



Delivering a single open data portal for NHS in Scotland



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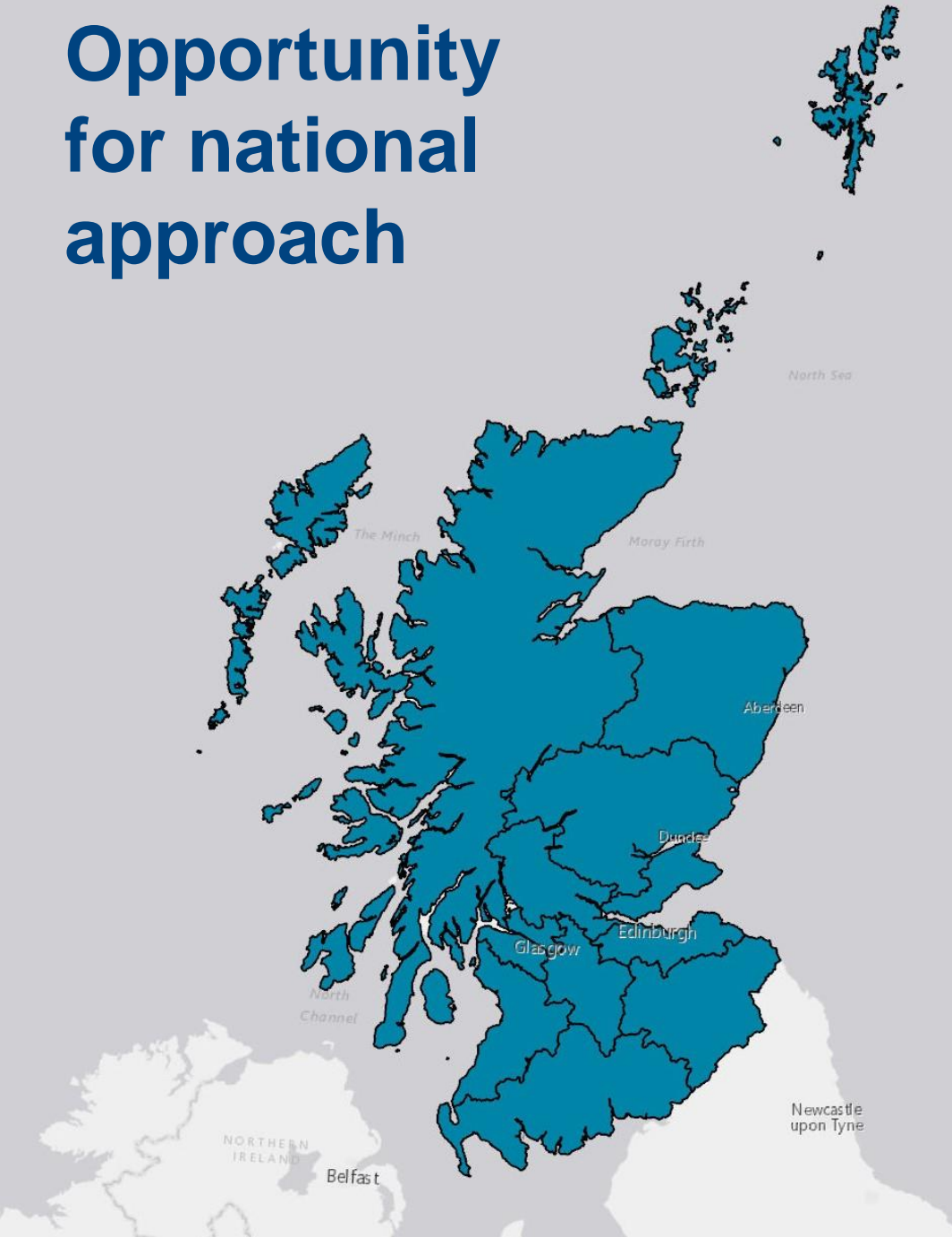
Opportunity for national approach

**“Once for NHS
Scotland”**

Single open data
portal

Sharing resources

Uniform technical
standards



Setting the scene

- ISD is an official statistics producer, part of NHSScotland
- Releasing 230+ publications every year
- Increasing demand for data:
 - In an accessible, non-proprietary, format
 - Structured and consistent
 - Machine-readable and processable
- Strategic direction of Scottish Government



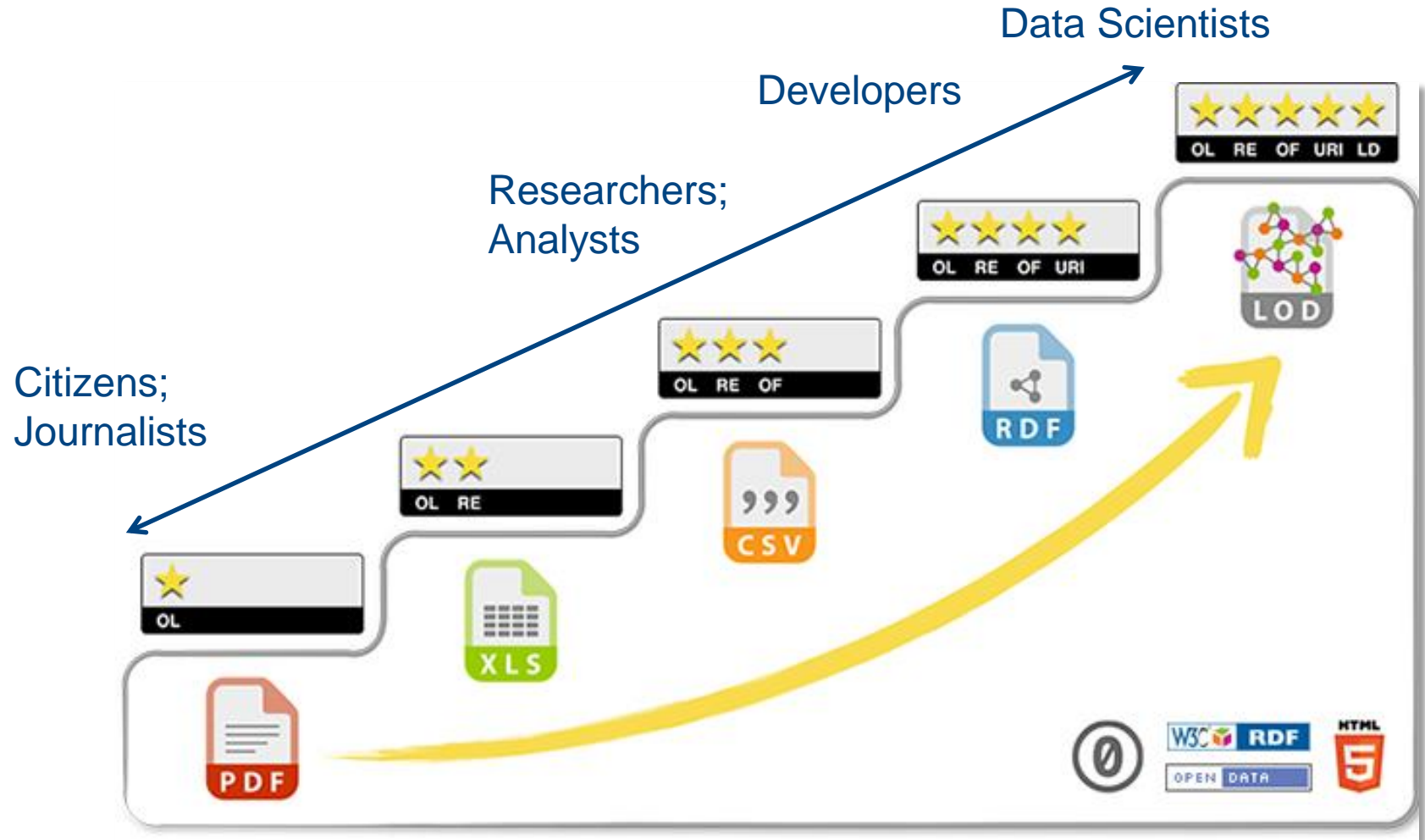
What is open data?

“Open data and content can be **freely used, modified, and shared** by **anyone** for any purpose”

ODGL

<http://opendefinition.org/>

Five star open data model



Open data journey

Scottish Government Open Data Strategy (February)

Re-use of Public Sector Information Regulations (June)



NSS Open Data Working Group

Options Paper - Agree platform

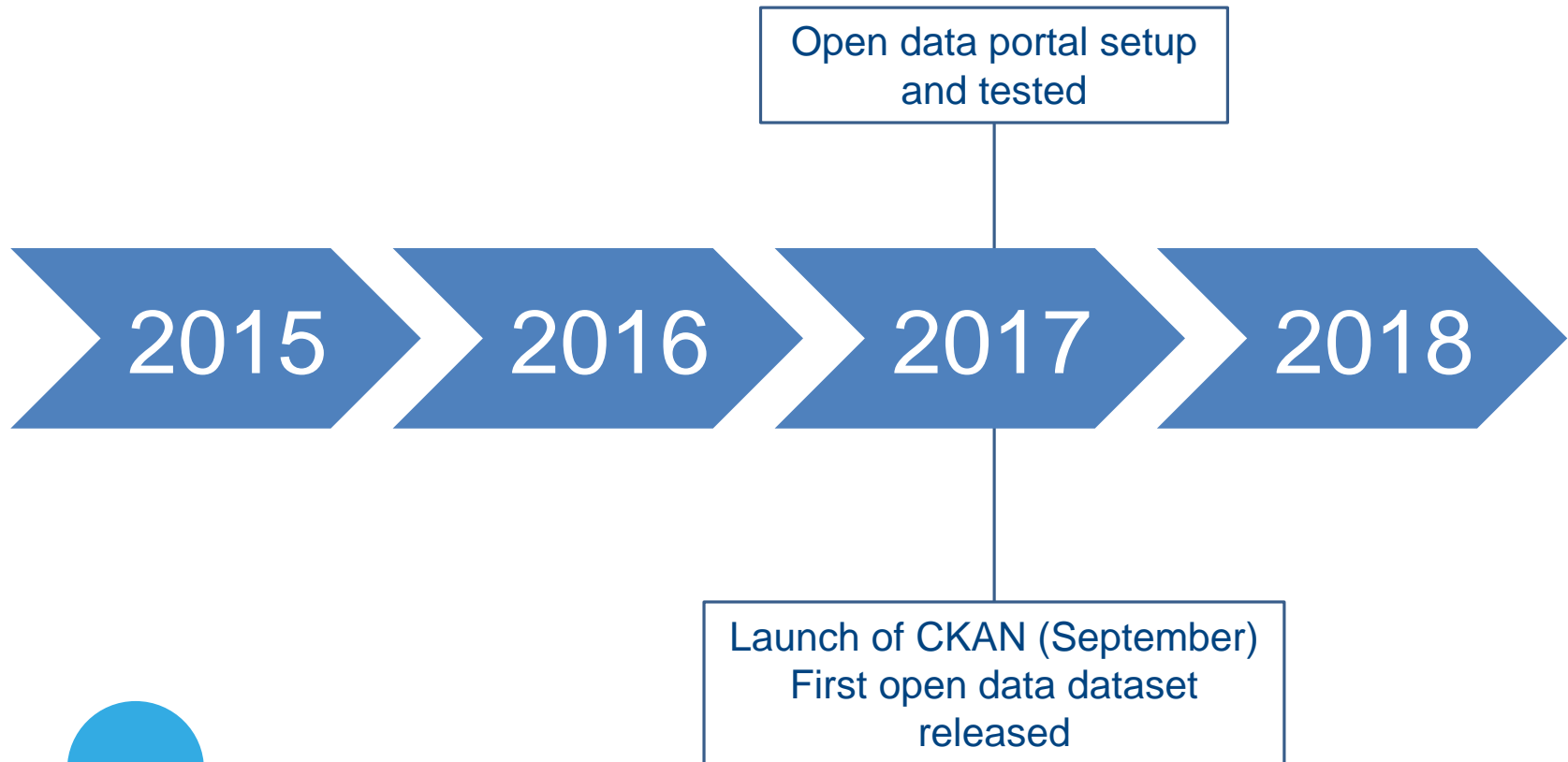
CKAN

Comprehensive Knowledge Archive Network

- Open source data portal for storing, managing and distributing open data
- Modular - Core package with over 200 extensions
- API
- Worldwide use - UK Open Data Portal, EU Open Data Portal and US Open Data

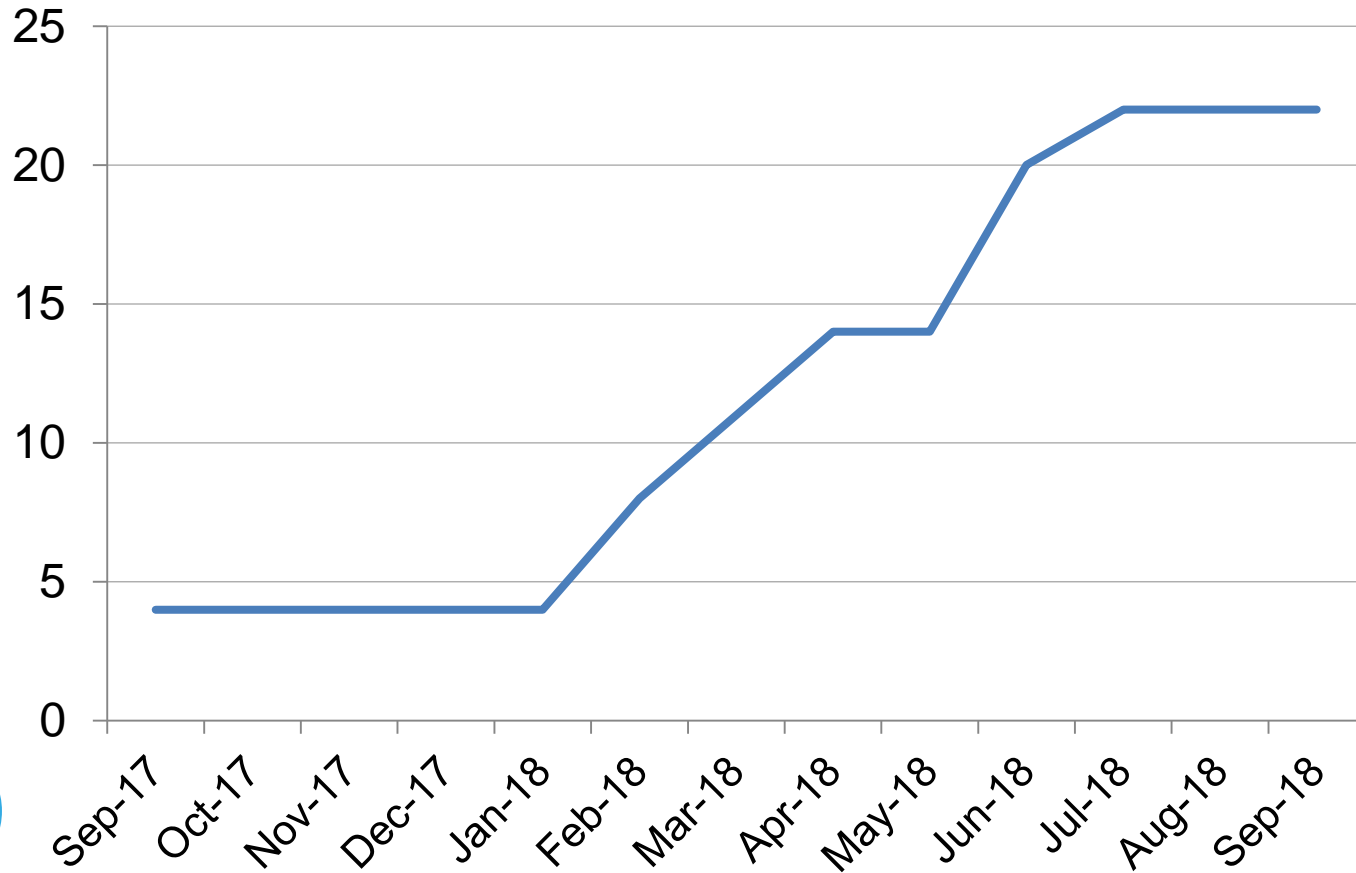


Open data journey



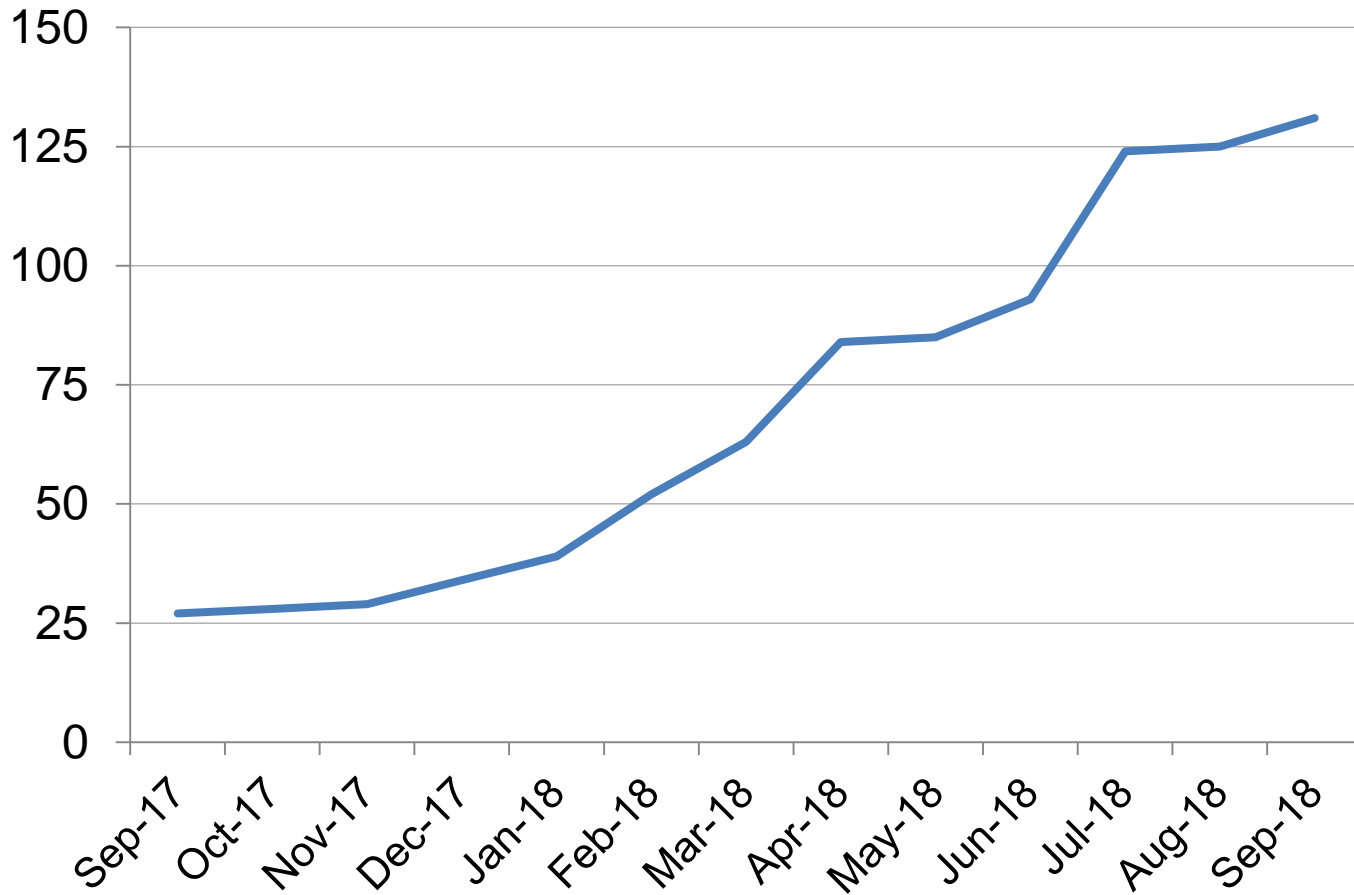
Where we are now

Number of Datasets



Growth in open data resources

Number of Resources



NHSScotland Open Data platform

[Datasets](#) [Themes](#) [Groups](#) [About](#)  

NHS Scotland Open Data

The NHSScotland open data platform gives access to statistics and reference data for information and re-use.

This platform is managed by NHS National Services Scotland for NHSScotland. Data is released under the Open Government Licence.

NHS Open Data statistics

23	7	13
datasets	themes	groups

Search data

E.g. environment

Popular tags

health board

council area

data zone

About NHS Open Data

[CKAN API](#)

[CKAN Association](#)

[OPEN DATA](#)

Powered by

 ckan

Language:

<https://www.opendata.nhs.scot/>

Lessons learned

- Need to recognise and challenge misunderstandings about open data
- Culture shift – from ‘ownership’ of data to open access - dealing with resistance to change
- Need to create and maintain open data standards
- Consistency and good metadata is essential for users



Positive impact of open data

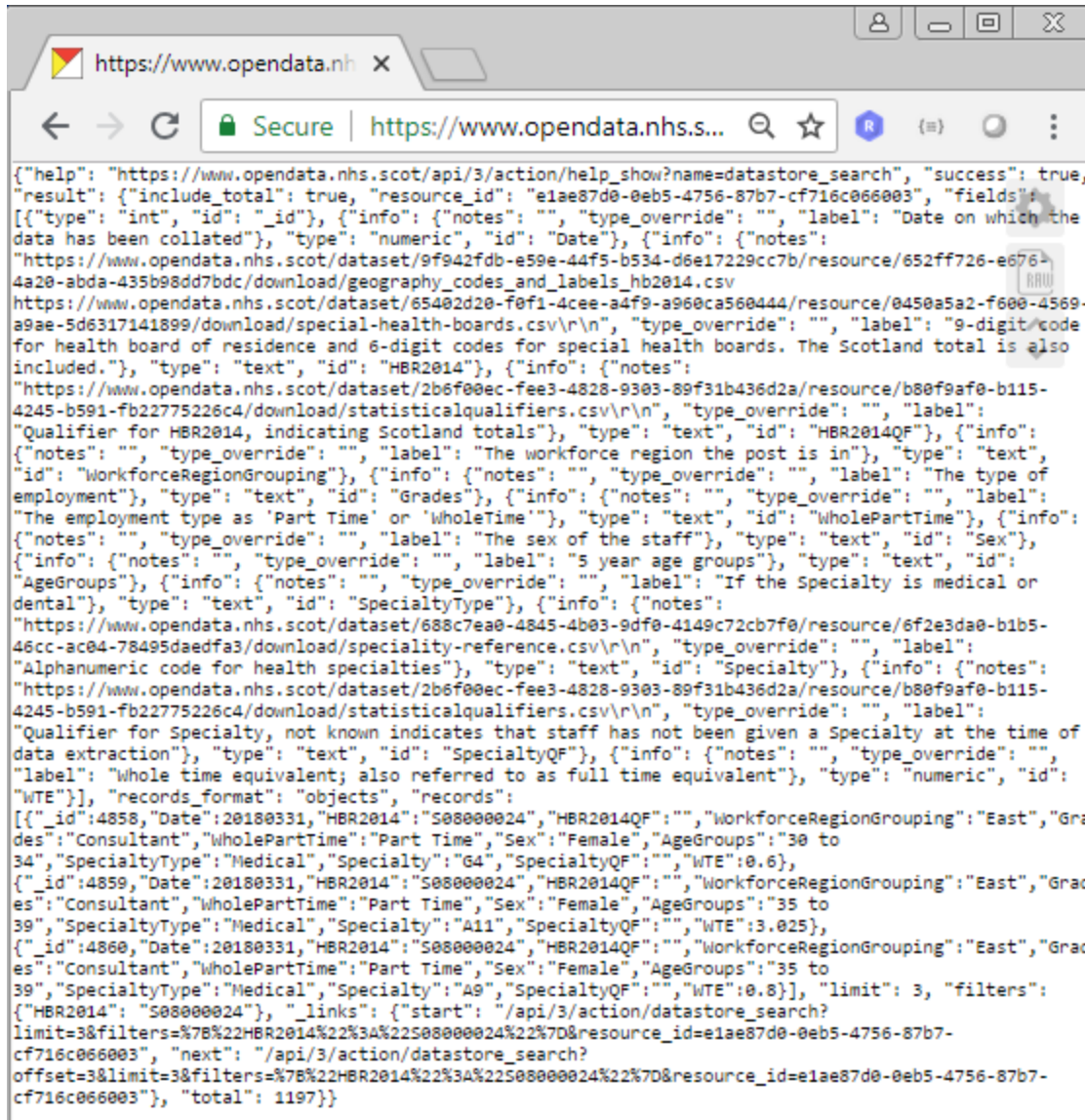
- Increased transparency
- Reduction in routine requests
- Data can be more easily linked
- Single portal increases discoverability for users
- Increased automation through API calls – programmatic use of data



Benefits of APIs

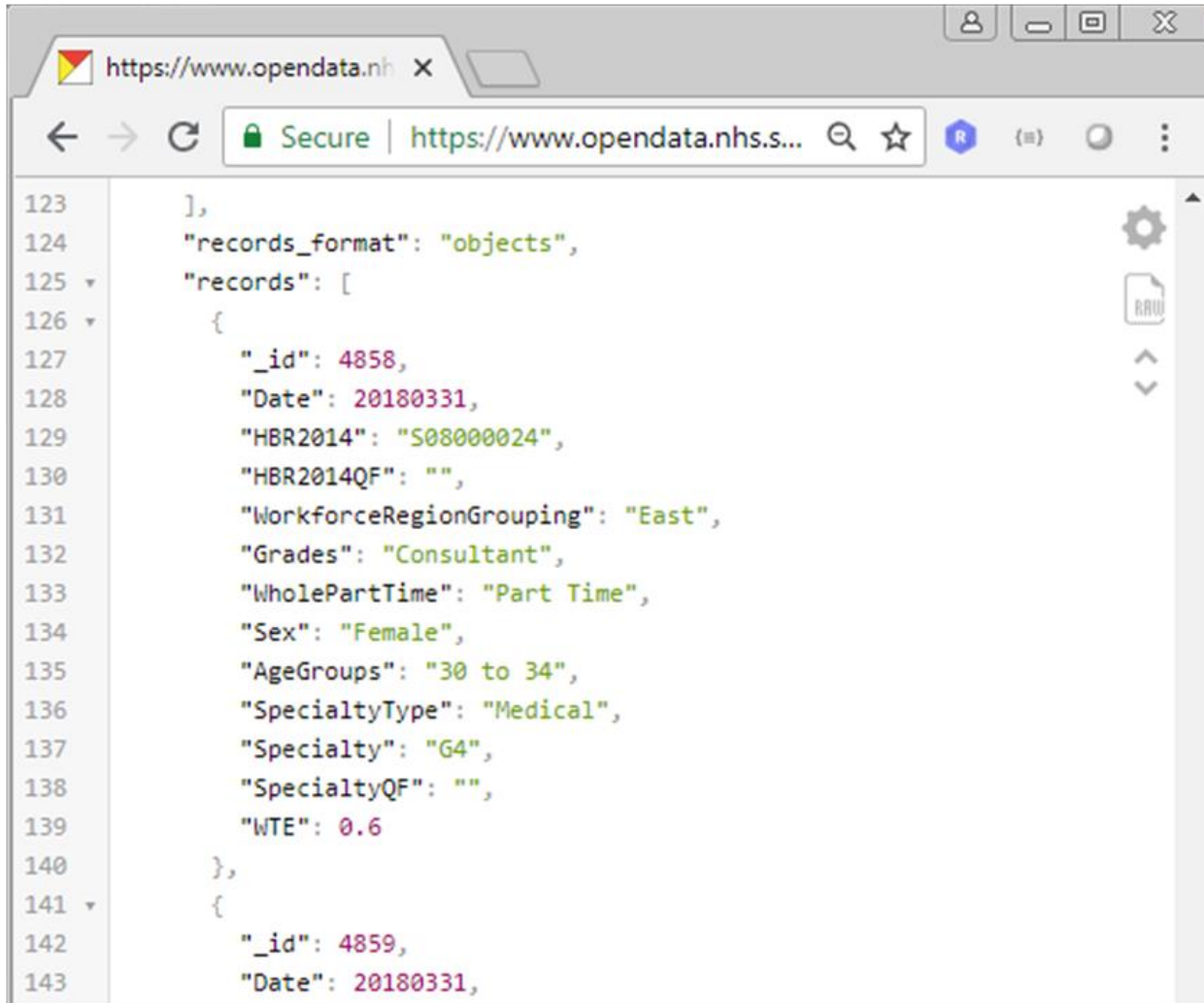
- Application Programming Interface
- Building blocks for applications
- Facilitating automatic retrieval of data
- Example:
 - [https://www.opendata.nhs.scot/api/3/action/datastore_search?&resource_id=e1ae87d0-0eb5-4756-87b7-cf716c066003&limit=3&filters={"HBR2014":"S08000024"}](https://www.opendata.nhs.scot/api/3/action/datastore_search?&resource_id=e1ae87d0-0eb5-4756-87b7-cf716c066003&limit=3&filters={)

API response – machine readable



```
{
  "help": "https://www.opendata.nhs.scot/api/3/action/help_show?name=dataset_search",
  "success": true,
  "result": {
    "include_total": true,
    "resource_id": "e1ae87d0-0eb5-4756-87b7-cf716c066003",
    "fields": [
      {
        "type": "int",
        "id": "_id",
        "info": {
          "notes": "",
          "type_override": "",
          "label": "Date on which the data has been collated"
        },
        "type": "numeric",
        "id": "Date",
        "info": {
          "notes": "https://www.opendata.nhs.scot/dataset/9f942fdb-e59e-44f5-b534-d6e17229cc7b/resource/652ff726-e676-4a20-abda-435b98dd7bdc/download/geography_codes_and_labels_hb2014.csv",
          "type_override": "",
          "label": "9-digit code for health board of residence and 6-digit codes for special health boards. The Scotland total is also included."
        },
        "type": "text",
        "id": "HBR2014",
        "info": {
          "notes": "https://www.opendata.nhs.scot/dataset/2b6f00ec-fee3-4828-9303-89f31b436d2a/resource/b80f9af0-b115-4245-b591-fb22775226c4/download/statisticalqualifiers.csv\r\n",
          "type_override": "",
          "label": "Qualifier for HBR2014, indicating Scotland totals",
          "type": "text",
          "id": "HBR2014QF",
          "info": {
            "notes": "",
            "type_override": "",
            "label": "The workforce region the post is in",
            "type": "text",
            "id": "WorkforceRegionGrouping",
            "info": {
              "notes": "",
              "type_override": "",
              "label": "The type of employment",
              "type": "text",
              "id": "Grades",
              "info": {
                "notes": "",
                "type_override": "",
                "label": "The employment type as 'Part Time' or 'WholeTime'",
                "type": "text",
                "id": "WholePartTime",
                "info": {
                  "notes": "",
                  "type_override": "",
                  "label": "The sex of the staff",
                  "type": "text",
                  "id": "Sex",
                  "info": {
                    "notes": "",
                    "type_override": "",
                    "label": "5 year age groups",
                    "type": "text",
                    "id": "AgeGroups",
                    "info": {
                      "notes": "",
                      "type_override": "",
                      "label": "If the Specialty is medical or dental",
                      "type": "text",
                      "id": "SpecialtyType",
                      "info": {
                        "notes": "https://www.opendata.nhs.scot/dataset/688c7ea0-4845-4b03-9df0-4149c72cb7f0/resource/6f2e3da0-b1b5-46cc-ac04-78495daedfa3/download/speciality-reference.csv\r\n",
                        "type_override": "",
                        "label": "Alphanumeric code for health specialties",
                        "type": "text",
                        "id": "Specialty",
                        "info": {
                          "notes": "https://www.opendata.nhs.scot/dataset/2b6f00ec-fee3-4828-9303-89f31b436d2a/resource/b80f9af0-b115-4245-b591-fb22775226c4/download/statisticalqualifiers.csv\r\n",
                          "type_override": "",
                          "label": "Qualifier for Specialty, not known indicates that staff has not been given a Specialty at the time of data extraction",
                          "type": "text",
                          "id": "SpecialtyQF",
                          "info": {
                            "notes": "",
                            "type_override": "",
                            "label": "Whole time equivalent; also referred to as full time equivalent",
                            "type": "numeric",
                            "id": "WTE"
                          }
                        }
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    ]
  },
  "records_format": "objects",
  "records": [
    {
      "_id": 4858,
      "Date": "20180331",
      "HBR2014": "S08000024",
      "HBR2014QF": "",
      "WorkforceRegionGrouping": "East",
      "Grades": "Consultant",
      "WholePartTime": "Part Time",
      "Sex": "Female",
      "AgeGroups": "30 to 34",
      "SpecialtyType": "Medical",
      "Specialty": "G4",
      "SpecialtyQF": "",
      "WTE": 0.6,
      "_id": 4859,
      "Date": "20180331",
      "HBR2014": "S08000024",
      "HBR2014QF": "",
      "WorkforceRegionGrouping": "East",
      "Grades": "Consultant",
      "WholePartTime": "Part Time",
      "Sex": "Female",
      "AgeGroups": "35 to 39",
      "SpecialtyType": "Medical",
      "Specialty": "A11",
      "SpecialtyQF": "",
      "WTE": 3.025,
      "_id": 4860,
      "Date": "20180331",
      "HBR2014": "S08000024",
      "HBR2014QF": "",
      "WorkforceRegionGrouping": "East",
      "Grades": "Consultant",
      "WholePartTime": "Part Time",
      "Sex": "Female",
      "AgeGroups": "35 to 39",
      "SpecialtyType": "Medical",
      "Specialty": "A9",
      "SpecialtyQF": "",
      "WTE": 0.8
    }
  ],
  "limit": 3,
  "filters": {
    "HBR2014": "S08000024",
    "_links": {
      "start": "/api/3/action/dataset_search?limit=3&filters=%7B%22HBR2014%22%3A%22S08000024%22%7D&resource_id=e1ae87d0-0eb5-4756-87b7-cf716c066003",
      "next": "/api/3/action/dataset_search?offset=3&limit=3&filters=%7B%22HBR2014%22%3A%22S08000024%22%7D&resource_id=e1ae87d0-0eb5-4756-87b7-cf716c066003"
    },
    "total": 1197
  }
}
```

API response – human readable



The screenshot shows a web browser window with the address bar displaying `https://www.opendata.nhs.s...`. The main content area displays a JSON response in a human-readable format. The response is a list of records, with the first record expanded to show its details. The visible JSON structure is as follows:

```
123 ],
124   "records_format": "objects",
125   "records": [
126     {
127       "_id": 4858,
128       "Date": 20180331,
129       "HBR2014": "S08000024",
130       "HBR2014QF": "",
131       "WorkforceRegionGrouping": "East",
132       "Grades": "Consultant",
133       "WholePartTime": "Part Time",
134       "Sex": "Female",
135       "AgeGroups": "30 to 34",
136       "SpecialtyType": "Medical",
137       "Specialty": "G4",
138       "SpecialtyQF": "",
139       "WTE": 0.6
140     },
141     {
142       "_id": 4859,
143       "Date": 20180331,
```


Next steps

- Expanding the platform
- Developing an open data pipeline
- Further automation through open data
- Raising awareness



Visit

<https://www.opendata.nhs.scot>

Contact

NSS.PHI-OpenData@nhs.net

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