

A global Data and Secured Data Environment Technology framework to support healthcare decision-making with Real World Data

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INTRODUCTION

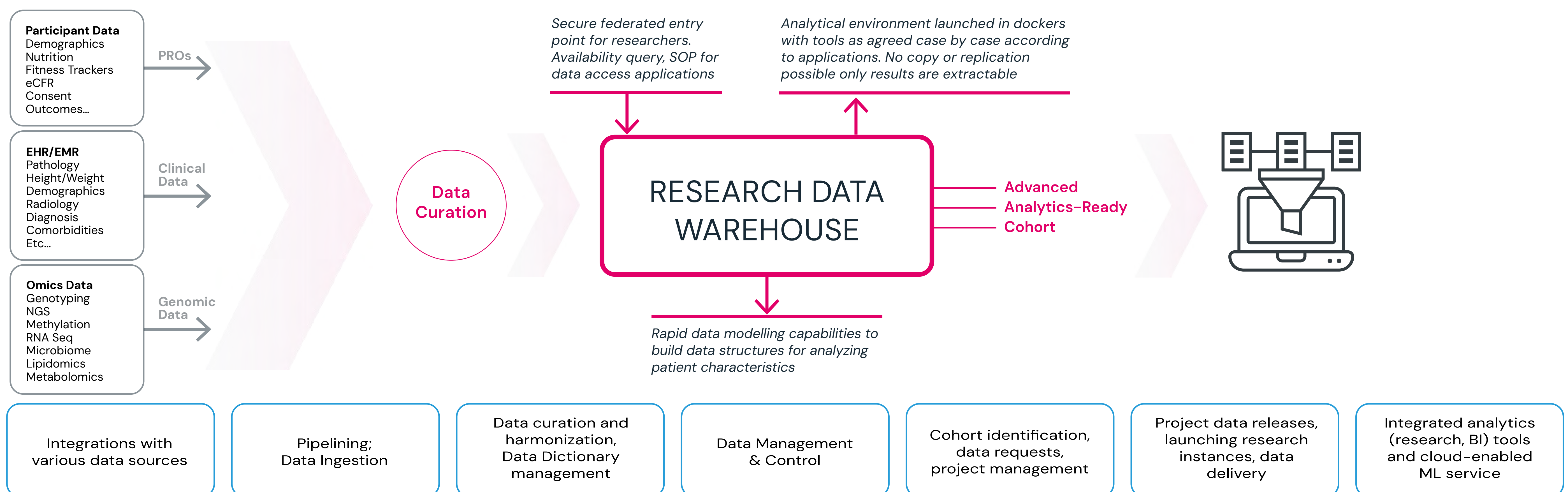
1. The Secure Data Environment (SDE) developed by BC Platforms aggregates deidentified Real World Data (RWD) from hospitals, biobanks, and research centers, and aims to facilitate health technology assessments and post-launch evidence generation.
2. This work elucidates the functionality of BCP's SDE and shows how it fosters the generation of Real World Evidence (RWE) pertaining to standard of care and patients' outcomes.

METHOD

The SDE was developed to fulfil the following system criteria:

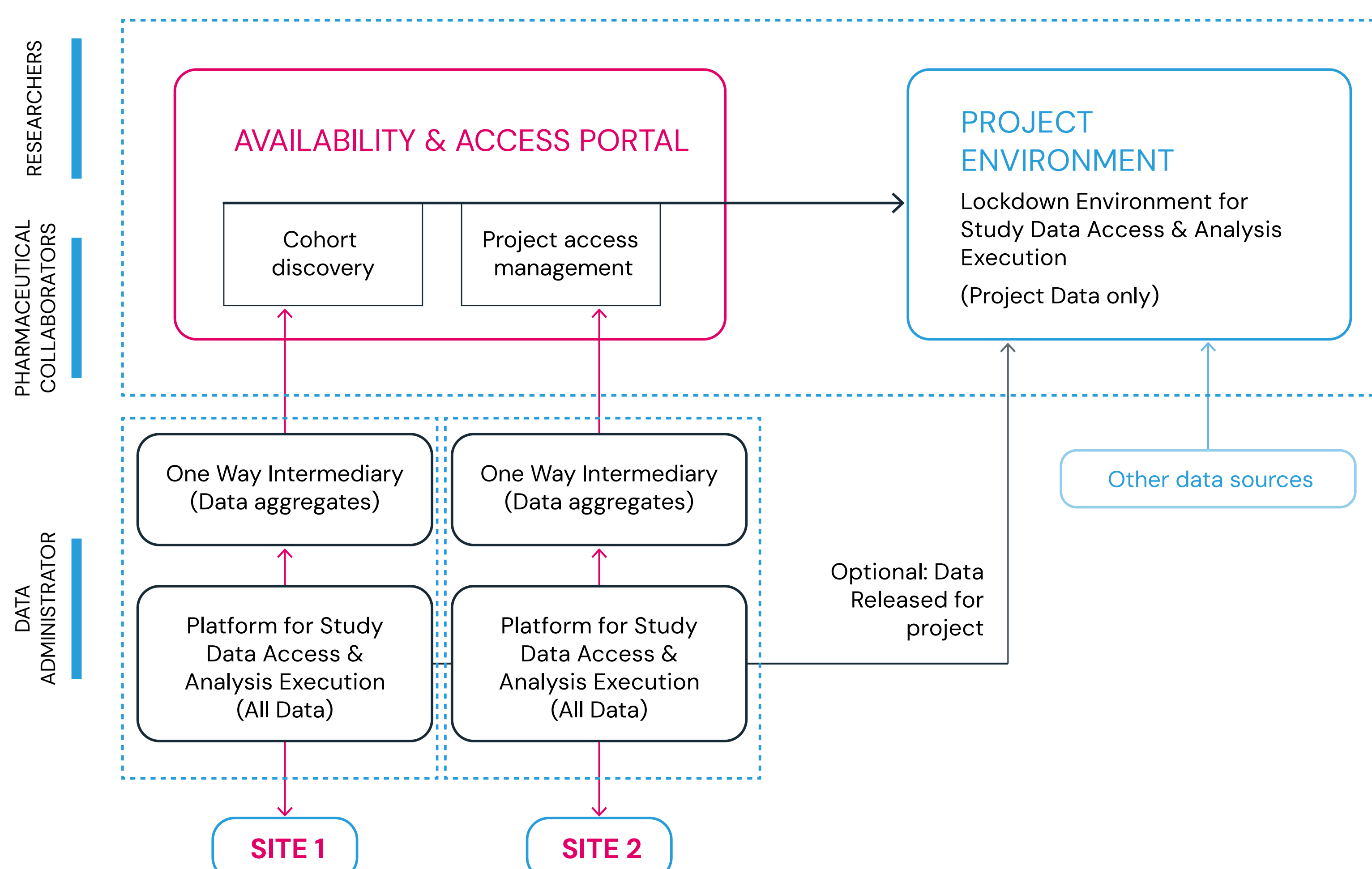
1. **Security:** Adheres to the Five Safes model for privacy (People, Projects, Settings, Data, and Outputs), including:
 - Data secured behind a firewall
 - Individualised access control to system & workspaces
 - Auditable and traceable activity logs
2. Upload of **multiple data sets:** mapped to a common data model.
3. Report **analytical results** to multi-disciplinary teams in a clinically relevant time frame.

Figure 1: At-a-Glance View of the SDE



RESULTS Use of the SDE in RWE research

Figure 2: The SDE with network of multiple organizations/sites (cloud-agnostic or on-premise deployment or hybrid)



TAKE HOME MESSAGE

1. BC Platforms' Data Network encompasses **over 90 data partners** across six continents.
2. Federation technology facilitates **rapid, cost-effective feasibility** studies across the network.
3. SDE technology enables the creation of **representative global cohorts** for drug development, to uncover biological signals, and to assess **diagnostic and treatment pathways**.
4. This structure is instrumental in developing **external comparator** groups for clinical utility and **cost consequence analyses**, and to apply machine learning models to explore drug repurposing opportunities, particularly relevant for **precision medicine and rare diseases**.

