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BaseSpace® Cohort Analyzer for analysis and interpretation of clinical data and genomic information.

Empowering clinician researchers with a flexible framework for the future of innovative patient care.

A unique patient-centric platform.

BaseSpace Analyzer integrates de-identified clinical and molecular data for a clinical case into a comprehensive patient-centric model. This model organizes all data for a single case over time, so clinician researchers can review and analyze subject response to gain a better understanding of disease progression and intervention status. BaseSpace Analyzer supports data analysis and interpretation at both an individual and cohort level. This flexible environment enables deeper collaboration throughout a clinical research network to empower multiple clinical professionals to share data with others in the network to aggregate otherwise rare cases for further analysis and deeper understanding.

Annotate, aggregate, share, and discover.

The BaseSpace Analyzer platform can serve the needs of groups, such as tumor boards or clinical institutions focused on researching specific consented patient populations, providing:

- Mutations are annotated with known knowledge.
- Filtering of molecular data helps identify biomarkers of interest.
- Clinical researchers benefit from previous patient experiences that have been recorded in BaseSpace Analyzer for reference comparison.
- Case data and derived key learnings can easily be shared and reviewed by multiple institutions and clinicians to facilitate identification of biologically or clinically significant biomarkers.
- Consistent sharing of case data throughout an organization can increase access to medical evidence that can drive discovery.

Everyone speaks the same language.

Molecular and patient data are standardized, normalized, and imported into the platform for rigorous analysis. Your team of clinician researchers can all view data specific to a unique case and compare that case against other cases within the system and those in the public domain with genetic and phenotypical similarities. The platform also provides curation of case data by a team of expert Illumina curators. These experts apply a common set of terms and descriptions for clinical and genomic data known as an ontology. The curation process normalizes molecular and phenotypical data for comparison across a professional network as well as across public data sources, such as The Cancer Genome Analysis (TCGA).

Moving toward a precision medicine platform.

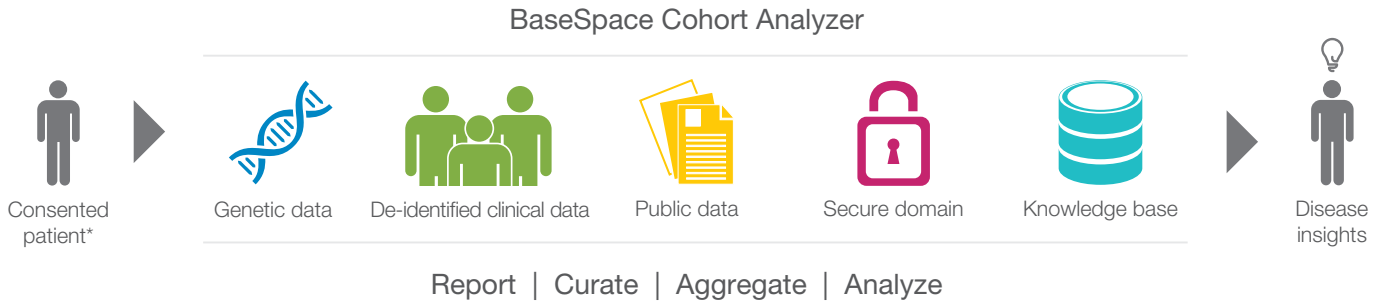
Precision medicine requires new ways of interpreting and utilizing clinical and genomic information. BaseSpace Analyzer enables new ways of interpreting and utilizing de-identified clinical and genomic information to form clinical hypotheses. A clinician researcher can analyze and interpret data at a cohort or individual level. Broad access to clinical and molecular information for comparison of outcomes is also facilitated by the platform. New approaches to case outcome analysis using genetic and clinical information means that there can be incremental learnings from each patient experience.

1. The BaseSpace Cohort Analyzer is Research Use Only.

Building an innovation environment using patient-centric data.

When case data access is broadened in an organization, it increases the likelihood for meaningful discoveries. Getting the most out of genomic and clinical data can be difficult and time consuming, but BaseSpace Analyzer provides a way to easily organize all data components for analysis.

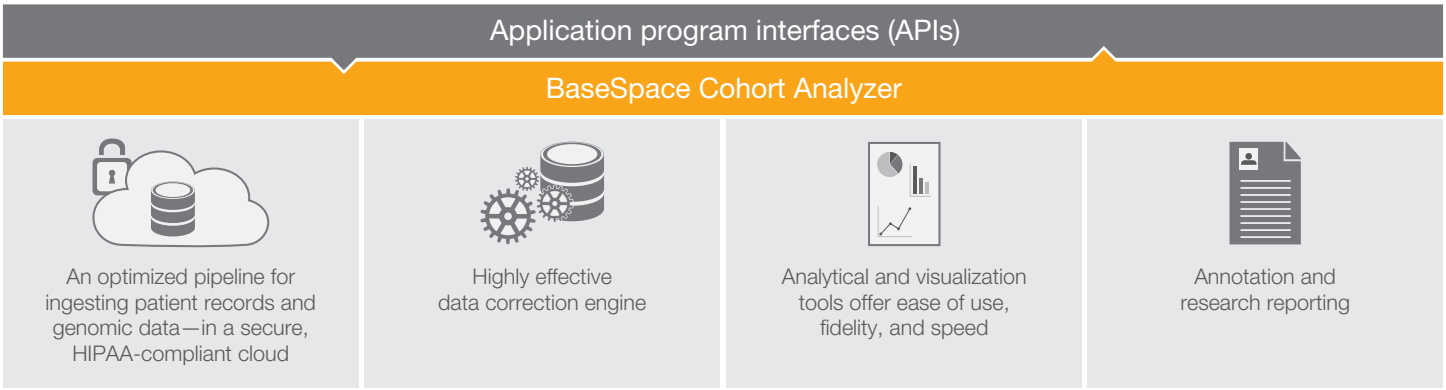
- Learn from aggregated studies.
- Acquire information from each case can benefit other cases.
- Cancers and rare genetic diseases may become easier to understand when viewed in the context of similar cases from other clinician researchers.
- Combining data in a safe and HIPAA-compliant domain facilitates sharing that can lead to more robust understanding of clinically or biologically significant biomarkers.



A flexible and intuitive analysis framework.

The framework for BaseSpace Analyzer provides the following tools for analysis of clinical and genomic data.

- Molecular and consented patient data
- Simple, intuitive navigation optimized for clinician researchers
- Visual correlations of case and cohort data
- Point-and-click queries
- Simple interface with 1-click generation of research reports for 1 to thousands of cases



*Consented patient data as provided by the contributing institution

For Research Use Only. Not for use in diagnostic procedures.

Ensuring availability, integrity, privacy, and security.

Patient privacy

- HIPAA compliance (an independent audit was completed in March 2015)
- International regulatory requirements vary by country

IT security and design

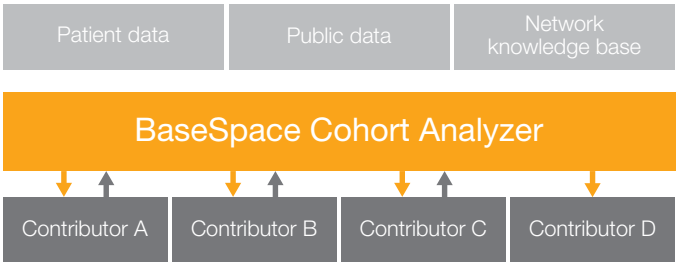
- Framework that supports hospital environment for use
- End-to-end product development process
- Software development life cycle
- State-of-the-art file history system
- Complaint and defect handling process
- Risk-based IT security framework
- Security policies and procedures
- Planned future compliance with ISO 27001 standard
- SSAE 16-certified data center (in the US)
- HTTPS, IP-level checking
- Single sign-on (SSO)
- UK website managed under security processes consistent with US standards

BaseSpace Analyzer software as a service (SaaS) availability

- Single-instance multiple tenancy
- No-downtime philosophy
- Highly redundant storage
- Highly redundant infrastructure

A solution and knowledgebase that grows with you.

BaseSpace Analyzer provides a platform that can be used by a single research hospital or multiple research institutions within a shared domain. The product can be tailored to meet the needs of a group with a variety of levels of expertise in analyzing genomic and clinical data. BaseSpace Analyzer can also be structured to accommodate new clinical researchers who don't want to immediately contribute or have their case data curated, as well as those researchers who are ready to perform more robust analyses.



Dynamic exploration of data.

Clinician researchers can use the flexible patient-centric tools in BaseSpace Analyzer to define their search parameters to filter cases based on clinical parameters and molecular filters. Real-time analysis enables discovery of important patterns quickly, and assists in understanding mutations or prognostic markers. Graphic representations of data and case response timelines contribute to robust case analysis.

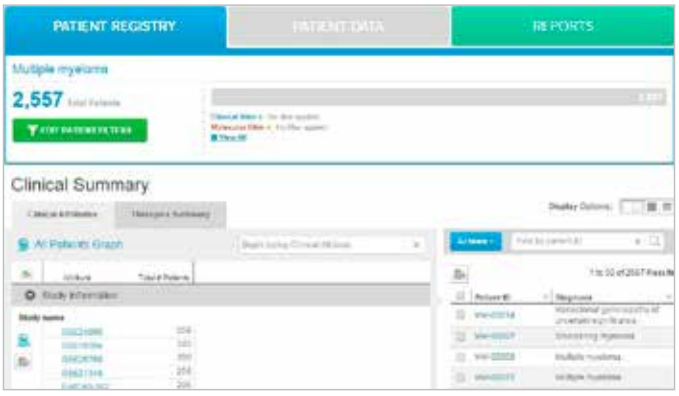


Figure 1: BaseSpace Analyzer Consented Patient Registry

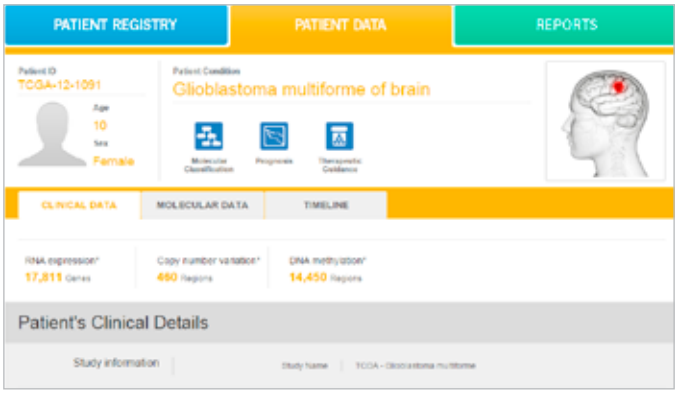


Figure 2: BaseSpace Analyzer De-Identified Patient Data

Figure 3: BaseSpace Analyzer Research Reports

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