LexisNexis®
RISK SOLUTIONS

Health Care

Patient linking across healthcare

A universal patient identifier improves patient record matching to reduce costs, improve interoperability and protect patient safety.

Accurate linking and matching of patient and member data to the right records is critical to the success of healthcare organizations. The rapid push toward value-based care has increased the necessity for interoperability within and across healthcare systems and organizations to support patients along their entire healthcare journey. Achieving fully-integrated care delivery systems starts with accessible, accurately-linked health information.

Mismatches and duplicate errors detract from value-based care by raising healthcare costs and decreasing productivity. They also jeopardize patient safety by potentially leading to incorrect diagnosis and treatment. Most startling, these errors happen more than you think.

- In 2016 the ECRI Institute Patient Safety Organization reviewed 7,600 wrong-patient events occurring over a 32-month period.[1] The incidents were voluntarily reported by 181 health organizations, which means the real number is likely higher.

- A study conducted by the Institute for Safe Medication Practices found that wrong-patient errors happen about once for every 1,000 prescriptions filled. With close to 4 billion prescriptions filled each year, an average of 7 errors happen each month at every pharmacy across the U.S. with potentially life-altering, even fatal consequences.[2]

A secure universal identifier from LexisNexis® Risk Solutions

LexisNexis healthcare solutions can help minimize the exposure of sensitive data, as well as resolve, match and manage patient and member identities more accurately, consistently and securely.

Proprietary linking and unparalleled referential data for improved precision

Assigning a unique identifier to each individual's records in your patient population requires extensive referential data coverage and superior linking technology. Healthcare organizations can use the LexisNexis® LexID® to help match and link the right records to the right individuals.

How LexID® can help:

Create a more accurate view of patient and member populations by matching records to the right individual with an assigned unique identifier. LexisNexis can also augment records with LexID® by providing a unique identifier plus additional contact and other information on the patient or member based on public and proprietary records information.

Identify relationships between and within entities that are transitive, hidden or not obvious to further improve linking and matching of records to individuals.

Identify and resolve linking discrepancies due to phonetics or string distance.

Scrub massive patient and member datasets to identify duplicate records so redundancies can be merged or removed. This also allows organizations to reduce costs by eliminating the need to store redundant information.
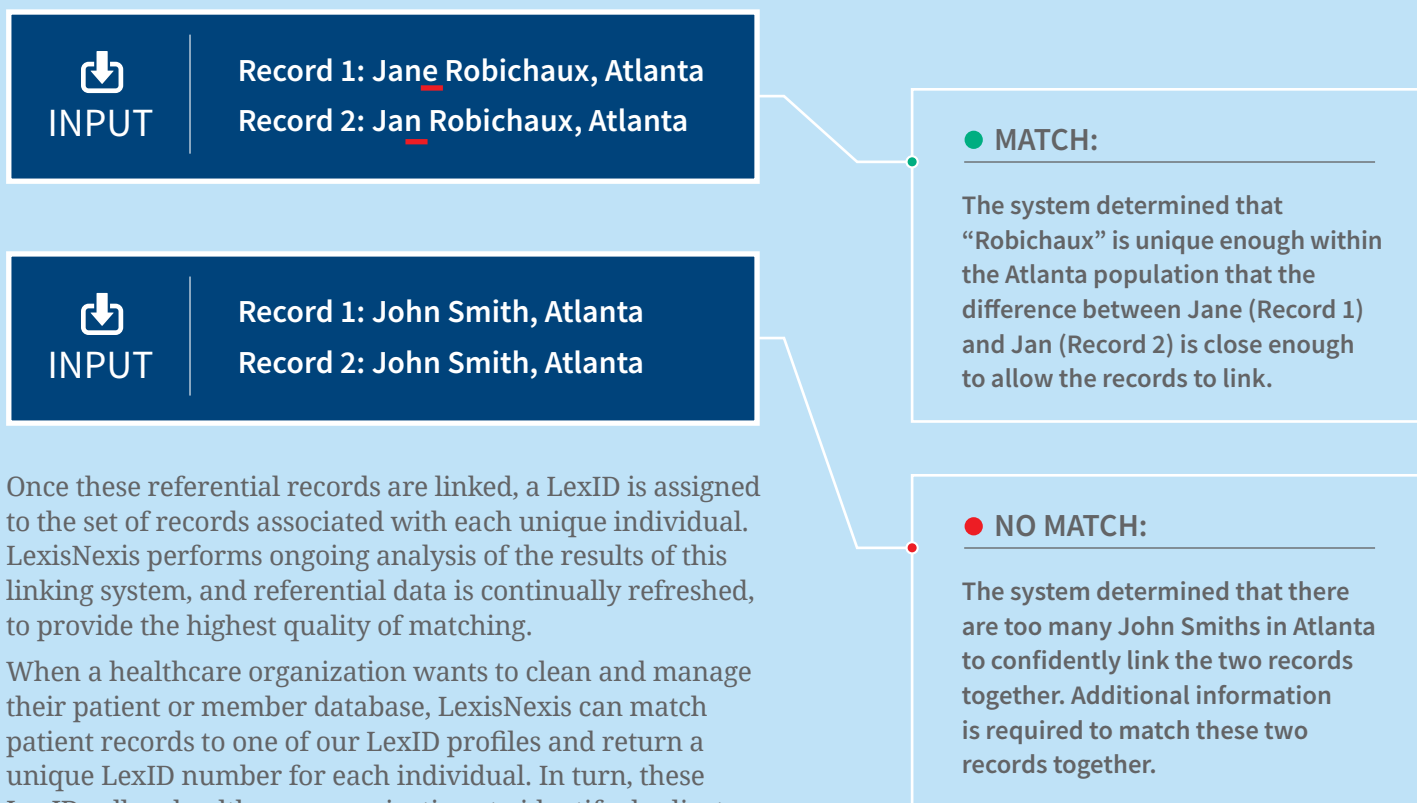
Extensive, continually-updated referential data—the basis for reliable linking

LexisNexis compiles the largest collection of U.S. consumer identity information available today. We leverage public and proprietary records, which are updated regularly from sources including credit headers, utilities, phone directories, college directories, law enforcement and more. This rich dataset allows LexisNexis to understand the identity information for almost the entire U.S. adult consumer population (not just a subset of the credit active population), and provides the foundation for our ability to better link consumers to records more accurately. This broad referential data coverage enables us to assess the uniqueness of different combinations of identity information and to evaluate whether a given record belongs to a given individual with confidence.

Superior linking technology

LexisNexis utilizes a proprietary, multi-patented data linking approach to draw upon our extensive referential data, link this information to the correct individual, and assign a unique, reliable, secure identifier known as a LexID. This involves running billions of complex statistical analyses and data comparisons to make more accurate matches. Core to the linking algorithms is "Specificity": the measure of uniqueness assigned to each value of data (e.g., Name, DOB, etc.) in each field of the database and each combination of those values (e.g., Name + DOB). This allows LexisNexis to identify when records have sufficient evidence to confidently match. This sophisticated matching capability also accounts for variations in the way that data is represented (e.g., mis-keyed information, nicknames, etc.).

Examples

INPUT
Record 1: Jane Robichaux, Atlanta
Record 2: Jan Robichaux, Atlanta

● MATCH:

The system determined that "Robichaux" is unique enough within the Atlanta population that the difference between Jane (Record 1) and Jan (Record 2) is close enough to allow the records to link.

INPUT
Record 1: John Smith, Atlanta
Record 2: John Smith, Atlanta

Once these referential records are linked, a LexID is assigned to the set of records associated with each unique individual. LexisNexis performs ongoing analysis of the results of this linking system, and referential data is continually refreshed, to provide the highest quality of matching.

When a healthcare organization wants to clean and manage their patient or member database, LexisNexis can match patient records to one of our LexID profiles and return a unique LexID number for each individual. In turn, these LexIDs allow healthcare organizations to identify duplicate records as well as match and merge like records.

● NO MATCH:

The system determined that there are too many John Smiths in Atlanta to confidently link the two records together. Additional information is required to match these two records together.

LexisNexis LexID: An alternative, unique identifier for added security

After determining which records belong together, we assign a LexID that ultimately links the records to a specific individual. It improves interoperability and patient safety, as well as improves billing efficiency, because every scan, lab test, doctor appointment, prescription and hospital stay can be associated with that patient's LexID. It follows that patient throughout their healthcare journey and their entire life.

Furthermore, a LexID is more secure than a Social Security Number identification system because it is not Personally Identifiable Information (PII), and it is often a better indicator of a unique individual than a Social Security Number. For healthcare businesses that need to avoid the identity theft risks associated with storing sensitive information, LexID can replace sensitive data like Social Security Numbers without degrading critical operational processes like patient matching.

LexID can clarify the identity picture for any organization

For organizations looking to solve their record matching and linking challenges, LexID can be appended to patient and member records to use for matching and de-duplicating records, eliminating much of the need for manual matching. For organizations that already have a strong matching algorithm, LexID, and the referential data assets on which it's built, can be used to enhance their existing matching techniques.

Here's why no other data provider can compare to LexisNexis:

- Leveraging our vast data resources and patented linking technology results in the highest possible match rates, which then improve patient safety, facilitate interoperability and lower costs.

- LexID can be enhanced to return not only the LexID for patient matching but also augment and verify key information in your patient or member database such as names, addresses, dates of birth and more.

- LexID is part of a full complement of identity management solutions by LexisNexis that are transforming the business of healthcare.

LexisNexis LexID and linking technology work together

Our proprietary linking technology analyzes records from disparate data sources and ultimately links together records common to a single individual.

A unique identifier (LexID) is assigned to these records and acts as the linking agent for all data points associated with a specific individual.

The LexID number is a non-SSN dependent identifier. This significantly mitigates the risk of exposing an individual's personal information.

LexID®

"Identity matching is challenging for most businesses but healthcare environments have special concerns because errors present risks to patient privacy and safety. These concerns are growing with the increased proliferation of electronic medical records and mobile apps, which contribute to rising cyber attacks in healthcare. Health IT is essential to enabling patient care that must be coordinated across an increasingly dispersed care landscape. However, the full promise of health IT cannot be realized without a true referential, persistent ID system such as that provided by the LexisNexis LexID linking technology."

Nancy Fabozzi
Principal Analyst
Frost & Sullivan

**For more information, call 866.396.7703 or visit
risk.lexisnexis.com/healthcare**

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About LexisNexis® Risk Solutions

LexisNexis Risk Solutions harnesses the power of data and advanced analytics to provide insights that help businesses and governmental entities reduce risk and improve decisions to benefit people around the globe. We provide data and technology solutions for a wide range of industries including insurance, financial services, healthcare and government. Headquartered in metro Atlanta, Georgia, we have offices throughout the world and are part of RELX Group (LSE: REL/NYSE: RELX), a global provider of information and analytics for professional and business customers across industries. RELX is a FTSE 100 company and is based in London. For more information, please visit www.risk.lexisnexis.com and www.relx.com.

Our healthcare solutions combine proprietary analytics, science and technology with the industry's leading sources of provider, member, claims and public records information to improve cost savings, health outcomes, data quality and compliance and minimize exposure to fraud, waste and abuse.

[1] https://www.ecri.org/components/HRCAlerts/Pages/HRCAlerts092816_PatientID.aspx
[2] http://www.pharmacytimes.com/publications/issue/2016/june2016/open-the-bag-to-catch-errors-at-the-point-of-sale