



Intelligent ecosystem to improve
the Governance, the sharing, and the re-use
of health data for rare cancers

Quality Check Helper

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Component

Quality Check Helper

Partner

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Brief description

The IDEA4RC Quality Check Helper is a tool designed to semi-automatically evaluate the quality of tabular healthcare data, providing insights into its completeness, consistency, and accuracy. This tool leverages advanced algorithms to scan datasets and identify discrepancies, missing values, or anomalies that could compromise the integrity of the data. By automating the process (users only need to select a pre-defined set of quality checks), it eliminates the manual effort traditionally required for quality assurance, allowing healthcare professionals to focus on analyzing and utilizing the data rather than cleaning and validating it. Its user-friendly interface and detailed reports make it accessible to both data specialists and non-technical users, ensuring that healthcare organizations can maintain high data quality standards effortlessly.

This tool is advantageous because it improves the efficiency and reliability of healthcare data management. By catching errors early, the Quality Check Helper enhances the accuracy of research outcomes. Additionally, its automation reduces human error and significantly accelerates the quality evaluation process, saving time and resources. Thanks to the tool, organizations can gain confidence in their data-driven strategies. The combination of precision, speed, and ease of use makes it an asset for healthcare providers, researchers, and administrators seeking to optimize data quality and operational effectiveness.

The software is built using several technologies, including Electron, Typescript, React, and MUI for a seamless user interface, along with Python binaries (embedded) and the Great Expectations library for performing the actual data validation checks. However, to run the tool, users only need to execute a downloadable Windows application. By combining these technologies, the IDEA4RC Quality Check Helper delivers a robust and user-friendly solution that helps healthcare professionals and organizations maintain high-quality data for better clinical and operational outcomes.

Intended users

Anyone who would like to evaluate the quality of some health data:

1. Data managers
2. Researchers, data-related
3. Clinicians for cohort evaluation

Functionality

1. Evaluate the quality of your data in a few clicks
2. Quickly customize the quality checks performed to your data without technical knowledge
3. Extend your quality of data evaluation to non-IDEA4RC data models
4. Quick and straightforward setup, no technical knowledge needed

Comparison with competing approaches (business value)

The perhaps only comparable tool is the Data Quality Dashboard (DQD) from the OHDSI community:

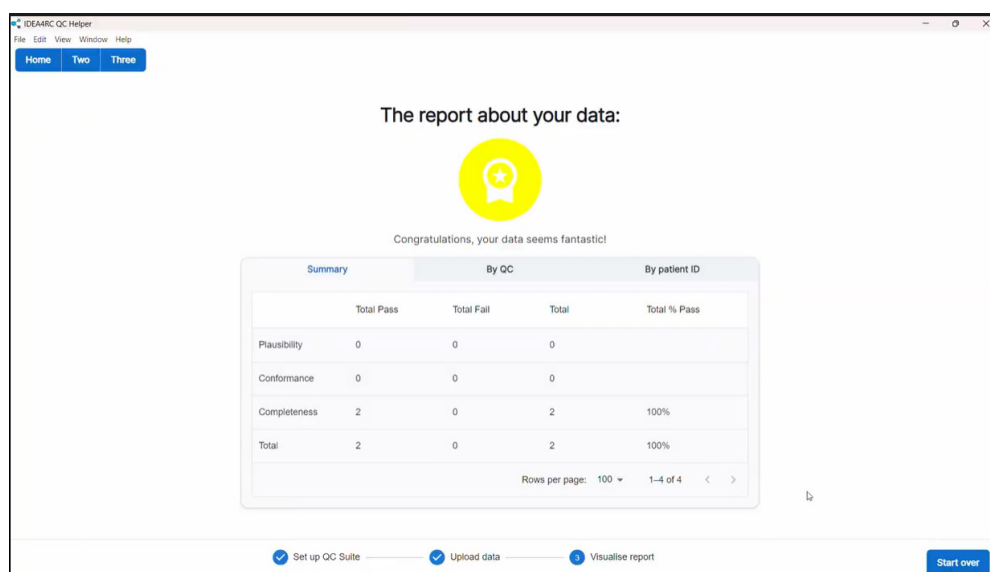
1. The Quality Check Helper is ready flexible and not restricted to the IDEA4RC data model; the DQD is restricted to OMOP.
2. The QCH can be leveraged with the IDEA4RC quality checks which work for oncology
3. Adding new Quality Checks to the Quality Check Helper is a straightforward approach and does not require technical knowledge (no coding)
4. Installing and running the Quality Check Helper is just downloading an application, the DQD requires complex steps.

Development status

A Proof of Concept is available for demonstration purposes. A first evaluation version is planned to be completed by the end of 2025.

Imagery

A data quality report returned by the Quality Check Helper



1:21 minutes video available:

https://drive.google.com/file/d/1T_Yq8CDI1qTPJ1VmCPwU2QEurnjxq0ir/view?usp=sharing



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