ❧ Defining equity is critical
- ❧ Modelling is a useful tool in assisting with the equity agenda
- ❧ Achieving 'health equity' from the CRC screening programme in NZ will be challenging.
- ❧ Considering the equity impacts at the time of intervention selection is important.

Acknowledgements



Co-authors of the paper:

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Dr Matt Boyd

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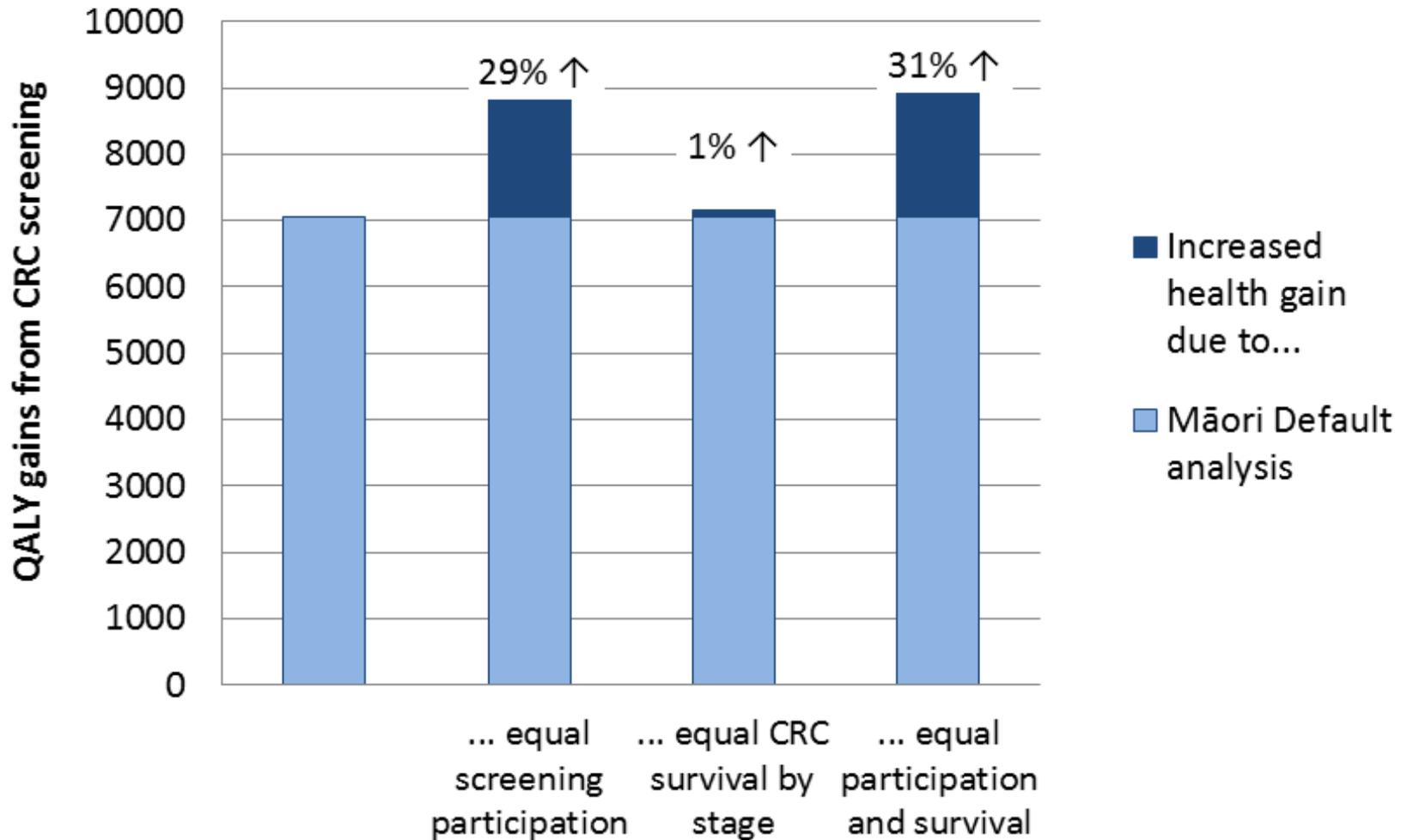
Prof Diana Sarfati

Prof Nick Wilson

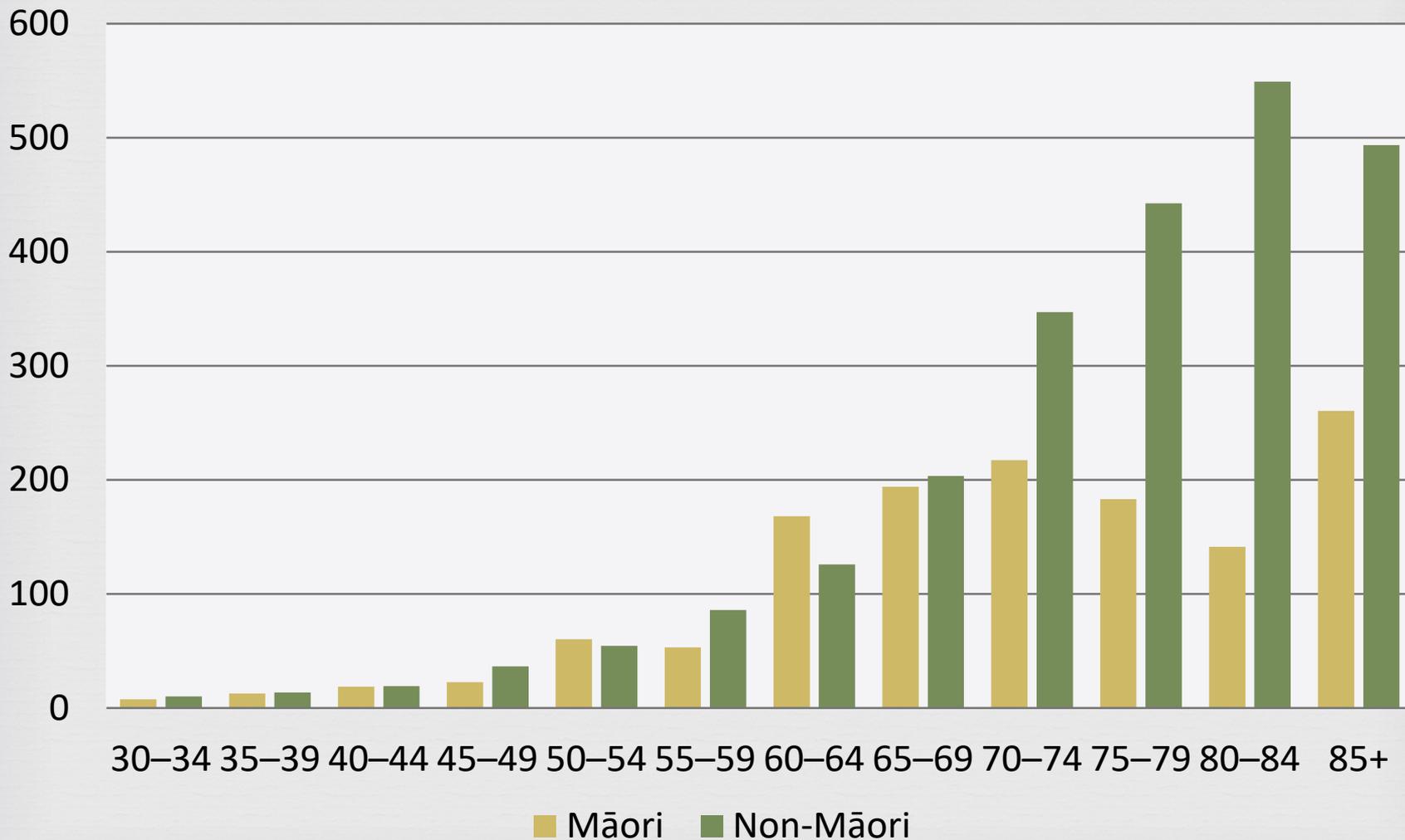
Prof Tony Blakely

Melissa.Mcleod@otago.ac.nz

Process equity



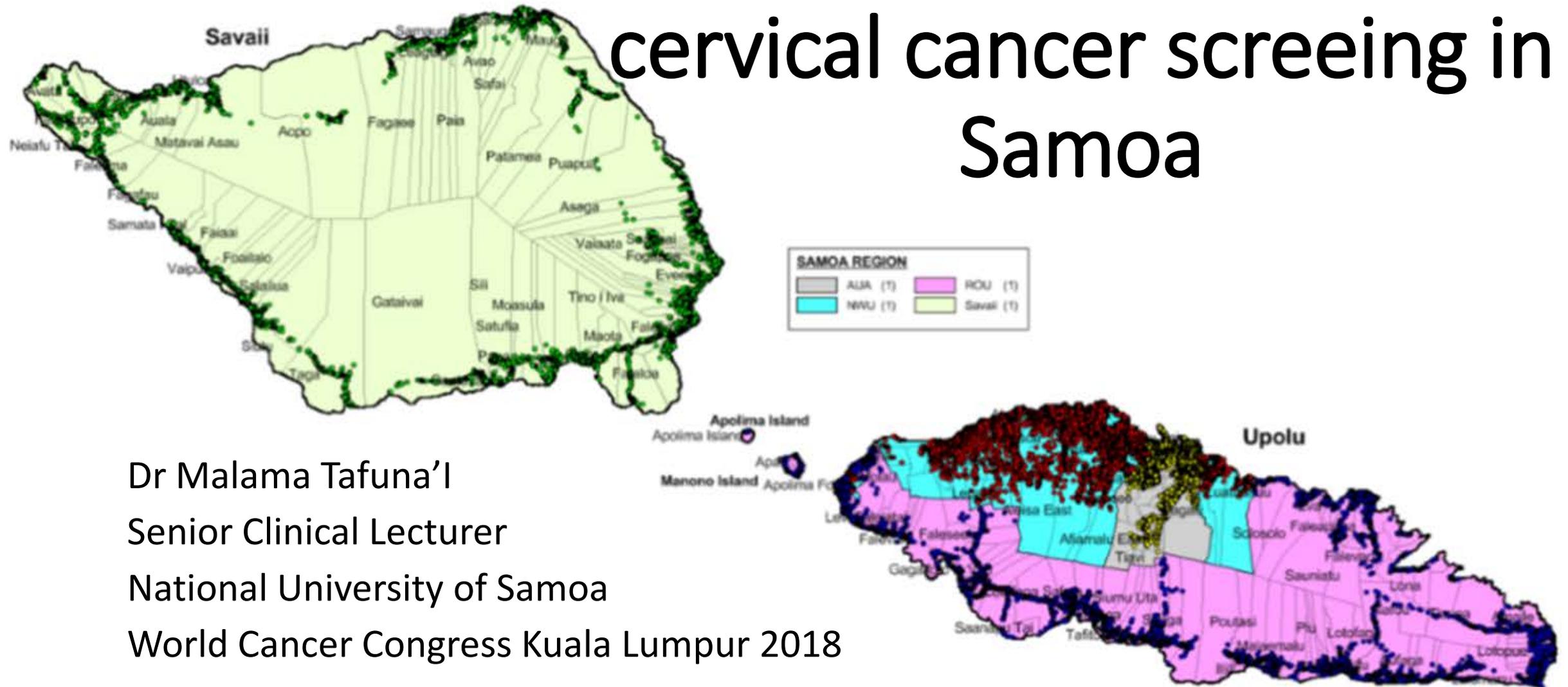
Age-specific incidence rates of colorectal cancer in 2014 by 5-year age and ethnic group (Ministry of Health, 2015)



Non-discrimination

	Population group	QALYs gained (% change from default)	ICER
Default model	Total	104,000	\$2,530
	Non-Māori	96,600	\$2,090
	Māori	7,060	\$8,650
1. Māori background mortality and trend replaced with non-Māori values	Māori	9,140 (29%)	\$5,670
2. Māori background morbidity replaced with non-Māori values	Māori	7,320 (3%)	\$8,350
3. (1 and 2)	Māori	9,490 (34%)	\$5,460
4. Māori CRC incidence trends replaced with non-Māori values	Māori	5,920 (-17%)	\$12,300
5. Māori CRC incidence replaced with non-Māori values	Māori	8,730 (23%)	\$4,900
6. (4 and 5)	Māori	7,200 (-2%)	\$8,150

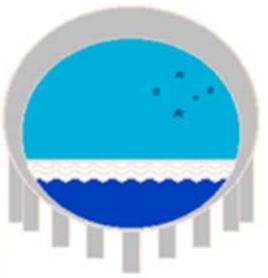
Challenges and Solutions for cervical cancer screening in Samoa



Dr Malama Tafuna’i
Senior Clinical Lecturer
National University of Samoa
World Cancer Congress Kuala Lumpur 2018

Samoa

- Burden - High
- No National Cervical Cancer Prevention Program
- Opportunistic**
- Limited Infrastructure to develop Cxca Prevention program
 - Human resources (specialised)
 - ?Primary Health Care infrastructure
 - Physical resources
 - Finances
 - Socio-cultural issues
 - **Similar to other PI countries**



"IA AO SAMOA"

Acceptability of Self-Sampling HPV Tests Amongst Health workers and women from both urban and rural settings in Samoa

- Interviewed health workers x 6
- Focus group discussions x2 – Urban and Rural
- Explored what they knew about cervical cancer and its prevention
- I explained cervical cancer and its prevention - HPV

Themes that came out of study:

- Education
- significance of cultural beliefs and values,
- the value of benefits,
- the concerns with literacy and health literacy,
- the need for options,
- the different challenges that they face and
- empowerment.



“IA AO SAMOA”

Challenges:

- Education (literacy/Health literacy)
 - Awareness
 - Knowledge
 - Health Workers
 - People (Understanding BENEFIT)
- Barriers/Issues
 - Infrastructure
 - Commitment - Govt
 - Funding – competing concerns
 - Lack of Resources – Human/physical
 - Access
 - Finances
 - Logistics
 - Lack of understanding of the western health model
- Sociocultural
 - Fatalistic belief – Ma’I Palagi
 - cultural modesty
 - Ambiguity of language making understanding and comprehension difficult
 - Traditional beliefs around origin of sickness / poor understanding of “preventative” medicine
 - Distrust of the western health model*



“IA AO SAMOA”

Solutions:

- Political Commitment
 - Funding
 - Development of services
- Identify the Champion Services/People
 - Primary care vs Public Health vs Hospital specialty or Collaborative model but who drives this
- Programme Development
 - **Stakeholder engagement Inclusive of communities/Women** – Empowered and want to be part of the discussion about their health. Prepared to discuss openly
 - Development of programme and services / resources
 - Culturally appropriate
 - Integrates cultural beliefs and values and Benefits address the things that are important to us as communities and as a people
 - Appropriate terminologies in local language targeting communities and women (*language/translation)
 - Delivered by own people
 - Readily accessible in communities but to have options “One size DOES not fit all”
 - Choose the “right test”
 - HPV – Self sampling vaginal swab test vs Pap smear vs VIA



“IA AO SAMOA”

Estimated age-standardized incidence rates (World) in 2018, all cancers, both sexes, all ages

