



# **CDE Portal Tutorial**

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# 1. Basic Information

**Name:** CDE Portal

**Version:** V1.0

**URL:** <https://cdepotal.bmicc.cn>

**GitHub URL:** <https://github.com/MedportalProject/CDEPortal>

**Description:** CDE Portal provides users with a range of tools for building, querying, and managing Common Data Elements (CDE) and Case Report Forms (Form), supporting the standardization and exchange of biomedical science data. Additionally, it offers APIs and an Excel-based plugin (CDE Tools) for users.

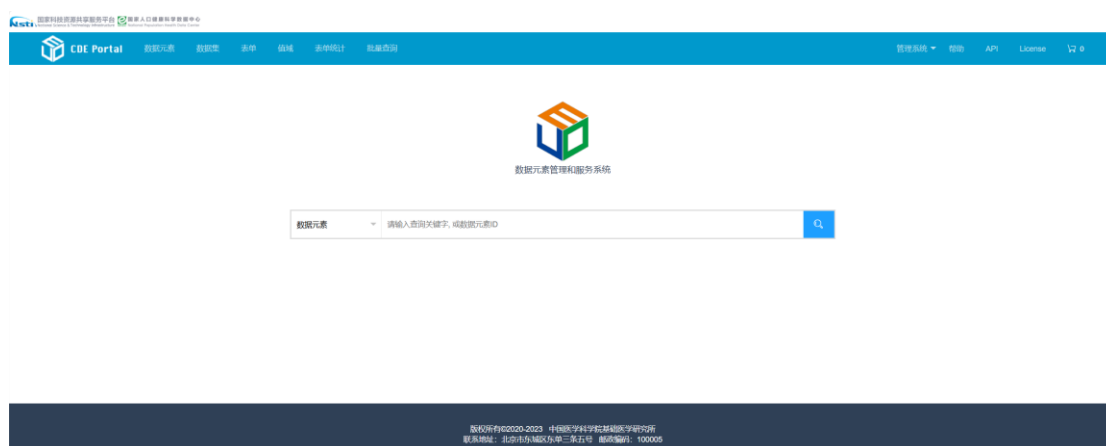


Fig.1: Homepage of CDE Portal

## 2. Features

### 2.1 Project Management

Common Data Elements (CDE) are organized and managed by project. Users can add new projects in the backend management system, as shown in Fig. 2, and fill in the necessary project information, including ID, project name, abbreviation, etc. (Fig. 3). Categories can also be created within each project.



Fig.2 Page for Project Management

Fig.3 Page for necessary information to create a project

## 2.2 CDE Browser

### 2.2.1 CDE Query and Browsing

Users can search for publicly released CDEs in the CDE Browser of CDE Portal(<https://cdeportal.bmicc.cn/cde>). The system allows users to enter search keywords in the query text box. For English keywords, the system tokenizes the text based on spaces. For Chinese keywords, the system automatically performs Chinese word segmentation. Data elements that meet the search criteria will be displayed automatically. As the search keywords change, the suggestions will adjust accordingly. In the list of retrieved data elements, users can click on a data element title

to access detailed information about it. For filtering options, the system provides three types: filtering by project category, by value domain type, and by registration status, as shown in Fig. 4.

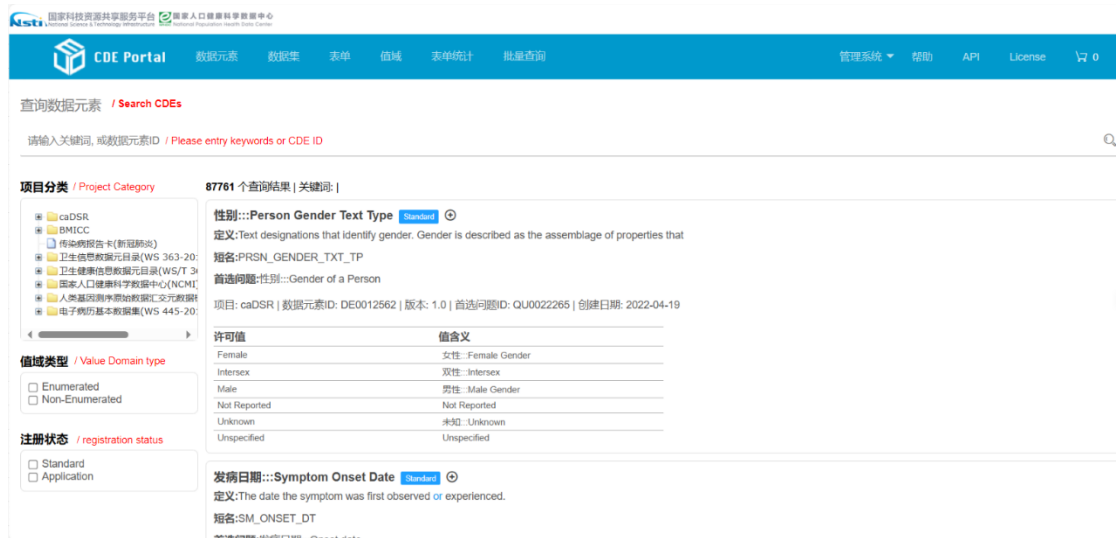


Fig.4 Search released CDEs in CDE Portal

### 2.2.2 CDE Creation and Management

Users can select, create, and manage CDEs in the backend management system (Fig. 5). A CDE is a well-defined data unit that can be reused across different datasets. The content includes ID, name, description, etc. The system supports user-created CDEs (Fig. 6) and provides structural and standardization support. It also enables the management of CDE concepts, objects, attributes, value domains, permissible values, and their meanings. To better support CDE reuse, the system allows common CDEs to be exported and shared in Excel, XML, and JSON formats (Fig. 7). **The components for building data element concepts, value domains, permissible values, questions, etc., are similar to those of CDEs and are therefore not elaborated here.**

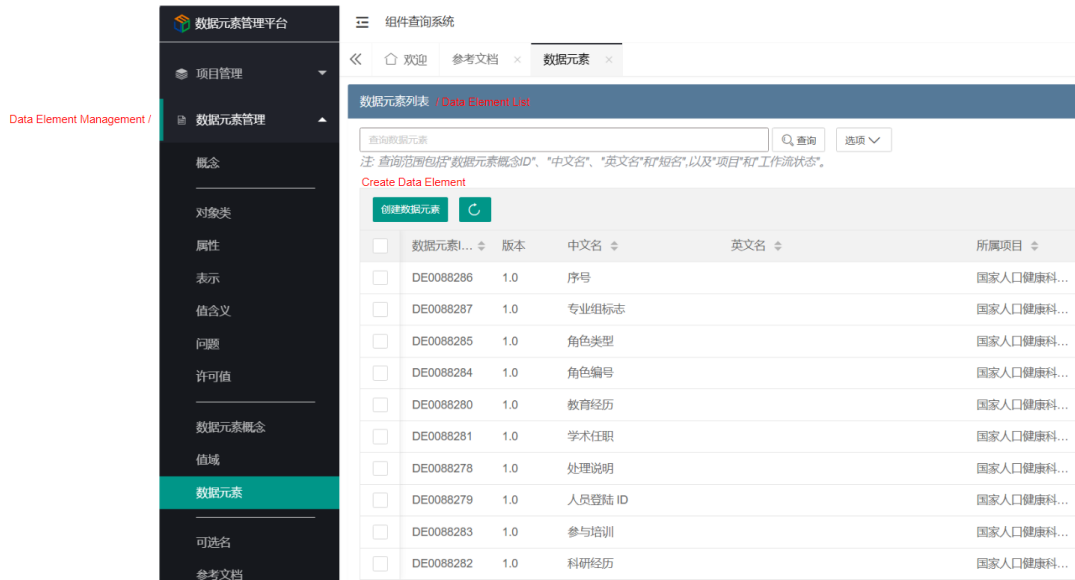


Fig.5 Backend management system of CDEs

创建数据元素

1. 所属项目 / Project: BMICC

2. 所在类别 / Category: [设置分类 / Setting](#)

分类项	级别	是否存在子类	父类名	项目	操作
无数据					

注: 指定数据元素所在分类

3. 版本 \* / Version: 1.0

4. 关联的数据元素概念 \* / Associated Data Element Concepts: [设置数据元素概念 / Create Data Element Concepts](#)

5. 关联的值域 \* / Associated Value Domain: [设置值域 / Create Value Domain](#)

6. 中文名 \* / Chinese Name: [请填写中文名](#) [生成中文名](#) [恢复 / Reset](#)

7. 英文名 \* / English Name: [请填写英文名](#) [生成英文名](#) [恢复 / Reset](#)

8. 缩写 / Short Name: [请填写缩写](#)

9. 定义 \* / Define: [请填写定义](#)

10. 工作状态 / Workflow Status: Draft new

11. 注册状态 / Registration Status: ☐ Application ☒ Standard

12. 有效期 / Validity Period: 2024-09-05 - 截止日期: YYYY-MM-DD

13. 来源 / Source: [请填写来源](#)

14. 关联的问题 \* / Associated question: [设置首选问题 / Setting the Preferred Question](#) [设置可选问题 / Setting the Alternate Question](#) [创建问题 / Create Question](#)

问题ID	中文名	英文名	问题类型	项目	使用计数	操作
Question ID	Chinese Name	English Name	Question Type	Project	Use Count	
无数据						

注: 一个数据元素只能定义一个首选问题, 但可以定义多个可选问题。

15. 可选名 / Optional Name: [设置可选名 / Setting the Optional Name](#) [创建可选名 / Create the Optional Name](#)

可选名ID	可选名(中文)	可选名(英文)	项目	使用计数	操作
无数据					

16. 参考文档 / Reference Document: [设置参考文档 / Setting the Reference Document](#) [创建参考文档 / Create the Reference Document](#)

参考文档ID	参考文档名	参考文档类型	参考文档内容	URL	工作状态	项目
无数据						

Clear / [清除](#) [保存 / Save](#)

Fig.6 Page for new CDE creation



Fig.7 The system supports CDE export in various formats

## 2.3 Form Browser

### 2.3.1 Form Query and Browsing

Users can search for publicly released Forms in the Form Browser of CDE Portal (<https://cdeportal.bmicc.cn/form>). By entering keywords in the search input box, the system will automatically suggest matching forms. Clicking on a form title allows users to view detailed information about the form, as shown in Fig. 8.

查询表单 / Search Forms

请输入关键词, 或表单ID/ Please entry keywords or Form ID

### 项目分类

- Test
- BMICC
- 传染病报告卡(新冠肺炎)

注册状态 / Project Category

- ☐ Standard (0)
- ☐ Application (107)

量表类型 / Form type

all 都  
CRF(107)

量表来源 / Form sources

all 都  
D(1)

量表年份 / Form year

all 都  
2023(1)

量表机构 / Form organizations

all 都  
中华人民共和国国家卫生健康委员会(1)

107 个查询结果 | 关键词:

匹兹堡睡眠质量指数::Pittsburgh sleep quality index (PSQI) Application

定义:匹兹堡睡眠质量指数::Pittsburgh sleep quality index (PSQI)

表单ID: FM0000001 | 版本: 1.0 | 项目: 国家人口健康科学数据中心(基础医学) | workflow状态: Draft new | 创建日期: 2022-03-20

疾控中心传染病报告卡:::CDC Infectious Disease Report Card Application

疾控中心传染病报告卡: : : CDC 传染病报告卡 [申请](#)

定义:疾控中心传染病报告卡:::CDC Infectious Disease Report Card

表单ID: FM0000002 | 版本: 1.0 | 项目: 传染病报告卡(新冠肺炎) | workflow状态: Draft new | 创建日期: 2023-04-06

7项广泛性焦虑障碍量表:::Generalized Anxiety Disorder-7 Application

定义:7项广泛性焦虑障碍量表::Generalized Anxiety Disorder-7

表单ID: FM00000004 | 版本: 1.0 | 项目: 国家人口健康科学数据中心(基础医学) | workflow状态: Draft new | 创建日期: 2022-04-25

乳腺癌淋巴水肿问卷:::Lymphedema and Breast Cancer Questionnaire Application

乳腺癌淋巴水肿问卷: : 淋巴水肿和乳腺癌问卷 [申请](#)

定义:乳腺癌淋巴水肿问卷:::Lymphedema and Breast Cancer Questionnaire

表单ID: FM00000006 | 版本: 1.0 | 项目: 国家人口健康科学数据中心(基础医学) | workflow状态: Draft new | 创建日期: 2022-04-25

扩大的前列腺癌综合指数 - 简表 :: Expanded Prostate Cancer Index Composite - Short form Application

扩大的前列腺癌综合指数 - 简表 : : Expanded Prostate Cancer Index Composite - Short form Application

定义:扩大的前列腺癌综合指数 - 简表:::Expanded Prostate Cancer Index Composite - Short form

表单ID: FM0000007 | 版本: 1.0 | 项目: 国家人口健康科学数据中心(基础医学) | workflow状态: Draft new | 创建日期: 2022-04-29

Fig.8 Search released Forms

### 2.3.2 Form Creation and Management

Users can select, add, delete and manage Forms in the backend management system (Fig. 9)

[illegible]

Fig.9 Page for Project Management of forms

Similar to the process of creating a new CDE, when users create a new Form, they first need to fill in the basic information for the Form, as shown in Fig. 10.



创建表单 / Create Form

1. 项目 / Project: BMICC

2. 所在类别 / Category: 设置分类

分类项	级别	是否存在子类	父类名	项目	操作
无数据					

注: 指定数据元素所在分类

3. 版本 / Version: 1.0

4. 量表类型 \* / Type: CRF

5. 中文名 \* / Chinese Name: 请填写中文名

6. 英文名 \* / English Name: 请填写英文名

7. 短名 \* / Short Name: 请填写短名

Close

Fig.10 Basic information for new form creation

A Form is composed of multiple modules, with each module requiring the addition of necessary CDEs. Currently, two methods are supported for adding CDEs: (1) adding CDEs to the cart while browsing CDEs, and (2) using the batch add function. Once the desired CDEs are added, the Form construction is complete, as shown in Fig. 11, 12, and 13.

admin(平台管理员) 退出

表单: IDRC 测试

Create Module

创建模块 重命名 排序模块

序号	中文名	英文名	问题数量	操作
1	模块1	model1	1	预览 / 问题列表 / 编辑 / 删除

Question List

Fig.11 Page for constructed module information

admin(平台管理员) 退出

创建模块 / Create Module

中文名 / Chinese Name: 请填写中文名

英文名 / English Name: 请填写英文名

中文描述 / Chinese Descriptions: 请填写中文描述

英文描述 / English Descriptions: 请填写英文描述

Clear / 清除 保存 / Save

Fig.12 Page for module creation

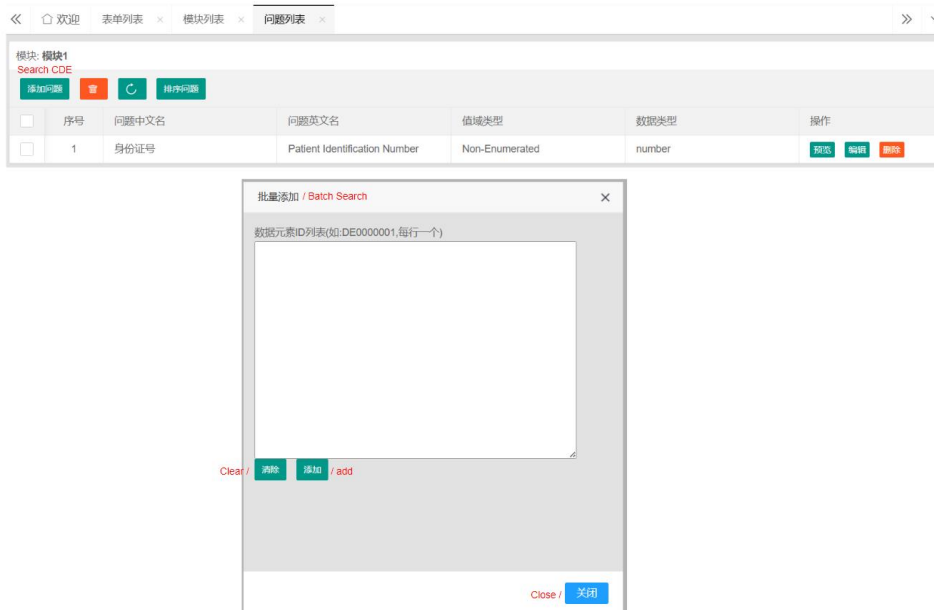


Fig.13 Adding CDEs to a module

## 2.4 API of CDE Portal

To better support users in utilizing CDEs and Forms, we provide APIs for searching CDEs and Forms. For detailed usage, please refer to <https://cdeportal.bmicc.cn/doc/api>. The API supports queries for Data Element Concepts, Value Domains, Data Elements, and Forms.

### API查询项列表

- [Data Element Concept 查询](#)
- [Value Domain 查询](#)
- [Data Element 查询](#)
- [表单查询](#)

#### 1. Data Element Concept 查询

- 1) 请求连接: `/data_element_concept_search? name={query string}`
- 2) 可选参数:
  - `name={query string}` // 数据元素概念名称查询 (可以是英文或中文形式)。
  - `data_element_concept_id={'DC0009869'}` // 数据元素概念ID查询。
  - `data_element_concept_version={'1.0'}` // 数据元素概念版本查询。
  - `require_exact_match={true|false}` // 是否精确匹配, `default=false`。
  - `also_definition={true|false}` // 是否从数据元素概念定义中查询, `default=false`。
  - `format={json}` // 数据返回格式, `default=json`。
  - `page={integer}` // 查询起始页, `default=1`。
  - `pagesize={integer}` // 每页返回记录数, `default=50`。

以下示例演示了如何对数据元素概念 (Data Element Concept) 进行查询。

##### 1.1 使用 ID 查找数据元素概念

```
http://cdeapi.bmicc.cn/cdeapi/data_element_concept_search?data_element_concept_id=DC0000001
```

##### 1.2 使用 ID 和版本查找数据元素概念

```
http://cdeapi.bmicc.cn/cdeapi/data_element_concept_search?data_element_concept_id=DC0000001&data_element_concept_version=1.0
```

##### 1.3 使用名称查找数据元素概念

```
http://cdeapi.bmicc.cn/cdeapi/data_element_concept_search?name=Patient 住院
```

Fig.14 Page for CDE Portal's API details

## 2.5 The tool of CDE Portal: CDE Tools V3.0

CDE Tools V3.0 is an Excel-based plugin that allows users to query ontology terms and annotations directly through the tool. In version 3, new features for data element search and scale retrieval have been added. Researchers can directly query and use the common data elements and scale resources published by the CDE Portal within Excel, enabling them to apply standardized data resources to their own research projects. This tool does not require installation and can be downloaded for use. The download URL is: <https://github.com/MedportalProject/CDE-Tools>.

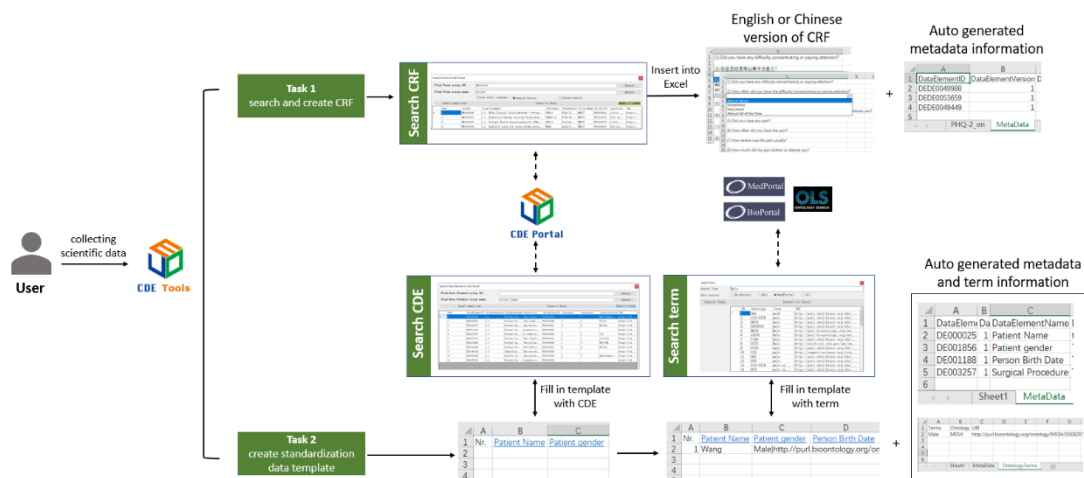


Fig.15 Main features of CDE Tools