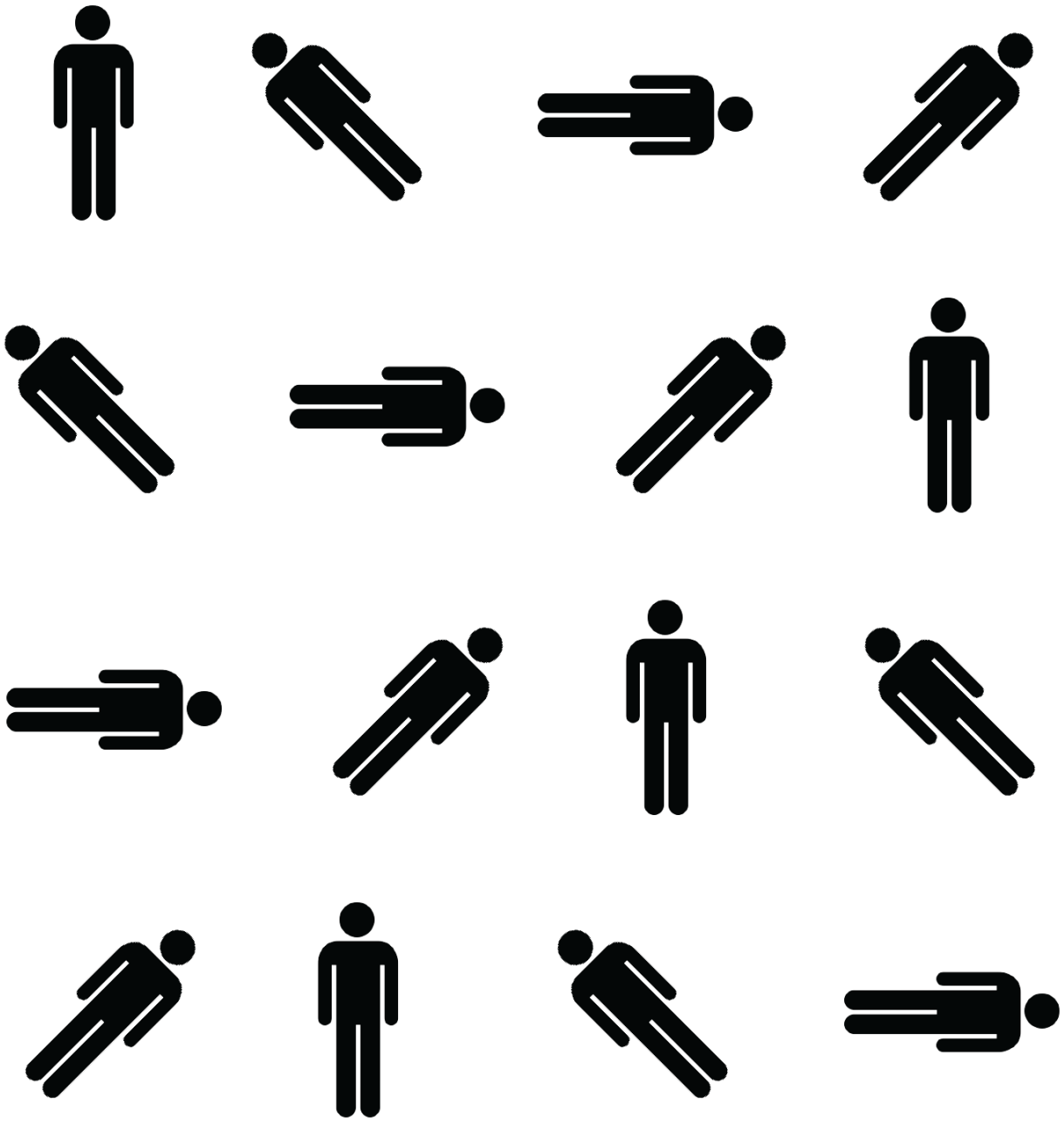

UNIVERSITY of OTAGO

Te Whare Wānanga o Otāgo

NEW ZEALAND

PUBLIC HEALTH REPORT
A Public Health Day For NZ: Has It's Time Come?

Executive Summary

Background

Annual Health Events are a widely used method employed by various agencies both on a National and International scale, to engage with the public, Government, and other organisational bodies.

Currently in New Zealand, Annual Health Events are continuously being introduced as a way of gaining traction and publicity to elicit change on a given topic. As a result, there has been much talk within the New Zealand Public Health sector, regarding the introduction of a Public Health Day as a means by which to address growing concerns surrounding population health in New Zealand. Currently, it is unclear whether this approach would be valuable, as little is known about the efficacy and cost-effectiveness of Annual Health Events.

In view of this context, the aims of this study are to:

1. Explore the use and efficacy of existing Annual Health Events on a National and International scale.
2. Assess the case for introducing an Annual Public Health Event in New Zealand.

Methods

To address our study aims we employed the following methods:

Literature review

A literature search was conducted across five online databases using a group of key terms. Searches included various literature and media materials across an open time period, limited to publication in the English language. A total of 45 papers were included in the final literature review.

Developing Typology and Assessing New Zealand Burden of Disease

95 Annual Health Events were sourced from the Wellington Regional Public Health 2018 calendar. By analyzing these 95 Annual Health Events, a typology was developed, stratifying Events by subject area(s), purpose(s) and geographical scope. Application of an inclusion and exclusion criteria resulted in 45 Annual Health Events being included in the study. Using the typology, these 45 Annual Health Events were then compared to the New Zealand Burden of Disease, using the 2006–2016 New Zealand Burden of Diseases, Injuries, and Risk Factors Study.

Street intercept survey

We conducted a street intercept survey in six locations within the Greater Wellington Region. A total of 213 participants were asked about their current awareness of Annual Health Events, how they valued these events, and whether they resulted in specific behaviour change or actions.

Organisation interviews

We conducted nine interviews with representatives of organisations who currently hold an Annual Health Event. These interviews were done by trained interviewers using a standardised questionnaire, and explored the background of their Event and how its efficacy is assessed. We also incorporated questions to further categorize these Events into a typology.

Expert interviews

We conducted six interviews with key Experts from the fields of Public Health, Health Promotion and the Ministry of Health. These interviews were conducted by trained

interviewers, using a standardised questionnaire. This was used to inform our opinion on the feasibility of implementing an Annual Public Health Event in New Zealand.

Results

Literature Review

For an Annual Health Event to be successfully established, it must have specific and clearly defined goals, topics, messages, target audience, and evidence-based promotion methods that; focus on relevant and important health concerns and populations and; are dynamic, measurable and able to be evaluated. The Annual Health Event should employ a committed and designated team to lead, coordinate, and manage the Event, with Government endorsement and support from other relevant parties. Event strategies and methods should be guided by the target population, and benefit populations in proportion to risk, in order to decrease the potential for creating or increasing current health inequities. Annual Health Events must be able to be evaluated to ensure investigation justifies the outcome, internet evaluation strategies such as Google Trends and social media platforms have recently provided helpful methods for more accurate evaluation of Annual Health Events.

Assessing Typology and Burden of Disease

Approximately 40% of the included 45 Annual Health Events addressed the top five specific conditions, condition groups, or risk factors contributing to burden of disease in New Zealand. However, a number of prominent conditions having a major contribution to burden were not represented. Through stratifying these 45 Annual Health Events by typology, it was found that most current Annual Health Events in New Zealand have a primary goal to raise awareness.

Street Intercept Survey

The overall results of the street intercept survey indicated the Public rated the value of Annual Health Events at 3.3 out of 5 (1 being no value and 5 being extremely valuable). Participants with no formal education placed higher value on Annual Health Events compared to

participants with postgraduate degrees. There were no major differences between ethnicities. The most common reported actions taken in relation to these Annual Health Events were donation of funds and feeling more informed.

Organisation Interviews

Raising awareness, increasing personal support, and advocacy were the three main purposes of respective Annual Health Events identified by key organisations. The most common methods employed by these organisations to assess efficacy of their Annual Health Events were assessing the number of donations and the number of participants engaging in Events.

Expert Interviews

There was some concern among experts regarding an Annual Public Health Event failing to address structural concerns propagating Public Health issues in New Zealand. There were concerns around ownership of the Annual Health Event, opportunity cost, and the likelihood of an Annual Health Event realistically instigating change. Most Experts agreed on a proposed Annual Public Health Event focusing on the social determinants of health, utilizing a community approach, and integrating aspects of the Ottawa Charter and the Māori Health Strategy (TUHA-NZ). Majority of Experts agreed on the importance of education and raising awareness being a key focus. There was discussion around an Annual Public Health Event to bring to attention ongoing research and activism that occurs throughout the year, and one Expert touched on the possibility of a focus on Natural Disaster Preparedness. There was unanimous agreement on the importance of measuring the efficacy when implementing any such event.

Authors

Hannah Bartlett [1], Eilish Buckley[1], Adam Cameron[1], Adam Faatoese[1], Carys Finlayson[1,2], Sophie Gandhi[1], Vivian Gu[1], Aimi Hj Zulkipli[1], Virginia Irwin[1], Dwayne Jones[1], Brooke Leota[1], Kimberley Low[1,2], Naomi Mendoza[1], Shanella Nallaiah[1,2], Benjamin Parsons[1], Natalie Ruddlesden[1,2], Patrick Sinclair[1,2], Julia Whyte[1], Simon Wong[1]

1 Fourth Year Medical Student, Department of Public Health, University of Otago, Wellington, New Zealand

2 Project Co-lead

Correspondence

Carys Finlayson

4th Year Medical Student

University of Otago, Wellington

Wellington South 6242

New Zealand

finca122@student.otago.ac.nz

Natalie Ruddlesden

4th Year Medical Student

University of Otago, Wellington

Wellington South 6242

New Zealand

rudna625@student.otago.ac.nz

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Table of Contents:

1. Introduction

Annual Health Events are a widely used method employed by various agencies on a National and International scale, to engage with the public, Government and other organisational bodies. Such Events are commonly used for a variety of different reasons, examples being to gain Public interest, elicit Public action or behavioural change, or lobby Government and policy makers into legislative reform.

In New Zealand, Annual Health Events are continuously being introduced, and many organisations are utilising this growing trend to construct their own messages to catch the Public eye. As a result, there has been much talk within the New Zealand Public Health Sector regarding introducing a National Public Health Day as a means by which to address the growing concerns facing population health in New Zealand.

Despite their popularity, there has been limited research into assessing the efficacy of current Annual Health Events. The evidence supporting their efficacy has not yet been extensively evaluated, presenting the risk of such an Event being an inefficient use of limited resources, especially in regard to New Zealand's limited Public Health budget. This indicates the need for more research into whether this type of strategy will be of value when applied within the parameter of Public Health in New Zealand.

In view of this context, the aims of this study are to:

1. Explore the use and efficacy of existing Annual Health Events on a National and International scale.
2. Assess the case for introducing an Annual Public Health Event in New Zealand.

The aims of the study will be advanced through five key objectives:

1. Evaluate best practice and efficacy of Annual Health Events through systematically examining the current literature
2. Develop a typology, with which to categorise existing Annual Health Events based on A) Subject area, B) Purpose and, C) Geographical scope
3. Evaluate current Public awareness and reported impact of Annual Health Events by conducting a Public intercept survey
4. Determine the impact of Annual Health Events by documenting the opinion of key informants at organisations that currently conduct such Events
5. Conduct interviews with Experts in the field and assess the feasibility of integrating an Annual Public Health Event into New Zealand's calendar

2. Methods

2.1 Literature Review

A literature search was conducted across five online databases (Google Scholar, MedLine, ProQuest, Scopus, and Web of Science) using the key terms “awareness”, “health promotion day”, “disease promotion day”, “health awareness day”, “disease awareness day”, “effectiveness”, and “impact”. Searches included various literature and media materials including abstracts, reports, newspaper spots, and journal articles across an open time period, with materials limited to publication in the English language. Articles were collated and further refined by potential relevance to the subject topic with an initial screening read, resulting in a total of 45 papers being included in the final literature review.

2.2 Identifying and Categorizing Existing Annual Health Events

A total of 95 Annual Health Events were identified from the Wellington Regional Public Health 2018 calendar. The calendar was sourced from the Regional Public Health website, and is the Public Health unit for the Wairarapa, Hutt Valley, and Capital and Coast District Health Boards. This calendar was employed as the data source due to its inclusion of both National and International events relevant to the Wellington Region.

Of the 95 Annual Health Events, Events chosen for the purpose of our study were based on the following inclusion and exclusion criteria:

Inclusion Criteria

1. The Event is directly related to health (E.g. addresses a specific disease, risk factor for health, healthy behaviour, or health service)
2. The Event duration is over a single day or week
3. Subject area(s) and purpose(s) of the Event covered a maximum of two typologies as a main focus
4. The Event is relevant to New Zealand

Exclusion Criteria

1. The Event is indirectly related to Public Health or related to basic determinants of health (E.g. Events addressing the environment, education, and social issues)
2. The Event does not address a specific disease or subject area(s) or purpose(s) or addressed more than two specified typologies (E.g. Men's Health Week, Well Child Week)
3. The Event duration extends beyond one week (e.g. fortnights, months)
4. The main purpose of the Event is fundraising (E.g. Shave for A Cure, Relay for Life)

Of the 95 Annual Health Events, 45 met our inclusion/exclusion criteria.
Through analyzing the data, a typology was developed, in which the 95 Annual Health Events were categorized by subject area(s), purpose(s), and geographical scope. Although some Events equally addressed three or more subject areas and/or purposes, we limited the number of typologies to the primary one or two.
The subject areas were then compared to the New Zealand Burden of Disease using the report from the New Zealand Burden of Diseases, Injuries, and Risk Factors Study, 2006–2016. (46) The top five specific conditions, condition groups, and risk factors contributing to total Disability Adjusted Life-Years (DALYs) in New Zealand were used to correlate with the 45 current Annual Health Events. We examined the proportion of current Annual Health Events which addressed the major contributors to Burden of Disease in New Zealand.

2.3 Street Intercept Survey

The survey was carried out between 16-21 August 2018, with a total of 213 participants. The survey was conducted across six areas within the Greater Wellington Region; Porirua, Johnsonville, Wellington Central, Lower Hutt, Miramar and Newtown; selected to recruit and represent a range of demographics. The number of completed surveys from each area ranged between 35 and 37. All participants were 16 years or older and verbal consent was gained prior to completing the survey. Ethics approval was gained from the Department of Public Health, University of Otago. (Appendix 1)

The survey contained a total of eight standardised questions conducted by trained surveyors. Six questions were multiple choice, whereby participants selected a corresponding letter on a displayed showcard. (Appendix 3) The first three questions determined age bracket, ethnicity, and highest qualification. Remaining multiple choice questions gauged awareness of existing Annual Health Events, the value of these Events, and how Events have influenced change in behaviours or attitudes. A total of 16 Annual Health Events and one 'distractor' (included to assess validity of answers) were displayed on showcard four. The remaining two questions were open, where the participants could specify additional Annual Health Events they were aware of and additional actions they had taken as a result.

2.4 Organisation interviews

Data Collection

We assessed the efficacy of existing Annual Health Events in New Zealand by conducting phone interviews with a representative from nine different organisations that currently run an Annual Health Event. Ten organisations were selected for interview based on availability of a New Zealand contact, eight of which were available for interview within the given study timeframe. Trained pairs conducted interviews of 11 standardised questions. (Appendix 6) The interview questions encompassed general information about the Annual Health Event, its history, target audience, geographical scope, and measurement of efficacy. Showcards were read to ask

questions addressing the typology of 'Public Health', particularly the subject area(s) and purpose of respective Events. All participants gave written informed consent before the interview commenced. Each interview lasted for 32 minutes on average (range: 13-60 min).

Data Analysis

All interviews were recorded and transcribed verbatim. Interviewing pairs extensively reviewed one standardised question from all nine interview transcripts. All interviewers then met in an analysis workshop to compare and contrasts findings across all interviews. Emergent themes and subthemes were identified and agreed upon within the transcripts allowing themes to be cross-validated and nuanced, and reflect consensus from the authors.

2.5 Expert Interviews

Data Collection

We assessed the value of a potential Annual Public Health Event in New Zealand by conducting face-to-face interviews with Public Health Experts. Of the nine Experts we approached via email, six Experts from the fields of Public Health, Health Promotion, and the Ministry of Health were available for interview within the study timeframe. Trained pairs conducted the interviews, consisting of 17 standardised questions (Appendix 6), with subsequent probing questions which could be utilised when deemed appropriate. The interview questions encompassed open questions about what a hypothetical Annual Public Health Event may involve, and closed questions to identify key subject areas and purposes of the proposed Event. Relevant issues such as measurement of efficacy, cultural competence, identification and management of inequalities, and ownership were also explored. All interviews were recorded with a mobile recording application and verbal consent was obtained at the beginning of the interview. Each interview lasted for 36 minutes on average (range 20-48 minutes).

Data Analysis

A thematic analysis of interviews was conducted. Two key investigators identified common themes across interviews, as well as appropriate quotations. These themes were collectively collated and analysed allowing cross-validation of the most significant themes produced across all interviews.

3. Results

3.1 Literature Review

Existing Awareness Campaigns

There is a vast number of Annual Health Events currently existing around the world and within New Zealand. Many of these Annual Health Events have a focus on raising awareness and increasing knowledge, often around specific diseases or health topics. Methods and strategies used for raising awareness and increasing knowledge during Annual Health Events have been loosely characterised in published literature. (1-4, 6) Target populations for Annual Health Events vary in range and specificity according to Event goals, and include the Public, (2,6–8) hospital staff (1,5), and combined populations. (3,4,9,10) Methods to communicate information also vary and are dependent on and driven by the target population. Studies targeting multiple sub-populations such as the Public and Healthcare Workers, commonly differentiated specific goals to the separate target groups. (3,4,9,10)

Annual Health Events targeting Health Professionals commonly saw increased success in using novel methods that were enjoyable and engaging, in comparison to traditional methods. When comparing results of entry and exit surveys on increased awareness and knowledge regarding Event topics, a more favourable difference was seen in Events employing interactive and engaging methods of communicating information compared to traditional methods. Annual Health Events using strategies such as interactive games, demonstrations, and activities where

people could be actively involved, were more successful than lecture-based methods for increasing awareness and knowledge of Event topics. (1, 5, 6)

Annual Health Events specifically targeted to the Public saw success with media and community-based strategies. Use of media such as TV, newspaper, web series, and conference speeches to promote and display coverage of the Event were successful in encouraging participation and engagement with Event activities and messages. (9, 10) Public participation activities such as rallies, forums, and group activities as well as door-to-door interactions and lay-person representation and involvement also saw positive feedback and engagement with Event topics and goals. (2, 8, 9)

One of the largest, most characterised, and evaluated Public Health Days in current literature is the European Antibiotics Awareness Day (EAAD). Coordinated by the European Centre for Disease Prevention and Control (ECDC) with support from relevant other parties and Government endorsement, the EAAD was first held in 2008 and takes place annually on 18 November. (11) In recognition of and in response to the growing world-wide problem of antibiotic resistance, the EAAD is a European-wide public health initiative aimed at promoting responsible and appropriate use of antibiotics by healthcare professionals and the general Public. (12–14)

Over its 10 years of action, the EAAD has defined and refined its methods of communicating information, exemplifying concise and consistent campaign strategy characterising a successful Annual Health Event. Each year, the EAAD focuses on a different and specific topic and target audience which guides and dictates strategy. This has created a cumulative effect keeping the EAAD relevant and inclusive. The focus of the EAAD has also changed with need and trend; from initial awareness raising in 2008, to consolidation and reinforcing messages in 2011 and 2012. The focused and dynamic strategy of the EAAD is attributed to its continuing success and growing participation. (15)

Functional Methods of Awareness Campaigns

There is evidence for the positive interventional potential of Annual Health Events such as influencing disease prevention and management, in addition to raising awareness. (18,21,22) Interventional strategies include Public surveys for mass data collection and large-scale screening. (16–18, 20-22) These methods create conversation around Event topics and provide an access point for education and information sharing with the community. Awareness days can also be used to release new guidelines or to host expert panels to discuss epidemiology, prevention strategies, and key solutions around particular disease concerns. (16,19)

Transition from Traditional Media to Internet-based Media

With the limitation of Public access to paid peer reviewed articles, information needs to be presented to communities clearly and free of cost. (23) Mass media interventions such as radio, television, newspapers, magazines, leaflets, posters, pamphlets and interpersonal experiences have been successful at disseminating information and having positive health outcomes. (11, 18,24) With changing emphasis in Public engagement and use of media however, utilisation of the internet is now growing, introducing social media as a method of communicating health related information. (25, 26) With increasing use of the internet and social media, the concern for false, incomplete, and biased information emphasises the role of the physician being at the forefront of disseminating gold standard information. (18, 27) Social media platforms and strategies include facebook, Twitter, mobile phone applications, virtual toolkits, fact sheets, webinars, videos, and games. (2, 10, 15, 28–31)

Evaluation of Awareness-raising Annual Health Events

Although there are numerous Annual Health Events, there is limited information and literature regarding their efficacy and cost effectiveness. (10) The lack of evaluative evidence is likely, at least in part, due to the difficulty of accurate monitoring and attribution. (3,4,9) Even when measured, it is near impossible to ascertain if outcomes are attributable to the Annual Health Event either exclusively or in part, and the influence of other outside contributing factors. (17,

32) There is no way of defining the denominator of people exposed to the advertising campaign or the impact of supplementary campaigns on public perception. (34) Many awareness campaigns also fail to define any clear measurable goals or endpoints therefore making evaluation of these impossible.

With acknowledgment to the difficulty, evaluation of some Annual Health Events has been reported. Results of the UK No Smoking Day (NSD) showed that 19% of smokers quit or reduced their smoking on NSD in 2005, 11% of study participants were not smoking more than three months after NSD in 2004, and calls to national smokers' helplines were more than five times higher on NSD 2004 compared to the average day. Visits to the No Smoking Day website also increased dramatically in the month of NSD and have increased each year on NSD from 2003 to 2005. (33)

Intended to help address the ambiguity of evaluation, internet based awareness initiatives are becoming increasingly popular as they allow an objective evaluation of population engagement (views or clicks) and response (retweeting, sharing, tagging, or real life pursuit). Subjective evaluation can also be measured through reading comments and reactions to information. (28–30) Evaluating this data has shown that both the general Public and health practitioners engage in social media based Health Events and, that these Events can be used to inform communities and clarify many circulating health myths. (23)

Google Trends is a novel tool that allows retrospective observation of Google search patterns within a particular topic. For analysing Annual Health Events, study-relevant keywords are searched to identify flux around the time of their respective Annual Health Event in comparison to the remainder of the year. Comparison can also be made to years prior to implementation of the Annual Health Event. (35) Reported studies have shown significant increase in the number of searches for associated keywords in periods around respective Annual Health Events at both National and International levels. (7,21,35–38)

The Social Media platform, Twitter, is also emerging as a tool to evaluate views and trends. A study using Twitter data to evaluate the impact of Lynch Syndrome Awareness Day (LSAD) on lay people discussions, observed a significant increase in tweets during the month of LSAD. The assessment of tweets provides an insight into public perception and understanding of a disease. (39)

Evaluation of the effectiveness of the EAAD has been lightly reported in literature and has employed both traditional methods (surveys and questionnaires), and internet based methods (website and social media trends). Data showed consistent sequential increase in visits to the EAAD website by 200% each year. Social media was also used with the 'EAAD' tag monitored for use and mention. (15) Multiple evaluations also report an increase in awareness specifically related to topics promoted across years of the EAAD. (13,40) Reports showed a decrease in antibiotic expectation, prescription, and use for colds and flu; decrease in overall antibiotic use in the past 12 months; reported change in knowledge and attitude towards antibiotics following EAAD campaign messages; and change in behaviour in relation to antibiotic use attributed to EAAD information. (13, 15)

Criticisms of awareness-raising Health Events

Although Public awareness is often considered as a positive goal, there are existing flaws in many current Annual Health Events; limiting their effectiveness. The number of current awareness days saturates our calendar and, with minimal effort put into their advocacy, result in minimal overall social impact. (41) These days also often fail to change their message from year to year; holding a risk of "message fatigue" and desensitisation of information to the Public.

Annual Health Events can also hold the unintended potential of increasing health inequity, for example where they fail to reach or adequately communicate to the most at-risk populations. (42) A specific target population must therefore be identified, with advocacy methods tailored towards this population. (34) Differential reach of Annual Health Events and unequal ability to

act upon health information carry the risk of increasing inequity. Annual Health Events must target the barriers that high risk populations face to minimising, preventing, and treating health concerns. Strategies employed by Annual Health Events should appropriately target populations in proportion to risk, benefiting those most at risk; simultaneously decreasing inequities while increasing overall population health. (43) In this way, the risk of expensive, ineffective, inequitable, and unproven campaigns is minimized. (44)

Literature also raises the comment of singular Annual Health Events being insufficient in raising adequate awareness. (10) It proposes the need for a sustained campaign and ongoing salience to support the Annual Health Event, with the Annual Health Event being the key major element within a larger ongoing scheme.

Summary of Awareness-raising Health Events

For a new Annual Health Event to be successfully established, current literature suggests it must be specific and targeted in all aspects. The Annual Health Event must have clearly defined goals, topics, target audiences, and evidence-based promotion methods. (11,14,15) Topics should focus on current and tangible health concerns that are relevant to and can be framed in such a way that is emotive and engaging to the Public, in order to maximise uptake. (27,43) Topics should also be dynamic and evolving to create and maintain interest. The Annual Health Event should be run by a coordinated and committed leading team, with Government endorsement and support from other relevant parties. (11,14,15) The calendar date should be selected with relevance to the topic in question, and Event strategies and methods should disproportionately benefit populations most at risk. (20,43) Most importantly, campaign goals must be measurable and able to be evaluated to ensure investment justifies the outcome. (41,43, 45)

3.1 Development and Application of Typology and Assessing Burden of Disease

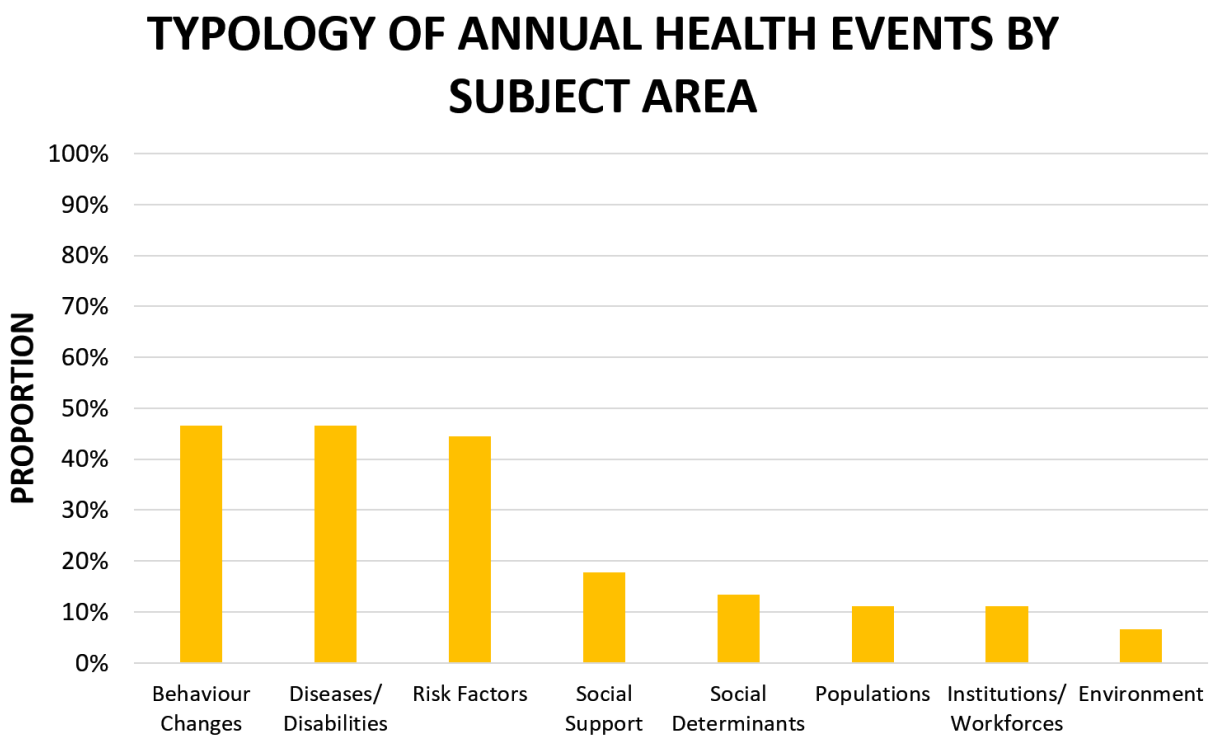

Figure 1. Categorisation of Annual Health Events by Subject Area

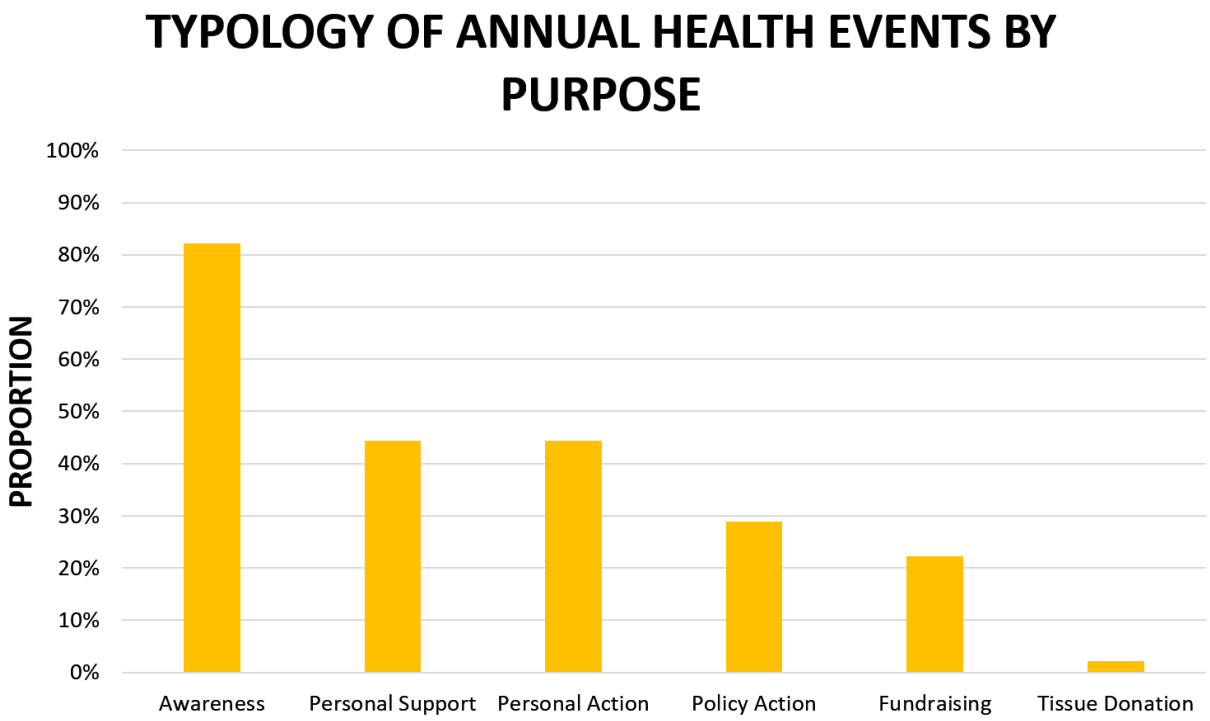

Figure 2. Categorisation of Annual Health Events by Purpose

Development and Application of Typology

Through development of a typology, the 45 Annual Health Events were able to be categorised by subject area *(fig 1),* allowing identification of areas less represented by current Annual Health Events in New Zealand. Categorisation by Purpose (*fig 2)*, allows for analysis into whether Annual Health Events employ measurable outcomes, and effectively reach the targeted audience.

Burden of Disease

The report from the New Zealand Burden of Diseases, Injuries, and Risk Factors Study, 2006–2016 uses DALYs to combine information on both fatal outcomes (early death) and non-fatal outcomes (illness or disability), in order to compare the effects of different specific diseases, condition groups, and risk factors across population groups and over time. The most important findings of this report are grouped into three main areas as follows:

1) The top five specific conditions accounting for total DALYs in New Zealand in 2006 chronologically were: coronary heart disease, anxiety and depressive disorders, stroke, chronic obstructive pulmonary disease (COPD), and diabetes.

2) The top five condition groups accounting for total DALYs in New Zealand were: cancers and other neoplasms, vascular and blood disorders, mental disorders, musculoskeletal disorders and injury.

3) The top five risk factors accounting for total DALYs in New Zealand were: tobacco use, high body mass index (BMI), high blood pressure, high blood glucose, and physical inactivity.

Approximately 40% of the included Annual Health Events addressed a top five specific condition, condition group, or risk factor contributing to burden of disease in New Zealand. Examples include Pink Ribbon Day (cancer/neoplasm), Mental Health Awareness Week, and Diabetes Awareness Week. COPD, musculoskeletal disorders, injury, and high blood pressure did not feature in any Annual Health Events despite being major contributors to burden of disease.

It is important to note that some Annual Health Events that did not fall into top five lists were still regarded as relevant to burden of disease in New Zealand, for example, World Environment Day, World Day of Social Justice, and World Water Day.

This information indicates that the majority of Annual Health Events in New Zealand do not address the major contributors to burden of disease and therefore, lack important relevance to the health of the whole population. The remaining 60% of Annual Health Events in New Zealand cover a broad range of areas and focus on less common diseases.

3.2 Street Intercept Survey

We completed a total of 213 Public street-intercept surveys across six areas within the Greater Wellington Region. All available data for each question was analysed. The median age group of participants was 30-49 years old, 58% of participants identified as being NZ European, 10% identified as Māori, with the remaining 32% of participants identifying as Pasifika, Chinese, Indian, multiple ethnicities or 'other' (*Table 1*). The highest level of education of each participant was gained to gauge their socioeconomic status, with 33.3% of participants having NCEA Level 3 or equivalent, 32% having an undergraduate degree, 18.4% having a postgraduate degree, and the remaining 15.9% of participants having either no formal education, NCEA Level 1 or NCEA Level 2 (*Table 1*).

On average, participants were aware of 5.65 of the 16 listed Annual Health Events, with the top three most known events being Daffodil Day (88%, [95% CI of 82.63%-91.87%]), Pink Ribbon Day (81%, [95% CI of 75.32%-86.23%]), and Mental Health Awareness Week (68%, [95% CI of 61.36%-74.28%]) *(fig. 3)*. Only one participant selected the 'distractor' option, suggesting a high level of overall internal validity. The subject area of which people were most aware was identified as 'specific diseases/disabilities', as determined by the typology of the above three most widely known Annual Health Events. Furthermore, based on the typology, all top three events fulfil two key purposes; raising awareness and raising funds.

It is interesting to note the discrepancies between the number of days participants were aware of when stratified based on their highest level of education. People with no formal secondary education had an awareness of 25.6% (95% [CI of 18.8% to 33.6%]) of Annual Health Events presented compared to participants with a postgraduate degree having an awareness of 43% (95% [CI of 39.2%-47.1%]) of these same days *(fig. 4)*. Furthermore, when level of awareness was stratified based on ethnicity, Māori had a lower awareness of Annual Health Events on average compared to NZ Europeans, 28% (95% [CI of 23.5%-33.1%]) and 36.6% (95% [CI of

34.6%-38.9%]) respectively (*fig. 5)*. There were no significant differences when data was stratified by age.

Participants, on average, rated the degree to which these Annual Health Events add to the wellbeing of the general public as 3.3 out of 5, with 1 being no value at all and 5 being extremely valuable. When stratified by level of education, people with no formal education valued Annual Health Events higher than those with postgraduate degrees, 4.00 and 3.32 respectively. There were no major differences between ethnicities in terms of the perceived value added by Annual Health Events. For example, Māori and NZ European participants indicated similar value ratings, 3.36 and 3.30 respectively.

Participants were prompted to take 2.5 out of 11 proposed actions on average following Annual Health Events *(fig. 6)*. Two actions were identified as the most common across all participants; money donation (73% [95% CI of 67.3%-79.5%]), and feeling more informed (61% [95% CI of 54.1%-67.6%]).

In addition, we were able to analyse the data to assess the impact these Annual Health Events had on potentially life-preserving personal outcomes. Potential life-preserving outcomes were identified as: being better prepared, seen by a GP, attending a support group/programme, developing a new skill and behaviour change. During analysis, we focused our attention on comparing NZ European and Māori(*fig 7)* as well as having Tertiary Education and having No Tertiary Education *(fig 8).* The results suggested higher rates of life-preserving personal outcomes in NZ Europeans compared to Māoriin all except: seen by GP and support group/programme. *(Table 2) (fig 7)*. Those with Tertiary Education had higher rates in all life-preserving personal outcomes compared to those who had No Tertiary Education *(Table 3) (fig 8).*

Table 1: Demographic characteristics of street-intercept survey participants

Age, (Years)[a]	
16-19	21 (10%)
20-29	67 (32%)
30-49	49 (23%)
50-69	56 (26%)
70+	20 (9.0%)
Ethnicity	
NZ European	123 (58.0%)
Māori	22 (10.0%)
Pacific (Samoan, Niuean, CI Māori)	9 (4.2%)
Chinese	8 (3.8%)
Indian	4 (1.9%)
Multiple	19 (8.9%)
Other	28 (13%)
Education	
No formal secondary education	9 (4.2%)
NCEA Level 1 or equivalent	10 (4.7%)
NCEA Level 2 or equivalent	15 (7.0%)
NCEA Level 3 or equivalent	71 (33.3%)
Undergraduate degree	69 (32.4%)
Postgraduate degree	39 (18.3%)

[a]: 213 participants

Values are n (%)

Table 2: Life-preserving Personal Outcomes NZ European vs. Māori

	NZ European (95% CI)	Māori (95% CI)
Behaviour Change	22% (15-31%)	9% (1-29%)
Better Prepared	28% (21-37%)	18% (5-40%)
Seen GP	11% (6-18%)	14% (3-35%)
New Skill	14% (8-21%)	9% (1-29%)
Support Group/ Program	4% (1-9%)	5% (0-23%)

Table 3: Life-preserving Personal Outcomes Tertiary Education vs. No Tertiary Education

	Tertiary Education (95% CI)	No Tertiary Education (95% CI)
Behaviour Change	20% (13-28%)	13% (8-21%)
Better Prepared	31% (22-40%)	19% (12-28%)
Seen GP	19% (12-27%)	11% (6-19%)
New Skill	19% (12-27%)	10% (5-17%)
Support Group/ Program	9% (5-16%)	4% (1-10%)

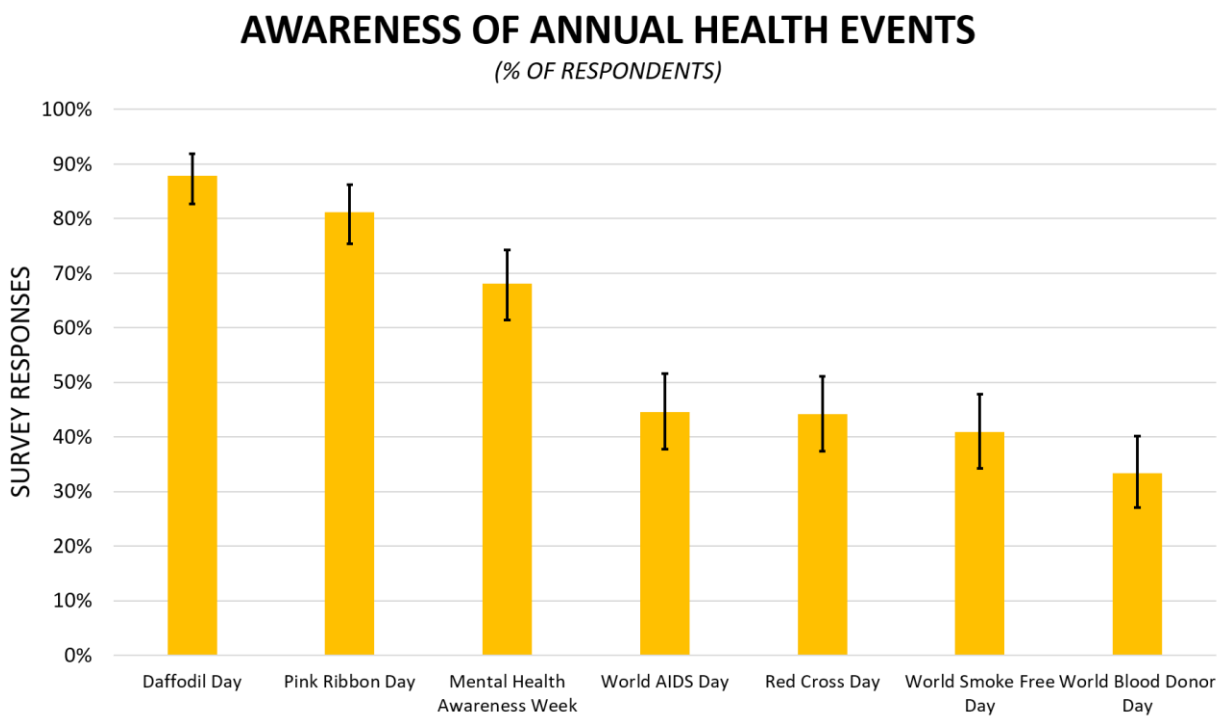

Figure 3: Awareness - Top 7 Annual Health Events

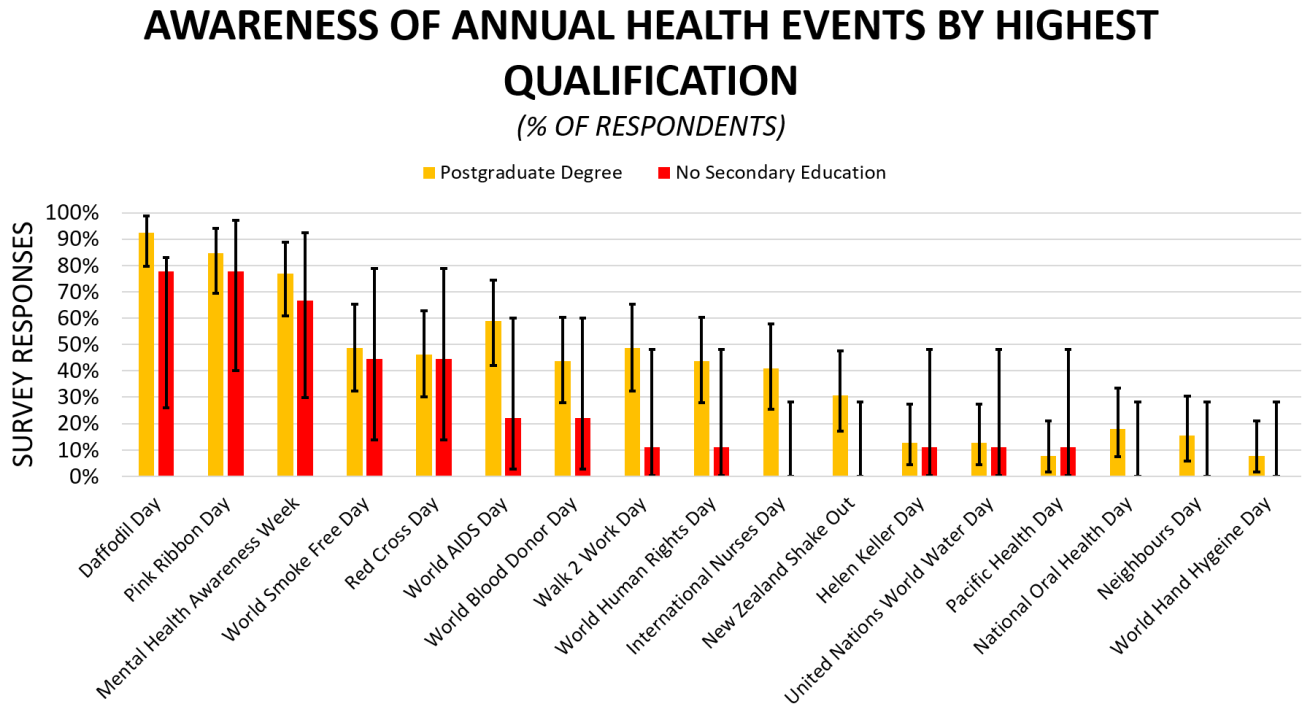

Figure 4: Awareness of Annual Health Events; No Formal Secondary Education vs. Postgraduate Degree.

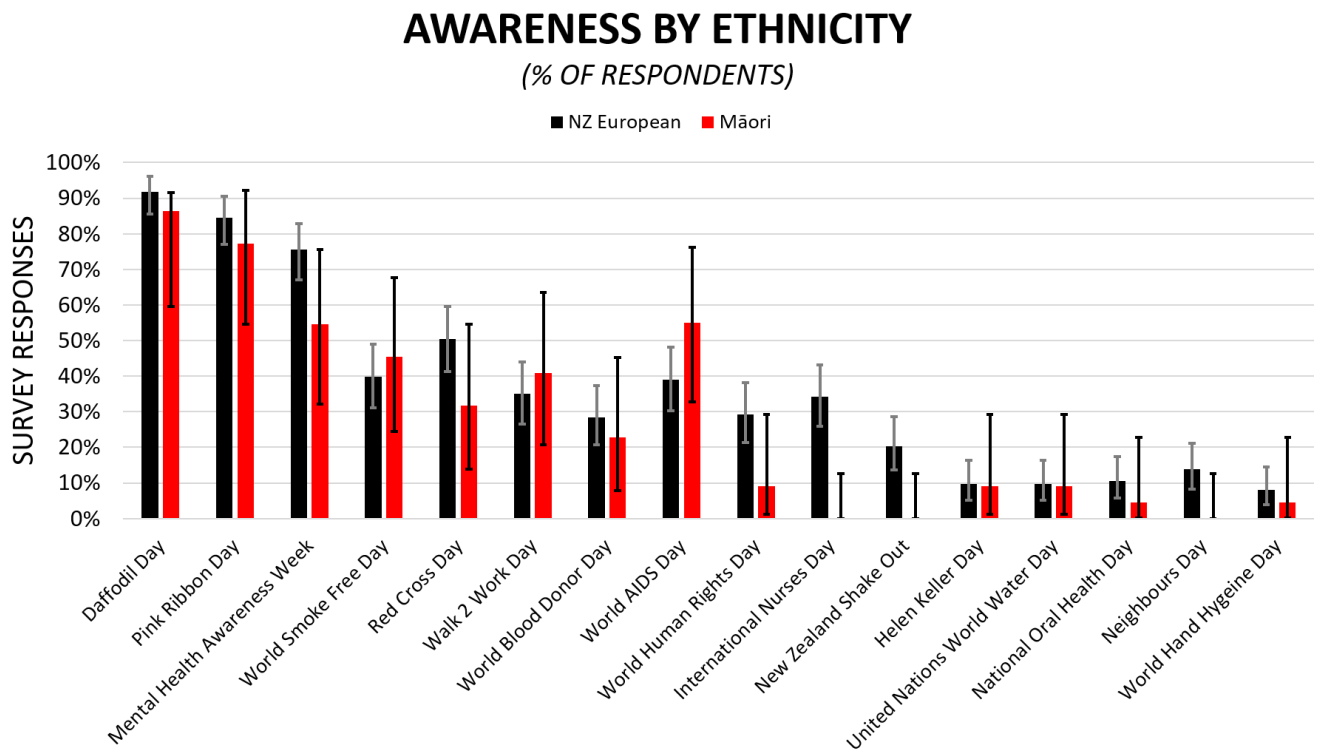

Figure 5: Awareness of Annual Health Events; Māori vs. NZ European

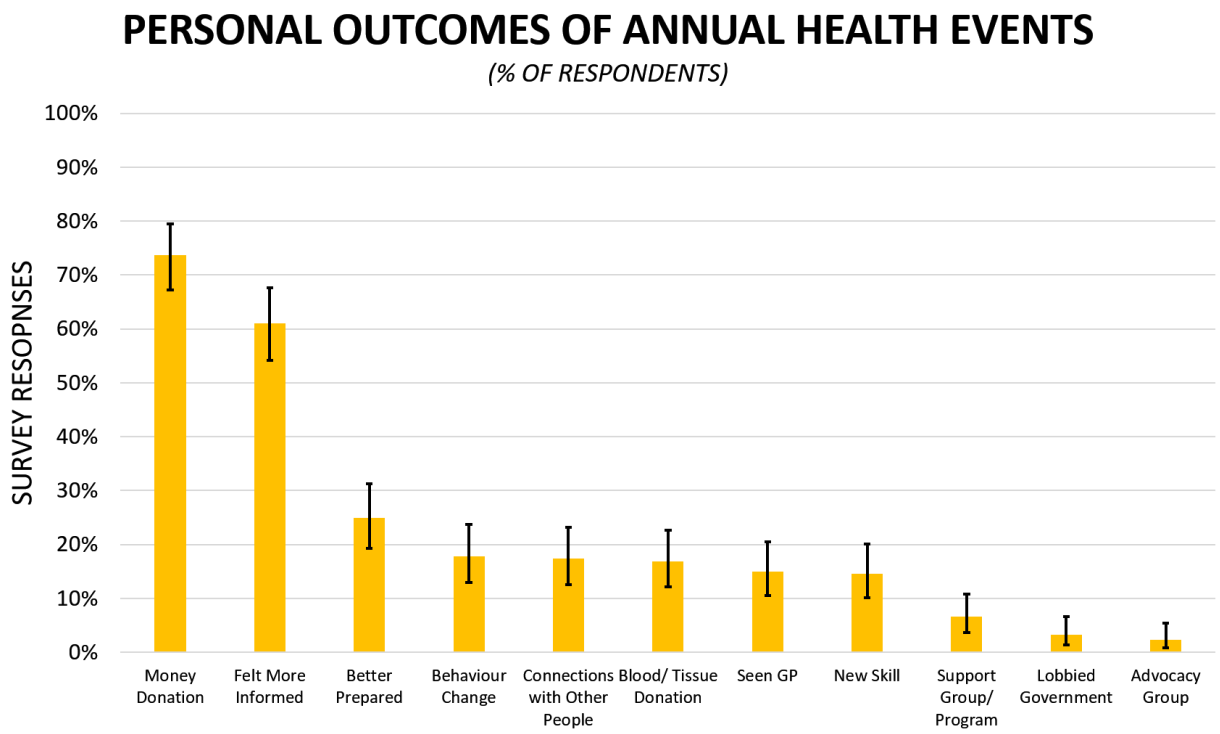

Figure 6: Personal Outcomes of Annual Health Events

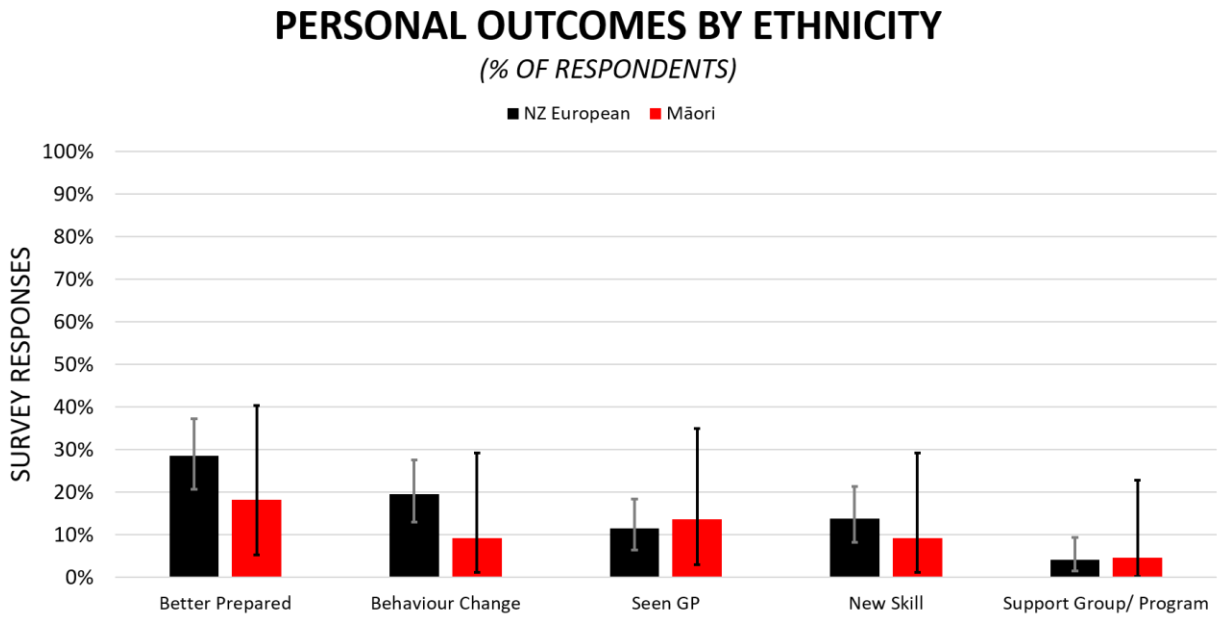

Figure 7: Personal Outcomes NZ European vs Māori

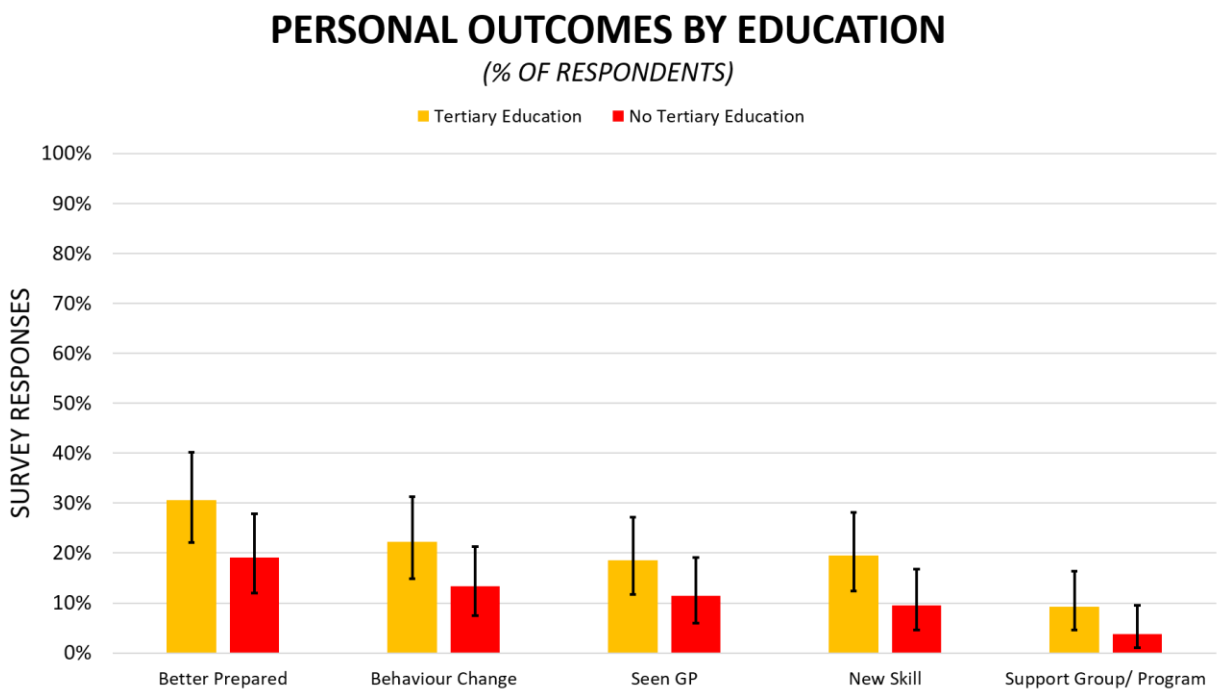

Figure 8: Personal Outcomes Tertiary Education vs No Tertiary Education

3.3 Organisation Interviews

Three main purposes for Annual Health Events were identified:

The majority of interviewees felt their day aimed to raise awareness of a particular condition or subject area, including reducing stigma or normalising particular diseases or behaviours.

"*To reduce stigma, homophobia, and anti-immigration sentiment".*

Secondly, a goal for many organisations was to increase personal support networks within the community, including connections between people with the same conditions or behaviours, particular workers, or carers. This aim was met in various ways between organisations, including volunteering or bringing people together for a particular activity on this day.

"It's a very social time when people can just be together and that's one of the ways that people learn about other events and activities".

Thirdly, advocacy was also an important aim for many organisations, in order to improve understanding around their subject matter, and improve outcomes for people affected by the health issue.

There were two main reported ways organisations assessed the effectiveness of their Public Health Days; number of donations, and participation or engagement with the day's topic. Donations are an important source of funding for organisations, whilst street collection increases awareness of the health issue. Organisations employ participation and engagement to assess increasing awareness of their subject, and reach of their message to the appropriate population. Participation is judged through the number of people turning up to events, the number of handouts taken, website hits (both during and after the day), and, for specific health conditions, whether there is an increase in check-ups booked.

"Yes we would assess all of the costs that have been involved in running the event and how much donations have come back and any other benefits such as awareness from the event and assess it that way but even just on expenses alone the income is definitely worth it."
"We do look at feedback in terms of their recording (and) how much people appreciated and took the information that we hand out."
"The engagement and things that we have on social media at that time as well not just our website."
Interviewees were also questioned regarding aspects of a successful Annual Health Event, and opinion on introducing a new Annual Public Health Event in New Zealand. Timing of the Annual Health Event was considered important, for example, to prevent clash with other existing days or Events, and ensuring costs are minimised to make the Event viable. A major theme of importance was ensuring the day was relevant to the Public, in order to gain engagement and attention to the key message. The message and outcome of the day also needs to be clear, in order to fulfil the purpose of the day. Many interviewees also mentioned the abundance of targeted Health Days already in occurrence, resulting in Public disinterest and non-receptance to information, and increased effort required to attract Public attention.

3.4 Expert Interviews

Key themes were identified following the Thematic Analysis of our Expert Interviews. These were:

- Opinions on what a "Public Health Day" would look like
- Should it be only one day?
- Ownership of the day
- Feasibility
- Purpose of a Public Health Day
- Outcome of a Public Health Day
- Measuring the efficacy
- Impact on existing inequities

- Acknowledgement of the Treaty of Waitangi
- Should New Zealand implement an Annual Public Health Day?

Opinions on what a "Public Health Day" would look like

All six experts agreed that an Annual Public Health Event would involve a calendar day where New Zealand would hold a range of public activities.

"A day in the year that you try to get the Public and Politicians to focus on a particular Public Health issue."

"[An] Opportunity for political traction,"

Should it be only one day?

There were mixed opinions as to whether the Annual Public Health Event should encompass one day, or be extended over a week or month. An Event across one day was seen as being less expensive, but also likely less effective compared to a week or month of recognition.

"Weeks are more expensive but are better for raising awareness. However, a lot of work is involved."

"A day doesn't do it. We need to have an ongoing conversation with the Public. What about the other 364 days, that's what I am worried about."

One Expert regarded these days purely as a means to bring to light ongoing research and activism on certain issues. The day is a vessel and media front, to gain attention of Politicians and the Public.

"Naming a day is just a kind of device to hang things off."

Another suggestion was to utilize already existing Public Holidays. This would maximise the opportunity for all members of society to be involved with the pressure of work alleviated, this is especially relevant to at-risk and high-risk population groups.

Ownership of the Day

There were mixed opinions as to whether ownership should be under central Government, local government, or a non-government organisation. There was however, consensus that Government support was key to the success of any Annual Public Health Event.

"*I don't think the Government could do it. But support from the Prime Minister or the Ministry of Health looks good."*

"If it improves health or Public Health then the Ministry [of Health] would be a key stakeholder"

"[About central or Government involvement] Neither, I don't think either of them should be involved. I think it should be outside of Government."

Feasibility

A common theme raised regarding feasibility in the New Zealand context was the probability of a proposed Annual Public Health Event being in-effective, when compared to other interventions. The majority of experts emphasised the manpower and resources required for such an Event, that could be better utilised elsewhere.

"Public Health agencies have so little resource"

"In order for it to work well it needs to be properly funded, so it would have to come from Government in order to get Government funding"

"*With a passionate team, it could be extremely successful, but you need to have the resources and time to be able to do it"*

Comments on Public engagement consistently addressed the need for having something for people to do, including events that people want to take part in.

"It's all about marketing, and it needs to be instantly recognisable."

"It needs to be of value and provides a hook for individuals' families and communities to connect with."

Majority of Experts stated the Public associate Public Health with public hospitals, and have misunderstandings of what Public Health actually defines.

"Public Health is something that the Public don't really understand. I think they take it for granted"

"Public Health doesn't mean anything to the Public, they think it means public hospitals"

"[I am] Unsure if it's necessary – Public Health is too broad. The Public think Public Health is public hospitals, and publicly funded health system."

"The wider NZ Public are not really aware of Public Health principles at the moment. They need to understand regulatory measures and population activities. To understand that a small benefit to an individual across a wide number has great population benefit"

Purpose of the Public Health Day

It was recommended that a number of existing health strategies, with particular emphasis on Public Health principles, should be incorporated into the design, such as the Ottawa Charter,

and Māori Health strategy (TUHA-NZ). Experts agreed that strengthening community action should be a focus of the day.

"Increasing individual awareness of how we can make a difference in our communities."

"We've had two decades of individualism and this has maintained or increased inequalities. More connectivity is needed and there needs to be more opportunities for that with particular emphasis on community spaces."

One expert suggested the subject of Preparedness for Natural Disasters, identifying it as an important gap.

"Disasters can affect the whole country, they're a way to get everyone's engagement, everyone agrees on them."

"Other areas are good ideas, they are something that could be introduced. They apply to particular demographic groups, and you have to get national buy in to get people thinking about it. It's only really the disaster area that will get everyone involved. Because they could think "that could be my house that gets damaged"."

Despite agreement from all Experts on the importance of the Social Determinants of Health, it was felt that a day focusing on these would not have much individual impact, as these risk factors are not changeable at the individual level.

"One of the issues with the Social Determinants of Health is that as an individual, there is probably not a lot you can do about it. You are the product of the social determinants that have affected you. Some of those social determinants are not readily changeable yourself… [they] are not something that can be picked up and actioned on. [The social determinants] raises

awareness that my health is influenced by my income and education, but how does that improve my health if I cannot change those?"

"[I am] really opposed to focusing on Social Determinants of Health. You're then talking about a housing day, an employment day. A day doesn't do it. We need to have an ongoing conversation with the Public. I think they run the risk of being highly inequitable. Those who can will, those who can't won't."

"[The social determinants] is too hard [of a concept]. We need to find concepts that people will get quickly"

"Having a Public Health Day talking about social determinants is not going to change anything other than awareness. There is a discourse around individual responsibility and we are trying to shift to collective responsibility and understanding the drivers"

Outcome of the Public Health Day:

When deciding an outcome, all Experts agreed that this would depend on the focus of the Public Health Day. The majority of experts agreed that awareness was important in regards to Public Health.

"Raising awareness is prevention's fundamental purpose."

Another point made was the idea of having community events to enhance participation.

"To really get people thinking, you need to have activities for them to get involved with."

There were disagreements around the role of fundraising and Public Health. One Expert said fundraising is needed to implement prevention strategies, where another said fundraising does not play an important role in Public Health.

Measuring the efficacy

When implementing any Public Health Day in New Zealand, all Experts agreed on the importance of assessing its efficacy. However, there was some concern regarding the feasibility of measuring efficacy with ambiguous outcomes could be challenging, due to the nature of Public Health.

"It's difficult to measure how you made a difference to a community. You can measure awareness and in reach – that's easier to measure. Whether it makes a difference or changes perspectives is harder to measure"

"This would not be the sole intervention, so it would be difficult to measure if it was from just a day"

Another suggestion was to target the Government as opposed to the general Public, making outcomes more tangible and easier to evaluate.

"If targeted at politicians, it would be worth it. There is a much narrower target which is easier to measure. If it was targeted at the general population, that's harder to measure and is not going to be worth it."

Impact on already Existing Inequities

As with any health intervention in New Zealand, the impact on inequities is important to address. The majority of Experts agreed that Annual Health Events will have limited capacity to address the inequities we face in New Zealand.

"Addressing inequity cannot be done through days. Public Health is usually targeted at policy makers."

"One day is not going to do that much in terms of addressing inequities."

"[Public] Health days are not that powerful, its one day, it's in the newspapers, it's a flash. If they were that powerful, we would take far more notice of them"

There was some concern that such a Health Event may have adverse effects on equity.

"The great tragedy of Public Health, that despite our very best efforts, we end up increasing inequalities, because those who can, will."

"I think they run the risk of being highly inequitable. Those who can will, those who can't won't."

"There is always a risk that if you don't design it well, you may get middle class capture and the inequalities may be enhanced"

There was consensus between Experts regarding the focus on inequity being greater in Public Health principles compared to other sectors.

"Awareness of inequity is stronger in Public Health than anywhere else"

Treaty of Waitangi

The importance of having a Māorifocus and participation with any potential Annual Public Health Event was evident through all expert interviews.

"There needs to be Involvement of Māoriand Pacific leaders from the beginning."

"You need built-in participation [from Māori] from the beginning. You have it framed in a way that appeals or ensures that all groups feel a part of it and that it belongs to them. And that they can have a role to play in it. You need to get people from diverse communities involved. You've got to get out there and talk to diverse groups."

With regards to health disparities between Māoriand Non-Māori, the majority of Experts agreed that Oritetanga (Equity) needed to be directly addressed in any proposed Annual Public Health Day.

"Public Health should be benefiting Māori."

In addition to participation from Māori, the importance of Tino Rangatiratanga (Māoricontrol/leadership and self-determination) was addressed, to enable the focus to be on the true needs of the community.

"False assumptions can be made, so you need affective involvement from the beginning. Because you don't want to be assuming what these communities need without actually talking to them"

"Ensuring there is leadership roles which may mean working at regional levels or local levels. [It's] Difficult to do so from top down, so you may want to do a bottom up approach"

Should New Zealand Implement an Annual Public Health Day?

In summary, there were mixed views among Experts on whether New Zealand should implement an Annual Public Health Day. The majority of Experts saw at least some merit in the idea, providing the Event addressed the concerns outlined above. The opportunity to enhance community focus was attractive, however the primary deterrent was the challenge of applying it to the New Zealand context, considering the limited resources and opportunity costs.

4. Discussion

4.1 Summary of Findings

Our study results have identified, characterised, and defined key factors contributing to a successful Annual Health Event. Our study has also identified important considerations surrounding Annual Health Events, and the relevance and application of these to the introduction of a National Public Health Day in New Zealand. Limitations and restrictions of the study have been identified and are disclosed and acknowledged in this discussion. The summary of our findings lends evidence to the factors and elements contributing to a successful Annual Health Event from which, implications and recommendations for future Annual Health Events; such as a National Public Health Day for New Zealand; can be proposed. Our findings suggest there are many considerations for a National Public Health Day in New Zealand however, there is potential value provided there is thoughtful and extensive planning, ensuring efficacy and cost-effectiveness.

4.2 Defining components and Maximising Efficacy of Annual Health Events

Multiple key elements that define and comprise a successful Annual Health Event were commonly identified in results across all methods. These elements define the structure of and form criteria for the establishment and maintenance of a successful Annual Health Event. These elements characterise target audience, campaign topic and messages, methods of promotion and communication, timing of the Annual Health Event, and evaluation of effectiveness.

A successful Annual Health Event must define a specific target audience. The target audience should drive the basis and methods of communicating information, in order to maximise promotion and uptake.

A successful Annual Health Event must also define a specific and focused campaign topic and key messages, and have clear purpose with defined goals. Successful campaigns recruited topics that were specific to one disease or condition, and that were relevant and important to the target audience. Campaign topics and key messages should also be dynamic and adaptive over time with changing need to maintain interest and relevance. Annual Health Events with a central purpose of raising awareness or funds also found the most success in promotion and uptake of campaign goals and messages.

Methods of promoting the Annual Health Event and communicating its topic and key messages should be specifically aimed towards, appropriate to, and driven by the needs of the target audience. Community participation and engagement strategies were also common methods utilised in successful campaigns.

The establishment of a designated and committed team to coordinate, manage, and run the Annual Health Event was also identified as a key essential element. Government endorsement and support from relevant other parties were highlighted as key elements for success. Collaboration and pooling of resources from supporting relevant parties was also identified and agreed on by our interviewed organisations as a useful and successful strategy.

Timing was identified as an important factor for a successful Annual Health Event. The Event should not overlap or occupy the same space in the calendar as other existing Annual Health Events, and consider weather and seasonal factors in relation to the disease topic and promotion strategies (such as street appeals) to maximise uptake and engagement.

Goals and objectives of the Annual Health Event must also be able to be evaluated, and their impact and effectiveness monitored and documented. Evaluation of the achievement of campaign goals and objectives is necessary to assess the effectiveness of the Annual Health Event and guide future adjustment and reorientation. Evaluation is also necessary to ensure the

degree of investment spent; including funds, resources, time, and personnel; sufficiently justifies the outcome of the Annual Health Event.

4.3 Considerations for a Proposed Annual Health Event

In addition, we wanted to address the importance of applying this into the New Zealand context, and assess whether it will be of value, considering the limitations within the New Zealand Public Health System.

Fundraising

As per the results, Annual Health Events which employed a fundraising strategy were the most known to the Public, as well as eliciting the most reported action. Because the majority of Public Health in New Zealand is funded by taxpayers and is therefore Government driven, fundraising would not be a reasonable option in this case, if such an Event was aimed at the general Public. However, the situation in which fundraising could be applied may be with an Annual Health Event targeting disaster preparedness, which is not currently driven by Government.

Limited Resources

Limited resources was addressed in this study as a consideration when implementing an Annual Public Health Event. Annual Health Events require a significant amount of resource to be successful and properly disseminated, evaluating the priority of such an Event would be important when addressing resource allocation.

Public Understanding of "Public Health"

There is misunderstanding among the general New Zealand Public regarding what Public Health means. The Public have a poor understanding of the scope of Public Health, and how it relates to everyday health.

Exacerbation of Existing Inequalities

There is concern regarding the potential of Annual Health Events to increase existing inequities. The evidence shows current differences among various levels of education and ethnicities with regard to awareness and involvement in existing Annual Health Events in New Zealand. In addition, there is a risk of these Annual Health Events failing to reach at-risk populations, further driving inequity where only low-risk populations gain benefit.

Māori Health Disparities

It is important to highlight the role of the Treaty of Waitangi, and our responsibility in addressing health inequity between Māori and Non-Māori. There is potential for increasing health inequity where efforts lack in employing leadership from Māori communities.

Saturation of the Market

There is concern that due to the vast number of Annual Health Events that currently exist, the addition of another may be less effective. There is potential for recurrent information overload to become monotonous; decreasing impact and Public engagement.

Cost-effectiveness

With this in mind, it is vital to consider whether this would be the most cost-effective way of achieving certain goals, as Annual Health Events have a tendency to be a front, for which nothing is actually gained.

Failure to address systemic issues facing Public Health

Conducting an Annual Health Event on a specific topic may result in failure to address system-level problems which require ongoing attention and work. A single Annual Health Event may not create required momentum for significant and meaningful impact and change. This will have implications for whether the investment required for the Annual Public Health Event justifies the outcome.

Government Targeted Approach

An approach which was suggested in our research was to create an Annual Public Health Day targeted at Politicians and policy makers. This strategy could address some of the above considerations such as having a target audience, clear messages, and avoiding further saturating of the market. The need for fundraising would be omitted, as the primary action would be advocacy and policy change. Although only a preliminary suggestion, this could plant the seed for future development and research.

4.4 Strengths and Limitations of the study

As a pioneering pilot study, our research has initiated the commentary on Annual Health Events; what constitutes a successful Event, and the effectiveness of existing Events. Our study has created an initial typology of existing Annual Health Events in New Zealand and introduced an exploration and discussion on the effectiveness of these Events. Multiple methods were employed to collate and collect data and inform and contribute to our research and results, these multiple methods allowed wide coverage of opinion and information gathering across many varying sources. Common themes and results from our study are cohesive and consistent such that, they are able to preliminarily comment on potential recommendations for the successful development of future Annual Health Events. Our results also form a collective concurrence such to enable us to make commentary on the aims and objectives of the study, and address our initial project question; A National Public Health Day for New Zealand: Has its time come?

It is acknowledged that there are also many limitations and limiting factors within our study and study design. Practical limitations included: the five week time period allocated for the study; limited availability and contactability of organisations and Experts, limiting the number of interviews to those practically able to take place within the time frame; travel and financial considerations limiting our population base to the Wellington region; and the number of

members in our research team in comparison to the number of methods, arms, and demands of the project to be achieved within the time frame.

Limitations of internal validity and study design included: the method of the street-intercept survey as a source of potential volunteer and selection bias; organisation interviews being conducted by different people, introducing a potential for interviewer bias; the organisations and experts willing and able to be interviewed may not be representative of the opinion in their wider respective fields, therefore limiting generalisability of our results; and the limitation of our methods to New Zealand-based possibilities.

We also reiterate the pioneering nature of this pilot study and acknowledge the need for extensive further research extending from and elaborating on all components of this study. In consideration of this, we acknowledge the limitations and preliminary nature of our results and conclusions.

5. Recommendations

We are able to offer preliminary recommendations for future Annual Health Events based on our findings. Our recommendations are given within the parameter of the strengths and limitations of our study. Further research would be valuable to address the issues of generalizability and validity of our recommendations.

We recommend any design of an Annual Health Day be rigorous and employ the criteria stated. These include having a defined target audience, focused topic and messages, with an overarching committed leadership team, Government endorsement, and support from other relevant parties. The nature of Public Health and the proposed Public Health Day may risk not meeting these criteria, and therefore substantial effort needs to me made to ensure they are met in the design phase. In addition, the importance of Māori health and a focus on Māori health disparities should be a primary focus, through honouring the principles of the Treaty of Waitangi.

To address these considerations, an idea could be to consider utilising Government as the target audience, with the goal of advocative and legislative change, this which, is consistent with the criteria as concluded and outlined in this study.

6. Conclusion

Annual Health Events are a widely used method to communicate and promote health topics around the world. Their popularity has resulted in a large number of organisations employing this method to campaign for their cause. This has further sparked the topic within the New Zealand Public Health Sector, resulting in a number of campaigns being developed, including the idea of holding a National Public Health Day in New Zealand.

Despite the popular and wide use of Annual Health Events, there is limited evidence evaluating their efficacy and cost-effectiveness.

Our pioneering pilot study has initiated a commentary on the factors and considerations associated with a successful Annual Health Event and, has made preliminary recommendations and commentary on the introduction of a National Public Health Day for New Zealand. Our introductory study prompts and invites further research on the topic of Annual Health Events and the factors and considerations associated with their success.

Our study concludes, that in light of the vastness of considerations, within the New Zealand context a National Public Health Day may not be justified at this current time. A National Public Health Day for New Zealand however, holds promise and potential where necessary criteria can be met and formulated to address a New Zealand specific need and context.

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Appendix 1: Ethics

Form Updated: July 2018

UNIVERSITY OF OTAGO HUMAN ETHICS COMMITTEE

APPLICATION FORM: CATEGORY B

(Departmental Approval)

Please ensure you are using the latest application form available from: http://www.otago.ac.nz/council/committees/committees/HumanEthicsCommittees.html

1.University of Otago staff member responsible for project:

Professor Michael Baker
Professor Richard Edwards

2.Department/School:

Department of Public Health, University of Otago, Wellington

3. Contact details of staff member responsible:

Department of Public Health

University of Otago, Wellington

Box 7343 Wellington, New Zealand 6242

Professor Michael Baker – Michael.baker@otago.ac.nz ext 6182 room J41 on level J

Professor Richard Edwards – Richard.edwards@otago.ac.nz ext 5089 room J40 on level J

4. Title of project: A national public health day for New Zealand: Has its time come?

5. Indicate type of project and names of other investigators and students:

Staff Research Names	**Professor Michael Baker** **Professor Richard Edwards**
Student Research Names	Carys Finlayson, Natalie Ruddlesden, Kim Low, Patrick Sinclair, Shanella Nallaiah, Brooke Leota, Adam Faatoese, Sophie Gandhi, Julia Whyte, Dwayne Jones, Simon Wong, Vivian Goo, Virginia Irwin, Hannah Bartlett, Aimi Zulkipli, Naomi Mendoza, Ben Parsons, Eilish Buckley
Level of Study (e.g. PhD, Masters, Hons)	Bachelor of Medicine and Surgery (4th Year MB ChB)
External Research/ Names	N/A
Collaboration *Institute/Company*	N/A

6.When will recruitment and data collection commence?

Monday 13th August, 2018

When will data collection be completed?

Friday 7th of September, 2018

7. Brief description <u>in lay terms</u> of the aim of the project, and outline of the research questions that will be answered (approx. 200 words)**:**

Recurring calendar days, such as special days/weeks/months, are widely used to promote awareness about issues of public concern. There is a large set of both international and national days observed by a number of bodies, such as the UN or small charities within NZ. The goal of this project is to identify whether a specific public health day/week/month

each year could contribute to effective health promotion in NZ, with reasonable likelihood of changing behaviours and policies that contribute to improved health and equity in NZ.

The aims of the study are to:

1. Review international experience with recurring health promotion calendar events (day/week/month) and NZ experience with similar events.
1. Assess the value of a NZ public health event of this type and make recommendations based on findings from the above.

We will advance on these aims through 5 key objectives:

1. Systemically examine the literature to determine best practice and efficacy and develop a typology for recurring health promotion calendar events.
2. Investigate online search activity and website hit trending as a means of evaluating the impact of recurring health promotion calendar events.
3. Investigate the public's experiences with such days, including their awareness and reported impact.
4. Document the opinions of key informants at organisations behind existing recurring health promotion calendar events, e.g. the Breast Cancer Society, including advice on best practice, and perceived and actual evidence of impact.
5. Determine opinion among public health experts and key informants at potential organisations that could be involved in implementing a Public Health Day in NZ, including timing, scope, cultural competency and other logistical issues.

8. Brief description of the method.

Methods are described only for those aspects of the study which involve collection of data from individuals i.e. objectives 3-5.

Objective 3:

Objective 3 will be addressed by a street-intercept survey of the public.

Participants: We will conduct street-intercept surveys in pre-identified areas in Wellington Central, such as outside Countdown Newtown and on Courtney Place. Eligible participants (>16 years of age) will be identified, and a member of the data collection team will approach them and ask if they are willing to complete a brief survey looking at recurrent calendar days used for health promotion in NZ. Verbal consent will then be attained by the member of the data collection team, with this recorded on the survey form in a check box manner.

Survey: The survey will consist of basic demographics (age, sex), a question regarding the highest level of education reached, and then specific questions regarding awareness, engagement and perceived effectiveness of some current recurring health promotion calendar days in NZ. A preliminary copy of this survey can be found attached to this application.

Sample size consideration: We estimate that we will require approximately 200 survey participants in order to get estimates of prevalence of opinions with a reasonable degree of precision (around +/-6% 95% confidence limits).

Data analysis: Data from the intercept-survey will be coded in order to generate tables and summative figures. Data will be stratified according to age, sex and education level.

Objective 4:

Objective 4 will be addressed by conducting interviews with representatives from associations currently responsible for recurrent health promotion days (e.g. Breast Cancer Society).

Participants: Interviewees will be identified via our contacts (provided through our Supervisors Prof. Michael Baker and Prof. Richard Edwards) and via organisation websites. Contact will initially be made via email, with a follow up phone call occurring in the event that there is no reply. The initial email will outline the purpose of the study, who is conducting the study, what we hope to achieve through these interviews and a copy of the interview questions. If there are any questions at this stage the data collection team

will attempt to answer them. Verbal or written consent will be obtained at the time of the interview, along with additional consent for the participant and organisation to be identified as the source of the collected information in our final report. A time will then be arranged to conduct the interview, either by telephone or in person, to the interviewees convenience.

Interview: We will ask questions regarding the organisations recurrent health- promotion calendar event (including timing, cost/benefit, logistical factors, cultural competency factors), advice about organisation of these days, perceived and actual evidence of impact, and opinion on the potential for a Public Health day in NZ. A preliminary copy of these interview questions can be found attached to this application.

Data analysis: key informant interview data will be analysed to identify and describe common opinions and themes.

Objective 5

Objectives 5 will be addressed by conducting interviews with experts from the Ministry of Health, UOW Public Health Department, DHBs and other relevant organisations and key informants from relevant associations (e.g. Public Health Association) who could be involved in developing and implementing a Public Health day.

Participants: Interviewees will be identified via our contacts (provided through our Supervisors Prof. Michael Baker and Prof. Richard Edwards) and via organisation websites. Contact will initially be made via email, with a follow up phone call occurring in the event that there is no reply. The initial email will outline the purpose of the study, who is conducting the study, what we hope to achieve through these interviews and a copy of the interview questions. If there are any questions at this stage the data collection team will attempt to answer them. Verbal or written consent will be obtained at the time of the interview, along with additional consent for the person or organisation to be identified as the source of the collected information in our final report. A time will then be arranged to conduct the interview, either by telephone or in person, to the interviewees convenience.

Interview: We will ask questions regarding expert opinion on whether a Public health Calendar day would be a good idea (and why/why not); what a Public Health day in NZ would look like, including the scope of the day, requirements (e.g. cost), timing, logistical factors, cultural competency and the role of social media in promotion. Questions will also be asked about whether or not that person/association is interest in being involved if there were to be such a day, where appropriate. A preliminary copy of these interview questions can be found attached to this application.

Data analysis: key informant interview data will be analysed to identify and describe common opinions and themes.

9. Disclose and discuss any potential problems and how they will be managed:

(For example: medical/legal problems, issues with disclosure, conflict of interest, safety of the researcher, safeguards to participant anonymity if open access to data is proposed etc)

There are no conflicts of interest to disclose.

Funding for research related expenses will occur internally through the Department of Public Health, UOW.

There are no risks of physical or psychological harm to the participants or researchers involved in the study.

Information collected during the intercept-survey will be of a non-sensitive nature. Electronic data will be stored securely in password protected devices. Only aggregated data will be reported in publications from the study. Individual participants will not be identifiable.

Information collected during the key informant interviews will also be non-sensitive in nature. Interviews will be recorded wherever feasible, or summary notes made where not possible. Electronic and paper data will be anonymised and stored securely in a locked room/filing cabinet or on password protected devices. Quotes from key informant interviews used in reports will be attributed by broad designation (e.g. 'public health academic', senior manager at health NGO). We will list the individuals and their

organisation interviewed for our key informant studies, unless they request anonymity, in which case we will list them only by a non-identifiable broad designation.

We will take all reasonable steps to ensure there is no breach of privacy or confidentiality in the study. All attained information will be kept in a safe and secure manner.

***Applicant's Signature:** .....

Name (please print): .....

Date: .....

**The signatory should be the staff member detailed at Question 1.*

ACTION TAKEN

Approved by HOD ☐

Approved by Departmental Ethics Committee ☐

Referred to UO Human Ethics Committee ☐

Signature of **Head of Department*:* .....

Name of HOD (please print): .....

Date: .....

Departmental approval: *I have read this application and believe it to be valid research and ethically sound. I approve the research design. The research proposed in this application is compatible with the University of Otago policies and I give my approval and consent for the*

application to be forwarded to the University of Otago Human Ethics Committee (to be reported to the next meeting).

Appendix 2: Consent and information forms

A NATIONAL PUBLIC HEALTH DAY FOR NEW ZEALAND: HAS ITS TIME COME?

CONSENT FORM FOR INTERVIEW PARTICIPANTS

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:-

1. My participation in the project is entirely voluntary;

2. I am free to withdraw from the project at any time without any disadvantage;

3. Personal identifying information will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for at least five years;

4. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but every attempt will be made to preserve my anonymity.

5. I, as the participant: a) agree to being named in the research, ☐ OR;

   b) would rather remain anonymous. ☐

I agree to take part in this project.

....

(Signature of participant) (Date)

.....

(Printed Name)

A NATIONAL PUBLIC HEALTH DAY FOR NEW ZEALAND: HAS ITS TIME COME?
INFORMATION SHEET FOR STREET SURVEY PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the Aim of the Project?
This project aims to identify whether a specific public health day each year could help raise awareness and contribute to changing of behaviours and policies in NZ. We are a group of fourth year medical students involved in this project as part of our Public Health run.

What Types of Participants are being sought?
We are looking for anyone over the age of 18, regardless of whether you are aware of health promotion days or not. Although you will not gain anything out of the study, you can access the final results of the study from the lead researcher (contact details provided below).

What will Participants be asked to do?
Should you agree to take part in this project, you will be asked to complete a 2-minute survey in which you will be asked 6 questions. You will be answering these questions on an iPad, and may choose to skip any of the questions involved or withdraw at any time.
Please be aware that you may decide not to take part in the project without any disadvantage to yourself.

What Data or Information will be collected and what use will be made of it?
We will use the iPad to record some basic information about yourself, such as your name, age and education level. You will then be asked some questions regarding health promotion days and how much value you believe they have.
We will be preparing this information for a final report and presentation. There is potential for a further article to be published from it. All data collected will be kept anonymous. It will be secured securely for at least 5 years and will only be accessible by the study's researchers. If you wish to attain a copy of the final report or further publishing's please contact the lead researcher.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Carys Finlayson
4th Year Medical Student
University of Otago, Wellington
finca122@student.otago.ac.nz

and

Professor Michael Baker
Department of Public Health
University of Otago, Wellington
+64 4 385 5541
michael.baker@otago.ac.nz

This study has been approved by the Department stated above. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph +643 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

A NATIONAL PUBLIC HEALTH DAY FOR NEW ZEALAND: HAS ITS TIME COME?
INFORMATION SHEET FOR INTERVIEW PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

What is the Aim of the Project?

This project aims to identify whether a specific public health day each year could help raise awareness and contribute to changing of behaviours and policies in NZ. We are a group of fourth year medical students involved in this project as part of our Public Health run.

What will Participants be asked to do?

Should you agree to take part in this project, you will be asked to take part in a brief interview with one or two members of the project team. Interview questions will be provided before the interview takes place. Please be aware that you may decide not to take part in the project without any disadvantage to yourself.

What Data or Information will be collected and what use will be made of it?
[There is a distinction between the raw data or information collected by the researcher and the data/information that is set out in the completed research. The potential participant has a reasonable expectation to know:

The information you provide in the interview will be audiotaped, which will later be transcribed for analysis. We will be preparing this information for a final report and presentation.

The data collected will be securely stored in such a way that only the supervisors and researchers involved in the project will be able to gain access to it. Data obtained as a result of the research will be retained for **at least 5 years** in secure storage. Any personal information held on the participants may be destroyed at the completion of the research even though the data derived from the research will, in most cases, be kept for much longer or possibly indefinitely.

No material that could personally identify you will be used in any reports on this study. Results of this research may be published. The data from this project will be publicly archived so that it may be used by other researchers.

On the Consent Form you will be given options regarding your anonymity. Please be aware that should you wish we will make every attempt to preserve your anonymity. However, with your consent, there are some cases where it would be preferable to attribute contributions made to individual participants. It is absolutely up to you which of these options you prefer.

Can Participants change their mind and withdraw from the project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact either:-

Carys Finlayson
4th Year Medical Student
University of Otago, Wellington
finca122@student.otago.ac.nz

and

Professor Michael Baker
Department of Public Health
University of Otago, Wellington
+64 4 385 5541
michael.baker@otago.ac.nz

This study has been approved by the Department stated above. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph +643 479 8256 or email gary.witte@otago.ac.nz). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.

Appendix 3: Show Cards for Street Survey

SHOWCARD 1

Please indicate your age bracket:

A. <20
B. 20-29
C. 30-49
D. 50-69
E. 70+

SHOWCARD 2

What is your ethnicity?

Please indicate all that apply to you

A. NZ European
B. Maori
C. Cook Island Maori
D. Tongan
E. Niuean
F. Chinese
G. Indian
H. Others such as DUTCH, JAPANESE. Please specify.

SHOWCARD 3

What is your highest qualification?

A. No formal education
B. Primary Education
C. NCEA Level 1/School cert. or equivalent
D. NCEA Level 2/School Cert. or equivalent
E. NCEA Level 3/School Cert. or equivalent
F. Undergraduate degree
G. Post-graduate degree

SHOWCARD 4

Which of these annual health events are you aware of? Please indicate all that apply

A. Walk 2 Work Day
B. Helen Keller Day
C. International Nurses Day
D. National Oral Health Day
E. Pink Ribbon Day
F. World Pinneal Gland Day
G. Neighbours Day
H. World Blood Donor Day
I. World AIDS Day
J. World Smoke Free Day
K. Daffodil Day
L. United Nations World Water Day
M. World Hand Hygiene Day
N. Mental Health Awareness Week
O. Red Cross Day
P. New Zealand Shake Out
Q. Pacific Health Day
R. World Human Rights Day

SHOWCARD 5

Please rate how much value you believe these 'days' add to the wellbeing of the general public

LEAST VALUABLE

MOST VALUABLE

SHOWCARD 6

Please indicate all that apply

A. I have felt more **informed**

B. I have joined a **support group** or **program**

C. I have made **connections** with people

D. I have **changed a behaviour** e.g. smoking, biking to work, contraception

E. I have seen a **health care professional** e.g. GP

F. I have actively tried to **gain a new skill** e.g. mindfulness

G. I have become better **prepared** e.g. made a disaster kit

H. I have joined an **advocacy group**

I. I have **lobbied the government**

J. I have donated **blood** or **tissue products**

K. I have donated **money**

Appendix 4: Show Cards for Experts

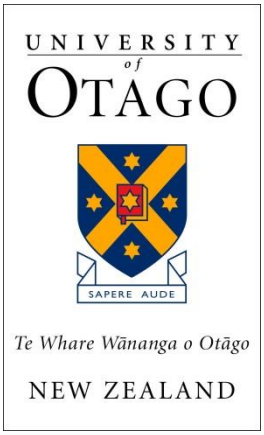
SHOWCARD 1
Subject Areas: Please indicate all that apply

A. Social determinants of health e.g. income, poverty, human rights
B. Health of particular **populations** e.g. Māori and Pacific Health
C. Healthy, safe housing e.g. insulation, heating
D. Preparedness for disasters e.g. pandemics, natural disasters
E. Risk factors and **unhealthy behaviours** e.g. tobacco, alcohol, poor diet, lifestyle, physical inactivity, violence
F. Environments and **sustainability** e.g. housing, climate change
G. Interventions/ Behaviour changes/ Programmes e.g. immunisation, screening
H. Social support activities e.g. community organisations, connectedness
I. Disease/Disabilities e.g. mental illness
J. Institutions/ workforce e.g. healthcare workers, hospitals, workers

SHOWCARD 2
Purpose: Please indicate all that apply

A. Raising awareness – de-stigmatisation/normalisation
B. Personal support – building connections within the community
C. Risk reduction – behaviour change, use of warning systems, contraception, new skills
D. Early detection – screening
E. Advocacy – to governmental agencies, politicians, specific organisations or workforce groups
F. To collect **donations** in the form of **money.**
G. To collect **donations** in the form of **blood or human tissue.**

Appendix 5: Street Intercept Survey



MEDICAL STUDENT RESEARCH

Department of Public Health, University of Otago, Wellington

Public Health Day

SURVEY FORM

Informed consent gained: Yes ☐

Interviewer: _____

Location: _____

Date: _____ **Time:** _____

1. *[SHOWCARD 1]* Please indicate your age bracket (circle corresponding letter)

   A B C D E

2. *[SHOWCARD 2]* Please indicate your ethnicity (circle corresponding letter)

   A B C D E F G H I

3. *[SHOWCARD 3]* What is your highest Qualification? (circle corresponding letter)

   A B C D E F G

4. *[SHOWCARD 4]* Which of these annual health events are you aware of? (circle corresponding letters)

   A B C D E F G H I J K L

   M N O P Q R

5. Are there any other health days or weeks that you are aware of in addition to these days? If Yes, please specify:

   _____

   _____

6. *[SHOWCARD 5]* Please rate how much value you believe these 'days' add to the wellbeing of the general public (1 being no value, 5 being extremely valuable)

   1 2 3 4 5

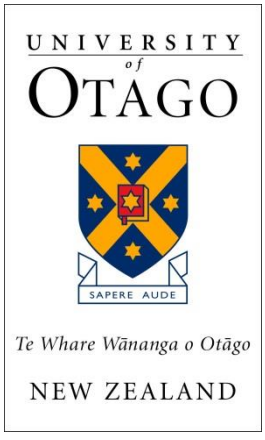
7. *[SHOWCARD 6]* Have any of these days changed your attitudes or behaviours at all? If yes, which of the following applies to you? (circle corresponding letters)

   A B C D E F G H I J K

8. Are there any other actions that you have taken because of these days? If Yes, please specify:

   _____

Appendix 6: Organisation and Expert Interview Questions



MEDICAL STUDENT RESEARCH

Department of Public Health, University of Otago, Wellington

Public Health Day

INTERVIEW QUESTIONS FOR ORGANISATIONS

Informed consent gained: Yes ☐

Interviewer(s):_____

Date: _____ **Time:** _____

1. Can you tell me a little bit about your organisation's annual health event "STATE THE NAME."

2. Can you please tell me a little about the history of this event?
   Probe Questions: Who started it; where did it start; when did it start; why was it started?

3. Who is your target audience and how do you promote your event to your target audience?
   Potential prompt/probe follow-up questions:
   a. *Why was this target audience chosen?*
   b. *Do these promotions cost money and if so how is this funded?*
   c. *Have you changed the way you do promotions in the last decade (if relevant)?*

4. What is the geographical scope of this event?
   a. International
   b. National
   c. Regional/Local
   d. Neighbourhood

5. *[SHOWCARD 1 QUESTION*] Which subject area (or areas) does your event cover?
   Contents of show card.
   a. *Social determinants of health e.g. Income, poverty, human rights*
   b. *Health of particular populations e.g. Māori and Pacific Health,*
   c. *Healthy, safe housing e.g. insulation, heating*
   d. *Preparedness for disasters e.g. pandemics, natural disasters*

e. *Risk factors and unhealthy behaviours e.g. Tobacco, alcohol, poor diet, lifestyle, physical inactivity, violence*
f. *Environments and sustainability e.g. Housing, climate change*
g. *Interventions/Behaviour changes/Programmes e.g. Immunisation, screening*
h. *Social support activities e.g. community organisations, connectedness*
i. *Disease/Disabilities e.g. mental illness*
j. *Institutions/ workforce e.g. Healthcare workers, hospitals, workers*

6. *[SHOWCARD 2 QUESTION]* What is the purpose of your event?
   Please specify all that apply, and then identify the single main purpose.
   Contents of show card
   a. *Raising awareness – destigmatisation/normalisation*
   b. *Personal support – building connections within the community*
   c. *Risk reduction – behaviour change, use of warning systems, contraception, new skills*
   d. *Early detection – screening,*
   e. *Advocacy – to governmental agencies, politicians, specific organisations or workforce groups*
   f. *collect donations in the form of money*
   g. *To collect donations in the form of blood or human tissue.*

7. Do you take measures to assess whether your health event is effective at fulfilling its purpose? If so how is this done?
   Potential prompt/probe follow-up questions:
   a. *Visits to website?*
   b. *Media coverage?*
   c. *Financial Donations*
   d. *Donations of blood, human tissue [if relevant]*
   e. *If it's public awareness, how do you gauge this?*
   f. *Are there any other measurements we haven't covered?*
   g. *Is there a way you conduct a cost/benefit analysis?*

8. Is there a reason your event is held at a particular time of year?
   Potential prompt/probe follow-up questions:
   a. *Seasonal?*

9. Do you have anything else you'd like to share about your 'health event'?

10. If you were advising another organisation about implementing a new Annual Health Event, what advice would you give them?
Probe/promt questions - What would you say about the benefits and costs of having an event?
What are the potential pitfalls in running such an event or ways to make it work well?

11. We are conducting this interview as part of a project investigating whether it would be a good idea to introduce an annual Public Health event. What are your thoughts on this?

MEDICAL STUDENT RESEARCH

Department of Public Health, University of Otago, Wellington

Public Health Day

INTERVIEW QUESTIONS FOR EXPERTS

Informed consent gained: Yes ☐

Interviewer(s):_____

Date: _____ **Time:** _____

1. We are investigating whether introducing an annual Public Health event like a Public Health Day would be a good idea. What are your initial thoughts about that idea?

2. In your opinion, what would such a public health event look like?
   Potential prompt/probe follow-up questions:
   - *Do you think it would be feasible to introduce such an event?*
   - *Do you think it would be effective?*
   - *Should it be a day or a week or something else?*
   - *Should it be a general public health day, or focus on a particular public health topic each year?*
   - *Who should or could organize it?*

3. *[SHOWCARD 1 QUESTION*] Which subject area (or areas) should this public health event cover?
   Contents of show card.
   a. *Social determinants of health e.g. Income/poverty, human rights*
   b. *Health of particular populations e.g. Māori and Pacific Health,*
   c. *Healthy, safe housing e.g. insulation, heating*
   d. *Preparedness for disasters e.g. pandemics, earthquakes*
   e. *Environments and sustainability e.g. , green space, public transport*
   f. *Risk factors and unhealthy behaviours e.g. smoking, alcohol, poor diet, physical inactivity*
   g. *Interventions/Behaviour changes/Programmes e.g. Immunisation, screening*
   h. *Social support activities e.g. community organisations, connectedness*
   i. *Disease/Disabilities e.g. mental illness, HIV/AIDS*
   j. *Institutions/ workforce e.g. Public Health workers, healthl services*

(*Depending on answer, probe for further details. E.g. if they would like to see Social Determinants of Health covered, which determinant?)*

4. Why do you believe this area (or these areas) are important?

5. [SHOWCARD 2 QUESTION] What should be the main purpose of this event?
   Contents of show card
   a. *Raising awareness – destigmatisation/normalisation*
   b. *Personal support – building connections within the community*
   c. *Risk reduction – behaviour change, use of warning systems, contraception, new skills*
   d. *Early detection – screening,*
   e. *Advocacy and policy action – to governmental agencies, politicians, specific organisations or workforce groups*
   f. *Fundraising - including research and projects*
   g. *Promoting blood and organ donation*

6. Why do you believe this (or these) purposes are important?

7. Do you believe it is important to measure the effectiveness of such an event? If so, do you have any suggestions on how we might do so?

8. How do you believe that this event could recognise and address inequalities in Māori or Pacific Health?

10. How should the event ensure that there is appropriate Māori and Pacific leadership, engagement and relevance?

11. Could such a day increase health inequalities by just reaching those who already have the best access to public health resources? How could this risk be minimized?

12. What are the potential limitations of this event that you foresee? How could we minimise them?

13. Should the event be a day/week/month? Which do you believe is more effective?

14. Having now thought about it a bit more, what do you think now about whether such an event would be a good idea or not, and why do you say that?

15. **If applicable** Would your organisation be interested in leading the development and organisation of such an event?

16. **If applicable** Would your organisation be interested in being associated with or being involved in such an event?

17. **If applicable** Do you know of any organisations or bodies that you think would be interested in becoming involved in this event?

Appendix 7: Extended Literature Review

Existing awareness campaigns

There is a vast number of Annual Health Events currently existing around the world and within New Zealand. Many of these Annual Health Events feature in published literature describing the methods used in raising awareness of the disease or condition of concern. Annual Health Events commonly have the aim of furthering knowledge on specific diseases or conditions, such

examples include venous thrombosis,(1) use of Automated Electronic Defibrillators (AEDs) in cardiopulmonary resuscitation (CPR) outside of a hospital setting,(2) tuberculosis,(3,4) falls in hospital patients,(5) and neurological conditions and research.(6) Target populations for Annual Health Events vary in range and specificity according to the Event goals, and include the public,(2,6–8) hospital staff,(1,5) and combined populations.(3,4,9,10) Methods of information communication also vary and are dependent on and driven by the target population. Studies targeting both the general Public and Healthcare Workers commonly differentiated specific goals to the separate target groups. Efforts targeted at the general Public aimed to improve knowledge and identification of a disease, where efforts targeted at Healthcare Workers emphasised aspects of disease severity.(3,4,9,10)

Methods of information communication that employ enjoyable and engaging strategies, saw the most success in Events targeting health professionals. An Awareness Day looking at venous thrombosis prophylaxis knowledge among health professionals involved didactic lectures.(1) Participants were asked to complete both a pre and post lecture questionnaire. Analysis of these results showed that only 35 out of 200 attendees completed both questionnaires, and increase in knowledge was only indicated in 1 out of the total 15 questions. Conclusions suggest that lecture based methods are not an effective way to further the education of healthcare professionals, hypothesizing that a more interactive method might be more effective.(1) Such a method could include the “wheel of fortune” game as used in the Falls Prevention Awareness Day in a Californian hospital.(5) This method proved to be well enjoyed by both clinical and non-clinical staff and was reported as a “very interactive and engaging” method of teaching staff about falls prevention. Gifts and prizes were also used as incentives for participation, with an overall belief the day was a success.(5)

The interactive approach used in the Falls Awareness Day is similar to that used in Brain Awareness Day in the United States.(5,6) Undergraduate students were asked to design an awareness day for brain health and brain research which would then be conducted during Brain Awareness week. This awareness day was open to the public and involved 9 different

workshops including brain dissection performed by the students, optical illusions, a lie detector test, and electroencephalogram. Results showed that running this focused day within Brain Awareness Week resulted in the most successful year to date, with more members of the public attending, including 400 children, with all participants reporting having thoroughly enjoyed the day. The Public was also asked to complete a short entry and exit survey, similar to the method of the Venous Thrombosis Prophylaxis Knowledge study, as means to assess whether the day had been effective in improving knowledge specifically, perceived knowledge of the brain, and ideas around the importance of neurological research. The results of these surveys however, were not included or commented on in the article.

Methods of information communication including door-to-door and lay-person representatives have shown success in Annual Health Events specifically targeted to the Public. The European Cardiac Arrest Awareness Day with an aim to promote teaching children CPR technique and AED use showed evidence for lay-person involvement.(2) The 1998 Meningococcal Campaign in Auckland involved educating lay people about the severity of meningococcal disease, how to recognise the symptoms, and informing parents on what to do if their child was exhibiting symptoms.(8) Participating lay-people then delivered this information door-to-door in high risk areas of Auckland to educate families.(8) An evaluation survey was distributed 6 months following the door-to-door information. The survey was completed at 308 houses, half of which had been visited and received information from the lay-people participants, and half which had not. Survey results showed most people remembered the visit from the lay person and this group were more likely to classify meningococcal disease as severe; a specific aim of the study. A GP practice in the area also reported more Maori and Pacific families presenting with signs of meningococcal disease compared to before the study, some of whom did have the disease and were able to receive timely treatment. Albeit not strictly an Annual Health Event, this study lends evidence to a lay-person door-to-door method of information communication, as an effective way of reaching families.

Use of media and community initiatives are also reported in literature as common strategies for information communication for Annual Health Events. Raising awareness of hypertension and the importance of its control promoted in part by World Hypertension Day, utilises media such as newspaper and TV coverage, and also employs community initiatives such as rallies, forums and group physical activities, aiming to empower the general population to measure their own blood pressure at home and be more in control of their health.(9) Contribution and endorsement from Government, policy, and relevant influential public figures were reported also as successful strategies. World Elder Abuse day explores a variety of methods to promote awareness including speeches, web series, and speaking at conferences.(10)

One of the largest, most characterised, and evaluated Public Health Days in current literature is the European Antibiotics Awareness Day (EAAD). Coordinated by the European Centre for Disease Prevention and Control (ECDC) with support from relevant other parties and Government endorsement, the EAAD was first held in 2008 and takes place annually on 18 November.(11) In recognition of and in response to the growing world-wide problem of antibiotic resistance the EAAD is a European-wide public health initiative aimed at promoting responsible and appropriate use of antibiotics by healthcare professionals and the general public.(12–14)

Over its 10 years of action, the EAAD has defined and refined its information communication methods, exemplifying concise and consistent campaign strategy characterising a successful Annual Health Event. Each year, the EAAD focuses on a different and specific topic and target audience which guides and dictates strategy. This has created a cumulative “snowball” effect keeping the EAAD relevant and inclusive. The focus of the EAAD has also changed with need and trend; from initial awareness raising in 2008, to consolidation and reinforcing messages in 2011 and 2012. The focused and dynamic strategy of the EAAD is attributed to its continuing success and growing participation.(15)

Functional methods of awareness campaigns

Annual Health Events have the potential to positively influence disease prevention and management by doing more than just raising public awareness. In the past, some organisations have used these days to conduct public surveys for mass data collection while others have organised large-scale screening of their health condition.(16–18) This free screening creates conversation around the condition and an access point for education and information sharing with the community. Awareness days can also be used to release new guidelines or to host expert panels to discuss epidemiology, prevention strategies, and key solutions around particular disease concerns.(16,19) The Princess Royal University Hospital hosted an Alcohol Awareness Day; handing out information regarding recommended weekly alcohol intake and diaries for monitoring and reflection of alcohol consumption.(20) Handouts were stationed at the hospital entrance to maximise exposure and coverage, with all patients, visitors and staff members being approached and educated. The Irish Mouth Cancer Awareness Day extends beyond awareness in providing free oral health screening.(21) This allowed early identification of patients at high risk or with early stage oral cancer and increased knowledge of causes and consequences of oral cancer.(22) These examples lend evidence to the positive interventional potential of Annual Health Events in addition to raising awareness.(18,21,22)

Transition from traditional media to internet based media

With the limitation of public access to paid peer reviewed articles, information needs to be presented to our communities clearly and free of cost.(23) Over the past few decades mass media interventions such as radio, television, newspapers, magazines, leaflets, posters, pamphlets and interpersonal experiences have been successful at disseminating information and having positive health outcomes.(18,24) With changing emphasis in public engagement and use of media however, use of the internet is now growing with 81% of New Zealanders surfing the web daily.(25) Patients are evidently using the internet as a resource for self-education with 59.9% and 52.3% reporting that twitter and Facebook respectively are a useful resource for obtaining health related information.(26) This raises the concern that website searches with

negative connotations perpetuate false information and myths, while searches with positive connotations fail to advocate positive health practices.(27) Jeanette B Ruiz's research also demonstrated how negative health outlooks are associated with dense social networks which "limit sources of novel information" and create ruminating pockets of patients. It is therefore the role of physicians to be at the forefront of disseminating gold standard information,(18) particularly with the online sphere continuing to be a relatively underutilised method.

Dissemination of information using social media has shown recent increase.(28–30) World Elder Abuse Day utilises facebook and twitter questionnaires, virtual tool kits, fact sheets, red flag sheets, and webinars to reach the Public.(10,31) The EAAD also provides a successful example of the use of both traditional media and the internet in its promotion. Traditional media methods included posters and TV spots.(11) Internet strategies employed web spots, online banners, factsheets, and patient brochures, with the EAAD website collating all materials in one accessible place.(15) Social media and the internet were also successfully employed by the European Cardiac Arrest Awareness Day.(2) In addition, 'viral' videos, social media pages, games, mobile phone applications (such as AED location apps), and the internet promote continual increase in knowledge of and decrease in burden from cardiac arrest.(2)

Evaluation of awareness campaigns

Although public awareness days have been widely used there is surprisingly limited information about their efficacy and cost effectiveness. Despite the fundamental need to evaluate effectiveness of Annual Health Events literature regarding this is greatly lacking.(10) The lack of evaluative evidence is likely at least in part due to the difficulty of accurate monitoring and attribution.(3,4,9)

The Lainscak study attempted to quantify the effect of the European Heart Failure Awareness Day by repeating a cross sectional study after eight years of campaigning following the original SHAPE study.(17)(32) This showed a rise in people who could recognise the presentation of heart failure from 3% to 30% of the population but, unfortunately it is near impossible to

ascertain if this was due to the awareness day alone or due to other factors increasing general awareness.

Using retrospective surveys, another study in the United Kingdom investigated smoking awareness and change in behaviour at one week and three months following No Smoking Day (NSD) launched in 1986.(33) The results showed a reduction in NSD awareness compared to 1986 however, was still high at 70% among all smokers in 2004. A significant finding was that 19% of smokers quit or reduced their smoking on NSD in 2005. The success of NSD was indicated by 11% of study participants not smoking more than three months after NSD 2004. Additionally, calls to national smokers' helplines were more than five times higher on NSD 2004 compared to the average day. Visits to the No Smoking Day website also increased dramatically in the month of NSD and has increaseyd each year from 2003 to 2005.(33) Evaluation of these traditional awareness days is difficult; as described by the multiple exposure effect, there is no way of defining the denominator of people exposed to the advertising campaign or the impact of supplementary campaigns on public perceptions.(34) Many awareness campaigns also fail to declare any clear measurable goals or endpoints making the evaluation near impossible.

World TB day is largely aimed at public awareness around treatment options and the curability of TB.(3,4) Declining TB rates lend evidence to these awareness days being beneficial to the public. Accuracy of attribution is again questioned however, as this could also be due to better treatment availability and reduced stigmatisation.

To combat this, internet based awareness initiatives are becoming increasingly popular as they allow an objective evaluation of the population engagement (views or clicks) and response (retweeting, sharing, tagging, or real life pursuit). They also allow subjective evaluation by reading comments and reactions to information.(28–30) Evaluating this data has shown that both the general Public and health practitioners do engage in social media based health events and, that these events can be used to inform communities and combat many of the circulating health myths.(23)

Google Trends is a novel tool that allows retrospective observation of Google search patterns within a particular topic. For analysing Annual Health Events, study-relevant keywords are searched to identify flux around the time of their respective Annual Health Event in comparison to the remainder of the year. Comparison can also be made to years prior to implementation of the Annual Health Event.(35) Reported studies showed significant differences in the amount of search results of respective keywords in periods around the associated Annual Health Event.(7,21,35–38)

Google Trends was used to evaluate World Thrombosis Day (WTD) where the Google search volume in the four weeks surrounding WTD was compared to the rest of the year on both a global and Netherland-specific level.(38) This showed an increase in searches during this time period compared to the control both worldwide and in the Netherlands in 2014. The number of searches, worldwide and in the Netherlands, increased significantly from 2014 to 2015 indicating a growing global awareness of WTD.

Similarly, the US Autism Awareness Month showed Google searches related specifically to autism and aspergers peaked every year during this Month,(7) this peak increased further when 1 April was announced as World Autism Awareness Day in 2007. The study also found that there has been a steady increase in searches for autism, aspergers, and ADHD likely as a result of increasing awareness of these conditions and, the increasing use of the internet to find information. The peaks in searches are increased when multiple media efforts are employed, as shown by the exaggerated peaks in autism searches following specials on the *Today Show* in 2005, and the *Oprah Winfrey Show* in 2007.(7) These findings lend support to the use of Google Trends as an effective contributing tool in evaluating effectiveness of Annual Health Events.(7,35–38)

Twitter is also emerging as a tool to evaluate views and trends. A study using Twitter data to evaluate the impact of Lynch Syndrome Awareness Day (LSAD) on lay people discussions, observed a significant increase in tweets during the month of LSAD.(39) The assessment of

tweets provides an insight into public perception and understanding of a disease. The study found the majority of tweets focused on “awareness”, “genetic testing”, and “treatment”. Lay people views on Lynch Syndrome were observed to be negative compared to other topics discussed on Twitter, this was suggested to be due to the severity and complications associated with the condition.(39)

Evaluation of the effectiveness of the EAAD has been lightly reported in literature and has employed both traditional methods (surveys and questionnaires), and internet based methods (website and social media trends). Data showed consistent sequential increase in visits to the EAAD website by 200% each year. Social media was also used with the ‘EAAD’ tag monitored for use and mention.(15) Multiple evaluations also report an increase in awareness specifically related to topics promoted across years of the EAAD.(13,40) Reports showed a decrease in antibiotic expectation, prescription, and use for colds and flu(13,15); decrease in overall antibiotic use in the past 12 months (15); reported change in knowledge and attitude towards antibiotics following EAAD campaign messages; and change in behaviour in relation to antibiotic use attributed to EAAD information.(13)

Criticisms of awareness campaigns

Although public awareness is often considered as a positive goal, there are existing flaws in many current Annual Health Events; limiting their effectiveness. The number of current awareness days saturates our calendar and, with minimal effort put into their advocacy many “blur” together resulting in minimal overall social impact.(41) These days also often fail to change their message from year to year giving a risk of “message fatigue” and desensitising the public to the information.

Annual Health Events also hold the unintended potential to increase current health inequity. The United Kingdom HIV AIDS Awareness Program held in October 1986 highlights this potential. The program saw a sharp rise in low risk patients presenting for HIV checks with only a minimal rise in high risk patients, meaning very few extra diagnoses were made.(42) This

meant that resources spent in HIV advocacy and testing provided very little benefit, because the intervention failed to reach the at risk population. A specific target population must be identified, with advocacy methods tailored towards this population and based on up to date research. For example, using online media and humour to target males, young adults, ethnic minorities and those with a high school degree or less.(34)

Lack of guaranteed benefit and the risk of harm are also often overlooked. Differential reach of Annual Health Events and the ability to act upon health information both carry a risk of increasing inequities in our communities. If awareness does not inform action then there will be no benefit to the health of the population in question.(43) Annual Health Events must target the barriers that high risk populations face to minimising, preventing, and treating health concerns; and being able to manage life considering these. This ensures that the intervention appropriately targets populations in proportion to risk, benefiting those most at risk; simultaneously decreasing inequities while increasing overall population health.(43) Employing a structure around the implementation of an Annual Health Event, such as the Doran 1981 SMART criteria,(44) can minimise the risk of expensive, ineffective, inequitable, and unproven campaigns; and the long-term running of these without regulation.

Literature regarding World Elder Abuse Day also raises the idea that a singular Annual Health Event is insufficient in raising adequate awareness.(10) It proposes the need for a sustained campaign and ongoing salience to support the Annual Health Event, with the Annual Health Event being the key major element within a larger ongoing scheme.

Awareness campaign recommendations

For new Annual Health Event to be successfully established, current literature suggests that it must be done with rigor and appropriate considerations. It should target current and tangible health concerns that can be framed in such a way that is emotive to the public to ensure maximal uptake.(27,43) The campaign must be specific and evidence-based and have clearly defined goals, topics, target audiences, and promotion methods.(11,14,15) If novel methods

such as internet based interventions are to be used then keywords, search strategies, and networking models must be researched and understood.(23) It should be run by a coordinated and committed leading team with financial and notional government endorsement and commercial support.(11,14,15) The calendar date should be selected so that it has some relevance to the topic in question and the intervention should disproportionately benefit populations most at risk.(20,43)

A clear campaign goal must also be identified, with dynamic objectives to create and maintain interest around the topic. Most importantly, campaign goals must be measurable and able to be evaluated to ensure investment justifies the outcome.(41,43) In order to achieve this and minimise inequities, the target population must be clearly defined.(43) Impact of an intervention can be considered to be 'Efficacy x Reach' with both factors being variable across subsets of the target population.(45)