hiso Health Information Standards Organisation
PAEREWA PĀRONGO HAUORA

Health Practitioner Index (HPI) Data Set HISO 10005

To be used in conjunction with
HISO 10006 Health Practitioner Index (HPI) Code Set

Copyright information

This document has been approved as a standard for the New Zealand Health and Disability sector by the Health Information Standards Organisation (HISO).

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Updates

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May 2005	1.0		Published
May 2008	1.1	iii - v	The New Zealand HPI system – a context document removed, from version 1.0
May 2008	1.1	12	Data Domain for Job Role replaced by link to ANZSCO website.
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Foreword

The Health Practitioner Index (HPI) will help New Zealand's health sector find better and more secure ways to access and transfer health-related information and is a critical step towards achieving better health outcomes for New Zealanders.

The HPI was identified as one of the top 10 priorities in the health information sector's WAVE (Working to Add Value through E-Information) Report, published in 2001 by the Ministry of Health.

In recent years there have been significant changes in the delivery of health services in New Zealand. Today, it is generally accepted that no one provider can meet all the needs of an individual patient. Patients typically receive health services from a wide variety of health professionals.

To provide efficient and effective health services practitioners must be able to share patient information. The most efficient and cost effective way of doing this is by the electronic management of patient health information.

The HPI is a foundation stone of New Zealand's Health Information infrastructure that will enable health professionals and others in the health sector to securely transfer, access and manage all kinds of information - within an electronic environment. It is a central source of core information about health professionals, health organisations and health facilities. The HPI will help practitioners to exchange and access information electronically on a national scale, and will make it much easier for the right information to be made available to the right person, at the right time.

The HPI provides a nationally consistent system for identifying health professionals and others who work with health-related information. This will improve the privacy and security of patients' information by enabling better control of which practitioners are authorised to access given information.

For example, if a physiotherapist is treating a new patient and needs to access a discharge summary and digital radiology image held in a DHB clinical information system, the HPI will support the DHB clinical information system in verifying the physiotherapist's identity and practising status. Similarly, with the electronic management of prescriptions it is important to know the identity of the prescriber and the dispenser to be sure that the prescription is properly authorised and sent to the right person.

Many health professionals, including Dr Martin Orr of Waitemata District Health Board, are looking forward to the benefits the HPI will bring to their day-to-day work.

"The HPI will be central to the ongoing development of our health management systems, including care coordination and the electronic ordering and "signing off" of medicines and investigations," Dr Orr says.

The HPI will also make administration and analysis easier for health professionals, health managers and administrators by reducing the number of identifiers currently used.

In time, HPI identifiers will be utilised in a large number of health information systems in New Zealand, and will be fundamental in transaction processing systems.

The development of the HPI Data Set and HPI Code Set is critical to achieving the success of the HPI.

I am pleased to present the HPI Data Set and HPI Code Set standards to you, knowing that these documents will contribute to improving the health of all New Zealanders.

I would also like to acknowledge the input of those who contributed to the development of the standards.

Debbie Chin
Deputy Director General Corporate and Information Directorate
Ministry of Health
May 2005

Glossary

The following definitions are integral to the understanding of this document.

Term	Definition
CPN	Common Person Number
Data Source	An organisation (usually) or authorised person that supplies data about a practitioner, health worker, organisation, or facility to the HPI.
Facility	A single physical location from which health goods and/or services are provided.
Health Practitioners Index (HPI)	A centrally managed utility that is used to collect and distribute practitioner, health worker, organisation, and facility data. The HPI will facilitate the timely and secure exchange of health information, ensure the accurate and unique identification of practitioners, health workers, organisations, and facilities, and offer operational support for health organisations that use that data and provide information of interest to the public. Data is supplied by authorised data sources and distributed to authorised consumers. The Ministry of Health (as the HPI Administrator) manages the HPI.
Health Profession	The body of individuals, in the learned occupation of medicine, whose work helps to maintain the health of their clients.
Health Professional	A person who is, or is deemed to be, registered with an authority established or continued by section 114 of the Health Practitioners Competence Assurance Act 2003, as a practitioner of a particular health profession.
Health Worker	A person not registered with a Responsible Authority who works within the health sector.
HPI Administrator	The administrative staff – employed by the Ministry of Health – who authorise and maintain data about organisations; and monitor the data quality and consistency in the HPI (this includes practitioner, health worker, organisation, and facility uniqueness).
Organisation	An entity that provides services of interest to, or is involved in, the business of health care service provision. There may be a hierarchical (parent-child) relationship between organisations.
Person	An individual who can assume multiple roles over time. In the HPI, 'person' is synonymous with practitioner, health worker, and user.
Practising Certificate	A practising certificate issued by the relevant authority (Responsible Authority) under section 26(3) or section 29(4), or deemed to have been issued under section 191(2), of the Health Practitioners Competence Assurance Act 2003. This may be issued annually or for a shorter interim period.
Practitioner	A person who is, or is deemed to be, or has been, registered with a Responsible Authority as a practitioner of a particular health profession under the Health Practitioners Competence Assurance Act 2003.
Privacy	The right of an individual to control access to, and distribution of, information about themselves.
Relationship	The link between two entities on the HPI, i.e. Organisation and Facility.

Committee representation

Committee 10005 – HPI Development was responsible for the preparation of this draft document. The Committee consisted of the following representatives.

Representative	Nominating organisation
David Milliner	Accident Compensation Corporation
James Hogan	District Health Boards New Zealand
Andrew Terris	Health IT Cluster/HealthMAP Ltd
Andre Broodryk	Health IT Cluster/MEDTECH Software Ltd
Lynda Kamstra	Health IT Cluster/The Simpl Group
Simon Hill	HealthPAC
Tony Cooke	Hutt Valley District Health Board
William (Bill) Taylor	Medical Council of New Zealand
Lindsay Stewart	Ministry of Health
Phil Donaldson	New Zealand Association of Optometrists
Carol Thompson	Northland District Health Board
Ann Buckley	Pharmaceutical Society of New Zealand Inc/Pharmacy Council
Tai Paul	Independent Practitioners Association

New Zealand Health Information Standards Organisation wishes to acknowledge and thank the HPI Steering Group for their contribution to this publication.

Related Documents

NZS/AS

AS/NZS 7799.2 *Information security management. Part 2: Specification for information security management systems.* (This Standard was redesignated from AS/NZS 4444.2:2000.)

ISO

ISO/IEC 17799 ISO/IEC 17799:2000 *Information Technology – Code of practice for information security management*.

ISO/IEC 11179 ISO/IEC 11179-3:1994 *Information Technology – specification and standardization of data elements. Part 3: Basic attributes of data elements.*

ISO 639-1 *Codes for the representation of names of languages – Part 1: Alpha-2 code*, 2002.

NSFEG Centrelink, *Naming Systems of Ethnic Groups: Ethnic Names Condensed Guide*. Canberra: Centrelink, 1997.

ISO 3166 *ISO 3166-1:1997 Codes for the representation of names of countries and their subdivisions – Part 1: Country Codes.*

Other Standards

HL7 V2.4 *Health Level Seven Standard Version 2.4*. Ann Arbor: Health Level Seven Inc., 2001.

HISO Ministry of Health. *Ethnicity Data Protocols for the Health and Disability Sector*. Wellington: Ministry of Health, 2004.

HISO *Health Practitioner Index (HPI) Code Set*.

Other Publications

NZSCC99 *Statistics New Zealand Country Code List – Country – New Zealand Standard Classification 1999 – 4 Numeric*, NZSCC, http://www.stats.govt.nz/classifications

HNBC HealthNet/BC Provider Data Standards, Version 1.0.

NHDD National Health Data Committee, *National Health Data Dictionary, Version 12.0* Canberra: Australian Institute of Health and Welfare, 2003.

ANZSCO Australian New Zealand Standard Classification of Occupations

New Zealand Legislation

Health Practitioners Competence Assurance Act 2003.

Contents

1 Introduction

This document defines the data to be provided in the Health Practitioner Index (HPI). The HPI data set represents the entire set of data elements that it is envisaged will, in due course, be collected and stored on the HPI. However, on day one only the data elements held on Responsible Authority public registers will be stored in, and disclosed by, the HPI. In time, additional data elements, such as date of birth and sex (used solely by the HPI Administrator for resolving duplicate entries on the HPI), will need to be collected. Furthermore, certain personal contact details such as addresses and contact numbers will be required by health funding agencies, such as ACC and HealthPAC, for the administration of payments for subsidised healthcare services. Access to such personal information will be restricted to those same health-funding agencies.

This document also defines the elements of the data set in detail, providing an overview of each grouping of data elements (e.g. name elements), as well as:

(a) a definition of each individual data element

(b) attributes of each element, such as the maximum length of the field, the type of data it holds, the data domain (free text, code table, etc) and layout

(c) information about the source of the defined element attributes

(d) information such as guides for use, rules for verifying data in the element, and a comment about methods of collection of the data where appropriate.

What this document does not do is provide a technical specification for creating these data elements in a database system. It remains silent on issues such as table structures, key fields and relationships between data elements. It does not provide a full and comprehensive list of all fields required to represent the data according to the definitions provided; in other words, other fields may be necessary to ensure the data is properly validated and presented.

The definitions of elements of the data set provide a standard way of representing this data for the health sector. HISO's intention is to develop standards for health data for use across the health sector, not just in dealings between the Ministry of Health and other health entities. With increasing use of health information systems, establishing an accepted protocol for communication will facilitate rapid and accurate sharing of health information. Standardising data removes the need for complex translation and manipulation programmes.

Because the HISO process and HPI implementation timeframes coincided, HPI has been used as a starting point for the development of a data set for the health sector. In future, other health information systems may be examined and additional data sets standardised and defined.

In developing the standards, care has been taken to keep the definitions simple while ensuring that they allow for appropriate representation of the data elements. For the most part health data is held in a similar way by various health entities (e.g. sex, date of birth).

1.1 The Purpose of the HPI

A national index of health practitioners such as the Health Practitioner Index (HPI) has been a health sector priority for over a decade. The HPI was identified as one of the top 10 priorities in the health information sector's WAVE (Working to Add Value through E-Information) Report, published in 2001 by the Ministry of Health.

The HPI project will help New Zealand's health sector find better and more secure ways to access and transfer health-related information.

Today it is generally accepted that no one provider can meet all the needs of an individual patient. Patients typically receive health services from a wide variety of health professionals.

To provide efficient and effective health services health professionals must be able to share patient information, and electronic management of health information offers many opportunities to do this. While improving the efficacy, cogency and security of information sharing, the HPI will make health administration and analysis easier for funders, planners and providers by reducing to a minimum the number of practitioner identifiers used in the health sector. The HPI will make it easier and safer for the right information to be made available to the right practitioner.

1.2 The Requirement for Standards

The HPI will provide unique identifiers and trusted information on health practitioners, health workers, organisations and facilities to sector users.

This data will be used for the authentication of system users, and to support the authorisation of users wishing to access health information from systems throughout the sector.

This project has identified a lack of standards with respect to data elements that need to be collected and made available on the HPI. There is considerable diversity in the code values used by various organisations, which creates major obstacles to the use of HPI data and the improvement of interoperability between sector systems.

The majority of the data elements identified in the HPI dataset are not peculiar to the HPI (e.g. name and address). They are used in several hundred separate applications across the health sector. The intention is to develop the HPI based on standards, and where these standards already exist they will be adopted for the HPI.

An example of the lack of a standard is that there are many different formats used for practitioner identifiers. This creates significant issues in the administration of practitioner identifiers, unnecessary risks with respect to the management of health information, and it inhibits interoperability between systems and the delivery of e-health initiatives.

Many organisations are planning significant system acquisitions or developments in the near future and would benefit substantially from the existence of a data standard for core information.

Furthermore, there is a clear need for a code set (or set of reference values) for many of the data elements in the HPI data set. Development of a code set would significantly enhance interoperability between different systems managing the same or similar health information.

1.3 Collection of Data

Trusted data will be collected from various sources and made available on the HPI. For example, trusted data on the registration and practicing status of practitioners will be sourced from Responsible Authorities. Data such as Public Health Organisation (PHO) affiliation may be sourced from PHOs, and ultimately practitioners themselves may update address information directly on the HPI, for use by various sector organisations. Initially, only data from the public register will be collected, and in time this will be extended to other data.

1.4 Definitions of Key HPI Terms

HPI terms	Definition
Practitioner	A person who is, or is deemed to be, or has been, registered with a Responsible Authority as a practitioner of a particular health profession under the Health Practitioners Competence Assurance Act 2003.
Health Worker	A person not registered with a Responsible Authority who works within the health sector.
Organisation	An entity that provides services of interest to, or is involved in, the business of health care service provision. There may be a hierarchical (parent–child) relationship between organisations.
Facility	A single physical location from which health goods and/or services are provided.

Relationship	The link between two entities on the HPI, i.e. Organisation and Facility.

Further definitions are available in the Glossary (see page vi).

2 Details of the Data Standard

2.1 Data Standard Type

This section describes the proposed data standards for both the records and the attributes required for practitioners, health workers, organisations and facilities.

This proposed data standard reflects a logical view of the data. It does not necessarily represent the physical implementation of the data.

Every entity will require the following additional audit attributes to enable the recreation of an HPI record at a point in time and attribute the data to someone:

(a) create data source organisation ID

(b) individual user ID

(c) create an expiry date and time.

2.2 Data Element Structure

Each data element has been defined according to a set of metadata components that are based on ISO/IEC Standard 11179 *Information Technology – specification and standardization of data elements*, 1999. Most components (viz. definition, data type, representational form, data domain, etc.) describe essential features of the structure of a data element. Some components such as collection methods and comments describe additional, non-essential features and may be left blank where appropriate.

The metadata components of each data element are:

- **Definition:** A statement that expresses the essential nature of the data element and its differentiation from all other data elements.
- **Source Standards:** Details of established data definitions or guidelines for data elements that have been cited in this Standard.
- **Data Type:** Alphanumeric (AN), Alphabetic (A), Numeric (N, numbers including decimals), Boolean (Y/N or checkbox on/off).
- **Date Data Structure:** Century (C), Year (Y), Month (M) and Day (D). Full date representation is CCYYMMDD.
- **Representational Class:** For A, N and AN, use code, free text or identifier. For date use full, partial or both date types. Does not apply to Boolean types.
- **Field Size:** Maximum number of characters that may be recorded in the field.
- **Representational Layout:** The arrangement of characters in the data element. For example, ‘A(50)’ means up to 50 alphabetic characters; ‘NNAAAA’ means numeric, numeric, alpha, alpha, alpha, alpha.
- **Data Domain:** The valid values or codes that are acceptable for the data element. The data elements contained in this standard are dates, free text or coded. For each data element that is coded, a code value is provided in the HPI Code Set, as well as a description and an explanation of the code value. The valid values or codes contained in this standard are principally New Zealand values, although, in certain cases, international codes are used. Free text fields also allow international data to be received and stored.
- **Guide For Use:** Additional guidance to inform the use of the data element.
- **Verification Rules:** Quality control mechanisms that preclude non-valid codes from the data element.

3 People

This section of the Standard describes data elements commonly used to identify individuals. It includes data elements that are generally regarded as core data elements for unambiguous identification of individuals and some additional data elements that, while not essential, may assist in the identification of individuals. This section does not include:

(a) address details which are covered in Section 6, or

(b) electronic communication details which are covered in Section 7.

These are both provided for in the collection of Person Data.

3.1 Data Requirements

(a) The HPI has a unique identifier for each individual, the Common Person Number (CPN).

(b) Where known, each person may also have recorded against their CPN, one or more identifier numbers assigned by a health organisation(s) (e.g. Responsible Authority (RA), ACC, DHB), prior to that organisation's adoption of the CPN as the unique identifier for the person.

(c) All data held on the HPI will be validated by the appropriate data source (e.g. RA).

(d) The public, i.e. persons that are not registered users of the HPI, will be given access only to information specifically designated for public access.

(e) The system will maintain a history of information for each person, e.g. name changes.

3.2 Data Record Person

The data elements for **Persons** are:

(a) Common Person Number (CPN)

(b) Person Confidentiality Flag

(c) Person Identifier
- (i) Source Person Identifier
- (ii) Assigning Source
- (iii) Identifier Type

(d) Person Name
- (i) Person Name Type
- (ii) Name Prefix
- (iii) Given Name
- (vi) Second further given name(s) or initials thereof
- (v) Surname Prefix
- (vi) Surname
- (vii) Suffix

(e) Service Type Details
- (i) Job Role
- (ii) Job Title Description
- (iii) Practitioner Status
- (iv) Practitioner Status Start Date
- (v) Practitioner Status Finish Date
- (vi) Health Worker Status
- (vii) Practitioner Initial Registration Date

(viii) Practitioner Practising Certificate Start Date
(ix) Practitioner Practising Certificate Finish Date

(f) Person – Demographic Detail
(i) Sex
(ii) Ethnicity
(iii) Date of Birth

(g) Person – Language
(i) Language
(ii) Ability
(iii) Proficiency

(h) Practitioner Qualification
(i) Qualification
(ii) Granting Institution
(iii) Granting Institution City
(iv) Granting Institution Country
(v) Qualification Year

(i) Practitioner Scope of Practice
(i) Practitioner Scope of Practice
(ii) Practitioner Scope of Practice Start Date
(iii) Practitioner Scope of Practice Finish Date
(iv) Conditions on Practice Description
(v) Conditions on Practice Description Start Date
(vi) Conditions on Practice Description Finish Date
(vii) Additional Authorisations
(viii) Additional Authorisations Start Date
(ix) Additional Authorisations Finish Date

3.3 Common Person Number (CPN)

A unique lifetime identifier for an individual, which takes precedence over all other identifiers (Practitioner and Health Worker) across the HPI.

Definition:	A unique lifetime identifier for practitioners and health workers which takes precedence over all other identifiers for the person across the HPI.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Identifier
Field size:	**Max:** 6	**Representational layout:**	NNAAAA
Data Domain:			
Guide for use:	HPI system-generated two numeric (the second of which is a check digit) plus four alphabetic characters.		
Verification rules:	The CPN includes a check digit in the second position. Modulus 11 Check Digit Algorithm, Refer Appendix A.		

3.4 Person Confidentiality Flag

Definition:	Information about a person with this flag set to 'Y' (Yes) should not be accessible to the public or other users because of a risk of harm to the person, e.g. in accordance with the criteria and process described in sections 108 to 120 of the Domestic Violence Act 1995.		
Source standards:			
Data type:	Boolean	**Representational class:**	n/a
Field size:	**Max:** 1	**Representational layout:**	
Data domain:			
Guide for use:	The default is NO (the flag is not active).		
Verification rules:	Valid Value Y or N.		

3.5 Person Identifier

The Person Identifier is captured using the following data elements:

(a) Source Person Identifier

(b) Assigning Source (Organisation Identifier)

(c) Identifier Type.

Within the New Zealand health sector there are different types of identifiers, including:

(a) identifiers assigned by Responsible Authorities (RA) for the purposes of professional registration (e.g. an identifier assigned to an individual medical practitioner by the Medical Council of New Zealand)

(b) identifiers assigned by government agencies or other regulatory bodies, e.g. HealthPAC provider number, or ACC provider number

(c) professional organisation membership numbers

(d) staff ID code/employee number.

Most people have more than one identifier, from different sources. No person should have more than one identifier from the same register.

For example: Dr Jo Smith may be known by the following identifiers:

CPN	Source person identifier	Assigning source	Identifier type
12ABCD	12345	GMC123	MC
12ABCD	65321	GAC345	AP
12ABCD	XYZA	GWI456	WI
12ABCD	123456	GNC678	NC
12ABCD	OP1234	GRB291	OP
12ABCD	CH5678	GRB291	CH

3.5.1 *Source Person Identifier*

Definition:	A character or string of characters assigned to a person by an Assigning Source, together with Identifier Type and Source Person Identifier, uniquely identifies a person on the HPI.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 12	**Representational layout:**	AN(12)
Data domain:			
Guide for use:	Identifiers from multiple sources may be recorded as required, for example: (a) Responsible Authority number(s); and (b) ACC Provider number. There may be multiple identifiers collected for any individual. Together, the following data elements make up one complete identifier: • Source Person Identifier • Assigning Source • Identifier Type.		
Verification rules:			

3.5.2 *Assigning Source*

Definition:	The organisation (ASSIGNING SOURCE) that allocates a person identifier number, which – together with the Identifier Type and Source Person Identifier – uniquely identifies a person on the HPI.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Identifier
Field size:	**Max**: 6	**Representational layout:**	GXXNNN
Data domain:			
Guide for use:	See 4.3.1 Organisation Identifier		
Verification rules:	The Assigning Source must exist as an Organisation Identifier.		

3.5.3 *Identifier Type*

Definition:	The IDENTIFIER TYPE links the Source Person Identifier to the specific register or numbering system that an organisation uses to identify its members. An organisation may have a number of registers and each is required to have a unique IDENTIFIER TYPE.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 2	**Representational layout:**	A(2)
Data Domain:	Refer to 2.1.1 Identifier Type Code Set (HISOHPI2.1.1).		
Guide for use:	An organisation may have more than one identifier system.		
Verification rules:	Valid code set value only.		

3.6 Person Name

Person Name is captured through a combination of the following data elements:

(a) Person Name Type
(b) Name Prefix
(c) Given Name
(d) Second and further given name(s) or initials thereof
(e) Surname Prefix
(f) Surname
(g) Suffix.

Name elements are labelled by the actual order of the names, e.g. given name, second and further given name, etc. Note that no meaning can be derived from the order of names. For example, the surname or family name may be either in the 'given name' or the 'last name' depending on the cultural naming convention that particular person uses. There may be more than one name recorded for each person and at least one name shall be captured.

Where the person offers more than one name, clarification should be obtained from the Data Source to ensure accurate identification of the person and recording of the various names. Both currently used names, as well as names by which the person has previously been known, should be recorded.

An example of this is:

Definition	**Person name type**	**Name prefix**	**Given names**	**Second and subsequent name(s)**	**Surname prefix**	**Surname**	**Suffix**
The name as recorded in the register of the Responsible Authority or organisation. There is only one active Registered Name at any point in time per register. This is the principal name on the HPI.	R (Registered Name)	Dr	Robert	Jack		Hall-Smith	Jr
A name that was previously used by the person that has been legally changed. This includes maiden name.	F (Former)	Dr	Robert	Jack		Smith	
Any name by which the person is known.	A (Also Known As)	Dr	Robert			Smith	Jr

3.6.1 *Person Name Type*

Definition:	This code is the classification of the person's NAME TYPE.		
Source standards:	HISO HPI Code Set. HL7 v2.4 XPN.8 Name type code.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data Domain:	Refer to 2.2.1 Person Name Type Code Set (HISOHPI2.2.1).		
Guide for use:	The Default Value is 'L' – Legal/Registered Name.		
Verification rules:	Valid code set value only.		

3.6.2 *Name Prefix*

Definition:	The PREFIX is an honorific form of address preceding a name, used when addressing a person. This may include Mr, Mrs, Miss, Dr, Professor, etc.		
Source standards:	HISO HPI Code Set. HL7 v2.4 2.9.30.5 XPN.5 Prefix. x-NAL – Name and Address Language (Name Title).		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 10	**Representational layout:**	A(10)
Data domain:	Refer to 2.2.2 Prefix Code Set (HISOHPI2.2.2).		
Guide for use:	Name title should not be confused with job title.		
Verification rules:	Rules on gender specific name titles required. Valid code set value only.		

3.6.3 *Given Name*

Definition:	The person's GIVEN identifying name.		
Source standards:	HL7 v2.4 2.9.30.2 XPN.2 Given Name. x-NAL – Name and Address Language (First Name).		
Data type:	Alphabetic	**Representational class:**	Free text
Field size:	**Max**:40	**Representational layout:**	A(40)
Data domain:			
Guide for use:	This data element should be used for only the 'first name'. The data element for Second and further Given Name(s) should be used for second and subsequent names or initials thereof, but not the last name.		
Verification rules:			

3.6.4 *Second and Further Given Names or Initials Thereof*

Definition:	The person's SECOND AND FURTHER GIVEN NAMES OR INITIALS THEREOF, but not the family name.		
Source standards:	HL7 v2.4 2.9.30.3 XPN.3 Second and further given names or initials thereof. x-NAL – Name and Address Language(Middle Name[s]).		
Data type:	Alphabetic	**Representational class:**	Free text
Field size:	**Max**: 40	**Representational layout:**	A(40)
Data domain:	Multiple entry field.		
Guide for use:	This data element should be used for only the person's second and further given names or initials thereof, but not for their last name. The person's given name should be recorded under the data element First Name. If a person does not have any second or further given names, this field should be left blank.		
Verification rules:			

3.6.5 *Surname Prefix*

Definition:	The PREFIX of the last name of a person, e.g. van, von, St, etc.		
Source standards:	HL7 v2.4 2.9.19.2 FN.2 Own Surname Prefix. x-NAL – Name and Address Language.		
Data type:	Alphabetic	**Representational class:**	Free text
Field size:	**Max**: 10	**Representational layout:**	A(10)
Data domain:			
Guide for use:	This data element should be used where there are prefixes to a persons last name, e.g. van der, von, St, etc.		
Verification rules:			

3.6.6 *Surname*

Definition:	The FAMILY NAME of a person as distinguished from her/his given and second and subsequent name(s).		
Source standards:	HL7 v2.4 2.9.19.1 FN.1 Surname. x-NAL – Name and Address Language (Last Name).		
Data type:	Alphabetic	**Representational class:**	Free text
Field size:	**Max**: 50	**Representational layout:**	A(50)
Data domain:			
Guide for use:	This data element should be used for only the person's last name, but not for their first and further given name(s) or initials thereof. The person's given name should be recorded under the data element Given Name.		
Verification rules:			

3.6.7 *Suffix*

Definition:	The SUFFIX is an additional term(s) succeeding a person's name including generation terms, e.g. Junior, Senior, etc.		
Source standards:	HISO HPI Code Set. HL7 v2.4 2.9.30.4 XPN.4 Suffix. x-NAL – Name and Address Language (Name Suffix/Generation Identifier)		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max:** 5	**Representational layout:**	A(5)
Data domain:	Refer to 2.2.3 Suffix Code Set (HISOHPI2.2.3).		
Guide for use:	Multiple codes may be used.		
Verification rules:	Valid code set value only.		

3.7 Person – Service Type Details

This section contains data elements that describe a practitioner's or health worker's:

(a) Job Role
(b) Job Title Description
(c) Practitioner Status
(d) Practitioner Status Start Date
(e) Practitioner Status Finish Date
(f) Health Worker Status
(g) Practitioner Initial Registration Date
(h) Practitioner Practising Certificate Start Date
(i) Practitioner Practising Certificate Finish Date.

3.7.1 *Job Role*

Definition:	This code identifies the JOB ROLE or occupation of a person (they may have more than one) that most aptly describes their responsibilities in the health sector.		
Source standards:	Australia New Zealand Standard Classification of Occupations (ANZSCO).		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 6	**Representational layout:**	N(6)
Data domain:	Refer to: http://www.immigration.govt.nz/migrant/general/generalinformation/anzsco.htm.		
Guide for use:			
Verification rules:	Valid code set value only.		

3.7.2 *Job Title Description*

Definition:	This is a free text field, which may be used to further describe the actual JOB ROLE if required.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 100	**Representational layout:**	AN(100)
Data domain:			
Guide for use:	This allows the Job Role that is coded to be further clarified by using a Job Title used in the employing organisation.		
Verification rules:			

3.7.3 *Practitioner Status*

Definition:	The PRACTITIONER STATUS is an indicator of the current practising status of the practitioner. A practitioner can only have one status per Responsible Authority at any one time.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 2.3.2 Practitioner Status Code Set (HISOHPI2.3.2).		
Guide for use:			
Verification rules:	Valid code set value only.		

3.7.4 *Practitioner Status Start Date*

Definition:	The actual START DATE of the Practitioner Status.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date.		
Guide for use:	Each change of status should have a start date.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation (b) be a valid date or year.		

3.7.5 *Practitioner Status Finish Date*

Definition:	The actual FINISH DATE of the Practitioner Status where known.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date.		
Guide for use:	Where known, a change of status should have a finish date.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation (b) be a valid date or year.		

3.7.6 *Health Worker Employment Status*

Definition:	The HEALTH WORKER EMPLOYMENT STATUS is an indicator of the employment status of a health worker. A health worker can only have one status per Job Role at any one time.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 2.3.3 Health Worker Status Code Set (HISOHPI2.3.3).		
Guide for use:			

Verification rules:	Valid code set value only.

3.7.7 *Practitioner Initial Registration Date*

Definition:	The DATE on which the practitioner first became registered with the Responsible Authority.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full Date of Registration using century, year, month and day. If the date of registration is not known, provision should be made to collect information on the year of registration (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation (b) be a valid date or year.		

3.7.8 *Practitioner Practising Certificate Start Date*

Definition:	The START DATE of the Practising Certificate.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date		
Guide for use:	Each instance of a practising certificate must have an effective Practitioner Practising Certificate Start Date and Practitioner Practising Certificate Finish Date.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation (b) be a valid date or year.		

3.7.9 *Practitioner Practising Certificate Finish Date*

Definition:	The FINISH DATE of the Practising Certificate.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date.		
Guide for use:	Each instance of a practising certificate must have an effective Practitioner Practising Certificate Start Date and Practitioner Practising Certificate Finish Date.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation (b) be a valid date or year.		

3.8 Person – Demographic Details

Demographic details, which may be used in the identification of persons include:

(a) Sex

(b) Ethnicity
(c) Date of Birth.

3.8.1 *Sex*

Definition:	A classification of the SEX of an individual, as supplied by the organisation.		
Source standards:	HISO HPI Code Set. HL7 v2.4 3.4.2.8 IS Administrative Sex.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 2.4.1 Sex Code Set (HISOHPI2.4.1).		
Guide for use:	Code 'U' (Unknown) should only be used if the data is not collected at the point of practitioner contact, or the circumstances dictate that the data is not able to be collected.		
Verification rules:	Valid code set value only.		

3.8.2 *Ethnicity*

Definition:	A classification of the ETHNICITY of an individual, as supplied by the organisation (refer to the Ethnicity Data Protocols, Ministry of Health).		
Source standards:	HISO HPI Code Set. Ministry of Health. 2004. *Ethnicity Data Protocols for the Health and Disability Sector*. Wellington: Ministry of Health.		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 3	**Representational layout:**	N(3)
Data domain:	Refer to 2.4.2 Ethnicity Code Set (HISOHPI2.4.2).		
Guide for use:	Up to six ethnicities may be recorded.		
Verification rules:	Valid code set value only.		

3.8.3 *Date of Birth*

Definition:	The DATE OF BIRTH of the person.		
Source standards:	HL7 v2.4 2.9.15 DT – Date HL7 v2.4 3.4.2.9 Date/Time of Birth PID 7		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full Date of Birth using century, year, month and day. If the date of birth is not known, provision should be made to collect age data (in years) and a year of birth is to be derived from that age data (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

3.9 Person – Languages

Details used in the identification of the language(s) spoken by a practitioner or health worker and levels of proficiency. This includes:

(a) Language
(b) Ability
(c) Proficiency.

3.9.1 *Language*

Definition:	A classification of the LANGUAGE(S) spoken by a person.		
Source standards:	HISO HPI Code Set. HL7 2.4 15.4.3.2 LAN-2 Language Code. ISO 639-1:2002 Codes for the representation of names of languages – Part 1: Alpha-2 code.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 2	**Representational layout:**	
Data domain:	Refer to 2.5.1 Language Code Set (HISOHPI2.5.1).		
Guide for use:	Multiple use field.		
Verification rules:	Valid code set value only.		

3.9.2 *Ability*

Definition:	The ability that the person possesses with respect to the language.		
Source standards:	HISO HPI Code Set. HL7 2.4 15.4.3.2 LAN-3 Language Ability Code.		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	N
Data domain:	Refer to 2.5.2 Ability Code Set (HISOHPI2.5.2).		
Guide for use:			
Verification rules:			

3.9.3 *Proficiency*

Definition:	The level of knowledge that the person possesses with respect to the language ability.		
Source standards:	HISO HPI Code Set. HL7 2.4 15.4.3.2 LAN-4 Language Proficiency Code.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	
Data domain:	Refer to 2.5.3 Proficiency Code Set (HISOHPI2.5.3).		
Guide for use:	Multiple use field.		
Verification rules:	Valid code set value only.		

3.10 Practitioner Qualification

The information required for the Practitioner Qualification data element is the certified qualification, or series of qualifications, which assisted the Responsible Authority to register the practitioner.

This section contains data elements that describe the qualifications of the practitioner:

(a) Qualification
(b) Granting Institution

(c) Granting Institution City
(d) Granting Institution Country
(e) Qualification Year.

3.10.1 *Qualification*

Definition:	The QUALIFICATION(s) that enabled the PRACTITIONER to be registered with the appropriate Responsible Authority.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 255	**Representational layout:**	AN(255)
Data domain:			
Guide for use:	This is not provided as a code set, but is required as public register data under the Health Practitioners Competence Assurance Act 2003. This information excludes the Granting Institution data (including year, institution and city/country).		
Verification rules:			

3.10.2 *Granting Institution*

Definition:	The name of the GRANTING INSTITUTION that conferred the qualification.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 255	**Representational layout:**	AN(255)
Data domain:			
Guide for use:			
Verification rules:			

3.10.3 *Granting Institution City*

Definition:	The name of the CITY where the institution is located.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 100	**Representational layout:**	AN(100)
Data domain:			
Guide for use:			
Verification rules:			

3.10.4 *Granting Institution Country*

Definition:	The identifier for the COUNTRY or nation of the granting institution.		
Source standards:	HISO HPI Code Set. Statistics New Zealand NZSCC99. XNAL – AddressDetails – Country.		
Data type:	Numeric	**Representational class:**	Code

Field size:	**Max**: 4	**Representational layout:**	N(4)
Data domain:	Refer to 4.2 Country Code Set (HISOHPI4.2).		
Guide for use:			
Verification rules:	Valid code set value only.		

3.10.5 *Qualification Year*

Definition:	The YEAR in which the practitioner achieved his/her qualification.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Year
Field size:	**Max**: 4	**Representational layout:**	CCYY
Data domain:	Valid years or CCYY.		
Guide for use:	Enter the year of the qualification.		
Verification rules:	This field must: (a) be less than or equal to the year of record creation; and (b) be a valid year.		

3.11 Practitioner Scope of Practice

A classification of the type, or range, of health services that a practitioner is authorised to provide, as determined by the Responsible Authority or other statutory authority (e.g. PHARMAC); that is, what the practitioner can or cannot do. It includes the Scope of Practice as defined by the Health Practitioners Competence Assurance Act 2003, any special authorisations granted, and any conditions or limitations imposed by the Responsible Authority.

This section contains data elements that describe the extent of practice of the practitioner:

(a) Practitioner Scope of Practice
(b) Practitioner Scope of Practice Start Date
(c) Practitioner Scope of Practice Finish Date
(d) Conditions on Practice Description
(e) Conditions on Practice Description Start Date
(f) Conditions on Practice Description Finish Date
(g) Additional Authorisations
(h) Additional Authorisations Start Date
(i) Additional Authorisations Finish Date.

3.11.1 *Practitioner Scope of Practice*

Definition:	A code identifying the type of SCOPE OF PRACTICE that is applied to a practitioner under the Health Practitioners Competence Assurance Act 2003.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 4	**Representational layout:**	A(4)
Data domain:	Refer to 2.6.1 Practitioner Scope of Practice Code Set (HISOHPI2.6.1).		
Guide for use:			
Verification rules:	Valid code set value only.		

3.11.2 *Practitioner Scope of Practice Start Date*

Definition:	The DATE on which the practitioner was issued with the Scope of Practice.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

3.11.3 *Practitioner Scope of Practice Finish date*

Definition:	The DATE on which the Scope of Practice was rescinded.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

3.11.4 *Conditions on Practice Description*

Definition:	A narrative describing the conditions that may apply to a practitioner's practice, e.g. limitation on practice, requirement for additional education, etc.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Free Text (CBLOB)
Field size:	**Max**: 10,000	**Representational layout:**	10,000
Data domain:			
Guide for use:	Multiple.		
Verification rules:			

3.11.5 *Conditions on Practice Start Date*

Definition:	The DATE on which the conditions on practice commenced.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		

Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.

3.11.6 *Conditions on Practice Finish Date*

Definition:	The DATE on which the Conditions on Practice ceased.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

3.11.7 *Additional Authorisations*

Definition:	A coded value of the ADDITIONAL AUTHORISATIONS that a practitioner or health worker is authorised to practice or prescribe.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max**: 4	**Representational layout:**	AN(4)
Data domain:	Refer to 2.6.2 Additional Authorisations (HISOHPI2.6.2).		
Guide for use:	Multiple Use Field.		
Verification rules:	Valid code set value only.		

3.11.8 *Additional Authorisations Start Date*

Definition:	The date on which the ADDITIONAL AUTHORISATION commenced.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

3.11.9 *Additional Authorisations Finish Date*

Definition:	The date on which the ADDITIONAL AUTHORISATION ceased.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day.		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

4 Organisation

An organisation is the entity that provides services of interest to, or is involved in, the business of the health care service provision. There may be a hierarchical (parent–child) relationship between organisations.

Within the context of the HPI this means any organisation that:

(a) submits data on practitioners, health workers, organisations, and/or facilities to the HPI; and/or

(b) is authorised to create and maintain information about certain employees on the HPI who may access HPI data on a 'need-to-know' basis; and

(c) is required to be established on the HPI for the purpose of accessing other national health systems managed by the Ministry of Health.

This section does not include:

(a) address details which are covered in Section 6; or

(b) electronic communication details which are covered in Section 7.

Both address and electronic communication details are provided for in the collection of Organisation Data.

4.1 Data Requirements

(a) Each organisation will have a single unique organisation identifier and a unique organisation record.

(b) The Ministry of Health is the authorised Data Source to approve the registration of organisations on the HPI.

(c) The system should maintain a history of organisation information for each organisation.

(d) An organisation may have a parent organisation.

(e) Organisations may provide services from one or more facilities.

4.2 Data Record Organisation

The data elements for **Organisation** are:

(a) Organisation Identifier
  (i) Organisation Identifier
  (ii) Organisation Identifier Check Digit

(b) Organisation Name
  (i) Organisation Name Type
  (ii) Organisation Name

(c) Organisation Services
  (i) Organisation Services

(d) Organisation Other Detail
  (i) Organisation Type
  (ii) Organisation Establishment Date
  (iii) Organisation Disestablishment Date

4.3 Organisation Identifier

A character or string of characters assigned to an organisation by the HPI.

4.3.1 *Organisation Identifier*

Definition:	A unique lifetime identifier for an organisation assigned by the Data Source.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Identifier
Field size:	**Max**: 6	**Representational layout:**	GXXNNN
Data domain:			
Guide for use:	G is a constant prefix. X is either an alpha or a numeric. The Organisation Identifier is assigned by the HPI system at the time that the organisation record in the HPI is created.		
Verification rules:			

4.3.2 *Organisation Identifier Check Digit*

Definition:	The ORGANISATION IDENTIFIER CHECK DIGIT is used to validate data entry of organisation identifiers. A Modulus 11 check digit routine is run over the 6 characters of the organisation identifier to produce the ORGANISATION IDENTIFIER CHECK DIGIT.		
Source standards:			
Data type:	Alphabetic	**Representational class:**	Text
Field size:	**Max**: 1	**Representational layout:**	A
Data Domain:			
Guide for use:			
Verification rules:	Modulus 11 Check Digit Algorithm, Refer Appendix A		

4.4 Organisation Name

Organisation Name is captured through the combination of two data elements;

(a) Organisation Name Type; and

(b) Organisation Name.

4.4.1 *Organisation Name Type*

Definition:	A classification of the ORGANISATION NAME, e.g. primary name, known as name, etc.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 3.1.1 Organisation and Facility Name Type Code Set (HISOHPI3.1.1).		
Guide for use:			
Verification rules:	Valid code set value only.		

4.4.2 *Organisation Name*

Definition:	The NAME by which the Organisation is known.		
Source standards:	xNAL – OrganisationName.		
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 255	**Representational layout:**	AN(255)
Data domain:			
Guide for use:	Generally, the complete organisation name should be used to avoid any ambiguity in identification. However, in certain circumstances (e.g. internal use), a short name (i.e. an abbreviated name by which the organisation is known) may be used. Further, a business unit within an organisation may have its own separate identity. In cases where the organisation is a sole practitioner, the Organisation Name may be the same as the Personal Name.		
Verification rules:			

4.5 Organisation Services

A record of services, or limitations of services, that may be provided by an organisation.

4.5.1 *Organisation Services*

Definition:	A classification of the SERVICE(S) that an organisation is certified to provide.		
Source standards:	HISO HPI Code Set		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 8	**Representational layout:**	N(8)
Data domain:	Refer to 3.2.1 Organisation and Facility Services Code Set (HISOHPI3.2.1).		
Guide for use:	This does not include the capacity of service provision. Multiple use field.		
Verification rules:	Valid code set value only.		

4.6 Organisation – Other Detail

4.6.1 *Organisation Type*

Definition:	A code that enables differentiation between different organisational entities. (This code is undergoing further development.)		
Source standards:	HISO HPI Code Set.		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 3	**Representational layout:**	N(3)
Data domain:	Refer to 3.3.1 Organisation Type Code Set (HISOHPI3.3.1).		
Guide for use:			
Verification rules:	Valid code set value only.		

4.6.2 *Organisation Establishment Date*

Definition:	The DATE on which the organisation began its operation.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full ESTABLISHMENT DATE using century, year, month and day. If the establishment date is not known, provision should be made to collect age data (in years) and a year of establishment is to be derived from the age (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

4.6.3 *Organisation Disestablishment Date*

Definition:	The DATE on which the Organisation ceased its operation.		
Source standards:	HL7 v2.4 2.9.15 DT – Date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full DISESTABLISHMENT DATE using century, year, month and day. If the disestablishment date is not known, the year of disestablishment may be entered (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

5 Facility

A facility has one physical location from which health goods and/or services are provided.

This section does not include:

(a) address details which are covered in Section 6; or

(b) electronic communication details which are covered in Section 7.

These are both provided for in the collection of Facility Data.

5.1 Data Requirements

(a) Each facility will have a single unique facility identifier and record.

(b) The facility record will identify the Facility Type.

(c) Facility records will be maintained by the Data Source.

(d) The HPI will retain a history of facility information and facility-practitioner relationships.

(e) The facility will be at a physical location for which a geocode can be derived.

(f) The system will allow for a classification of the services a facility is certified to provide (Organisation and Facility Service).

(g) The system will retain the history of service information for each facility.

5.2 Data Record Facility

The data elements for **Facility** are:

(a) Facility Identifier
  (i) Facility Identifier
  (ii) Facility Identifier Check Digit

(b) Facility Name
  (i) Facility Name Type
  (ii) Facility Name

(c) Facility Service
  (i) Facility Service

(d) Facility – Other Detail
  (i) Facility Establishment Date
  (ii) Facility Disestablishment Date

5.2.1 *Facility Identifier*

Definition:	A unique lifetime identifier for a facility assigned by the Data Source.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Identifier
Field size:	**Max**: 6	**Representational layout:**	FXXNNN
Data Domain:			
Guide for use:	F is a constant prefix. X is either an alpha or a numeric. The Facility Identifier is assigned by the HPI system at the time that the facility record in the HPI is created.		
Verification rules:			

5.2.2 *Facility Identifier Check Digit*

Definition:	The FACILITY IDENTIFIER CHECK DIGIT is used to validate data entry of facility identifiers. A Modulus 11 check digit routine is run over the six characters of the facility identifier to produce the FACILITY IDENTIFIER CHECK DIGIT.		
Source standards:			
Data type:	Alphabetic	**Representational class:**	Text
Field size:	**Max**: 1	**Representational layout:**	A
Data Domain:			
Guide for use:			
Verification rules:	Modulus 11 Check Digit Algorithm, Refer Appendix A.		

5.3 Facility Name

Facility Names are captured through the combination of two data elements:

(a) Facility Name Type; and

(b) Facility Name.

5.3.1 *Facility Name Type*

Definition:	A classification of the FACILITY NAME.		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 4	**Representational layout:**	A(4)
Data domain:	Refer to 3.1.1 Organisation and Facility Name Type Code Set (HISOHPI3.1.1).		
Guide for use:			
Verification rules:	Valid code set value only.		

5.3.2 *Facility Name*

Definition:	The NAME by which the facility is known.		
Source standards:	xNAL – OrganisationName.		
Data type:	Alphanumeric	**Representational class:**	Free Text

Field size:	**Max**: 255	**Representational layout:**	AN(255)
Data domain:			
Guide for use:	Generally, the complete facility name should be used to avoid any ambiguity in identification. However, in certain circumstances (e.g. internal use), a short name (i.e. an abbreviated name by which the facility is known) may be used.		
Verification rules:			

5.4 Facility Service

A record of the services, or limitations of services, that may be provided by a facility.

5.4.1 *Facility Service*

Definition:	A classification of the SERVICE(S) that a facility is certified to provide at a facility.		
Source standards:	HISO HPI Code Set.		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 4	**Representational layout:**	N(4)
Data domain:	Refer to 3.2.1 Organisation and Facility Services Code Set (HISOHPI3.2.1).		
Guide for use:	This does not include the capacity of service provision.		
Verification rules:	Valid code set value only.		

5.5 Facility – Other Detail

5.5.1 *Facility Establishment Date*

Definition:	The DATE on which the Facility began its operation.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full date including century, year, month and day. If the establishment date is not known, provision should be made to collect age data (in years) and a year of establishment is to be derived from the age (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

5.5.2 *Facility Disestablishment Date*

Definition:	The DATE on which the facility ceased its operation.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		

Guide for use:	Enter the full date including century, year, month and day. If the disestablishment date is not known, the year of disestablishment may be entered (i.e. CCYY).
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.

6 Address Details

This section describes the data elements used to capture and store various contact details of people, organisations or facilities. The structure attempts to simplify data collection while capturing the range of addresses important to health provision. To enable geocoding, the physical practice (location) address should be provided if known.

6.1 Data Record Address

The data elements for **Address** are:

(a) Address Type

(b) Street Address
- (i) Street Address (Street Number and Name or PO Box)
- (ii) Other Designation (Building Details)
- (iii) Other Geographic Designation (Suburb)
- (iv) City
- (v) State or Province (District/Administrative Area)
- (vi) Postal Code
- (vii) Country

(c) Geospatial
- (i) Longitude
- (ii) Latitude
- (iii) Geocoder details

(d) Address Confidentiality Flag

An example of this is:

Example	Street Address				
	Street Address (Street Number and Name or PO Box)	**Other Designation (Building Details)**	**Other Geographic Designation (Suburb)**	**City**	**State or Province (District/ Administrative Area)**
35 Prince Regent Drive, Manukau	35 Prince Regent Drive			Manukau	1706
Capital and Coast DHB, Adelaide Road, Newtown	Adelaide Road		Newtown	Wellington	6002
10th Floor, 108 The Terrace, Wellington	108 The Terrace	10th Floor	Wellington		6001
PO Box 15, Epuni, Lower Hutt	PO Box 15		Epuni	Lower Hutt	
1028 RD 2, Ruatoria	1028 RD 2			Ruatoria	

6.2 Address Type

Definition:	A classification for the kinds of ADDRESSES that could be supplied.		
Source standards:	HISO HPI Code Set. HL7 v2.4 2.9.51.7 XAD.7 Address Type. x-NAL Name and Address Standard.		
Data type:	Alpha	**Representational class:**	Code
Field size:	**Max:** 2	**Representational layout:**	A
Data domain:	Refer to 4.1 Address Type Code Set (HISOHPI4.1).		
Guide for use:	Multiple addresses may be recorded as required.		
Verification rules:	Valid code set value only.		

6.3 Street Address

6.3.1 *Street Address (Street Number and Name or PO Box)*

Definition:	The street or mailing address of a person or institution. When referencing an institution this first component is used to specify the institution name, when used in connection with a person, this component specifies the first line of the address.		
Source standards:	HL7 v2.4 2.9.38.1 SAD.1 Street or mailing address. x-NAL Name and Address Standard – Thoroughfare AddressLine.		
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 100	**Representational layout:**	AN(100)
Data domain:			
Guide for use:	All of the relevant 'street' details should be captured in this field. The field is free text. The format of data collection is less important than consistent use of conventions in recording address data.		
Verification rules:			

6.3.2 *Other Designation (Building Details)*

Definition:	The second line of an address. In general this qualifies the address. When referencing an institution this component specifies the street address.		
Source standards:	HL7 v2.4 2.9.51.2 XAD.2 Other designation. x-NAL Name and Address Standard (Premise).		
Data type:	Alphanumeric	**Representational class:**	Text
Field size:	**Max**: 30	**Representational layout:**	AN(22)
Data domain:			
Guide for use:	Additional address details including building name, gate number, etc. All of the relevant additional address details should be captured in this field.		
Verification rules:			

6.3.3 *Other Geographic Designation (Suburb)*

Definition:	This field is used for the name of the suburb.		
Source standards:	HL7 v2.4 2.9.51.3 XAD. 2.9.51.8 Other Geographic Designation. x-NAL Name and Address Standard.		
Data type:	Alphabetic	**Representational class:**	Text
Field size:	**Max**: 30	**Representational layout:**	A(30)
Data domain:	New Zealand Post – Location. xNAL – AddressDetails – Locality – DependantLocality.		
Guide for use:			
Verification rules:			

6.3.4 *City*

Definition:	This field is used for the name of the city.		
Source standards:	HL7 v2.4 2.9.51.3 XAD.3 City. x-NAL Name and Address Standard.		
Data type:	Alphabetic	**Representational class:**	Text
Field size:	**Max**: 50	**Representational layout:**	A(30)
Data domain:	New Zealand Post – Location. xNAL – AddressDetails – Locality – DependantLocality.		
Guide for use:			
Verification rules:			

6.3.5 *State or Province (District/Administrative Area)*

Definition:	The state or province is represented by the districts or administrative areas of New Zealand, e.g. King Country.		
Source standards:	HL7 v2.4 2.9.51.4 XAD.4 State or Province. x-NAL Name and Address Standard.		
Data type:	Alphabetic	**Representational class:**	Text
Field size:	**Max**: 30	**Representational layout:**	A(30)
Data domain:	New Zealand Post – Location. xNAL – AddressDetails – Locality – DependantLocality.		
Guide for use:			
Verification rules:			

6.3.6 *Postal code (Zip/Postcode)*

Definition:	The numeric descriptor for a postal delivery area, aligned with the locality, suburb or place for the address.		
Source standards:	HL7 2.4 2.9.51.5 XAD.5 Zip or Postal Code. x-NAL Name and Address Standard. xNAL – AddressDetails – Postal – PostalCode.		
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max**: 15	**Representational layout:**	AN(15)
Data domain:	New Zealand Post Postcode File. International Postcodes are recorded as provided.		
Guide for use:			
Verification rules:	Data for New Zealand Postcodes should be verified against the New Zealand Post Postcode File.		

6.3.7 *Country*

Definition:	An identifier of the COUNTRY or nation that forms part of an address.		
Source standards:	HISO HPI Code Set. Statistics New Zealand NZSCC99. xNAL – AddressDetails –Country.		
Data type:	Numeric	**Representational class:**	Code
Field size:	**Max**: 4	**Representational layout:**	N(4)
Data domain:	Refer to 4.2 Country Code Set (HISOHPI4.2). Statistics New Zealand NZSCC99. ISO 3166 Country Codes		
Guide for use:			
Verification Rules:	Valid code set value only.		

6.4 Geospatial

All co-ordinates for the Geospatial elements (6.4.1 and 6.4.2) will be consistent with the New Zealand Geodetic Datum 2000 (NZGD2000).

6.4.1 *Longitude*

Definition:	LONGITUDE (X) co-ordinate generated from address data.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	Max**: 12**	**Representational layout:**	XNNN. NNNNNNN (0 to 360 degrees)
Data domain:	xNAL – AddressDetails – Geospatial. 12 chars (decimal degrees). X – '+nnn.nnnnnnn' (-180º to + 180º).		
Guide for use:	The GEO code is derived from the Service Delivery Address only. The co-ordinates are derived from the address information. No source standard – just degrees. Address GEOcode X co-ordinate.		
Verification rules:			

6.4.2 *Latitude*

Definition:	LATITUDE (Y) co-ordinate generated from address data.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max:** 12	**Representational layout:**	YNNN NNNNNNN (0 to 360 degrees)
Data domain:	xNAL – AddressDetails – Geospatial. 12 chars (decimal degrees). Y – '-nn.nnnnnnnn' (+90º to -90º).		
Guide for use:	The GEO code is derived from the Service Delivery Address only. The co-ordinates are derived from the address information. No source standard – just degrees. Address GEOcode Y co-ordinate.		
Verification rules:			

6.4.3 *Geocoder Details*

Definition:	This is the name, version and data set used to geo-code the details.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max:** 5	**Representational layout:**	
Data domain:			
Guide for use:	This code set is to be developed.		
Verification rules:			

6.5 Address Confidentiality Flag

Definition:	Addresses with a NO flag may be made public; if the flag is YES this information is confidential.		
Source standards:			
Data type:	Boolean	**Representational class:**	n/a
Field size:	**Max:** 1	**Representational layout:**	
Data domain:			
Guide for use:	The default for this flag is YES.		
Verification rules:	Valid Values Y or N.		

7 Communication

This section describes the data elements detailing the method used to contact a person by electronic means of communication. This is not about transmission of confidential data but the way in which a person is contacted.

7.1 Data Record Communication

The data elements for Electronic Communication are:

(a) Communication Usage
(b) Communication Medium
(c) Communication Details
(d) Communication Confidentiality Flag.

Examples of this are:

Communication Usage	Communication Medium	Communication Details	Communication Confidentiality Flag
Emergency (E)	Telephone (T)	+64 4 324 4567	N
Business (B)	Telephone (T)	+64 4 888 4567	N
Personal (P)	Mobile (Cell Phone) (C)	025 456 123	Y
Business (B)	Pager (P)	1234	N
Business (B)	E-mail (E)	doctor@theclinic.co.nz	N
Business (B)	Facsimile Machine (F)	+64 4 951 1234	N
Business (B)	Mailbox (M)	MailBoxDetails	Y

7.1.1 *Communication Usage*

Definition:	The classification that specifies the way in which the communication medium is intended to be used, e.g. for business, in an emergency, etc.		
Source standards:	HISO HPI Code Set. HL7 v2.4 XTN.2 Telecommunication use code.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 5.1 Communication Usage Code Set (HISOHPI5.1).		
Guide for use:	Multiple Communication Usages may be recorded as required. Each Type shall have the appropriate Communication Detail and Communication Medium assigned.		
Verification rules:	Where a Communication Usage is provided, Communication Details and Communication Medium are required. Valid code set value only.		

7.1.2 *Communication Medium*

Definition:	The code representing the type of COMMUNICATION MEDIUM used, e.g. e-mail, telephone, pager, etc.		
Source:	HISO HPI Code Set. HL7 v2.4 XTN.3 Telecommunication equipment type.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 1	**Representational layout:**	A
Data domain:	Refer to 5.2 Communication Medium Code Set (HISOHPI5.2).		
Guide for use:	Multiple communication mediums may be recorded. Each Communication Medium shall have the appropriate Communication Type and Communication Details assigned.		
Verification rules:	Where Communication Medium is provided, Communication Type and Details are required. Valid code set value only.		

7.1.3 *Communication Details*

Definition:	The COMMUNICATION DETAILS may comprise an address or number.		
Source standards:	HL7 v2.4 XTN.1.		
Data type:	Alphanumeric	**Representational class:**	Free Text
Field size:	**Max**: 255	**Representational layout:**	AN(255)
Data domain:	Alphanumeric text string including spaces where applicable.		
Guide for use:	Multiple communication details (for example, multiple phone numbers, fax numbers and e-mail) may be recorded as required. Each instance should have an appropriate Communication Medium and Communication Type assigned. For phone numbers, record the full phone number (including any prefixes) with no punctuation (hyphens or brackets), e.g. +64 4 499 1234 or for a cell phone +64 21 123 456.		
Verification rules:	Where Communication Details are provided, Communication Type and Medium are required.		

7.1.4 *Communication Confidentiality Flag*

Definition:	Communication details with a NO flag may be made public; if the flag is YES this information is confidential.		
Source standards:			
Data type:	Boolean	**Representational class:**	n/a
Field size:	**Max:** 1	**Representational layout:**	
Data domain:			
Guide for use:	The default for this flag is YES.		
Verification rules:	Valid Value Y or N.		

8 Relationship

The HPI will be able to record one or more relationships between practitioner, health worker, organisation and facility records. To cater for the wide variety of relationship scenarios in the health sector, the HPI dataset does not set any mandatory business/system rules regarding this attribute. However, this might change once further analysis of the likely quality and usefulness of the data has been completed.

Data sources are encouraged to provide this data, and once entered, are responsible for the accuracy of the information. To enable the data source to create a relationship linkage, the 'create' and 'update' HPI processes for practitioner, health worker, organisation, and facility will allow the data source to establish the relationship(s). Effective Start and Finish Dates for each entry will be maintained.

8.1 Data Record Relationship

The data elements for relationship are:

(a) Relationship Type
(b) Relationship Entity One
(c) Relationship Entity Two
(d) Relationship Commencement Date
(e) Relationship Termination Date.

8.1.1 *Relationship Type*

Definition:	The classification of the various RELATIONSHIP TYPES that may exist between persons, organisations and facilities, e.g. locum/owner practitioner, is owner of, is employee of, parent organisation/organisation, organisation/facility (this list is still under development).		
Source standards:	HISO HPI Code Set.		
Data type:	Alphabetic	**Representational class:**	Code
Field size:	**Max**: 3	**Representational layout:**	A(3)
Data domain:	Refer to 6.1 Relationship Type Code Set (HISOHPI6.1).		
Guide for use:			
Verification rules:	Valid code set value only.		

8.1.2 *Relationship Entity One*

Definition:	ENTITY ONE is the subject of the relationship with Entity Two being the object of the relationship. For example 12ABCD is an employee of GXA123.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max**: 6	**Representational layout:**	AN(6)
Data domain:			
Guide for use:	See 3.3 Common Person Number. See 4.3 Organisation Identifier See 5.2.1 Facility Identifier		
Verification rules:	Valid identifiers are used. Relationship Entity One must exist as a person, organisation or facility.		

8.1.3 *Relationship Entity Two*

Definition:	Entity One is the subject of the relationship with ENTITY TWO being the object of the relationship. For example 12ABCD is an employee of GXA123.		
Source standards:			
Data type:	Alphanumeric	**Representational class:**	Code
Field size:	**Max**: 6	**Representational layout:**	AN(6)
Data domain:			
Guide for use:	See 3.3 Common Person Number. See 4.3 Organisation Identifier See 5.2.1 Facility Identifier		
Verification rules:	Valid identifiers are used. Relationship Entity Two must exist as a person, organisation or facility.		

8.1.4 *Relationship Commencement Date*

Definition:	The DATE on which the relationship COMMENCED.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full Commencement Date of this relationship using century, year, month and day. If the date of commencement is not known, year of commencement data, should be collected (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

8.1.5 *Relationship Termination Date*

Definition:	The DATE on which the relationship TERMINATED.		
Source standards:	HL7 v2.4 DT – date.		
Data type:	Date	**Representational class:**	Full or Partial Date
Field size:	**Max**: 8	**Representational layout:**	CCYYMMDD
Data domain:	Valid date or year.		
Guide for use:	Enter the full Termination Date of this relationship using century, year, month and day. If the date of termination is not known, year of termination data should be collected (i.e. CCYY).		
Verification rules:	This field must: (a) be less than or equal to the date of record creation; and (b) be a valid date or year.		

Appendix A: HPI Identifiers for Organisation and Facility – Modulus 11

A1 Structure Requirements

A1.1 The format of the Organisation identifier will be: GXXNNN-C, where G is a constant character, 'X' is an alphanumeric character, 'N' is a number, and C is a separate field for the check digit that is calculated using Modulus 11 and mapped back to the common Modulus 11 conversion table for alpha to number characters.

A1.2 The format of the facility identifier will be: FXXNNN-C, where F is a constant character, 'X' is an alphanumeric character, 'N' is a number, and C is a separate field for the check digit that is calculated using Modulus 11 and mapped back to the common Modulus 11 conversion table for alpha to number characters.

A1.3 All alpha characters can be used except I and O, which can be confused with the number one '1' and number zero '0'.

A2 Modulus 11 Conversion Table

A2.1 The common conversion table for acceptable characters to numbers and vice versa is:

Table 1 Modulus 11 Conversion Table

A	1	J	9	S	17
B	2	K	10	T	18
C	3	L	11	U	19
D	4	M	12	V	20
E	5	N	13	W	21
F	6	P	14	X	22
G	7	Q	15	Y	23
H	8	R	16	Z	24

A2.2 The above conversion table is used to:

(a) assign a number to an alphabetic character.

(b) calculate the check sum for the Modulus 11 Algorithm and to map the resulting check digit back to an alpha character that will be displayed in the check digit field.

A2.3 A single conversion table has been chosen so that the check digit can be manually calculated and verified (if and when necessary). This standard is consistent with all other uses of the Modulus 11 Algorithm throughout the Ministry of Health and is also consistent with the use of the Modulus 11 Algorithm in the HPI CPN.

A3 Check Digit Requirements

A3.1 The check digit will be derived from the Modulus 11 Algorithm as follows:

(a) Facility Identifiers Check-digit

F (first alpha)	*	7
X (second alpha)	*	6
X (third alpha)	*	5
N (first numeric)	*	4
N (second numeric)	*	3
N (third numeric)	*	2

For example, FB9964 would become:
((F=6)*7) + (B=2)*6) + (9*5) + (9*4) + (6*3) +(4*2) = 161/11 remainder 7,
which becomes a check digit of G when mapped back to Table 1.

If the remainder (after the division of the total by 11) is 10, then the check digit is K. If the remainder is 0, then the Facility Identifier is not used and the next available number is used, as per the embedded functionality of the Modulus 11 Algorithm.

(b) Organisation Identifiers Check-digit

G (first alpha)	*	7
X (second alpha)	*	6
X (third alpha)	*	5
N (first numeric)	*	4
N (second numeric)	*	3
N (third numeric)	*	2

For example, GC8975 would become:
((G=7)*7) + (C=3)*6) + (8*5) + (9*4) + (7*3) +(5*2) = 174/11 remainder 9,
which becomes a check digit of J when mapped back to Table 1.

If the remainder (after the division of the total by 11) is 10, then the check digit is K. If the remainder is 0, then the Organisation Identifier is not used and the next available number is used, as per the embedded functionality of the Modulus 11 Algorithm.

A4 Check Digit Allocation – Strict Sequence

The Facility and Organisation Identifiers will be allocated in a strict alphanumeric sequence, with FAA001-c and GAA001-c considered to be the lowest or first values and FZZ999-c and GZZ999-c being the highest or last values.

Appendix B: HPI Identifiers for Common Person Number (CPN) – Modulus 11

B1 Structure Requirements

B1.1 The format of the Common Person Number identifier will be: NCAAAA, where 'N' is a number, 'A' is an alpha character, and 'C' is a separate field for the check digit that is calculated using Modulus 11 and mapped back to the common Modulus 11 conversion table for alpha to number characters.

B1.2 All alpha characters are use except "I" and "O", which can be confused with the number one "1" and number zero "0".

B2 Modulus 11 Conversion Table

The common conversion table for acceptable characters to numbers and vice versa is:

Table 2 Modulus 11 Conversion Table

A	1	J	9	S	17
B	2	K	10	T	18
C	3	L	11	U	19
D	4	M	12	V	20
E	5	N	13	W	21
F	6	P	14	X	22
G	7	Q	15	Y	23
H	8	R	16	Z	24

The above conversion table is used to:

(a) assign a number to an alphabetic character.

(b) calculate the check sum for the Modulus 11 Algorithm and to map the resulting check digit back to an alpha character that will be displayed in the check digit field.

The numeral zero "0" will not be used in the "N" portion of the CPN.

The letter "O" will not be used in the "A" portion of the CPN, to prevent it being mistaken for the numeral zero "0".

The letter "I" will not be used in the "A" portion of the CPN, to prevent it being mistaken for the numeral one "1".

A single conversion table has been chosen so that the check digit can be manually calculated and verified (if and when necessary). This standard is consistent with all other uses of the Modulus 11 Algorithm throughout the Ministry of Health and is also consistent with the use of the Modulus 11 Algorithm in the HPI Facility and Organisation.

B3 Check Digit Requirements

The CPN identifiers check digit will be derived from the Modulus 11 Algorithm as follows:

N (first digit)	*	6
A (first alpha)	*	5
A (second alpha)	*	4
A (third alpha)	*	3
A (fourth alpha)	*	2

For example, 1cABCD would become:

1 (first digit)	1 * 6	= 6
A (first alpha)	1 * 5	= 5
B (second alpha)	2 * 4	= 8
C (third alpha)	3 * 3	= 9
D (fourth alpha)	4 * 2	= 8
Total		= 36

The checksum is calculated by dividing the total by 11, i.e. 36/11, which equals 3.

The check digit is calculated by subtracting the checksum from 11, i.e. 11 – 3 which equals 8.

The check digit is therefore 8 and the resulting CPN would be 18ABCD.

If the check digit calculation (after the division of the total by 11) returns a value of 10, then the check digit used in the CPN is zero “0”. If the checksum (i.e. the remainder value) is zero “0”, then the CPN number is not used and the next available number is used.

Bibliography

Details of established data definitions or guidelines for data elements that have been cited in this Standard are:

AS/NZS 7799.2:2000 ***Information security management, Part 2: Specification for information security management systems.*** This Standard forms the basis for an assessment of the information security information management systems (ISMS) of a whole, or part, of an organisation. It may be used as a basis for formal certification. This Standard was formerly known as AS 4444.2:2000. AS/NZS 7799 should be read in conjunction with AS/NZS ISO/IEC 17799.

AS/NZS ISO/IEC 17799:2001 ***Information technology – Code of practice for information security management***: provides recommendations for information security management for use by those who are responsible for initiating, implementing or maintaining security in their organisation. It is helpful in developing organisational security standards and effective security management practice.

New Zealand Privacy Commissioner Web Site <www.privacy.org.nz>: details current Commonwealth privacy legislation, regulations, codes, principles, and other privacy information/links relevant for New Zealand, for both the public and private sectors.

Health Level Seven (HL7): is an international health data messaging standard published by Health Level Seven Inc (Ann Arbor, USA). The standard provides guidance for data exchange formats and unification of software interfaces for administrative and clinical data. AS 4700 provides an Implementation Standard for Australia for this international HL7 Standard. See also Section 4 *Messaging* and www.hl7.org.

Statistics New Zealand Country Code List (NZSCC99): lists all countries and uses a four digit number to identify these.

ISO 3166-1:1997 Codes for the representation of names of countries and their subdivisions – Part 1: Country Codes: lists all countries and uses three codes, a two letter code, a three letter code and a 3 digit code.