

Content Guide

2016/17

New Zealand Health Survey



New Zealand Health Survey

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Introduction

This guide describes the content of the New Zealand Health Survey (NZHS) for the period 1 July 2016 to 30 June 2017. It also briefly outlines the history of the NZHS and its development into a continuous survey, describes the process for developing the adult and child questionnaires for 2016/17 and provides an overview of each section of the survey. The questionnaires are available with this report on the Ministry of Health's (the Ministry's) website: www.health.govt.nz

Background

The NZHS was first undertaken in 1992/93, with further surveys taking place in 1996/97, 2002/03 and 2006/07. The Ministry's wider health survey programme included surveys on adult and child nutrition; tobacco, alcohol and drug use; mental health; and oral health. From 2011, the Ministry integrated the NZHS and these other surveys from its wider survey programme into a single survey, which is now in continuous operation. The rationale for this change is detailed in *The New Zealand Health Survey: Objectives and topic areas* (Ministry of Health 2010).

As a signatory to the *Protocols of Official Statistics* (Statistics New Zealand 1998), the Ministry employs best-practice survey techniques to extract high-quality information from the NZHS. Where possible, the Ministry uses standard frameworks and classifications so that data from the NZHS can be integrated with data from other sources.

Survey design and methodology

The target population for the survey is New Zealand's usually resident population of all ages and including those living in non-private accommodation. The NZHS sample is selected using a stratified, multi-stage area design. Most of the survey questionnaire is conducted through face-to-face interviews, using computer-assisted personal interviewing (CAPI) software. Some parts of the survey are self-completed by respondents, because of the potentially sensitive nature of the questions. Respondents are adults aged 15 years and older, as well as children aged 0–14 years, who are interviewed through their parent or legal guardian acting as a proxy respondent. The NZHS sample design and methodology will be published online alongside this report, on the Ministry's website: www.health.govt.nz

Goal and objectives

Goal

The goal of the NZHS is to support the formulation and evaluation of health policy by providing timely, reliable and relevant health information that cannot be collected more efficiently from other sources. The information covers population health, health risk and protective factors, as well as health service utilisation.

Objectives

To achieve this goal, 13 high-level objectives have been identified for the NZHS. These are to:

1. monitor the physical and mental health of New Zealanders and the prevalence of selected long-term health conditions
2. monitor the prevalence of risk and protective factors associated with these long-term health conditions
3. monitor the use of health services, and patient experience with these services, including access to the services
4. monitor trends in health-related characteristics, including health status, risk and protective factors, and health service utilisation
5. monitor health status and health-related factors that influence social wellbeing outcomes
6. examine differences between population groups, as defined by age, sex, ethnicity and socioeconomic position
7. provide a means for collecting data quickly and efficiently in order to address emerging issues related to the health of the population
8. enable follow-up surveys of at-risk populations or patient groups identified from the NZHS as necessary to address specific information needs
9. measure key health outcomes before and after a policy change or intervention
10. facilitate links to routine administrative data collections to create new health statistics and address wider information needs
11. provide data for researchers and health statistics for the general public
12. allow New Zealand data to be compared with international health statistics
13. evaluate methods and tools to improve the survey's quality, including implementing objective tests to capture information that is not accessible under the self-report process, such as measuring blood pressure.

Information domains

To meet the high-level objectives of the NZHS, particularly the first six listed above, detailed information is collected across nine information areas or domains. These nine domains are:

1. health status
2. long-term health conditions
3. behaviours and risk factors (including tobacco, alcohol and drug use)
4. nutrition
5. mental health
6. oral health
7. health service utilisation
8. patient experience
9. sociodemographics.

There is crossover between some domains. For example, aspects of mental health and oral health are included within the long-term health conditions domain, and nutrition is included within the behaviours and risk factors domain.

Questionnaire components

The NZHS includes a set of questions drawn from each of the nine information domains. These 'core' questions remain the same each year. They make up about half of the survey questions. The NZHS also includes questions that examine a topic in more depth. These 'module' questions change each year and make up the other half of the survey questions.

Because of its size and importance, the behaviours and risk factors domain has been split into a number of modules, including physical activity, tobacco use, alcohol consumption, drug use, problem gambling and sexual and reproductive health. Some modules may run concurrently (eg, tobacco, drugs and alcohol use ran together in the 2012/13 survey).

The continuous nature of the survey also makes it possible to incorporate shorter (one- to three-minute) 'clip-on' modules. These clip-on modules may address an urgent emerging issue or an important topic where policy development or monitoring requires additional information that can be obtained through a small number of questions.

Process for developing the New Zealand Health Survey

The Ministry's Health and Disability Intelligence Group developed the adult and child questionnaires for the NZHS in consultation with key internal stakeholders (eg, policy groups) and external stakeholders (eg, technical experts and data users).

Core component

The NZHS aims to maintain continuity with previous surveys so that time trends can be analysed. To facilitate this approach, the 2006/07 NZHS was used as a 'question bank'; that is, where possible, the wording of the core questions, response options, show-cards and interviewer prompts from the 2006/07 NZHS has been retained in subsequent surveys.

Topics for inclusion in the core component of the NZHS were based on those outlined in *The New Zealand Health Survey: Objectives and topic areas* (Ministry of Health 2010). The following four criteria were used to determine the topics that would be included each year as core components.

- Impact – the topic has a large impact on health, health policy or health care costs.
- Measurability – the topic lends itself to robust measurement, including high reliability and validity and responsiveness to change.
- Disaggregation – the data that can be collected on the topic can be analysed by social group or region.
- International comparability – the topic lends itself to meaningful international benchmarking.

Priority was given to questions that related to key indicators or outputs and could be used to monitor important health-related time trends. Results on an indicator or output that were included in *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey* (Ministry of Health 2008) were considered to be important.

Most of the questions selected for the core component of the survey were from the 2006/07 NZHS. The 2006/07 NZHS included a number of questions from validated instruments, such as the Medical Outcomes Study Short Form (SF-36) and the Alcohol Use Disorders Identification Test (AUDIT). For the NZHS core, the SF-36 was replaced by the SF-12, to minimise interview time. Most other questions selected for the NZHS core occurred in at least one previous survey (1992/93, 1996/97 and/or 2002/03).

The need to sustain time series makes it more difficult to update and improve core questions and to add new core questions. Where needed, questions will generally be improved when a topic area covered by a core question is reviewed in depth during the development of a related module.

The core component of the NZHS includes measuring height and weight in respondents aged two years and older, waist circumference in respondents aged five years and older and blood pressure in respondents aged 15 years and older.

Module components

The module topics in the 2016/17 NZHS were:

- mental health and substance use, for adults
- behavioural and developmental problems, for children
- a clip-on module about rheumatic fever, for children and adults under 25 years
- a clip-on module about racial discrimination, for adults.

Details of question development are explained in ‘Content of the New Zealand Health Survey’ below.

Cognitive testing

Cognitive testing helps ensure questions are understood as intended and that response options are appropriate. The cognitive testing process includes:

- comprehension – how does the respondent understand the question?
- recall – what knowledge or memory does the respondent select that is relevant to the subject matter?
- judgement and selection – how does the respondent judge what they remember and formulate a response?

Initially new or changed questions are cognitively tested with colleagues as respondents. Then a smaller number of questions are prioritised for cognitive testing with relevant populations (demographic variety, extreme cases, etc). CBG Health Research Limited, an Auckland-based independent public health research provider, carries out this second stage of cognitive testing.

Researchers investigate whether the questions are working as intended and whether the respondents have access to all the information needed to answer the questions accurately.

Respondents in cognitive testing are invited to comment on:

- question flow/sequencing
- level of engagement/satisfaction with the questions
- problems/issues with the questionnaire.

For the 2016/17 NZHS, the questions that were cognitively tested were administered using computer-assisted self-interviewing (CASI) software. The respondents also took part in face-to-face cognitive interviews with researchers. They used a laptop computer to answer each question by themselves, then rated how acceptable they found the question and how willing they would be to answer it if it were part of the main survey. Following that, a researcher conducted a cognitive interview on the question before moving to the next question.

Adult survey 2016/17

Researchers conducted face-to-face interviews with 60 adults aged 15 years and over to test 15 new or modified questions included in the adult survey. As the 2016/17 module focused on

mental health and substance use, half of the sample recruited had a mental health condition and/or a substance use disorder.

For both the adult and child cognitive testing, respondents were recruited via the survey providers' existing professional and personal networks, particularly mental health and primary health care networks. A small amount of 'snowball' sampling also took place to ensure all demographic quotas were filled. Snowball sampling, or chain sampling, is where respondents are asked to suggest further possible respondents from among their own acquaintances.

The questions tested comprised both new questions and questions that had been modified for the New Zealand context. Generally, questions were understood as intended.

Following cognitive testing, changes were made to several questions. The key changes are listed below.

- A statement was added to a question that asked if the respondent had ever needed professional help but didn't receive it. The statement aimed to encourage the respondents to think about all reasons for not receiving professional help, in order to capture all unmet need.
- A question asking respondents why they didn't get professional help was shortened to remove unnecessary words, and the number of response options for this question was reduced.
- Two questions asking about use of private providers and services were removed because they proved difficult to measure and for respondents to understand.

Child survey 2016/17

Researchers conducted face-to-face interviews with 60 parents/caregivers of 60 children aged 0–14 years to test 14 questions. Half of the child sample were likely to have behavioural or developmental problems.

Sixteen participants were recruited from the cohort of respondents who completed the 2014/15 NZHS. They were the primary caregiver of a child who had a total Strengths and Difficulties Questionnaire (SDQ) score of 17–40 in the 2014/15 NZHS, indicating that the child could have developmental or behavioural problems.

The child survey questions tested were mostly about service use. Following cognitive testing, the same changes were made to the child questions as were made to the adult questions.

Pilot testing

The main objectives of the pilot testing were to:

- ensure that the questionnaires performed as expected with all routing, edits and consistency checks working correctly
- ensure that the audio computer-assisted self-interviewing (ACASI) interface was fit for purpose
- identify and explore questions with high non-response rates (don't know / refused) and questions with high 'other' response rates
- based on an analysis of open-ended responses, determine if additional response categories needed to be added (or existing ones modified)
- determine the average duration for each element of the questionnaire as well as the survey process overall.

Researchers tested the questionnaire on 150 respondents from different age, sex and ethnic groups. One hundred respondents were selected randomly, while the remaining 50 comprised a booster sample of 40 adults and 10 parents/caregivers. The intention was to have at least 15 of the 40 adults with a mental health condition and at least 15 with a substance-use disorder. The 10 parents/caregivers had children with a behavioural or developmental problem. The child respondents in the pilot booster sample were recruited from the cohort that took part in the cognitive tests.

The key changes resulting from the pilot test were as follows.

- The self-complete section instructions about which respondents should answer the questions were made clearer.
- The names of some drugs in the adult survey's Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) were modified to make them appropriate for the New Zealand context.
- 'Please specify' was removed from 'Other' response categories for module questions where only a small number of pilot study respondents had selected 'Other'.
- 'Please specify' was added to 'Other' response categories for module questions where a reasonable number of pilot study respondents had selected 'Other'.
- An interviewer's note was added to the adult survey's racial discrimination questions to make it clearer that these are multiple response questions and that both time periods need to be considered. A 'Not applicable' option was also added.

Ethics approval

The Multi-region Ethics Committee (MEC) approved the NZHS 2016/17 (Multi-region Ethics Committee Reference: MEC/10/10/103).

Content of the New Zealand Health Survey

The adult and child questionnaires included the following sections, which are core to the questionnaires unless noted otherwise.

- Long-term health conditions
- Health service utilisation and patient experience
- Rheumatic fever (a clip-on module for three years, from 2014/15 to 2016/17)
- Health behaviours and risk factors
- Health status
- Adult mental health and substance use
- Child behavioural and developmental problems
- Sociodemographics
- Racial discrimination (a clip-on module for adults)
- Anthropometric measurements
- Permission details after completing the survey.

Long-term health conditions

Long-term health conditions cover any ongoing or recurring health problem, including a physical or mental illness, which has a significant impact on a person's life and/or the lives of family, whānau or other carers. Such conditions are generally not cured once acquired. For the purposes of monitoring population health, a long-term health condition is defined in the NZHS as a health condition that has lasted, or is expected to last, for more than six months and is based on a respondent's self-report of what a doctor told them.

This section collects information on the prevalence of major long-term conditions (see Table 1) as well as treatments for these conditions.

Table 1: Long-term health conditions

Adult	Child
Heart disease	Asthma
Stroke	Eczema
Diabetes	Diabetes
Asthma	Rheumatic heart disease
Arthritis	Autism spectrum disorder
Mental health conditions	Depression
Chronic pain	Anxiety disorder
Oral health	Attention deficit disorder or attention deficit hyperactivity disorder
	Oral health

Health service utilisation and patient experience

The use of appropriate and effective health care services is an important determinant of population health. Areas of interest for the NZHS include the frequency of health care contact; the range and comprehensiveness of health services; their accessibility, availability and affordability; and the continuity and coordination of care they provide.

Patient experience includes the processes or events that occur (or do not occur) in the course of a specific episode of care. It addresses the interpersonal aspects of care: the interaction between health professionals and health care users. Examples include communication skills, the building of trust, the discussion and explanation of symptoms and the involvement of patients in decisions about their own treatment and care.

The NZHS focuses on health service utilisation and patient experience in the primary health care setting, which is people’s first point of contact with the health system. Nearly all New Zealanders (over 90 percent) have a primary health care provider, and the NZHS provides the only comprehensive source of data on primary health care utilisation. Therefore a number of questions focus on consultations with general practitioners (GPs) and primary health care nurses. To reduce recall bias, the time period of interest for many of the patient experience questions relates to primary health care visits that occurred in the previous three months.

Questions are also included about the use of and experience with after-hours and emergency department (ED) services. These questions use a 12-month recall period to capture a sufficient number of contacts with these services.

Information on the use of secondary- and tertiary-level health services (public and private hospitals and medical specialists) can generally be captured in more detail from administrative databases and surveys administered immediately following a patient’s contact with these services. Therefore, the NZHS collects only a subset of questions on service utilisation and patient experiences related to secondary- and tertiary-level health services.

A small number of questions are also included on prescriptions, oral health care services and visits with other health care workers.

The question topics are summarised in Table 2.

Table 2: Health service utilisation and patient experience

Health service setting	Adult and child topics
Usual primary health care provider	Type of service, timely access
General practitioners	Visits in last 12 months, visit cost, patient experience, unmet need / barriers to access
Primary health care nurses	Visits in last 12 months, visit cost
Other health care workers	Visits in last 12 months
After-hours medical services	Visits in last 12 months, visit cost, patient experience, unmet need / barriers to access
Hospitals	Visits in last 12 months

Emergency departments	Visits in last 12 months, reason for last visit, ¹ patient experience / continuity of care
Medical specialists	Visits in last 12 months, patient experience / continuity of care
Oral health care workers	Visits in last 12 months, unmet need / barriers to access
Prescription medicines	Unmet need / barriers to access

Rheumatic fever clip-on

The purpose of the rheumatic fever questions is to:

- measure changes in access to and use of health services for sore throat management (including barriers)
- measure changes in awareness of seriousness and causes of rheumatic fever.

Sore throats are a common medical condition, and they are usually viral but not serious. In the New Zealand population, group A streptococcal (GAS) sore throats are considered to be the only clinically significant bacterial throat infection. Between 3 percent and 36 percent of sore throats are due to a GAS infection (Ebell et al 2000).

The treatment of GAS infections reduces the incidence of rheumatic fever. Within the New Zealand population, not all groups are at equal risk of developing acute rheumatic fever as a consequence of streptococcal throat infection. Māori and Pacific people between 3 and 45 years of age (particularly those between 3 and 14 years old) from lower socioeconomic areas have the highest rate of acute rheumatic fever in New Zealand.

Between 2012 and 2017, the Better Public Services (BPS) target was to reduce rheumatic fever by two-thirds to 1.4 cases per 100,000 people. Rheumatic fever prevention will continue to be a focus for the 11 district health boards (DHBs) that report a high incidence of rheumatic fever.

The Ministry developed the questions on rheumatic fever to include in the NZHS for three years, between 2014/15 and 2016/17, in order to collect enough data that could provide meaningful information for DHBs to use in developing rheumatic fever reduction programmes.

The questions were submitted to cognitive and pilot testing.

Health behaviours and risk factors

Health behaviours and risk factors can have a direct or indirect impact on health and wellbeing. For example, smoking has a direct impact on health, while education has an indirect impact by informing and influencing our ability to make better health choices. Health behaviours that have a negative effect on health are referred to as risk factors (eg, smoking), while health behaviours that have a positive effect on health are referred to as protective factors (eg, eating healthy foods such as vegetables and fruit).

Monitoring trends in exposure to risk and protective factors informs the development and evaluation of health policy, especially policy related to health promotion, disease prevention and primary health care. The measurement of risk and protective factors is part of the internationally recognised minimum standards for health surveys. These standards, developed

¹ Adapted from the Australian Patient Experience Survey. For more information, see www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4839.0.55.001Explanatory%20Notes12009?OpenDocument

by the World Health Organization (WHO), comprise the STEPwise approach to surveillance of risk factors for non-communicable diseases (STEPS) (WHO 2005).

The core health risk and protective factor questions are based on a subset of questions from the 2006/07 NZHS, some of which were also included in earlier surveys. This provides important time-series information on topics such as smoking.

The questions about alcohol use come from the Alcohol Use Disorders Test (AUDIT). The AUDIT is a 10-item questionnaire that covers three aspects of alcohol use: alcohol consumption, dependence and adverse consequences. A score of eight or more indicates a hazardous drinking pattern. A respondent can reach a score of eight from the alcohol consumption items of the questionnaire alone, for example, by drinking six or more drinks on one occasion, twice a week (Babor et al 2001).

In 2015/16, two alcohol questions were changed in the AUDIT section of the NZHS. Before 2015/16, the NZHS did not define ‘drinks’ in the two AUDIT questions covering typical quantity and frequency of heavy drinking. To ensure consistency in interpreting the meaning of ‘drinks’, the authors of the AUDIT recommended that each country apply their own definition of a standard drink (which, in New Zealand, is 10 g pure alcohol), with illustrations of standard drinks in local beverages. Thus, for the 2015/16 survey, the two AUDIT alcohol consumption questions were changed from ‘drinks’ to ‘standard drinks’ and included a show-card illustrating the number of standard drinks in various common beverages. The changes were only made for half the survey sample (selected randomly) in order to assess their impact. From 2016/17, the NZHS will only use the standard drinks show-card version of AUDIT, creating a break in the time series.

The 2016/17 NZHS includes two new questions about screen time for children aged 2–14 years. The Ministry developed these questions to measure the amount of time children spend watching television or looking at a screen (excluding time spent looking at screens at school or for homework).

The topics included in the health behaviours and risk factors section are shown in Table 3.

Table 3: Health behaviours and risk factors

Adult	Child
High blood pressure	Perceptions of child’s weight
High blood cholesterol	Infant feeding
Physical activity	Nutrition (dietary habits)
Tobacco use	Physical activity (sedentary behaviour)
Nutrition	Response to child’s misbehaviour
Alcohol use	
Drug use	

Health status

Monitoring the health status of the population provides useful information to evaluate the performance of the health system, identify unmet need for health services, evaluate the impact of the determinants of health and uncover health problems that require further investigation.

Self-reported health measures are based on an individual’s own perception of their health status and functioning. These measures provide an alternative source of data to objective measures of health, such as hospital rates and disease prevalence.

The WHO defines a 'health state' as a multi-dimensional attribute of an individual that indicates his or her level of functioning across all important physiological, psychological and psychosocial dimensions of life. The relevant dimensions are those defined in the International Classification of Functioning, Disability and Health (WHO 2001).

Various survey instruments have been developed to assess these dimensions. For adults, instruments included in the core NZHS are the Medical Outcomes Study Short Form version 2.0 (SF-12) (Ware et al 1998) and the Kessler 10-item Psychological Distress Scale (K10) (Andrews and Slade 2001).

The SF-12 is an internationally validated instrument comprising a subset of the SF-36 questions included in the NZHS since 1996/97. The SF-12 includes at least one item for all eight SF-36 domains: physical functioning, role limitation (physical), bodily pain, general health perceptions, vitality, social functioning, role limitation (emotional) and mental health.

The SF-12 is considered to be an appropriate substitute for the SF-36 when a briefer instrument is required and the summary scales are of interest. The SF-12 physical component summary scale and a mental health component summary scale have been shown to explain approximately 90 percent of the variance in the SF-36 summary scales (Ware et al 1996). An analysis of the 2006/07 NZHS showed that the correlation between the SF-12 and SF-36 was 0.95 for the physical summary scales and 0.93 for the mental summary scales.

SF-12 scoring

Responses to each of the SF-12 items are scored and expressed on a scale of 0–100 for each of the eight health domains. Interpretation of the SF-12 is based on the mean average scores (see Table 4).

Table 4: Scoring for the SF-12

Code	Domain	Low score interpretation	High score interpretation
PF	Physical functioning	Limited a lot in performing all physical activities, including self-care, due to health	Performs all types of physical activities, including the most vigorous, without limitations due to health
RP	Role limitation – physical	Limited a lot in work or other daily activities as a result of physical health	No problems with work or other daily activities as a result of physical health
BP	Bodily pain	Very severe and extremely limiting bodily pain	No pain or limitations due to pain
GH	General health perceptions	Evaluates own health as poor and believes it is likely to get worse	Evaluates own health as excellent
VT	Vitality	Feels tired and worn out all of the time	Feels full of energy all of the time
SF	Social functioning	Extreme and frequent interference with normal social activities due to physical or emotional problems	Performs normal social activities without interference due to physical or emotional problems
RE	Role limitation – emotional	Problems with work or other daily activities as a result of emotional problems	No problems with work or other daily activities as a result of emotional problems
MH	Mental health	Has feelings of nervousness and depression all the time	Feels peaceful, happy and calm all the time

K10 scoring

The K10 is an internationally validated instrument for measuring non-specific psychological distress in a population, and scores of 12 or more on the K10 are strongly correlated with having an anxiety or depressive disorder (Kessler et al 2003).

The K10 was included for the first time in the 2006/07 NZHS.

Each question in the K10 has five possible responses: 'all of the time', 'most of the time', 'some of the time', 'a little of the time' or 'none of the time'. For the NZHS, the response to each question was coded to allow scoring as follows: 'all of the time' was set to 4; 'most of the time' was set to 3; 'some of the time' was set to 2; 'a little of the time' was set to 1; 'none of the time' was set to 0; and all other values were set to missing. The possible range of scores is 0–40, with higher scores indicating higher psychological distress.

For NZHS reporting, psychological distress means having high or very high levels of psychological distress on the K10 scale, that is, a score of 12 or more (see Table 5).

Table 5: Scoring for the K10

Score	Interpretation
0–5	None or low psychological distress
6–11	Moderate psychological distress
12–19	High psychological distress
20–40	Very high psychological distress

Adult mental health and substance use module

Good mental health is an essential part of overall good health and wellbeing. Mental health conditions can have a large impact on a person's life. They can affect a person's ability to perform everyday tasks, have healthy relationships and cope with anger or stress.

Mental illnesses that commonly require support and treatment include schizophrenia; manic depression (bipolar disorder); other depressive disorders; personality disorders; anxiety disorders; addictions and drug-induced psychoses.

The mental health and substance use module includes:

- the Patient Health Questionnaire – Somatic, Anxiety and Depressive Symptoms (PHQ-SADS) – a measure of somatic, anxiety and depressive symptoms
- the ASSIST
- service use questions
- a question about feelings of social isolation.

Adults aged 15 years and over self-completed the module, using ACASI. Due to the sensitive nature of the module questions, respondents were excluded from the module questions if their interview was being conducted with cognitive or language assistance from a family member, caregiver or one of their friends.

The Patient Health Questionnaire – Somatic, Anxiety and Depressive Symptoms

The PHQ-SADS is a validated instrument that screens for the presence and severity of depression, anxiety disorder, panic disorder and somatic symptoms (such as pain and shortness of breath).

The PHQ-SADS combines the following screeners into one instrument.

- PHQ-15, which measures somatic symptoms that commonly co-occur with depression and anxiety (over the past four weeks)
- GAD-7, which measures anxiety symptoms over the past two weeks, using a set of severity-scale panic questions about the respondent's experience of anxiety attacks over the past four weeks
- PHQ-9, which measures depressive symptoms over the past two weeks, using yes/no responses.

The PHQ-SADS also has a patient-rated difficulty item (in relation to any reported problems): 'How difficult have these problems made it for you to do your work, take care of things at home or get along with other people?'

All the screeners have severity scales with cut-off points for mild, moderate, moderately severe and severe provisional diagnoses. The PHQ-9 also has an alternative scoring scheme for the provisional diagnosis of major depressive disorder.

The PHQ-SADS questions and scoring information are available at: <http://phqscreeners.com>

While the PHQ-SADS is not a diagnostic instrument per se, scores on its PHQ-9 and GAD-7 components are highly correlated with depressive disorder and anxiety disorder diagnoses.

The Alcohol, Smoking and Substance Involvement Screening Test

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) screens adults for risky use of tobacco, alcohol, cannabis, cocaine, amphetamines, sedatives, hallucinogens, inhalants, opioids and 'other drugs'. It also asks about injecting drugs.

Respondents are asked about frequency of use in the last three months and whether they have experienced problems with any substances they have used, including:

- a strong desire to use
- health, social or legal problems
- failing to do what was normally expected
- a friend or relative expressing concern
- trying and failing to cut down.

Some of the drug names in the ASSIST were modified to make them appropriate for the New Zealand context.

Scoring involves calculating a risk score for each drug, and respondents are categorised into low-, moderate- and high-risk categories by drug. According to the instrument guidelines, for alcohol, a score of 11–26 is considered moderate risk and 27 or more high risk. For other substances, a score of 4–26 is considered moderate risk and 27 or more high risk.

Scores should be interpreted as estimating the risk of problematic use not actual disorder prevalence (although the instrument has been found to be reasonably good at discriminating between non-problematic use and substance abuse).

The ASSIST manual, which covers the scoring system, is available at: www.who.int/substance_abuse/activities/assist/en/

Service use

Service use questions ask respondents what types of services and treatments they have used (if any) for concerns about their emotions, behaviour, stress, mental health or substance use. The respondents are then asked whether they have felt a need to get professional help but didn't receive that help and if they didn't receive help, why that was. Questions are modified versions of questions used in Te Rau Hinengaro, The New Zealand Mental Health Survey, conducted in 2003/04 (Oakley-Browne et al 2006), and the [Canadian Community Health Survey \(2012\)](#).

Social isolation

The following question was asked to assess the respondents' sense of social isolation: 'During the past four weeks, how often did you feel lonely?' Response options range from 'All of the time' to 'None of the time' on a five-point scale. This question was sourced from the New Zealand General Social Survey (NZGSS) conducted by Stats NZ. It was administered during the main survey, after the K10 questions, rather than as part of the section that the respondents self-completed.

Child behavioural and developmental problems module

Among those children diagnosed with mental illness, depression, anxiety disorders and behavioural problems are most common. Anxiety disorders include general anxiety disorder, panic disorder, phobias, obsessive compulsive disorder, acute stress disorder and post-traumatic stress disorder. Cognitive behavioural therapy and other psychotherapy, as well as medication, may be used to treat mood and anxiety disorders and behavioural problems in children.

The child behavioural and developmental module includes:

- the Strengths and Difficulties Questionnaire (SDQ)
- five questions about parental stress
- service use questions.

A parent/caregiver of a child aged 2–14 years completed the child module, using ACASI. Due to the sensitive nature of the module questions, respondents were excluded from the module questions if their interview was being conducted with language assistance from a family member or one of their friends.

Strengths and Difficulties Questionnaire (SDQ)

The SDQ is a brief emotional and behavioural screening questionnaire developed specifically for use with children and adolescents. It consists of 25 questions and has five subscales: emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial behaviour (Goodman 1997), as shown in Table 6 below. It has been used in over 40 countries and, in New Zealand, it has been a part of the B4 School Check programme for four-year-olds since 2009 and has been used as an outcome measure in mental health services. The SDQ was also included in the 2012/13, 2014/15 and 2015/16 NZHSs. It has been validated internationally to screen for child and adolescent psychiatric disorders.

Table 6: SDQ questions

	Not true	Somewhat true	Certainly true
Emotional symptoms scale			
Often complains of headaches, stomach aches, ...	0	1	2
Many worries, often seems worried	0	1	2
Often unhappy, downhearted or tearful	0	1	2
Nervous or clingy in new situations ...	0	1	2
Many fears, easily scared	0	1	2
Conduct problems scale			
Often has temper tantrums or hot tempers	0	1	2
Generally obedient, usually does what ...	2	1	0
Often fights with other children or bullies them	0	1	2
Often lies or cheats	0	1	2
Steals from home, school or elsewhere	0	1	2
Hyperactivity scale			
Restless, overactive, cannot stay still for long	0	1	2
Constantly fidgeting or squirming	0	1	2
Easily distracted, concentration wanders	0	1	2
Thinks things out before acting	2	1	0
Sees tasks through to the end, good attention span	2	1	0
Peer problems scale			
Rather solitary, tends to play alone	0	1	2
Has at least one good friend	2	1	0
Generally liked by other children	2	1	0
Picked on or bullied by other children	0	1	2
Gets on better with adults than with other children	0	1	2
Prosocial behaviour scale			
Considerate of other people's feelings	0	1	2
Shares readily with other children	0	1	2
Helpful if someone is hurt, upset or feeling ill	0	1	2
Kind to younger children	0	1	2
Often volunteers to help others	0	1	2

Scoring of SDQ

A total difficulties score can be calculated by totalling the emotional symptoms, conduct problems, hyperactivity, and peer problems scales, which can indicate the overall risk of mental health problems. Suggested scoring ranges are shown in Table 7. Approximately 10 percent of a community sample scores in the abnormal band on any given score, with a further 10 percent scoring in the borderline band (www.sdqinfo.org). Exact proportions vary according to country, age and gender.

Table 7: Scoring for the SDQ

SDQ score for parent-completed Australian version	Normal	Borderline	Abnormal
Total difficulties score	0–13	14–16	17–40
Emotional symptoms score	0–3	4	5–10
Conduct problems score	0–2	3	4–10
Hyperactivity score	0–5	6	7–10
Peer problems score	0–2	3	4–10
Prosocial behaviour score	6–10	5	0–4

Parental stress

Parental stress is an important factor in children's emotional and behavioural problems. There are five questions in this section that ask the parent/caregiver how they felt while caring for their child and whether they have access to day-to-day emotional support for raising their children. These questions are from the National Survey of America's Families (NSAF), 1997, where they showed good reliability and construct validity, and have been used in the United States National Study of Children's Health, 2007. They were also included in the 2012/13, 2014/15 and 2015/16 NZHSs.

Service use

The parents/caregivers of children aged 2–14 years are asked service use questions about what types of services and treatments their child has used (if any) for concerns about that child's emotions, behaviour, stress, mental health or substance use in the past 12 months. They are then asked whether they have felt a need to get professional help for their child but didn't receive that help, and if they didn't receive help, why that was. If the child had seen a Māori health service or community mental health or addictions service, the parents or caregivers were asked: (1) if they had received emotional or practical support in their role as a parent and (2) who attended the last visit to the service.

Sociodemographics

Health status, health risks and health service utilisation are strongly influenced by socioeconomic, cultural and demographic forces. Understanding the sociodemographic structure of a population is essential for interpreting survey data and using this evidence to inform policy.

Statistics New Zealand has developed standard sociodemographic questions for use in all household social surveys that are part of the official statistics system. The sociodemographic domain in the NZHS closely follows the Statistics New Zealand model, including questions from the New Zealand Census of Population and Dwellings and the New Zealand General Social Survey (NZGSS). In addition to self-reported variables (eg, age, sex, ethnicity, education, employment status and income), the NZHS records variables derived from the census area unit/primary sampling unit of the household (eg, area deprivation and rurality). Questions on health insurance are also included in the sociodemographic section of the adult questionnaire.

A question on sexual identity was added in the 2015/16 NZHS. This question is self-completed by the respondent because of its sensitive nature. In the 2016/17 NZHS, the sexual identity question was not asked for respondents whose interview was being conducted with cognitive or language assistance from a family member, caregiver or one of their friends. This was to ensure these confidential responses were not revealed to people with whom the respondent has a personal relationship.

Racial discrimination clip-on

The 2016/17 NZHS included a racial discrimination clip-on module for adults. Increasingly, racial discrimination is being considered an important determinant of health and driver of ethnic inequalities.

'Racial discrimination' in the NZHS relates to a respondent experiencing an ethnically motivated personal attack (physical or verbal) and/or unfair treatment on the basis of their ethnicity in any

of three situations: health care, housing or work. Previous research using the NZHS results have shown that racial discrimination experienced across a range of settings has the potential to impact on a wide range of health outcomes and risk factors (Harris et al 2012).

The racial discrimination questions were included in the 2002/03, 2006/07 and 2011/12 NZHSs. The questions were originally developed from items in the United Kingdom Fourth National Survey of Ethnic Minorities, 1993–1994 (Modood et al 1997) and the Behavioral Risk Factor Surveillance System (BRFSS) (Centers for Disease Control and Prevention 2002).

Anthropometric measurements

The WHO STEPS approach to monitoring chronic diseases and their risk factors covers three levels of data collection:

- Step 1 – questionnaires
- Step 2 – physical measurements (eg, height, weight, blood pressure)
- Step 3 – biomedical measurements (eg, blood and urine samples).

The NZHS questionnaires have always collected data on chronic diseases and their risk factors. Up until 2002/03, physical and biochemical measurements were only included in nutrition surveys, but these objective measurements have gradually been added to the NZHS.

The measurement of adults' body size was added to the NZHS core content in 2002/03 and extended to include children in 2006/07. The measurement of adults' blood pressure was added to the NZHS core content in 2012/13 and may be extended to children in the future. Biomedical measurements (adults only) were included as a module in the 2014/15 NZHS.

Body size

A healthy body size is recognised as being important for good health and wellbeing. There is strong evidence that obese children and adults are at greater risk of short- and long-term health consequences (WHO 2000).

Self-reporting height and weight is unreliable compared with measuring these factors (Gorber et al 2007). Overall, people underestimate their weight and overestimate their height (resulting in a lower BMI), and they are more likely to do so if they are overweight or obese.

For the NZHS, height and weight are measured for respondents from the age of two years and over, and waist measurements are taken for respondents from the age of five years and over. Measurements are not taken for pregnant women. Measurements are collected following a standardised protocol and using the same professional anthropometric equipment as for the 2011/12 NZHS – apart from the introduction of laser height measurement in 2012/13.

Data on height and weight are used to calculate body mass index (BMI), which is used to classify people as underweight, a healthy weight, overweight and obese according to international cut-off points. BMI cut-offs points are intended to identify people or populations at increased risk of health conditions, such as type 2 diabetes, associated with increasing BMI rather than being a measure of body fat.

Blood pressure

High blood pressure (often referred to as hypertension) is a risk factor for ischaemic heart disease, stroke, hypertensive heart disease, kidney failure and dementia.

There are usually no symptoms associated with high blood pressure, so self-reporting will underestimate its prevalence. The best way to monitor population blood pressure is to take actual blood pressure measurements. By combining data on self-reported and measured high blood pressure, we can also estimate levels of hypertension awareness, treatment and control. Measurement of blood pressure in adults was introduced into the annual core content of the NZHS in 2012/13.

Measurements of blood pressure and heart rate are made using standardised protocol and an OMRON HEM-907 device, which automatically records heart rate, systolic and diastolic blood pressure three times, with a 1-minute pause between measurements.

Permission details after completing the survey

At the end of the interview, the interviewer seeks the respondent's permission for:

- the survey supervisor to contact them again for audit purposes
- NZHS researchers to contact them again within the next two years about the possibility of answering other health-related questions of importance to the Ministry
- combining their survey data with other health information already routinely collected by the Ministry – the respondent would sign a separate consent form to authorise their consent to this data being linked.

Respondents are also asked if they were a Christchurch resident at the time of the 22 February 2011 earthquake, to assist with monitoring the earthquake's impact on population health.

References

- Andrews G, Slade T. 2001. Interpreting scores on the Kessler Psychological Distress Scale (K10). *Australian and New Zealand Journal of Public Health* 25: 494–7.
- Australian Bureau of Statistics. 2011. *4839.0 – Patient Experiences in Australia: Summary of Findings, 2010-11*. URL: www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4839.02010-11?OpenDocument (accessed 21 November 2016).
- Babor T, Higgins-Biddle J, Saunders J, et al. 2001. *AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for use in primary care*. Geneva: World Health Organization.
- Centers for Disease Control and Prevention. 2002. *Behavioral Risk Factor Surveillance System Survey Questionnaire: Reactions to Race Module*. Atlanta, GA: Centers for Disease Control and Prevention.
- Ebell MH, Smith MA, Barry HC, et al. 2000. The rational clinical examination: does this patient have strep throat? *JAMA* 284(22): 2912–18.
- Goodman R. 1997. The Strengths and Difficulties Questionnaire: a research note. *Journal of Child Psychology and Psychiatry* 38: 581–6.
- Gorber SC, Tremblay M, Moher D, et al. 2007. A comparison of direct vs self-report measures for assessing height, weight and body mass index: a systematic review. *Obesity Reviews* 8: 307–26.
- Harris RB, Cormack D, Tobias M, et al. 2012. The pervasive effects of racism: experiences of racial discrimination in New Zealand over time and associations with multiple health domains. *Social Science and Medicine* 74(3): 408–15.
- Kessler RC, Barker PR, Colpe LJ, et al. 2003. Screening for serious mental illness in the general population. *Archives of General Psychiatry* 60(2): 184–9.
- Ministry of Health. 2008. *A Portrait of Health: Key results of the 2006/07 New Zealand Health Survey*. Wellington: Ministry of Health.
- Ministry of Health. 2010. *The New Zealand Health Survey: Objectives and topic areas*. Wellington: Ministry of Health.
- Ministry of Health. 2017. *Annual Update of Key Results 2016/17: New Zealand Health Survey*. Wellington: Ministry of Health.
- Modood T, Berthoud R, Lakey J, et al. 1997. *Ethnic Minorities in Britain: Diversity and Disadvantage*. London, England: Policy Studies Institute.
- Oakley-Browne, M.A., Wells, J. E., & Scott, K. M. (Eds.). (2006). *Te rau hinengaro: The New Zealand mental health survey*. Wellington, NZ: Ministry of Health.
- Statistics New Zealand. 1998. *Protocols of Official Statistics*. Wellington: Statistics New Zealand.
- Ware J, Kosinski M, Keller S. 1996. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Medical Care* 34(3): 220–33.
- Ware J, Kosinski M, Keller S. 1998. *SF-12: How to score the SF-12 physical and mental health summary scales*. 3rd edition. Lincoln (RI): QualityMetric Incorporated.
- WHO. 2000. *Obesity: Preventing and managing the global epidemic*. Geneva: World Health Organization. URL: www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/ (accessed 13 May 2014).

WHO. 2001. *International Classification of Functioning, Disability and Health (ICF)*. Geneva: World Health Organization. URL: www.who.int/classifications/icf/icf_more/en/ (accessed 27 June 2016).

WHO. 2005. *STEPwise approach to Surveillance (STEPS)*. Geneva: World Health Organization. URL: www.who.int/ncd_surveillance/steps/en (accessed 14 October 2016).