Health Identity

eSAM Address Web Services
User Guide

Version 3.1

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# Introduction and Overview

The Health Identity Programme (HIP) has delivered Address Validation Web Services to support accurate and standardised Address and Geospatial data within health sector applications. The Web Services are called eSAM and are available for integration into sector patient management applications. This resource pack will enable and support the integration and use of the new services.

Note: eSAM Address Validation Web Services are a replacement for the existing geocoding mechanisms used in the health sector – Geostan and NADIS.

The eSAMMoHAddress Web Service allows an application to perform an address search using a predictive text search (similar to that used by Google) or an address search by supplying a list of address strings. The Web Service includes 5 operations:

* SuggestAddress
* FindAddress
* GetAddressDetails
* GetExtraDetails
* GetCAUExtraDetails

The eSAMMoHAddress Web Service can be integrated into applications by:

* Type-ahead address input field into a Web page (using HTML and Javascript). This uses a REST protocol where the request is passed to the Web Service via HTTP GET and results returned as JSON.
* Five address input fields passed to FindAddress using SOAP over the HTTP POST protocol. An example of this would be a simple 5 line search form displayed on a Web page.

## SuggestAddress

SuggestAddress is an incremental search interface that presents the users with a new list of possible options *every time a letter is typed*.

SuggestAddress was designed for New Zealand addresses and references an authoritative dataset supplied by NZ Post and updated monthly. Typically SuggestAddress is used for ‘point of entry’ systems that provide the user with the ability to decide on the ‘correct’ address.

## FindAddress

FindAddress is a search tool that presents the user with a list of candidate addresses from input in five text fields. Each of the candidate addresses includes a MatchScore (confidence score) which indicates how closely the address matches the input supplied. Typically, FindAddress is used for:

* Systems that require an address search by supplying a set of free-text fields
* Machine to machine address validation

## Extra Data

When an address is selected using the SuggestAddress or FindAddress call it returns a range of extra information about that location derived from NZ Post, LINZ, Department of Statistics and MoH Data. This data includes the physical coordinates for the address, so it can be instantly located on a map. Other data includes:

* Meshblock
* Census Area Unit
* Domicile
* DHB Code
* Deprivation Decile

Note: the data elements that relate to census values (eg. meshblock) will be implemented with 2006 values initially and updated with each census.

# Access, Authorisation and Security Requirements

The eSAM Address Web Services must be used over Connected Health and only by authorised health provider organisations and users.

Each Web Service call must include the provider HPI-ORG (organisation) identifier, unique Application identifier and User ID.

The HPI-ORG identifier is issued by Ministry of Health from the Health Provider Index for each health provider. This should be implemented as a configurable setting within the vendor application.

The Application identifier is issued to each sector vendor application and has a unique value assigned by MOH.

The User ID will reflect the specific ID of the user accessing the Address service from the local application i.e. the individual’s login ID.

Once integration of the services within a local application is completed, a compliance test will be necessary before live production access is approved. This will be arranged with the Ministry’s health identity team at a time that suits both parties and standard test data will be issued for the test.

## Prerequisites

|  |  |
| --- | --- |
| Become a Health Network member | <http://www.ithealthboard.health.nz/connectedhealth> |
| Complete Address service access request | <http://www.health.govt.nz/our-work/health-identity/addressing-and-geocoding/addressing-and-geocoding-information-health-providers>  |

# Using the Address Services

## Working with the data via the web services

Once the eSAM Address web services are integrated into an application, users will call the web services when they are entering or updating an address and the validated Address will populate the appropriate fields within the application. The user will need to understand the particular requirements for entry of an address for submission to the web service in order to get the validated address returned as an option (SuggestAddress) or presented in the list for further selection (FindAddress). Best Practice data entry is outlined later in this section.

Where a user is unable to get a validated address from the reference data, the un-validated address should be stored with a flag to indicate the need for subsequent follow-up. This should be done using the resolution service, available by submitting a query to the Ministry’s National Contact Centre with the following information:

* Details of the address being queried. When the query is submitted via email, paste the address details into the email subject line
* The full name of the person querying the address (or an appropriate contact person within the team)
* The email address of the person querying
* The telephone number of the person querying
* Any reference to a patient or patient identifier (for example, the NHI) should be removed before sending the email query to ensure patient confidentiality is maintained.

The Contact Centre has a user interface available to provide first-line support and will work with the user to get a validated address. If this is not possible, the Contact Centre will initiate a query to a NZ Post helpdesk service. The expected turnaround time for this is three working days.

## Technical Issues with the Web services availability

Users should first contact their own IT health systems provider if they have a vendor help desk available. If further diagnosis and resolution is required, users (or the vendor help desk) should log a call with the Ministry’s National Contact Centre.

## Best Practice Data Entry - Suggest Address TIPS

1. Just entering the street number and the first part of the street name will not necessarily produce the correct address to select. Generally, the more information you supply, the more likely that the list of potential addresses listed will contain the correct address.
* For example, you’re trying to find a Princes Street address in Dunedin. Entering ***‘Princes Street’*** initially only generates Auckland addresses to select; however, when you type in ***‘Princes Street, Dunedin’*** it now displays Dunedin addresses.
1. As the above example illustrates, addresses are able to be entered into Suggest Address without a ***street number***, however, the options listed for selection will have street numbers. Thus, to be certain you’re selecting the correct address you need to know the street number.
2. If an incorrect street number is entered (ie where the street doesn’t have an address at that number) Suggest Address will not find the correct addresses to select. If you are certain the street does include that number, please contact the Ministry of Health Contact Centre, as outlined in the section above.
3. Suggest Address does not find ***State Highway Addresses*** when the road has an alternative ‘Official Road Name’. For example, the segment of State Highway 1 between Palmerston and Waikouaiti is officially known as Palmerston-Waikouaiti Road. If you’re struggling to find a State Highway address you could:
* use the official road name – it is often simply the combination of the two town names that the road connects
* use eSAM Find Address
* write ‘State Highway’ in full, without any abbreviations, as eSAM may not recognise the abbreviation you’re using.
1. If you can’t find an address, try entering just the first letter or two of each of the words in the address.
* For example, if you’re trying to find 32 Warepore Street, Berhampore, Wellington, simply enter 32 Wa St, Be, We. This returns 32 Waripori Street, Berhampore, Wellington – the address you’re trying to find! The problem previously was that you were spelling it incorrectly (Warepore). This example illustrates how this capability can be very useful when you’re not sure of the exact spelling of an address.
* More examples
	+ ***“4 J W P, Auckland”*** returns three suggestions, ***‘4 James Walter Place, Mount Wellington, Auckland’***, or ***‘4 John Webster Place, Glen Eden, Auckland’*** or ***‘4a James Walter Place, Mount Wellington, Auckland’***
	+ ***‘169R Mat R, Mount M’*** returns ***‘169R Matapihi Road, Mount Maunganui’***
1. Suggest Address does not recognise organisation, building or farm names, so when entering an address exclude these details.

## Best Practice Data Entry - Find Address TIPS

1. Find Address requires that you enter a street number. If no street number is entered no potential address matches will be returned.
2. If entering a Rural Delivery (RD) number, enter it on the line above the town name. Find Address does not recognise RD numbers that are entered on a line below or after the town name, therefore the correct address may not get found, and even if it is it will be with a lower MatchScore.
3. FindAddress does have some ability to filter out extra unnecessary details (such as C/- details and/or organisation names). However, they will not be retained when the correct address is selected.
4. Street numbers without a street alpha (eg 5 as opposed to 5A) need to be included on the same line as the street name. If street numbers without street alphas are on a different AddressLine to the street name then no matching address will be listed to select.

## General Troubleshooting

Still having trouble finding an address? Have a look at some common issues below to see if there’s anything you can do differently to find the address you’re looking for…

### Street Alphas

When entering addresses with Street Alphas (the A in ‘5A Smith Street’ is a Street Alpha), they should be entered immediately after the street number, with no space between them. For example, enter ‘5A Smith Street’ instead of ‘5 A Smith Street’. This rule is used because there are road names within New Zealand which start with a single letter, eg J Renall Road.

### Abbreviations

Many addresses have common abbreviations. If a particular address is not returning the correct result try entering the name in full without using any abbreviations. For example, eSAM Suggest Address does not recognise Gt as an abbreviation for Great.

### RAPID Numbers

RAPID (Rural Address Property Identification) Numbers should be treated the same as Urban Street Numbers. Therefore, there is no need to write ‘RAPID’ before the street number.

### Rural road names

Many rural roads are named after the two places the road joins. For example, Otautau Drummond Road joins the two townships of Otautau and Drummond. When entering and searching for these addresses there are a few common issues:

* Using the wrong separator – space instead of hyphen and vice versa (eg entering Otautau-Drummond Road, when the Official Road Name is Otautau Drummond Road).
* Using an invalid separator (eg Otautau/Drummond Road)
* Getting the town names that are included in the road name in the wrong order (eg Drummond Otautau Road instead of Otautau Drummond Road)
* If you are having trouble with this type of address you can try:
* Using a different separator
* Entering the two towns that combine to make the street name in the opposite order (eg Otautau Drummond Road instead of Drummond Otautau Road)
* Consulting a map, or looking on the internet, eg Google maps

### Flat/Unit/Apartment Number Notation

Any flat/unit/apartment numbers should be entered before the street number eg 1/700 Great King Street North, instead of 700/1 Great King Street North. The number before the “/” is the flat/unit/apartment number and the number after the “/” is the Street number. The “/” is the separator to use between the unit number and the street number, and spaces shouldn’t be added. Other separators will not find any addresses to match to.

### Punctuation

The correct punctuation within a street name is important to finding the correct address. For example, e-Sam will not find an address at OConnor Drive because it is missing the apostrophe between the O and the C. O’Connor Drive will find the address.

### Duplicate streets in the same region

There are at least several examples of the same street name in the same region. For example there are several Queen Streets in the Auckland area. Similarly, there are two Cuba Streets in the wider Wellington area. Please ensure you enter and attain the correct address.

### Duplicate streets and suburbs

There are also several examples of very similar street names and suburbs in different regions. For example, Morningside Road, Morningside, Whangarei and Morningside Drive, Morningside, Auckland could easily be incorrectly selected. Please ensure you enter and select the correct address.

### Missing or Additional Spaces

Please ensure you have the correct spelling, as misspelt addresses are less likely to match to the correct address, and in many cases will not match at all.

* A common error in regards to this is incorrectly putting the space in the middle of the word (eg Pine Hill Crescent instead of Pinehill Crescent), or incorrectly combining two words into one (eg Tirakau Drive instead of Ti Rakau Drive).
* Another common misspelling is entering an s at the end of a name, or alternatively not entering the s at the end of a name. For example, entering Robert Avenue instead of Roberts Avenue. Princes Street, when the correct spelling is Princess Street is another common example.

### Directionals – Pre and Post

A pre-directional is the East in East Smith Street. A post-directional is the West in Smith Street West. Other pre and post directions include North, South, Upper and Lower. For eSAM to find the directional it needs to be part of the Official Road Name, and needs to be entered in the correct place in the address. For instance, St Aubyn Street East is the name of a street in Hastings, but would not be found if East St Aubyn Street was entered.

### Homophones (Misheard Street names)

When you have been given an address verbally it is possible that the street name has been mis-heard, and therefore will be entered incorrectly. As an example, the street Warspite Avenue could be heard as Horse Bite Avenue. There are potentially endless examples of such miscommunications, which will obviously stop you finding the correct address using e-SAM. Therefore, it is important that you clarify the address with the source. This is probably particularly relevant when you hear a street name you have never heard before.

##  Frequently Asked Questions

Q. What are the differences between the two e-SAM functions - Type Ahead (SuggestAddress) and Find Address?

*Type Ahead* allows the user to enter the address one character at a time and the tool returns a new list of possible options every time a character is typed.

With *Find Address*, the whole address is submitted at once and a list of likely matches is returned with a score indicating the quality of the match.

Q. Do I always need a house number?

*Find Address* will not find an address without a house number but *Type Ahead* will provide a list from which to choose.

Q. What are the differences between GeoStan and e-SAM?

There are some significant differences that existing users of GeoStan will need to be aware of; these are outlined below:

|  |  |
| --- | --- |
| Matching logic | The GeoStan application uses fuzzy logic to find a matching address which assigns coordinates and dependant geospatial data. Where the given address doesn’t find a specific match, GeoStan will check for possible misspellings of the details submitted and offer possible suggestions. If the house number is not found in the reference data or none is given, Geostan has the ability to geocode just to road level. In contrast, the e-SAM application validates the given address against a database to locate the correct address. Once the user has selected the correct address e-SAM will retrieve the geospatial data attributed to the address. Spelling and punctuation must be correct for e-Sam to locate the address in the database. The Suggest Address service does not work with aliases so any locally known road name not in the reference data will not be found. It will also not assign coordinates to a submitted address without a street number. |
| Results | Quality of result: If an address is validated by e-SAM and the user selects the address as their intended choice then this data will be 100% correct. GeoStan may provide what it thinks the user was after but this is not guaranteed to be accurate.Matching success: e-SAM will match fewer addresses than GeoStan because the two products use different matching logic. When an address is matched, the final result may differ between the e-SAM and GeoStan databases. Postal address accuracy: e-SAM returns a more acceptable postal address result, because the database is primarily populated by NZ Post data.  |
| Suburb / city combinations  | This is one area where differences may be particularly noticeable between the two products. Due to the e-Sam database being updated more regularly and with higher quality data there are instances of suburbs being different in e-Sam to those returned by Geostan. The Ministry is confident that e-Sam suburbs will be more accurate and provide higher quality address data. |
| Abbreviations | It is likely that some abbreviations commonly accepted in GeoStan will not be accepted in e-Sam. The user should be instructed to try using full names where a match has not been possible. For example, try Saint instead of St or St instead of Saint, and Third Avenue instead of 3rd Avenue.  |

Q. What are the differences between NADIS and eSAM?

This section still under development.

Q. Will e-SAM match foreign addresses?

e-SAM is designed to match New Zealand addresses only. Users should be instructed not to submit ‘country’ as part of an address for matching. If ‘country’ is submitted as part of the permitted 5 lines of address input, this component may be incorrectly matched against a suburb or city and the resultant coordinates may be wrongly assigned.

Q. Can I submit the full address in the first line in *Find Address*?

A user can submit the address as five separate lines of information or combined into a single line. If the address is submitted in a single line, it is important that each component is separated by a comma. There is a ‘*parsing*’ function within e-SAM that recognises the different address components if they are separated by a comma.

Q. Why didn’t the user receive any results?

If the format of the submitted address request is incorrect, it is likely to be rejected without any additional information about the error. The user should experiment by typing different combinations of address data considering some of the options above (matching logic, results, suburb / city combinations, abbreviations).

If data is not entered into a mandatory field, an empty response will be returned with no additional error detail.

Q. Why are *‘road type’* and *‘road suffix match flags’* set to A, even though they look the same as the matched values?

Generally Match Flags are set to Y for a direct match and A for an alias match. However, if MatchedRoadName is set to A for alias, MatchedRoadTypeName and MatchedRoadSuffixName are also set to A, even though the components may have found a direct match. This is because Road Type and Road Suffix only have relevance in conjunction with the Road Name.

The above information is intended for the IT Health vendor – see Section 2, ‘*Technology overview and developer’s guide*’ for a description of match flags and aliases.

Q. Why did my misspelt road name not find an alias value?

e-Sam has an ‘alias’ database which contains a number of alternatives for common addresses that may be abbreviated or are known by an alternate name. It will not contain misspellings. If a common address does not have an alias but needs one, the suggested new alias can be included in the database. To do this, users will need to communicate with the National Contact Centre at the Ministry of Health. Aliases are only stored for users who use *‘Find Address’*. Aliases are not used in ‘*Type Ahead’*.

# Support

|  |  |
| --- | --- |
| Ministry of Health National Contact Centre  | Email: onlinehelpdesk@moh.govt.nzTelephone: 0800 505 125 |
| More information about Health Identity | <http://www.health.govt.nz/our-work/health-identity> |
| Address Service Access Request Form | <http://www.health.govt.nz/our-work/health-identity/addressing-and-geocoding/addressing-and-geocoding-information-health-providers> |