

|  |  |
| --- | --- |
| He Pikinga Waiora outcome and implementation evaluation framework for pre-diabetes/diabetes and Related Health Conditions  |  |

The He Pikinga Waiora Outcome & Implementation Evaluation Framework consists of three key components: a) levels of health intervention (Maunga model from our research team), b) the model of hauora: whare tapa wha[[1]](#footnote-1) and c) the model of health promotion: Te Pae Mahutonga[[2]](#footnote-2). Figure 1 illustrates the connection of these three elements.

The Maunga model is guided by socio-ecological theory and public health philosophy that individual behaviour and public health are shaped by facets at multiple levels and often beyond the control of individuals. The model includes four levels of health intervention where the top of the model has maximal impact on few individuals and the bottom of the model has small impacts on lots of people. Health equity impacts are found more at the bottom of the model.

1. Individual—interventions are targeted at individual behaviour change and health improvements. They might include highly individualised interventions such as bariatric surgery or slightly broader lifestyle interventions for self-managed care. These interventions have great effect for those who receive the intervention and yet smaller impacts on health equity.
2. Clinical—interventions are targeted at improving health services and connecting people to care. These interventions might include new systems for data collection and monitoring of patient-level data, the development of new service pathways, and introduction of best practice guidelines for people newly diagnosed with diabetes or pre-diabetes.
3. Community—interventions are targeted at the neighbourhoods, maraes, etc. These interventions target change in the quality of the community overall such as enhanced walking trails, community gardens, and improvement in the obesogenic environment such as healthy kai in stores and schools.
4. Population—interventions are targeted at the large-scale population. These include policies that tax sugary beverages or efforts to improve socio-economic conditions.

Te Pae Mahutonga

Whare Tapa Wha

Increase impact on people

Increase number of people

Figure 1: Maunga Model

Health interventions impact various health and health equity outcomes. Our framework considered two models of health that explain key outcomes within each of the levels of the model. Whare tapa wha defines health (haurora) from a holistic perspective consisting of four core elements:

1. Tinana—physical wellbeing
2. Hinengaro—mental and emotional wellbeing
3. Wairura—spiritual wellbeing
4. Whānau—social wellbeing

These elements generally frame the outcomes of individual, and to some extent, clinical interventions.

Te Pae Mahutonga is a model of health promotion that fits well with the community and population interventions with some relevance to individual and clinical interventions as well. The model includes the four central stars of the Southern Cross represent four key tasks of health promotion, and two pointer starts represent leadership and governance) of health promotion:

1. Mauriora (cultural identity)—access to language, culture and cultural institutions
2. Waiora (physical environment)—access to a healthy physical environment
3. Toiora (healthy lifestyles)—positive development and harm reduction that is culturally relevant
4. Te Oranga (participation in society)—participation in the economy, education, research, and decision making
5. Ngā Manukura (community leadership)—effective community and health leadership with good communication among stakeholders
6. Te Mana Whakahaere (autonomy)—control and self-governance of research and health promotion activities

Within this framework, we have developed a list of measures for elements within the model. The list is meant to be comprehensive so as to provide options for researchers and practitioners so that they can determine the best fitting constructs for their intervention and their local context. It is not an exhaustive list and can be added to. It is organised around questions and measures for patients/community members, clinicians, and researchers (i.e., community and population-level assessments). There is a table for each of these targets for intervention outcomes and also implementation processes. For each table, there is a summary matrix with elements/constructs related to the model, specific scale, number of items and sources. Under that table are the specific items for review.

List of Tables:

1. Outcome Measures for Patients/Community Members
2. Outcome Measures for Clinicians
3. Outcome Measures for Researchers
4. Implementation Measures for Patients/Community Members
5. Implementation Measures for Clinicians
6. Implementation Measures for Researchers

These tables only include measures and items that have demonstrated validity; in other words, it measures accurately what it is supposed to be measuring. These measures also have reliability or similar items measure in a consistent fashion. Further, where possible, we have chosen measures that have been shown to be valid and reliable with Māori samples (e.g., most implementation measures haven’t been used with Māori). Finally, we have also included some measures that are normed which allows you to compare the scores in your study to those of another study. Most measures are not normed across populations as that requires rigorous testing across multiple studies. If you use a normed scale, you want to use it in its full form. If you are using another validated measure, ideally you want to use it in its full form although it can be altered and you can re-establish validity and reliability through your own statistical analysis. It is possible to include other measures in evaluation that may better fit your needs. When selecting measures, consider whether there is evidence of validity, reliability and normed scoring provided. Validity includes factorial, construct, concurrent and divergent validity. Reliability is usually assessed by test-retest or Cronbach’s alpha.

To apply the evaluation measures, there are several key statistical comparisons to be made to help determine impact of the intervention. The first is to administer the measure before an intervention and then again after the intervention. The difference between pre- and post-test scores should be in the expected direction (e.g., increased exercise or decreased blood pressure). The second is to compare a group who received the intervention and a group that didn’t receive the intervention. The group that received the intervention should have score that are higher (or lower) than the group that didn’t receive the intervention.

**Table 1. Outcomes Measures for Patients/Community Members**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Tinana | Medical outcomes | Y | Y | Varies | Varies |
| Tinana, Hinengaro | Health service utilisation | Y | Y | 8 | NZ Health Survey; <http://www.health.govt.nz/publication/content-guide-2015-16-new-zealand-health-survey> |
| Tinana, hinengaro  | Quality of Life: Medical Outcome Study | Y | Y | 5 | Wu, A. W. (1999). *MOS-HIV health survey user’s manual*. Self-published. Available: http://chipts.cch.ucla.edu/assessment/pdf/assessments/MOS-HIV%20Users%20Manual%20%20Draft.pdf  |
| Wairua | Spirituality | Y | N | 3 | Te Kupenga, Māori Social Survey: <http://www.stats.govt.nz/survey-participants/a-z-of-our-surveys/te-kupenga-2013-questionnaire.aspx> (alternative also provided) |
| Whānau | Social support | Y | N | 4 | Unger JB, McAvay G, Bruce ML, et al. Variation in the impact of social network characteristics on physical functioning in elderly persons: MacArthur Studies of Successful Aging. Journals of Gerontology Series B-Psychological Sciences & Social Sciences 1999;54(5):S245-51 (alternative also provided) |
| Mauriora | Cultural connection | Y | N | 12 | Dyall, L., Kēpa, M., Teh, R., Mules, R., Moyes, S., Wham, C., et al. (2014). Cultural and social factors and quality of life of Māori in advanced age. Te puawaitanga o nga tapuwae kia ora tonu—Life and living in advanced age: a cohort study in New Zealand (LiLACS NZ). *NZ Medical Journal, 127,* 62-79 |
| Toiora | Healthy lifestyle—exercise, nutrition | Y | N | 7, 12 | 1. Exercise: NZ Health Survey; <http://www.health.govt.nz/publication/content-guide-2015-16-new-zealand-health-survey>
2. Nutrition: NZ Adult Nutrition Survey 2008/09 <https://www.health.govt.nz/system/files/documents/publications/ans_questionnaire.pdf>
 |
| Waiora | Access to community/personal garden | N | N | 3 | Created for this study |
| Te oranga | Social determinants: Deprivation, economic wellbeing, food security | Y, Y, Y | Y, N, N | 8, 3, 8 | 1. NZiDEP: Salmond, C., Crampton, P., King, P., Waldegrave, C. (2007, update 2014). NZiDep: An index of socioeconomic deprivation for individuals
2. Economic wellbeing: Te Kupenga, Māori Social Survey: <http://www.stats.govt.nz/survey-participants/a-z-of-our-surveys/te-kupenga-2013-questionnaire.aspx>
3. Food Security: <https://www.health.govt.nz/system/files/documents/publications/ans_questionnaire.pdf>
 |
| Te oranga | Trust in others and institutions | Y | N | 7 | Te Kupenga, Māori Social Survey: <http://www.stats.govt.nz/survey-participants/a-z-of-our-surveys/te-kupenga-2013-questionnaire.aspx> |
| Demographics | Age, gender, ethnicity, address, income | Y | N | 5 | Created for this study |

**MEDICAL OUTCOMES**

Choose from list below that fit study

BMI, HbA1C, Blood pressure, waist circumference, cardio-vascular risk assessment, medications (prescribed vs. take), Rongoa, smoking, prescription of nicotine replacement therapy

**HEALTH SERVICE UTILISATION**

Reformatted from NZ Health Survey; <http://www.health.govt.nz/publication/content-guide-2015-16-new-zealand-health-survey>

|  |  |  |
| --- | --- | --- |
| Do you have a GP clinic or medical centre that you usually go to when you are feeling unwell, unless or are injured?  | **Yes** | **No** |
| In the past 12 months, have you seen a GP, or been visited by a GP, about your own health (physical or mental)? | **Yes** | **No** |
| In the past 12 months, was there a time when you had a medical problem but did not visit a GP because of cost? | **Yes** | **No** |
| In the past 12 months, was there a time when you had a medical problem but did not visit a GP because you had no transport to get there?  | **Yes** | **No** |
| In the past 12 months, was there a time when you got a prescription for yourself but did not collect one or more prescription items from the pharmacy or chemist because of cost? | **Yes** | **No** |
| In the last 12 months, have you yourself used a service at, or been admitted to, a public hospitalas a patient? This could have been for a physical or a mental health condition.  | **Yes** | **No** |
| In the past 12 months, how many times did you go to an after hours or A & E medical centre about your own health? |  |
| In the past 12 months, how many times did you go to an emergency department at a public hospital about your own health? |  |

**QUALITY OF LIFE: Medical Outcomes Study general health perceptions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| In general, how would you rate your health? | **Excellent** | **Very Good** | **Good** | **Fair** | **Poor** |
| I am somewhat ill. | **Definitely true** | **Mostly true** | **Not sure** | **Mostly false** | **Definitely false** |
| I am as health as anybody I know. | **Definitely true** | **Mostly true** | **Not sure** | **Mostly false** | **Definitely false** |
| My health is excellent. | **Definitely true** | **Mostly true** | **Not sure** | **Mostly false** | **Definitely false** |
| I have been feeling bad lately | **Definitely true** | **Mostly true** | **Not sure** | **Mostly false** | **Definitely false** |

Please note that an alternative version are the SF-12 and SF-36. SF-12 and SF-36 are available and either require a license from Optum (http://campaign.optum.com/optum-outcomes/what-we-do/health-surveys.html ) or can be used for free from RAND (https://www.rand.org/health/surveys\_tools/mos.html ) depending on the version used. Also, the MOS is available in a longer form with more dimensions (see reference above or the RAND website for more details).

**SPIRITUALITY**

1. How important is spirituality in your life? Very important, quite important, somewhat important, a little important, not at all important

2. How important is religion in your life? Very important, quite important, somewhat important, a little important, not at all important

3. How often do you attend religious worship services? At least once a week, at least once a fortnight, at least once a month, several times a year, at least once a year, less than once a year, never

An alternative measures, but not validated with Māori is Daaleman, T. P. & Frey, B. B. (2004). The Spirituality Index of Well-Being: A new instrument for health-related quality of life research. Annals of Family Medicine, 2, 499-503. 2 subscales—only life scheme is included (strongly agree to strongly disagree 1-5)

1. I haven’t found my life’s purpose yet.
2. I don’t’ know who I am, where I came from, or where I am going.
3. I have a lack of purpose in my life.
4. In this world, I don’t know where I fit in.
5. I am far from understanding the meaning of life.
6. There is a great void in my life at this time.

**SOCIAL SUPPORT**

Unger JB, McAvay G, Bruce ML, et al. Variation in the impact of social network characteristics on physical functioning in elderly persons: MacArthur Studies of Successful Aging. Journals of Gerontology Series B-Psychological Sciences & Social Sciences 1999;54(5):S245-51l Original is yes/no scale

1. When you need extra help, can you count on anyone to help with daily tasks like grocery shopping, cooking, house cleaning, telephoning, giving you a ride? (always, most of the time, sometimes, never, I don’t need help)

2. Could you have used more help with daily tasks than you received? (always, most of the time, sometimes, never)

3. Can you count on anyone to provide you with emotional support? (always, most of the time, sometimes, never, I don’t need emotional support)

4. Could you have used more emotional support than you received? (always, most of the time, sometimes, never)

Another option for social support:

2 subscales on social support and social undermining

Oetzel, J. G., Wilcox, B., Archiopoli, A., Avila, M., Hell, C., Hill, R., & Muhammad, M. (2014). Social support and social undermining as correlates of health-related quality of life in people living with HIV/AIDS. *Journal of Health Communication, 19,* 660-675.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **8. The following statements are about your relationships with your family and friends. Please circle the number under the answer that best matches your feeling about each statement.** | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| **a.** I can talk to my friends or relatives about my worries. | 1 | 2 | 3 | 4 | 5 |
| **b.** Most people who are important to me know that I’m  diabetic/pre-diabetic. | 1 | 2 | 3 | 4 | 5 |
| **c.** My friends or relatives often let me down when I’m counting on them. | 1 | 2 | 3 | 4 | 5 |
| **d.** My friends or relatives understand the way I feel about things. | 1 | 2 | 3 | 4 | 5 |
| **e.** There is someone I know who would lend me a car or drive me. | 1 | 2 | 3 | 4 | 5 |
| **f.** My friends or relatives often get on my nerves. | 1 | 2 | 3 | 4 | 5 |
| **g.** I can relax and be myself around my friends or relatives. | 1 | 2 | 3 | 4 | 5 |
| **h.** My friends or relatives argue with me often. | 1 | 2 | 3 | 4 | 5 |
| **i.** My friends or relatives drink or use drugs too much. | 1 | 2 | 3 | 4 | 5 |
| **j.** My friends or relatives really appreciate me.  | 1 | 2 | 3 | 4 | 5 |
| **k.** My friends or relatives make too many demands on me. | 1 | 2 | 3 | 4 | 5 |
| **l.** There’s someone I know who would lend me money if I needed it in an emergency. | 1 | 2 | 3 | 4 | 5 |
| **m.** I feel isolated from others. | 1 | 2 | 3 | 4 | 5 |
| **n.** There’s someone I know who will attend social activities with me. | 1 | 2 | 3 | 4 | 5 |
| **o.** My friends or relatives criticize me often. | 1 | 2 | 3 | 4 | 5 |
| **p.** I often avoid family gatherings. | 1 | 2 | 3 | 4 | 5 |
| **q.** My friends or relatives really care about me. | 1 | 2 | 3 | 4 | 5 |
| **r.** When I do go to family gatherings, I’m likely to leave early. | 1 | 2 | 3 | 4 | 5 |
| **s.** There’s someone I know whom I could count on to check in on me regularly. | 1 | 2 | 3 | 4 | 5 |
| **t.** I can rely on my friends or relatives for help if I have  a serious problem. | 1 | 2 | 3 | 4 | 5 |

**CULTURAL CONNECTION**

Dyall L, Kerse N, Hayman K, Keeling S. Pinnacle of Life- Māori living to Advanced Age. New Zealand Medical Journal 2011;124(1331):75-86; Dyall, L., Kēpa, M., Teh, R., Mules, R., Moyes, S., Wham, C., et al. (2014). Cultural and social factors and quality of life of Māori in advanced age. Te puawaitanga o nga tapuwae kia ora tonu—Life and living in advanced age: a cohort study in New Zealand (LiLACS NZ). *NZ Medical Journal, 127,* 62-79).

1. Do you live in the same area as your hapu /extended family / where you come from? (yes, no)
2. How important is your hapu to your wellbeing? (not at all, a little, moderately, very, extremely)
3. How important is your iwi to your wellbeing? (not at all, a little, moderately, very, extremely)
4. How well do you understand your tikanga? (not at all, a little, moderately, completely)
5. How much has colonisation affected the way you live your life today? (not at all, a little, moderately, very, extremely)
6. Do you have a specific role in a) your family/whanau/hapu, b) your local community/neighbourhood, c) your tribal/marae activities and d) other Maori organisations in wider society? (yes, no)
7. How satisfied are you with the role(s)? (not at all, a little, moderately, very, extremely)
8. How important is your family/whanau to wellbeing? (not at all, a little, moderately, very, extremely)

Cultural questions drawn from the te hoa nuku roa scale (Stevenson B, To He Nuku Roa. Te Hoe Nuku Roa: a measure of Maori cultural identity. Palmerston North: Te Pitahi a Toi, School of Maori studies, Massey University, 1996.)

1. How often over the last 12 months have you been to a Marae? (< yearly, once, a few times, more than once a month)
2. In general, would you say that your contacts are with: mainly Māori, some Maori few Māori, no Māori?
3. Could you have a conversation about a lot of everyday things in Māori? (yes, no)
4. Where do you speak Māori/other language? – response menus including; On the marae, in my community, at home, in meetings or at work, other.

**HEALTHY LIFESTYLE**

***Exercise*** (NZ Health Survey; <http://www.health.govt.nz/publication/content-guide-2015-16-new-zealand-health-survey> )

During the last 7 days, on how many days did you walk at a brisk pace– a brisk pace is a pace at which you are breathing harder than normal? This includes walking at work, walking to travel from place to place, and any other walking that you did solely for recreation, sport, exercise or leisure.

Think only about walking done for at least 10 minutes at a time.

 \_\_\_\_\_ days per week (range 0-7) [if A3.06=0 go to moderate activity A3.08]

.K Don’t know [go to A3.08]

.R Refused [go to A3.08]

A3.07 How much time did you typically spend walking at a brisk pace on eachof those days?

*\_\_\_\_\_* hours (range 0-24) *\_\_\_\_\_* minutes (0-60)

.K Don’t know

.R Refused

A3.08 During the last 7 days, on how many days did you do moderate physical activities? ‘Moderate’ activities make you breathe harder than normal, but only a little – like carrying light loads, bicycling at a regular pace, or other activities like those on Showcard page XX. Do not include walking of any kind. Think only about those physical activities done for at least 10 minutes at a time.

 \_\_\_\_\_ days per week (range 0-7) [if A3.08=0 go to vigorous activity A3.10]

.K Don’t know [go to A3.10]

.R Refused [go to A3.10]

A3.09 How much time did you typically spend on each of those days doing moderate physical activities?

\_\_\_\_\_ hours (range 0-24) \_\_\_\_\_ minutes (0-60)

.K Don’t know

.R Refused

A3.10 During the last 7 days, on how many days did you do vigorous physical activities? ‘Vigorous’ activities make you breathe a lot harder than normal (‘huff and puff’) – like heavy lifting, digging, aerobics, fast bicycling, or other activities like those shown on Showcard page XX. Think only about those physical activities done for at least 10 minutes at a time.

 \_\_\_\_\_ days per week (range 0-7) [if A3.10=0 go to all activities A3.12]

.K Don’t know [go to A3.12]

.R Refused [go to A3.12]

A3.11 How much time did you typically spend on each of those days doing vigorous physical activities?

\_\_\_\_\_ hours (range 0-24) \_\_\_\_\_ minutes (0-60)

.K Don’t know

.R Refused

A3.12 Thinking about all your activities over the last 7 days (including brisk walking), on how many days did you engage in:

* + - * + at least 30 minutes of moderate activity (including brisk walking) that made you breathe a little harder than normal, OR
				+ at least 15 minutes of vigorous activity that made you breathe a lot harder than normal (‘huff and puff’)?

 \_\_\_\_\_ days per week (range 0-7)

.K Don’t know

.R Refused

***Nutrition***

Dietary questions (C1) : <https://www.health.govt.nz/system/files/documents/publications/ans_questionnaire.pdf>;

Note: The survey is very long and only select items are included. You can focus on certain items to include in the survey

c.07 How often do you remove excess fat from meat (before eating it)?

a. never

b. rarely

c. sometimes

d. regularly

e. always

f. don’t know

c.08 How often do you remove the skin from chicken (before eating it)?

a. never

b. rarely

c. sometimes

d. regularly

e. always

f. don’t know

c.09 How often do you eat processed meat products? Processed meat includes ham, bacon, sausages, luncheon, canned corned beef, pastrami, and salami?

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.10 How often do you eat fresh or frozen fish or shellfish? Do not include battered/friend or canned fish or shellfish?

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.11. How often do you eat battered or fried foods (e.g., fish and chips)?

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.13 On average, how many servings of fruit do you eat per day? Please include all fresh, frozen, canned and stewed fruit. Do not include fruit juice or dried fruit. A ‘serving’ = 1 medium piece or 2 small pieces of fruit or ½ cup of stewed fruit. For example, 1 apple + 2 small apricots = 2 servings.

1 I don’t eat fruit

2 Less than 1 per day

3 1 serving per day

4 2 servings per day

5 3 servings per day

6 4 or more servings per day

.K Don’t know

c.14 On average, how many servings of vegetables do you eat per day? Please include all fresh, frozen and canned vegetables. Do not include vegetable juices. A ‘serving’ = 1 medium potato/kumara or ½ cup cooked vegetables or 1 cup of salad vegetables. For example, 2 medium potatoes + ½ cup of peas = 3 servings.

1 I don’t eat vegetables

2 Less than 1 per day

3 1 serving per day

4 2 servings per day

5 3 servings per day

6 4 or more servings per day

.K Don’t know

c.22 How often do you eat fast food or takeaways from places like McDonalds,etc. Think about breakfast, lunch, dinner and snacks. Do you include times when you have only purchased a drink/beverage.

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.23 How often do you drink fruit juices and drinks. Do not include diet or diabetic varieties.

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.24 How often do you drink soft drinks or energy drinks? Do not include diet varieties.

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

c.25. How often do you eat lollies, sweets, chocolate, and confectionary?

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

(item created by the research team)

How often do you check the food labels for nutritional information?

1. Never
2. Less than once per week
3. 1-2 times per week
4. 3-4 times per week
5. 5-6 times per week
6. 7 or more times per week
7. Don’t know

**PHYSICAL ENVIRONMENT**

1. Do you have access to fresh fruits and vegetables? If yes, where?
	1. Community garden
	2. Your own garden
	3. Collected in the forest or other public spaces
	4. Grocery store
	5. Other
2. What percentage of fruit and vegetables do you grow or collect on your own?
3. Rate the quality of the neighbourhood you live in: Poor Fair Good Very good Excellent

**SOCIAL DETERMINANTS**

***Address and then identify deprivation index per NZDep or IMD***

***NZiDep*** Salmond, C., Crampton, P., King, P., Waldegrave, C. (2007, update 2014). NZiDep: An index of socioeconomic deprivation for individuals.

The following few questions are designed to identify people who have had special financial needs in the last 12 months. Although these questions may not apply directly to you, for completeness we need to ask them of everyone. (Yes/No)

1. In the last 12 months have you personally been forced to buy cheaper food so that you could pay for other things you needed.
2. (If you are not 65 or older, full-time caregivers or full-time homemakers) In the last 12 months have you been out of paid work at any time for more than one month?
3. In the 12 months ending today did you yourself receive payments from any of these three benefits: Jobseeker support, sole parent support, or supported living payment?
4. In the last 12 months have you personally put up with feeling cold to save heating costs.
5. In the last 12 months have you personally made use of special food grants or food banks because you did not have enough money for food?
6. In the last 12 months have you personally continued wearing shoes with holes because you could not afford replacements?
7. In the last 12 months have you personally gone without fresh fruit and vegetables often so that you could pay for other things you needed?
8. In the last 12 months have you personally received help in the form of clothes or money from a community organisation (like the Salvation Army)?

From Te Kupenga <http://www.stats.govt.nz/survey-participants/a-z-of-our-surveys/te-kupenga-2013-questionnaire.aspx>

1. I would like you to think about how well your total household income meets your everyday needs for such things as housing, food, clothing, medicine, and other necessities. Would you say you have not enough money, only just enough money, enough, more than enough money?
2. In the last 12 months, have you not paid electric, water bill on time because of a shortage of money? (not at all, once, more than once)
3. Imagine that you come across an item in a shop you’d really like to have. It costs $300. It is not an essential item for housing, food, clothing or other necessities. It’s an extra. If this happened in the next month, how limited would you be in buying this item? (not at all limited, a little limited, quite limited, very limited, couldn’t buy it)Income and do they get all benefits entitled to; measure??

***Food Security*** (C3): <https://www.health.govt.nz/system/files/documents/publications/ans_questionnaire.pdf>

I now want to ask you some questions about particular foods you choose, and the buying of food or gifting of food. We are interested in whether you feel you always have sufficient resources to have the food you need for yourself and the people you live with. We are not concerned with your budget, or how you spend money, but we are more interested in finding out about how people get the food that they need for their household to eat and share.

CFS1.01 First of all, we know that some people can’t afford to eat properly and we are interested in whether you think your household has enough money to eat properly. It’s what you think eating properly is – not what I think or anyone else thinks.

We can afford to eat properly.

1 Always

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.02 We are interested in whether you run out of basics, like bread, potatoes, etc because you do not have enough money. We are NOT referring to treats or special foods.

 Food runs out in our household due to lack of money. How often has this been true for your household over the past year?

 1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.03 Now we are interested in whether a lack of money leads you to sometimes have smaller meals than you would like or whether a lack of money means there isn’t enough food for seconds or you sometimes skip meals?

 We eat less because of lack of money. How often has this been true for your household over the past year?

 1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.04 Now we are going to talk about the variety of foods you eat. By variety, we mean the number of different kinds of food you have.

 The variety of foods we are able to eat is limited by a lack of money. How often has this been true for your household over the past year?

1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.05 Some people rely on support and assistance from others for supplying their regular food and we are interested in finding out how many people fall into this group.

 We rely on others to provide food and/or money for food, for our household, when we don’t have enough money. How often has this been true for your household over the past year?

1 Often

2 Sometimes

3 Never

.K Don’t know

CFS1.06 Also, some people have to rely on other sources of help such as food grants or food banks.

 We make use of special food grants or food banks when we do not have enough money for food. How often has this been true for your household over the past year?

1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.07 We know that some people get quite stressed and worried about providing enough food even though they don’t actually go without food.

 I feel stressed because of not having enough money for food. How often has this been true for your household over the past year?

1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

CFS1.08 We recognise that for some people food and sharing with others is important, to the point that they don’t have enough food for themselves. In this question we are only interested in social situations that are gatherings within, or outside, the household. As a result people may find themselves stressed/whakamā (embarrassed) about their koha (gift) when providing food for others.

 I feel stressed because I can’t provide the food I want for social occasions. How often has this been true for your household over the past year?

1 Often

2 Sometimes

3 Never

.K Don’t know

.R Refused

**TRUST IN OTHERS AND INSTITUTIONS**

Where zero is people can never be trusted and ten is people can always be trusted, how much of the time do you think most people in New Zealand can be trusted?

Where zero is the public institution can never be trusted, and ten is the public institution can always be trusted, how much do you trust\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to treat people fairly?

1. Health system
2. Education system
3. System of government
4. Police
5. Courts
6. Media

**DEMOGRAPHICS**

Age, gender, ethnicity, address, income

**Table 2: Outcome Measures for Clinicians**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Te oranga, Waiora | Health system | Y | N | 5 |  |
| Ngā manukura | Community Leadership | N | N | 10 | Oetzel, J. G., Zhou, C., Duran, B., Pearson, C., Magarati, M., Lucero, J., Wallerstein, N., & Villegas, M. (2015). Establishing the psychometric properties of constructs in a community-based participatory research conceptual model. *American Journal of Health Promotion*, *29,* e188-e202. |

**HEALTH SYSTEM DATA**

Data collected from the clinic: Number of enrolments, number of pre-diabetes/diabetes patients, % of patients screened with referrals to programme/pharmacology, % of patients completing the programme/pharmacology, patient monitoring of HbA1C/renal disease, patient admissions for diabetes conditions, whether patient progress is monitored for different ethnic groups (i.e., gaps in best practice treatment along)

**COMMUNITY LEADERSHIP**

How much did your project have leadership in the following areas: 1 (strongly disagree)-5(strongly agree)

1. Taking responsibility for moving the project forward
2. Encouraging active participation of academic and community partners in the decision-making
3. Communicating the goals of the project
4. Working to develop a common language
5. Fostering respect between partners
6. Creating an environment where differences of opinion can be voiced
7. Resolving conflict among partners
8. Helping the partners be creative and look at things differently
9. Recruiting diverse people and organizations into the project
10. Providing orientation to new partners as they join the project

**Table 3. Outcome Measures for Researchers**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Te oranga, Waiora | Health equity assessment tool (HEAT) | Y | N | 10 | Signal, L., Martin, J., Cram, F., and Robson, B. *The Health Equity Assessment Tool: A user’s guide.* |
| Waiora | Community health environmental scan survey (CHESS) | N | N | 51 | Wong, F., Stevens, D., O’Connor-Duffany, Siegal, K., & Gao, Y. (2011). Community health environment scan survey (CHESS): A novel tool that captures the impact of the built environment on lifestyle factors. Global Health Action, 4: 5276. |
| Ngā manukura | Distal community outcomes | N | N | 5 | Oetzel, J. G., Zhou, C., Duran, B., Pearson, C., Magarati, M., Lucero, J., Wallerstein, N., & Villegas, M. (2015). Establishing the psychometric properties of constructs in a community-based participatory research conceptual model. *American Journal of Health Promotion*, *29,* e188-e202. |

**HEALTH EQUITY ASSESSMENT TOOL**

1. What inequalities exist in relation to the health issues under consideration?
2. Who is most advantaged and how?
3. How did the inequalities occur? What are the mechanisms by which the inequalities were created, maintained or increased?
4. Where/how will you intervene to tackle this issue?
5. How will you improve Māori health outcome and reduce health inequalities experienced by Maori?
6. How could this intervention affect health inequalities?
7. Who will benefit most?
8. What might the unintended consequences be?
9. What will you do to make sure the intervention does reduce inequalities?
10. How will you know if inequalities have been reduced?

**CHESS: COMMUNITY HEALTH ENVIRONMENTAL SCAN SURVEY**

For full scale see: Wong, F., Stevens, D., O’Connor-Duffany, Siegal, K., & Gao, Y. (2011). Community health environment scan survey (CHESS): A novel tool that captures the impact of the built environment on lifestyle factors. Global Health Action, 4: 5276.

Summary of key areas of assessment and questions:

1. Store assessment: What kind of store is this? What does this store mostly sell? Does this store sell fresh fruit and/or vegetables? Does this store sell tobacco products? Is there a “no sale to minor” sign? Are there healthy food options at the register?
2. Restaurant scan: The food service is…..; Are there any smoke-free or no-smoking signs visible? Are there any people smoking inside? Is there nutritional information posted on the menu/menu board?
3. Street vendors: Number of other street vendors in view; What foods are available at this stall?
4. Recreational facilities: Type of facility; hours of operation, Is the facility in use? Is the facility less than .5km from public transportation? Is there a food vendor on premises? What foods are available at this vendor? Does it have indoor facilities? Is this open to the public year round? Is this facility free to the public? What type of facilities are available? Is the facility designated as smoke-free? Is part of the facility smoke free with restricted smoking areas indoors? Are there any smoke-free or no-smoking signs visible? Are there any people smoking inside? If there are people smoking, are they in the restricted area?
5. Parks/gardens: Type of facility; Hours/days of operation; Is the park/garden in use? Is the facility less than .5km from public transportation? Does the park have exercise equipment for public to use that is free? Does the park have space or grassy area large enough for physical activity? Is there a food vendor on premises? What foods are available at this vendor?
6. Vending machines: Where is the vending machine located? Which options are available in this vending machine? Are healthy options identified as healthy?
7. Information environment: What do you see? For which risk factors? Is the message positive or negative? What kind of message/advertisement/point of decision prompt/regulation? Is a brand mentioned?
8. Streets: Cycle path/trail, bike lanes, Side walk, Safety, Lack of pollution, Trees along sidewalk, Neighbourhood is generally free from litter

**DISTAL COMMUNITY OUTCOMES**

***Community Transformation***

How much did your project: 1 (strongly disagree)-5(strongly agree)

1. Result in policy or practice changes
2. Improve the overall health status of individuals in the community
3. Result in acquisition of additional financial support
4. Improve the overall environment in the community

***Community health improvement***

1. Overall, how much did or will your research project (insert name) improve the health of the community? 1 (not at all)- 5 (a lot)

**Table 4. Implementation Measures for Patients/Community Members**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Toiora | Perception of innovation adoption | N | N | 13 | Created for this study although influenced from Pankratz, MD, Hallfors, D, & Cho H. (2002). Measuring the perceptions of innovation adoption: The diffusion of a federal drug prevention policy. Health Education Research, 17, 3, 315-326. Alternative option is a 30-item scale: Atkinson, NL. (2007). Developing a questionnaire to measure perceived attributes of eHealth innovations. American Journal of Health Behavior, 31, 612-621. |
| Te mana whakahaere | Readiness to change: Change commitment, change efficacy and change valence | N | N | 14 | Shea, C. M., Jacobs, S. R., Esserman, D. A., Bruce, K., & Weiner, B. J. (2014). Organizational readiness for implementing change: a psychometric assessment of a new measure. Implement Sci, 9(7), 1-15. |

**PERCEPTION OF INNOVATION ADOPTION**

* Relative advantage—the degree to which an innovation is perceived as better than the idea it supersedes. The higher the perceived relative advantage, the more likely the innovation will be adopted.
	1. The whānau-based lifestyle intervention programme is better than a diet.
	2. The whānau-based lifestyle intervention programme is more effective for making healthy lifestyle choices than other programmes I’ve used in the past. (or if you haven’t done anything else, better than nothing)
	3. The whānau-based lifestyle intervention programme has benefits compared to what we have been currently been doing.
* Compatibility—the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters. If the innovation is perceived as an extreme change, then it will not be compatible with past experiences and is less likely to be adopted.
	1. The whānau-based lifestyle intervention programme is consistent with my personal beliefs and values.
	2. The whānau-based lifestyle intervention programme is useful.
	3. The whānau-based lifestyle intervention programme is credible.
* Complexity—the degree to which an innovation is perceived as relatively difficult to understand and use. Innovations that are perceived as complex are less likely to be adopted.
	1. The whānau-based lifestyle intervention programme is easy to use.
	2. The whānau-based lifestyle intervention programme is clear.
	3. The whānau-based lifestyle intervention programme content is relevant.
* Observability—the degree to which the results of an innovation are visible to others. If the observed effects are perceived to be small or non-existent, then the likelihood of adoption is reduced.
	1. The whānau-based lifestyle intervention programme has benefits that are obvious.
	2. The evidence of the whānau-based lifestyle intervention programme is readily available.
* Trialability—the degree to which an innovation may be experimented with on a limited basis. This may include trying out parts of a program or having the opportunity to watch others using a new program. Trialability is positively related to the likelihood of adoption.
	1. The whānau-based lifestyle intervention programme can be tried out without requiring extensive involvement.
	2. The whānau-based lifestyle intervention programme can be adapted or modified to suit my needs.

**READINESS TO CHANGE**

(Strongly agree to strongly disagree)

***Change Commitment***

1. We are committed to implementing this change.

2. We are determined to implement this change.

3. We are motivated to implement this change.

4. We will do whatever it takes to implement this change.

5. We want to implement this change.

***Change Efficacy***

1. We can manage the politics of implementing this change.

2. We can support people as they adjust to this change.

3. We can coordinate tasks so that implementation goes smoothly.

4. We can handle the challenges that might arise in implementing this change.

5. We can keep track of progress in implementing this change.

***Change Valence***

1. We feel this change is compatible with our values.

2. We believe this change will benefit our community.

3. We believe this change will make things better.

4. We feel that implementing this change is a good idea.

**Table 5: Implementation Measures for Clinicians**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Toiora; Te mana whakahaere | Causal Factors of Implementation | N | N | 27 | Peters, M. A. J., Harmsen, M., Laurant, M. G. H., & Wensing, M. *Ruimte voor verandering? Knelpunten en mogelijkheden voor verandering in de patiëntenzorg* [Room for improvement? Barriers to and facilitators for improvement of patient care]. Nijmegen: Centre for Quality of Care Research (WOK), Radboud University Nijmegen Medical Centre, 2002. |
| Te mana whakahaere | Readiness to change: Change commitment, change efficacy and change valence | N | N | 14 | Shea, C. M., Jacobs, S. R., Esserman, D. A., Bruce, K., & Weiner, B. J. (2014). Organizational readiness for implementing change: a psychometric assessment of a new measure. Implement Sci, 9(7), 1-15. |
| Ngā manukura | Organisational Support | N | N | 14 | Duckers, MLA, Wagner, C., & Groenewegen, PP (2008). Developing and testing an instrument to measure the presence of conditions for successful implementation of quality improvement collaboratives. BMC Health Services Research, 8, 172. |
| Toiora | Perception of innovation adoption | N | N | 13 | Created for this study although influenced from Pankratz, MD, Hallfors, D, & Cho H. (2002). Measuring the perceptions of innovation adoption: The diffusion of a federal drug prevention policy. Health Education Research, 17, 3, 315-326. Alternative option is a 30-item scale: Atkinson, NL. (2007). Developing a questionnaire to measure perceived attributes of eHealth innovations. American Journal of Health Behavior, 31, 612-621. |

**CAUSAL FACTOR OF IMPLEMENTATION**

(Strongly agree to strongly disagree)

*Innovation*

1. This innovation leaves enough room for me to make my own conclusions
2. This innovation leaves enough room to weigh the wishes of the patient
3. This innovation is a good starting point for my self-study
4. Working to the innovation is too time consuming
5. The innovation does not fit into my ways of working at my practice.
6. The lay-out of this innovation makes it handy to use.

*Provider*

1. I did not thoroughly read nor remember the innovation.
2. I wish to know more about the innovation before I decide to apply it.
3. I have problems changing my old routines.
4. I think parts of the innovation are incorrect.
5. I have a general resistance to working according to protocols.
6. Fellow doctors do not cooperate in applying the innovation.
7. Other doctors or assistants do not cooperate in applying the innovation.
8. Managers/directors do not cooperate in applying the innovation.
9. It is difficult to give preventive care because I am not trained in giving preventive care.
10. It is difficult to give preventive care because I have not been involved in setting up the preventive care.

*Patient*

1. Patients do not cooperate in applying the innovation.
2. It is difficult to give preventive care to patients with a different cultural background.
3. It is difficult to give preventive care to patients who seem healthy.
4. It is difficult to give preventive care to patients with low socio-economic status.
5. It is difficult to give preventive care to older patients (60+)
6. It is difficult to give preventive care to patients who rarely visit the practice.

*Organizational/Structural*

1. Working according to this innovation requires financial compensation.
2. It is difficult to give preventive care if there is not enough supportive staff.
3. It is difficult to give preventive care if the instruments needed are not available.
4. It is difficult to give preventive care because the timing of the preventive care is awkward.
5. It is difficult to give preventive care if the physical space is lacking.

**READINESS TO CHANGE**

(Strongly agree to strongly disagree)

***Change Commitment***

1. We are committed to implementing this change.

2. We are determined to implement this change.

3. We are motivated to implement this change.

4. We will do whatever it takes to implement this change.

5. We want to implement this change.

***Change Efficacy***

1. We can manage the politics of implementing this change.

2. We can support people as they adjust to this change.

3. We can coordinate tasks so that implementation goes smoothly.

4. We can handle the challenges that might arise in implementing this change.

5. We can keep track of progress in implementing this change.

***Change Valence***

1. We feel this change is compatible with our values.

2. We believe this change will benefit our community.

3. We believe this change will make things better.

4. We feel that implementing this change is a good idea.

**ORGANISATIONAL SUPPORT SCALE**

(strongly agree to strongly disagree)

*Organisational Support*

1. In the department where the project is implemented, we see that the project is important to the strategic management.
2. In the department where the project is implemented, we see that the strategic management support the project actively.
3. The hospital gives the support we need in the department to make the project a success.
4. The hospital does everything in its power to increase willingness to change.
5. The board pays attention to the activities of the project team.

*Team organisation*

1. There is good communication in the project team
2. The division of tasks is perfectly clear in the project team
3. Everyone is doing what he or she should do in the project team.
4. The project team is responsible for progress of the project.
5. The project team is in charge of project implementation.

*External Change support*

1. At collaborative meetings, I always gain valuable insights.
2. External change agents provide sufficient support and instruments.
3. External change agents raised high expectations about performance and improvement potential.
4. External change agents made clear from the beginning what the goal of the project is and the best way to achieve it.

**PERCEPTION OF INNOVATION ADOPTION**

See Table 4 for specific items

**Table 6: Implementation Measures for Researchers**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Construct** | **Scales** | **Validated with Māori** | **Normed** | **Number of Items** | **Source** |
| Ngā manukura | RE-AIM (reach, effectiveness, adoption, implementation, maintenance)  | N | N | 14 | [***http://www.re-aim.hnfe.vt.edu/resources\_and\_tools/measures/index.html***](http://www.re-aim.hnfe.vt.edu/resources_and_tools/measures/index.html) |
| Ngā manukura | Adoption | N | N | 4 | Li, R et al. (2004). Organizational factors affecting the adoption of diabetes care management processes in physician organizations. Diabetes Care, 27, 2312-. |
| Ngā manukura | Cost | N | N | 10 | Drummond, MF, O’Brien, B, Stoddard, GL, Torrance, GW. (1997) Methods for the economic evaluation of health care programmes. Oxford: Oxford University Press. P. 305. |
| Ngā manukura | Fidelity | N | N | 47 | Monroe-DeVita, M. et al (2011). The TMACT : A new tool for measuring fidelity to assertive community treatment. Journal of American Psychiatric Nurses Association, 17, 17-29. |

**RE-AIM**

***There is a check list to guide this evaluation from the source.***

1. Reach (Individual Level): What percent of potentially eligible participants a) were excluded, b) took part and c) how representative were they?
2. Efficacy or Effectiveness (Individual Level) What impact did the intervention have on a) all participants who began the program; b) on process intermediate, and primary outcomes; and c) on both positive and negative (unintended), outcomes including quality of life?
3. Adoption (Setting Level) What percent of settings and intervention agents within these settings (e.g., schools/educators, medical offices/physicians) a) were excluded, b) participated and c) how representative were they?
4. Implementation (Setting/agent Level) To what extent were the various intervention components delivered as intended (in the protocol), especially when conducted by different (nonresearch) staff members in applied settings?
5. Maintenance (Individual Level) What were the long-term effects (minimum of 6-12 months following intervention)? b) What was the attrition rate; were drop-outs representative; and how did attrition impact conclusions about effectiveness? Maintenance (Setting Level) a) To what extent were different intervention components continued or institutionalized? b) How was the original program modified?

**ADOPTION**

Created an index of the number of different element adopted by the organization (out of 4): clinical practice guidelines, case management, physician feedback, diabetic patient registries

**COST**

10-item checklist on cost effectiveness

**FIDELITY**

47 item scale/checklist to what extent they follow the intervention guidelines. Needs to be tailored for specific study.

1. Durie, M. (1998). *Whaiora: Māori health development*. Auckland, NZ: Oxford University Press. [↑](#footnote-ref-1)
2. Durie, M. (1999, December). Te Pae Mahutonga: a model for Mäori health promotion. *Health Promotion Forum of New Zealand Newsletter* 49, 2-5. [↑](#footnote-ref-2)