

# Onboarding Cardiovascular Risk Calculator API

## Overview

The Systole CVRA API is used to provide an interface which closely matches the [original academic publication](#) and later the [HISO documentation](#) and allows for ease of integration and future updates to the algorithm. The onboarding process for new integrators should be relatively easy and involves integrating against the test environment initially and once operational, repointing the integration at the production environment.

There are different algorithm implementations:

- general
- diabetes
- public

The general algorithm is appropriate for the general population while the diabetes algorithm is designed specifically for people with diabetes. The inputs to each algorithm implementation differ. A patient with diabetes may still have their risk calculated with the general algorithm, as it does accept a diabetes indicator flag and the patients diabetes factors into the risk calculation; however the diabetes algorithm takes additional information into account to further estimate risk.

Different implementations may be made available in the future.

The public algorithm is a special case of the general implementation which allows omission of detailed clinical results. It should not be used by integrators.

## Test Integration Process

1. Request an api key for <https://test.api.systole.datacraft.nz/>
2. Review the openapi documentation on <https://api.cvdriskassessment.min.health.nz/index.html>
3. DataCraft support can be requested through [support@datacraft.nz](mailto:support@datacraft.nz) and examples payloads can be supplied
4. Request Production Approval from DataCraft

DataCraft will review the test submissions to the service and ensure that they conform to the guidelines, particularly that the correct algorithm versions are being called and appropriate flags such as what-if are being used.

## Production Integration Process

Once approved from the test environment, the process is relatively simple

1. Request an api-key for production <https://api.cvdriskassessment.min.health.nz/>
2. Deploy to production

## Environments

### Testing

- <https://test.api.systole.datacraft.nz/>

### Production

- <https://api.cvdriskassessment.min.health.nz/>

## Implementation Notes

### Versioning

Please use the latest Major Versions of Each algorithm:

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Algorithm	Current Major Version
general	4
diabetes	3
public	1

Unless specified minor and patch versions will be automatically updated. Under normal circumstances you will only wish to stipulate the major version you wish to use.

### Headers

Ensure **both** of the following headers are present in each request:

Header Name	Value	Notes
authentication	key	
api-key	{yourApiKey}	Supplied per Environment

### Whatif Flag

Some tools allow users to make a calculation and then to experiment with different values of inputs to understand the effect these have on the outputs. Where a submission is **not** an actual calculation with actual patient values we encourage integrators to detect or allow the user to mark these as such and to pass this information through to the API using the "whatif" flag for the "submission-type" parameter.

This flag may also be set for testing purposes.

- When Testing, please use "submission-type": "whatif" flag. Also use this flag if the request is not an accurate representation of the patient (e.g. what would patients risk be if they never smoked)

### Example JSON payload - General Version 4

```
{
  "major-version": "4",
  "nhi": "ABC1234",
  "algorithm-type": "general",
  "sex": "female",
  "age": "32",
  "height": "1.55",
  "weight": "80",
  "ethnicity": "43",
  "dep": "2",
  "famhx": "0",
  "af": "0",
  "diab-type": "1",
  "hdl": "5.4",
  "egfr": "0",
  "obplm": "0",
  "yearsdiagnosedt2d": "0",
  "sc": "72",
  "acr": "",
  "hbalc": "34",
  "bmi": "25",
  "ollm": "0",
  "oohm": "0",
  "onanticoagulants": "0",
  "onantiplatelet": "0",
  "smoking-status": "0",
  "sbp": "145",
  "hdlc": "5.4",
  "tc": "5.7",
  "diabetes-medication": "0",
  "prior-cvd": "0",
  "prior-mi": "0",
  "prior-cabg": "0",
  "prior-is": "0",
  "prior-tia": "0",
  "prior-pvd": "0",
  "heart-failure": "0",
  "submission-type": "whatif"
}
```