CHILDHOOD CANCER CLINICAL DATA COMMONS (C3DC)

User Guide

11/07/2024

Version	Date	Description	Author
1.0.0	03/05/2024	Initial Release	C3DC Team
2.0.0	05/01/2024	Release 2	C3DC Team
3.0.0	07/31/2024	Release 3	C3DC Team
4.0.0	11/07/2024	Release 4	C3DC Team

Table of Contents

Introduction and Overview

The Childhood Cancer Clinical Data Commons (C3DC) enables searching demographic and phenotypic clinical data of childhood cancers. These data have been harmonized to a standard set of common data elements (CDEs). C3DC empowers researchers to search for participant-level data to create synthetic cohorts and export data for analysis.

This document describes a high-level overview of the features of C3DC. Investigators are encouraged to explore C3DC themselves, using this guide as a primer.

C3DC Home Page

The C3DC Home page allows users to navigate pages such as Explore and About.

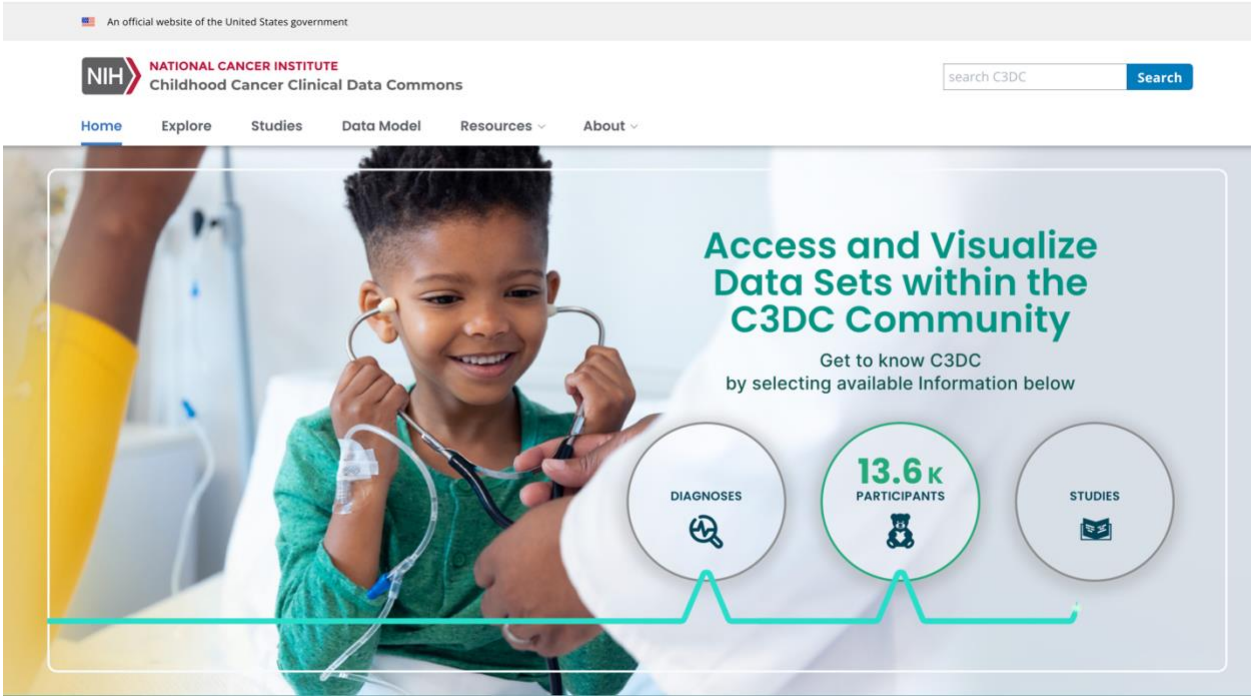

Figure 1: C3DC Home Page - top

At the bottom of the Home page, there are links to brief descriptions of key sections of the C3DC application.

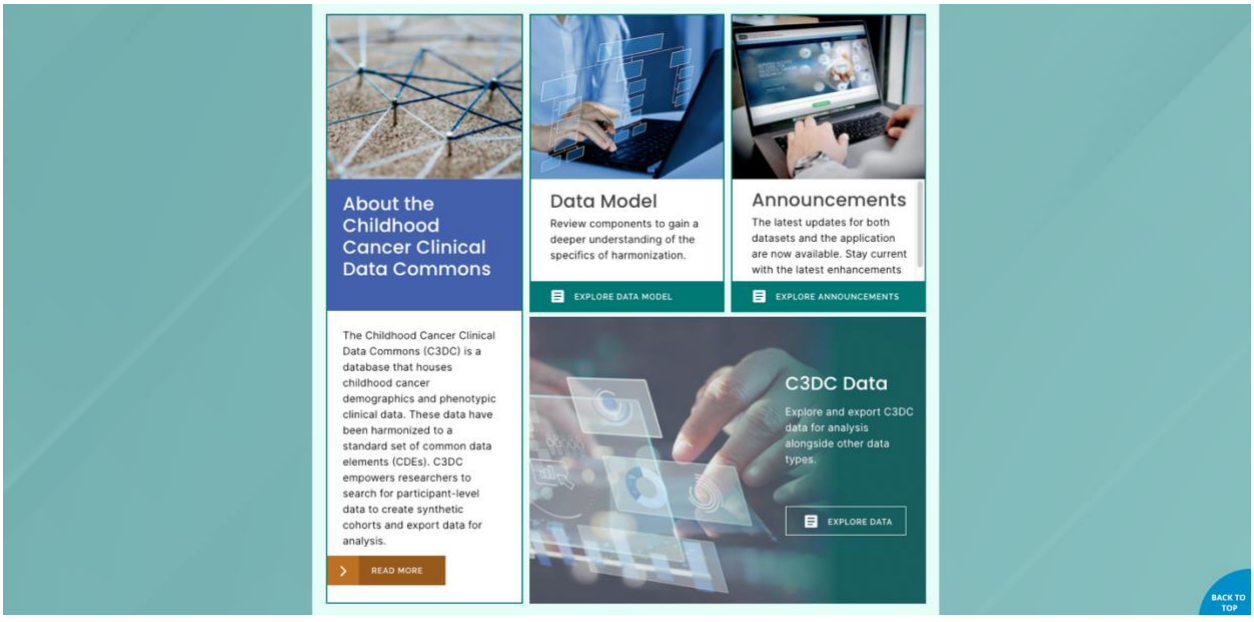

Figure 2: C3DC Home Page - bottom

C3DC Explore Page

Users can navigate to the Explore Page by clicking the link on the Home Page menu bar, which shows various sections for exploring the data.

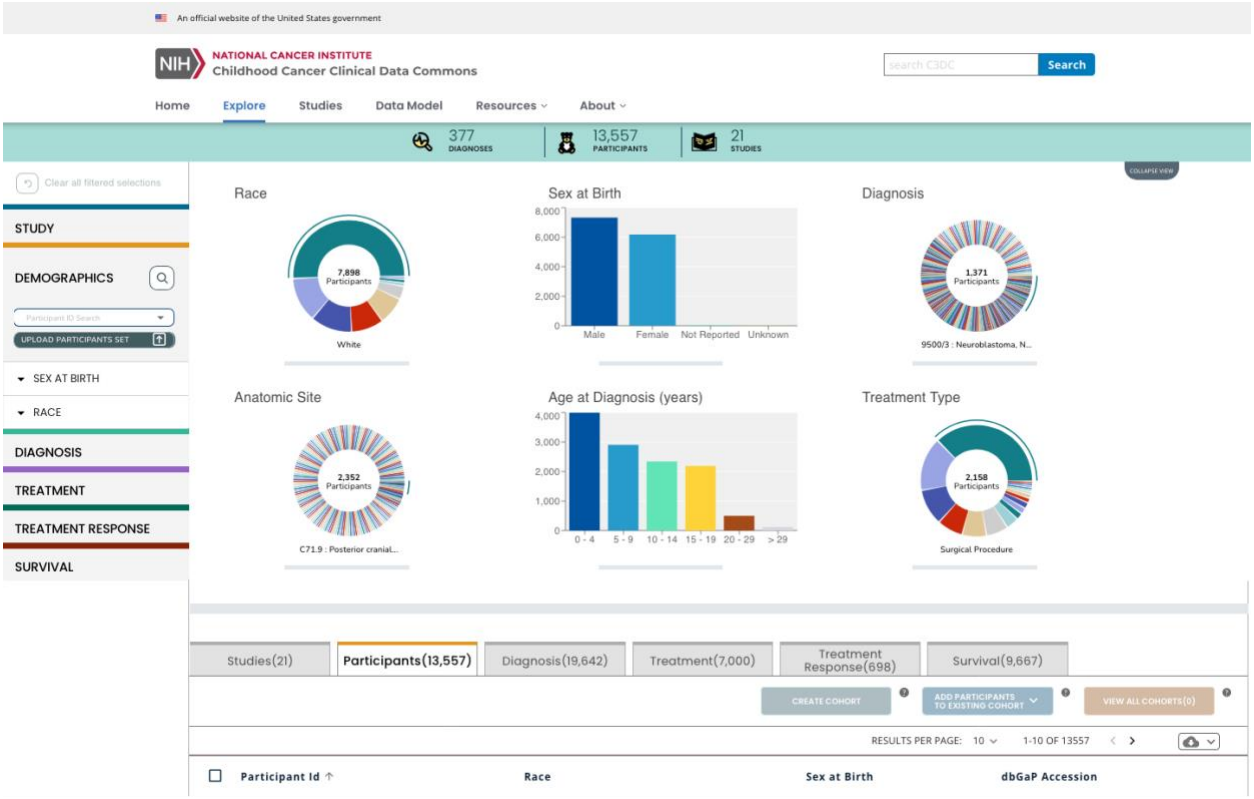

Figure 3: The Explore Page – Faceted Search (left), Visualization (top), and Data Tables (bottom)

Facet Search: Users can select a subset of the childhood cancer participants by choosing filtering options from drop-down lists within four main categories: Study, Demographics, Diagnoses, Treatment, Treatment Response, and Survival.

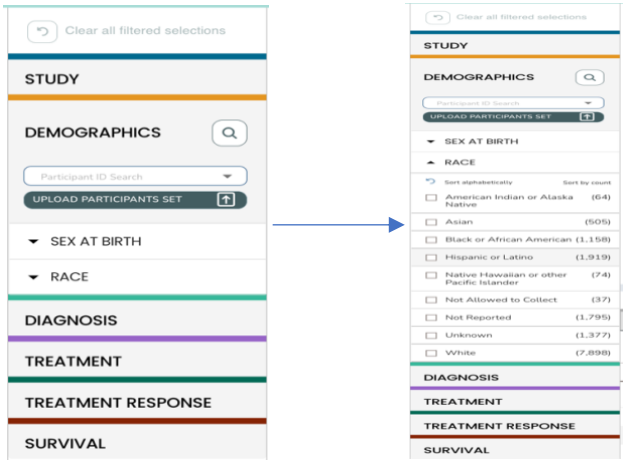

Figure 4: Performing a faceted search on the C3DC Explore Page

Chart Visualization: The faceted search results are automatically updated in the Stats Bar, the Visualization, and the Table sections.

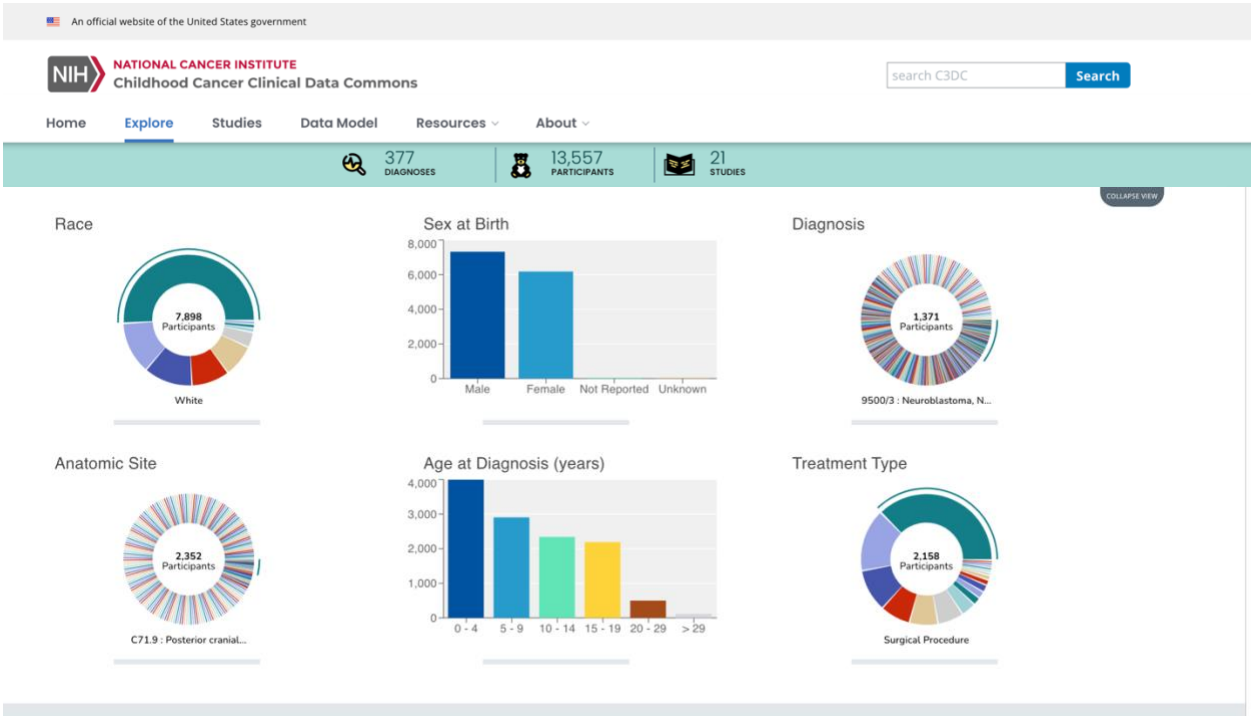

Figure 5: Results returned from a faceted search in six graphs in the Visualization section

Table Visualization: There are tooltips with a brief description of the Table tab headers.

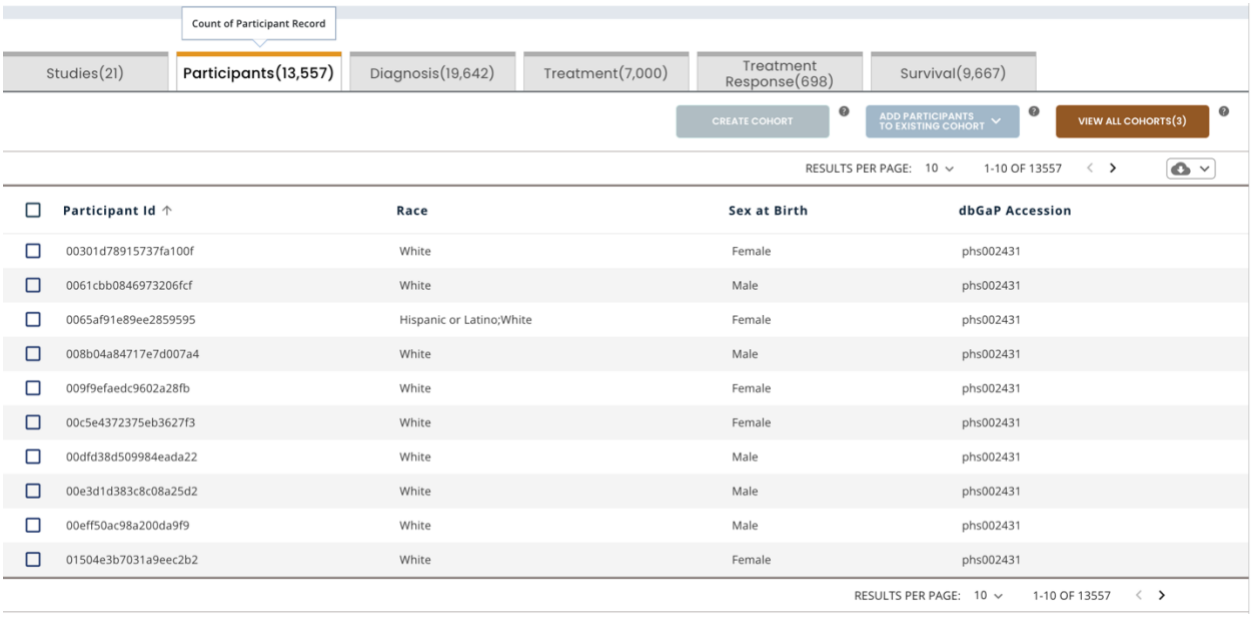

Figure 6: Results returned from a faceted search in the Table section

Download Harmonized Data: Users can download the contents of the Participants, Diagnosis, Survival, and Studies tabs by selecting the "Download Data" button under the Table tab headers. The data will be downloaded in CSV file format.

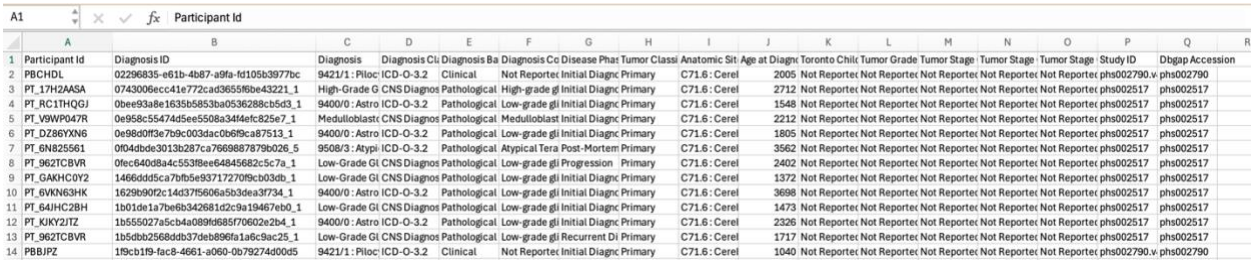

Figure 7: Download of the diagnosis Table tab

Cohort Selector (New Key Feature): The new Cohort Selector feature enables users to create and manage up to 10 cohorts. This feature offers flexibility to researchers, allowing them to create cohort groups according to their specific requirements. Users can do the following:

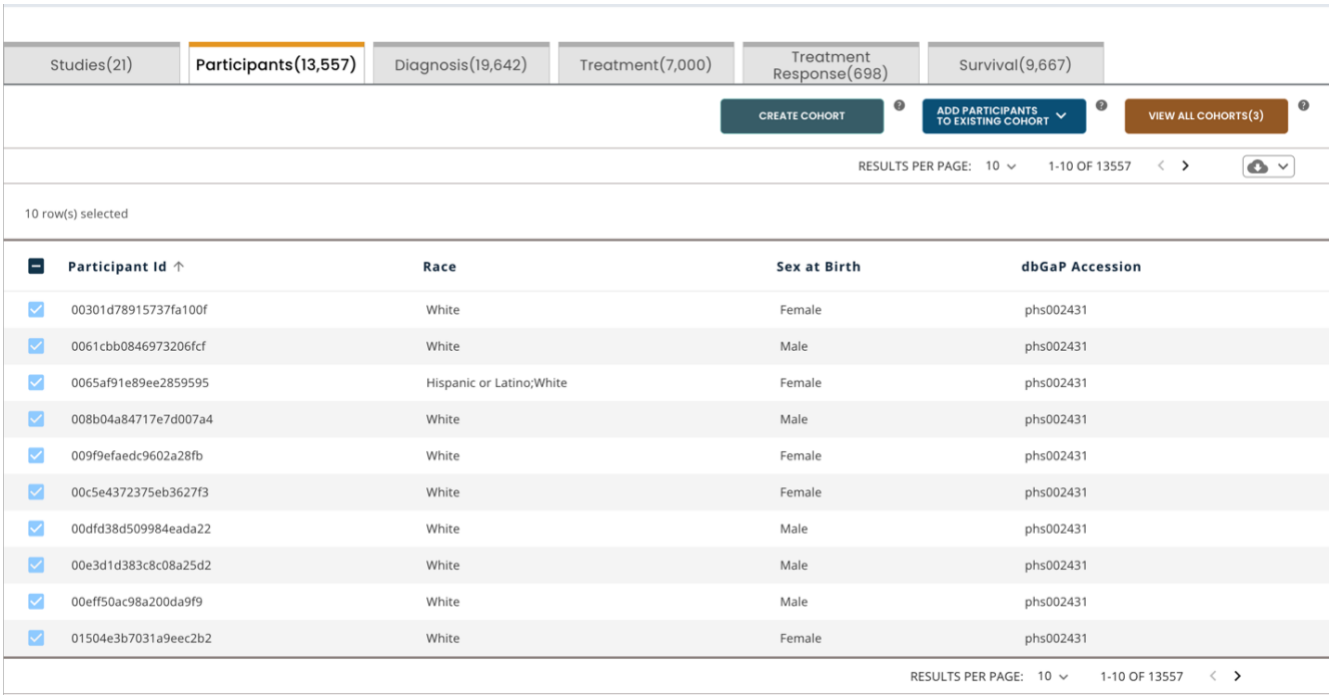

Figure 8. Cohort Selection features visible on the Explore page Table tabs

- **Create New Cohort**: Select participant IDs from the facet search and create a new cohort. Users can name and describe the cohort for easy reference.
- **Add to Existing Cohort**: Add participants to existing cohorts or remove them. Entire cohorts can also be deleted as needed.
- **View All Cohorts**: View a list of all created cohorts, making it easier to manage and analyze groups.
    - Cohort ID: Create your own id to identify saved cohorts
    - Cohort description: Create a description for saved cohorts
    - Save Changes: Save the changes made to the selected cohort. This includes changes to cohort id, cohort description and any participants removed.
    - Download Selected Cohort:
        - Download the selected cohort in one of two formats.
            - Manifest CSV: a list of participant ids and high-level data.
            - Metadata JSON: a JSON file containing all metadata information for the participants in the selected cohort.

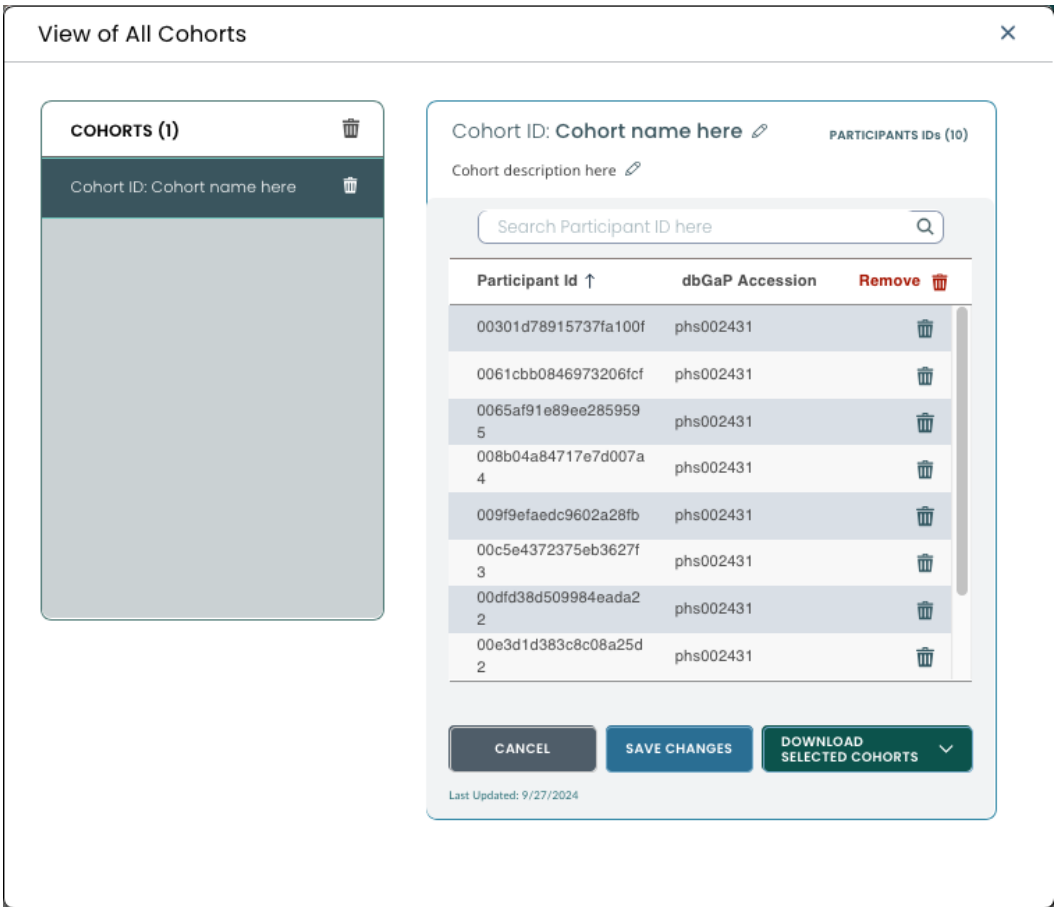

Figure 9. View All Cohorts and edit capabilities

C3DC Studies Page

Users can navigate to the Studies Page to view the list of dbGaP accessions, study names, and counts for participants and diagnoses.

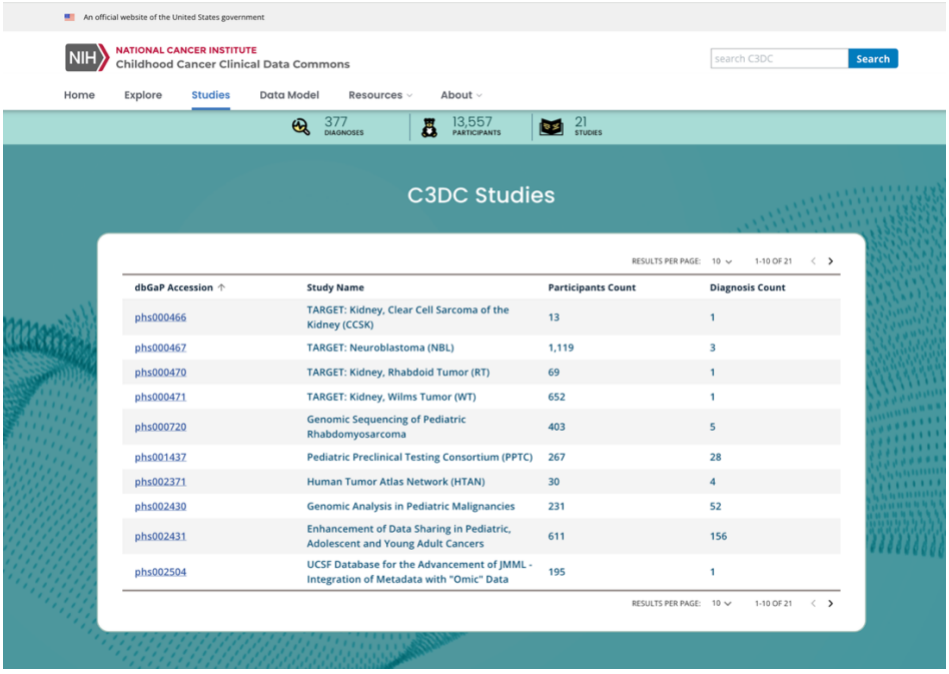

Figure 10: The Studies Page

C3DC studies details page, by clicking on the dbGaP accession number, users can access detailed information about the studies. This action will redirect users to the dbGaP page to view a high-level overview of the information. Currently, source data files are only available for open access data (phs000466, phs000467, phs000470, and phs000471). If you are interested in accessing the controlled access data, please follow this link for instructions on how to access it

For other CCDI studies, source data can be found in the CCDI Hub.

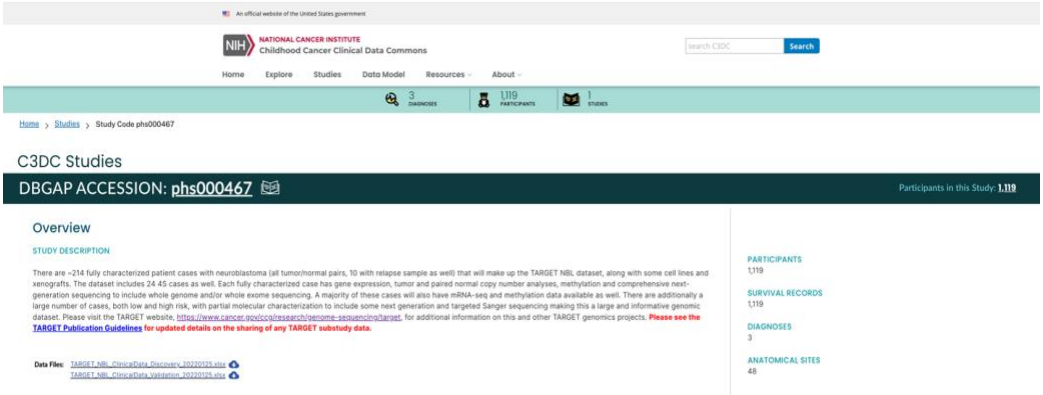

Figure 11: The Studies Details page

C3DC Data Model Page

The data model is developed collaboratively with multiple organizations to establish standard terms for pediatric cancer. In this harmonization effort, we are using CDEs (Common Data Elements) to enhance data accuracy, consistency, and interoperability across health research studies. CDEs are defined in the caDSR (Cancer Data Standards Registry and Repository) and provide controlled terms, vocabularies, detailed information on data representation, and robust metadata. The C3DC data model schema consists of well-defined classes with attributes and permissible values. The model focuses on a set of data elements, with plans to include more elements in future releases.

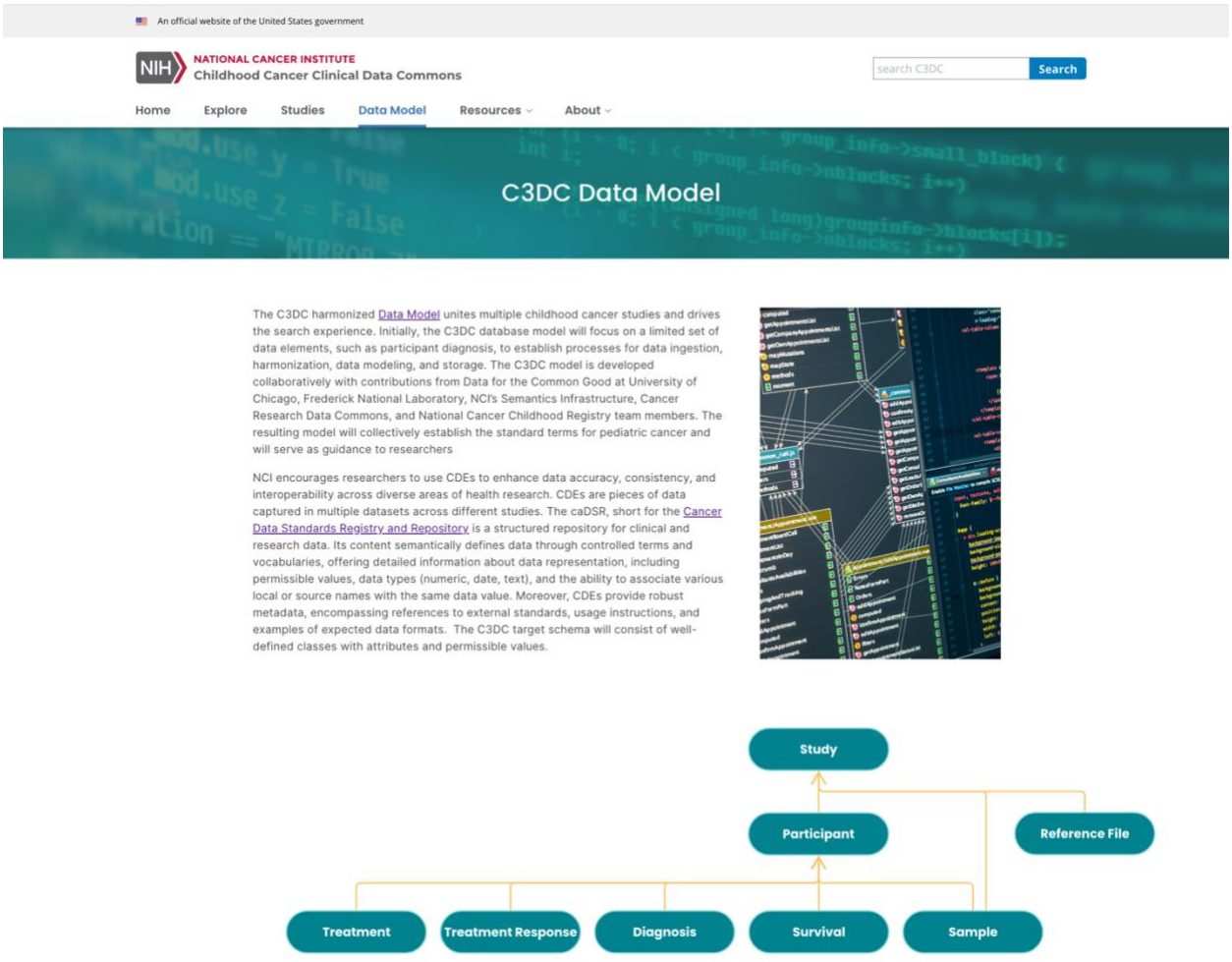

Figure 12: The Data Model page

C3DC Resource Page

By clicking on each resource, users can access a range of useful tools and information available on the site.

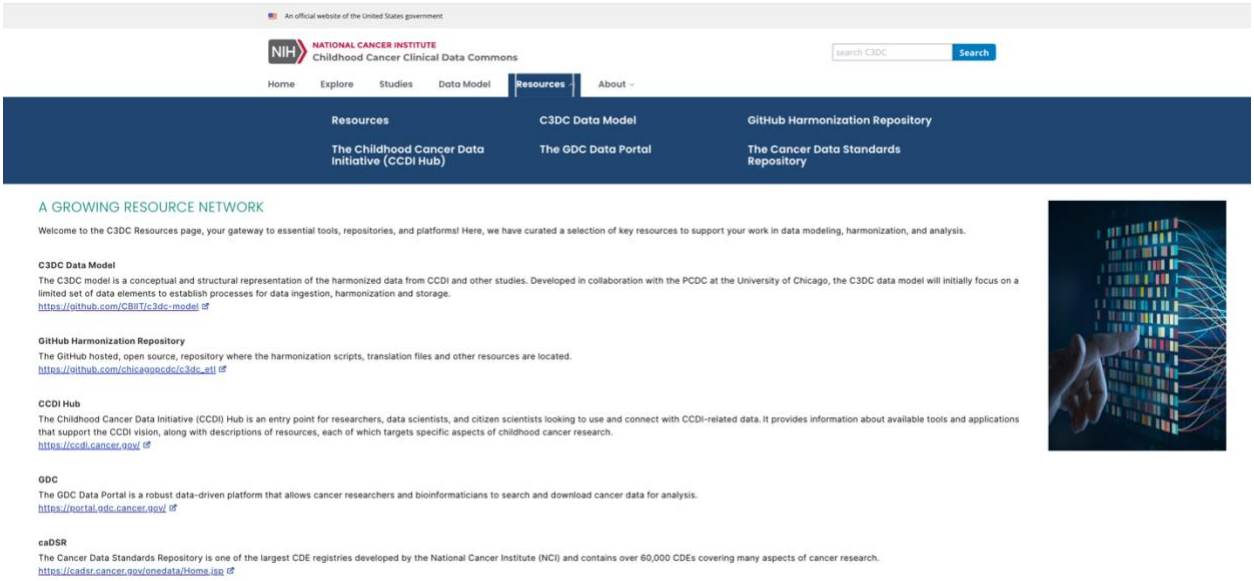

Figure 13: The Resource page

C3DC About Page

Users can navigate to the About Page by clicking the link on the Home Page menu bar, where you will find more information about the content of C3DC. This includes details such as dataset and data model information as well as links to useful resources. There are dropdown menus to access the following documents:

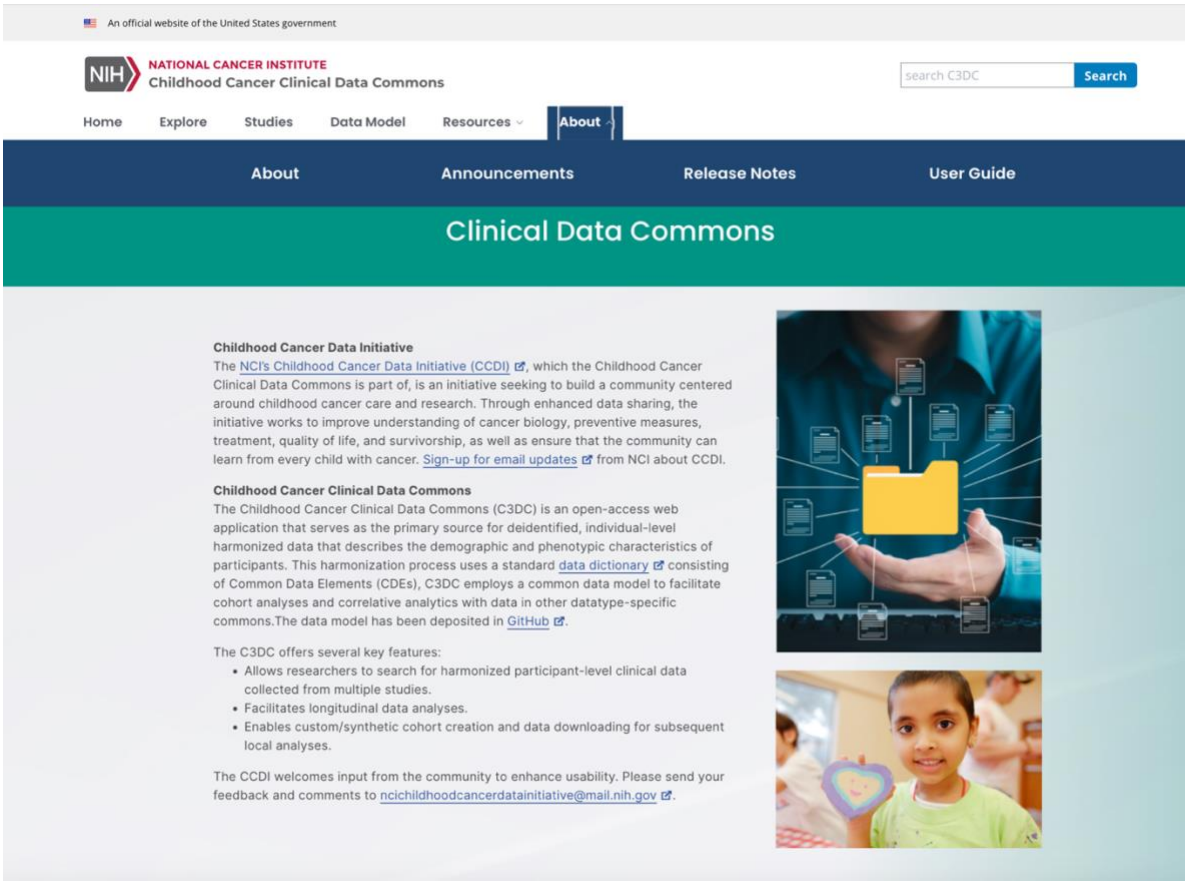

Figure 14: The About page

Announcements

The announcement page contains all C3DC updates, both data and application, with the newest release information at the top of the list.

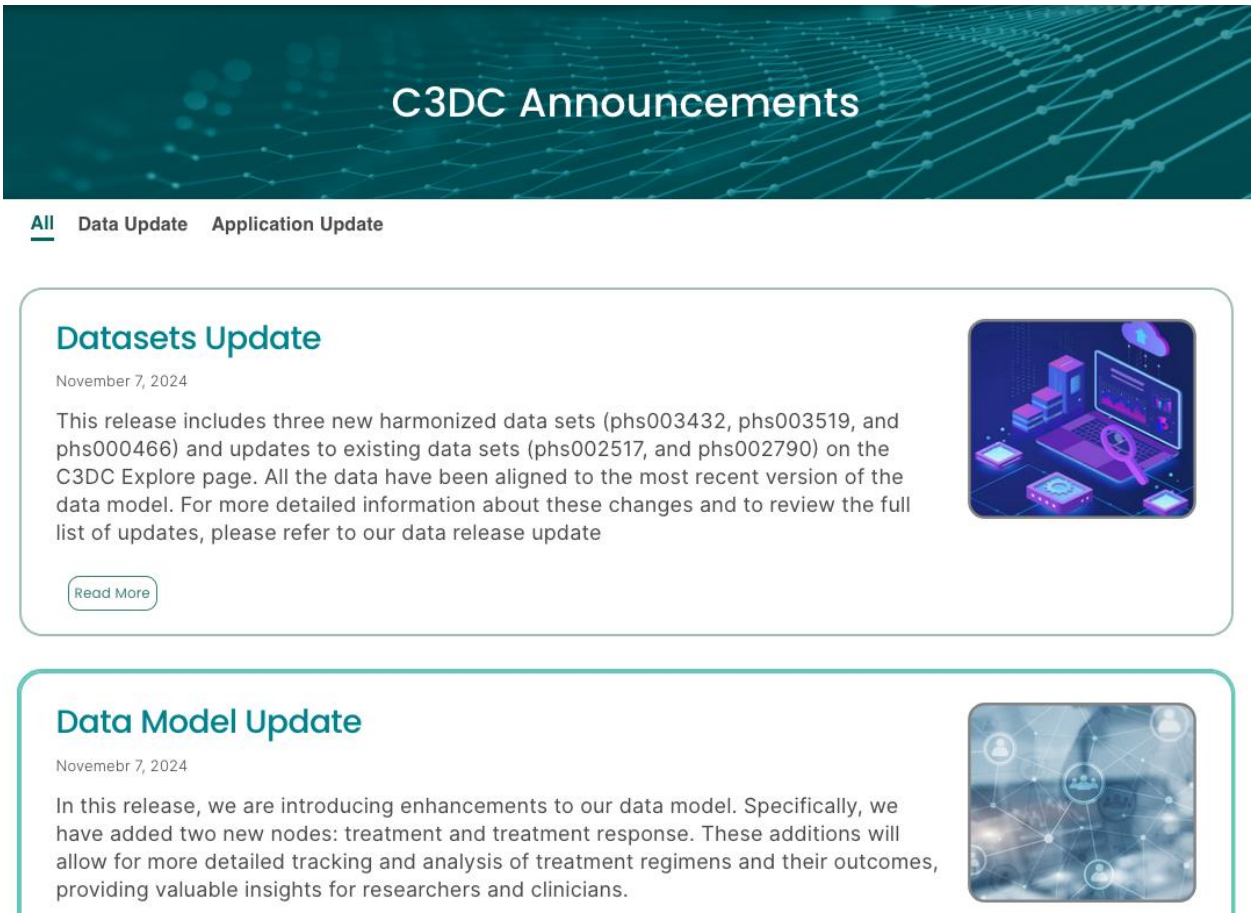

Figure 15: The Announcements page

Release Note

The Release Note page contains the change logs of all releases, noting the differences between the previous versions of both the data and application.

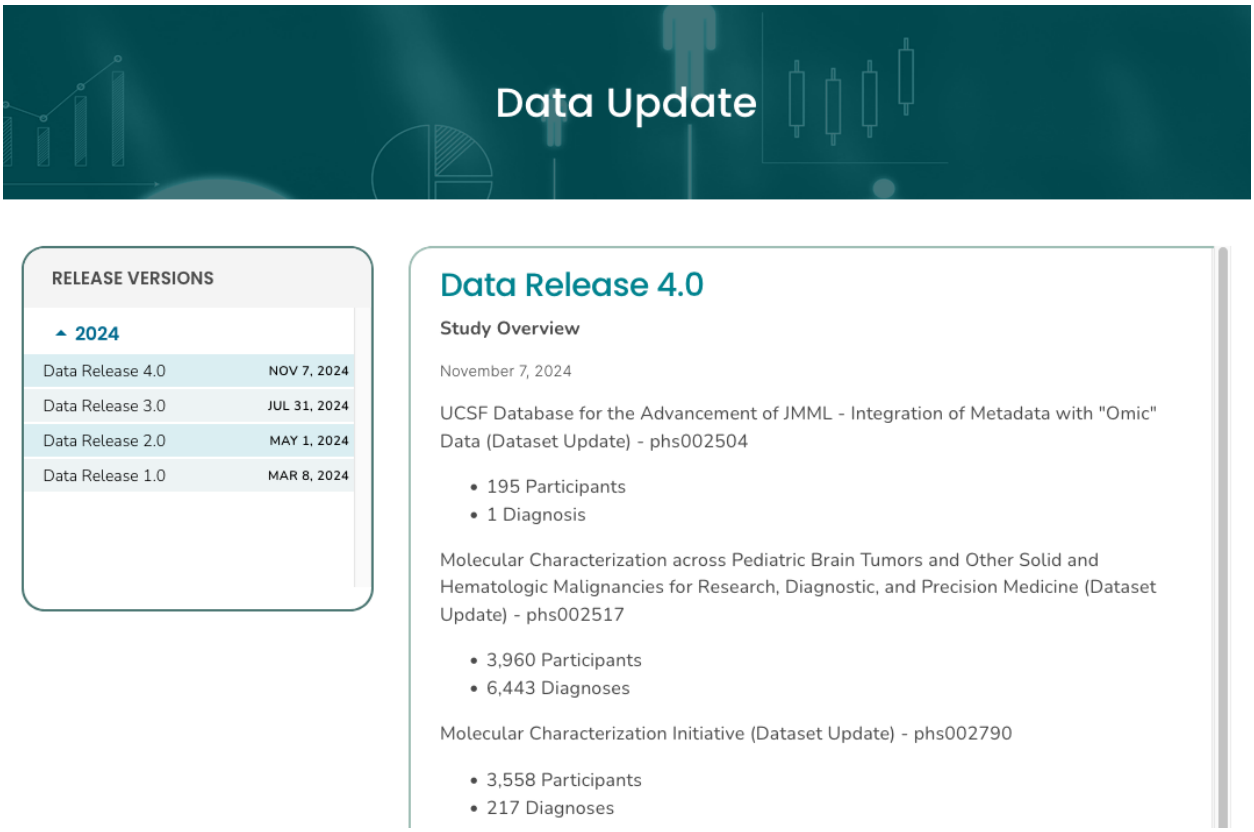

Figure 16: The Release Notes page

User Guide

The User Guide page contains the mission statements for CCDI and C3DC, as well as useful resources related to the C3DC project.

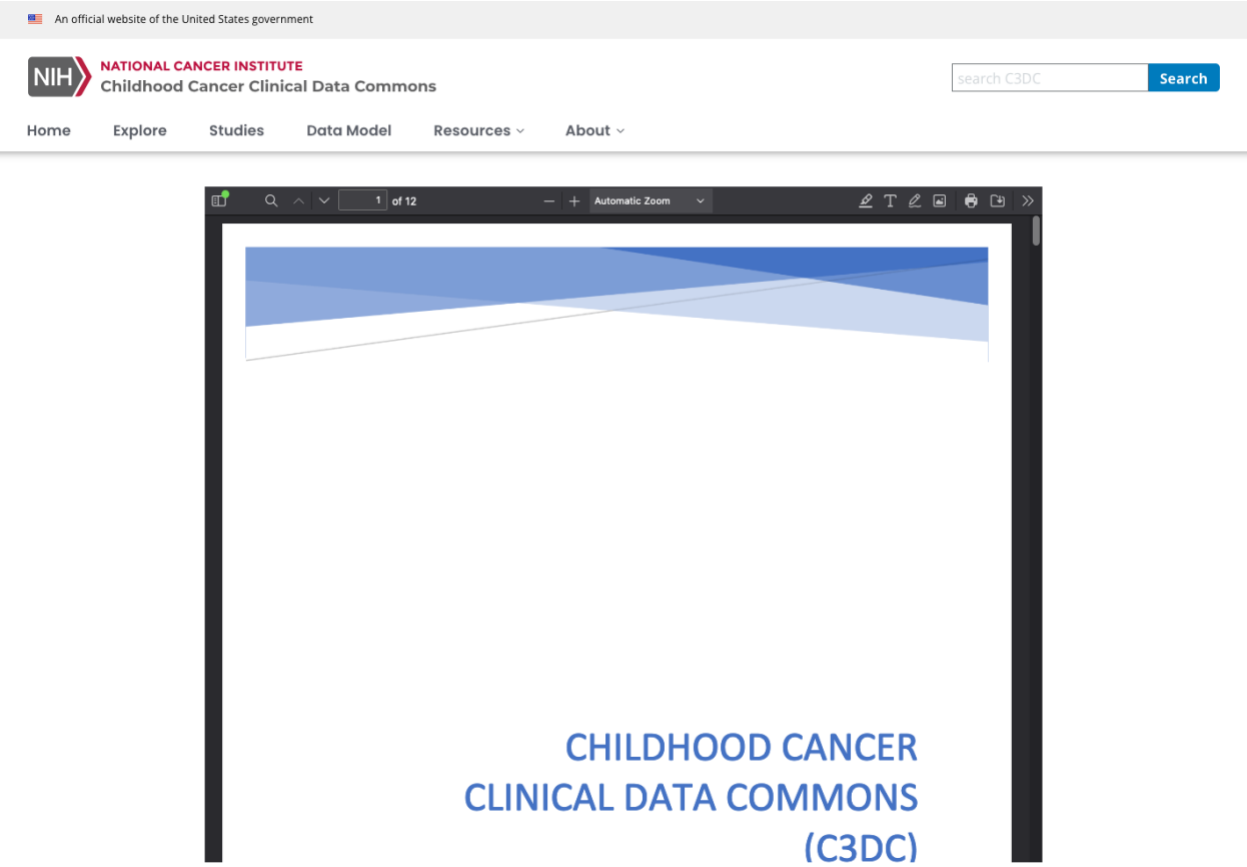

Figure 17: The User Guide