

Project US@

ONC-AHIMA COMPANION GUIDE

TO THE TECHNICAL SPECIFICATION FOR PATIENT ADDRESSES DOMESTIC AND MILITARY

VERSION 1.0

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Background

ONC collaborated with standards development organizations (SDOs), including members of the Health Standards Collaborative (HSC), the American Health Information Management Association (AHIMA), and other interested stakeholders to create a unified, cross-standards development organization specification and companion guide for patient address. We engaged a wide range of stakeholders to help ensure that there is broad agreement on Project US@'s resulting specification and companion guide, and build industry commitment around their implementation from the ground up. Together, we hope to establish a lasting, industry-wide approach to representing patient addresses that is consistent across a spectrum of clinical and administrative transactions.

Because the ultimate goal of Project US@ is to improve patient matching, and accurate patient matching relies on a number of factors beyond standards and specifications, ONC partnered with the American Health Information Management Association (AHIMA) to develop a Project US@ Companion Guide containing guidance and best practices related to accurate and timely capture and management of patient addresses that support conformance to the Project US@ Technical Specification.

AHIMA represents professionals who work with health data for more than one billion patient visits each year. AHIMA's mission of empowering people to impact health drives our members and credentialed health information professionals to ensure that health information is accurate, complete, and available to patients and providers. Our leaders work at the intersection of healthcare, technology, and business, and are engaged in data integrity and information privacy job functions worldwide.

The focus on data integrity is foundational to the AHIMA credentialed professional. They are often seen in data integrity roles within the organization where they manage the master patient index; remediating and mitigating duplicate records on a daily basis. AHIMA was a founding member of the [Patient ID Now](#) Coalition where a wide range of healthcare stakeholders are advancing through legislation and regulations, a nationwide strategy around patient identity and matching.





Introduction

DESCRIPTION OF THE PROBLEM

Patient matching, or the ability to identify and link records for the same patient within and across systems and organizations, continues to be a major challenge for healthcare. Patient matching and record linkage support interoperability by determining whether records—both those held within a single facility and those in different healthcare organizations—correctly refer to a specific individual. Inaccurate patient matching can lead to fragmented or duplicate patient records, which in turn lead to delayed, inappropriate, or unnecessary care; reduced utility and trust in patient data for research, analysis and reporting; inefficiencies in care coordination, prior authorization, billing, fraud detection, and privacy and security; and reduced or limited interoperability.

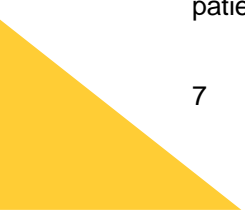
Currently there is no standardized way to identify and link disparate patient records to provide a complete longitudinal record of care. Each patient interaction with a hospital, clinic, pharmacy, laboratory, long-commercial or government health insurer, and public health agency generates patient demographic data that is recorded, managed, and exchanged differently. As a result, it is often challenging to accurately, consistently, efficiently, privately, securely, and sufficiently capture, identify, and automatically link a patient with their electronic health information for exchange.

While advancements have been made in technology and policy, these disparate efforts lack standardization and alignment which undermines current capabilities as well as the ability to respond to ever-changing populations, patterns of health and disease, and increasing numbers of interconnected healthcare systems exchanging more and more types of data. One way that patient matching could be improved is through the development and widespread adoption of standards for the demographic data elements that are relied on every day for matching patient records.

Although numerous technical standards currently in use across the industry support demographic data standardization, few standards align and many lack sufficient constraints and specific guidance that would result in consistent, harmonized representations of this data electronically. There are several demographic data elements that are used when matching patient records, and all of these elements are important and should be as accurate as possible.

Project US@ is focused on patient address. Patient addresses are collected and used to match patient records across a wide range of organizations, systems, and applications; mostly in different ways. Research has shown address standardization to have a meaningful positive impact on patient matching, especially at scale.¹ Finally, address information often changes for patients, and these changes are logistically difficult to synchronize.

¹ Grannis, S.J., Xu, H., Vest, J.R., et al. Evaluating the effect of data standardization and validation on patient matching accuracy. *J Am Med Inform Assoc.* 2019;26(5):447–456, doi: [10.1093/jamia/ocy191](https://doi.org/10.1093/jamia/ocy191)





PURPOSE

The purpose of this companion guide is to offer guidance and best practices related to the collection and management of patient addresses in our health information systems for enhanced patient matching. Our objective in compiling a companion guide to the unified specification for patient address is twofold:

- To facilitate adoption and alignment through an industry-wide approach representing patient addresses that is consistent across a spectrum of clinical and administrative transactions; and
- To enhance performance of patient matching algorithms through improved address quality.

The development of a unified, cross-standards development organization (SDO), healthcare industry-wide specification for representing patient address is critical to enhancing patient identity and matching. However, just as important to the creation of this specification is a high-level uniformity of practice by end-users to further optimize patient data quality – a primary factor in accurate patient matching.

The optimal solution to accurately matching patient records will always be a combination of technology, processes, and people. As a nonprofit association that represents health information professionals that work with health data for more than one billion patients per year, AHIMA and its members are positioned to assist ONC in developing operational guidance to assist with adoption of the Project US@ specification by end users.

The optimal solution to accurately matching patient records will always be a combination of technology, processes, and people.

IN-SCOPE

The scope of this specification companion guide includes United States domestic and military patient addresses. The Project US@ Companion Guide Workgroup that developed this companion guide referenced the Project US@ Technical Specification. The specification used USPS Publication 28 as a foundation, maintaining alignment throughout, with several additional constraints and the addition of metadata. USPS Publication 28 is designed to provide standardized format guidance to improve mailability, while Project US@ is designed to provide technical and operational guidance to improve patient matching.

The Project US@ AHIMA Companion Guide offers guidance on address capture and adherence to the technical specification in a common language that illustrates the many facets of address collection, bridging technology and process.

Project US@ builds on existing standards for two reasons:

- Many health IT software developers have adopted United States Postal Service (USPS) standards to improve patient address mailability, so health information professionals using these products are familiar with this format. Project US@ aims to meet health systems who already use these standards where they are by requiring only minor changes and refinements to what they already do; and





- The Project US@ Technical Specification and AHIMA Companion Guide are designed to support accurate patient matching while maintaining mailability as much as possible.

Mailability is still important for the healthcare industry in cases where patients may receive medications, medical devices, or other products or services intended to improve the health and well-being of patients as well as improved efficiencies in patient communication, home visits, and billing services. Note that standardizing addresses for patients, even if those addresses are not considered mailable, is still an important step towards improved data quality, and therefore a valuable addition to any patient matching strategy.

OUT-OF-SCOPE

Other types of addresses or addresses representing locations associated with healthcare providers, facilities, or other entities are out of scope at this time. Generally, international addresses are also out-of-scope, with the exception of limited guidance for Canadian and other internal addresses in alignment with Publication 28. The Project US@ Technical Workgroup deferred work on guidance related to provider and facility addresses, as well as geolocation data, for future consideration. Project US@ does not obligate health care systems to modify or update existing data in any way.

Naming convention policies typically focus on all patient demographic data being collected at time of registration including but not limited to names and addresses. For purposes of this Companion Guide, while there may be mention of other associated demographic data being managed, the focus is on patient addresses and how they can be collected and managed for better patient matching.

INTENDED AUDIENCE

This technical specification is primarily designed to support health information technology (IT) developers and implementers who will be implementing standards and technologies to improve data standardization and improve patient matching.

However, a number of other stakeholders may also benefit by adopting the specification, including:

- Health IT developers (including MPI and eMPI vendors) may update their systems to be conformant to the technical specification, include the companion guide in their end user trainings and support, and distribute the specification and companion guide to their clients.
- Standards Development Organizations (SDOs) may review this specification to determine the impact of requirements and recommendations on future versions of standards that are widely adopted across the industry, and emerging standards where appropriate. SDOs may include Project US@ in future standards development work for standards and specifications containing patient addresses.





- Providers and health information professionals may review the technical specification in tandem with the companion guide when adopting Project US@ for improved patient matching, include the companion guide in their end user trainings and support, integrate the companion guide into existing data quality improvement, patient identity management, and patient financial services workflows, and distribute the specification and companion guide to leadership and staff.
- Federal and state agencies, data scientists, and researchers may apply the technical specification to their data containing patient address before conducting matching and linking for data aggregation and analysis, or test the application of the specification on improved matching.





Project US@ Companion Guide Workgroup

We would like to thank the following Project US@ Companion Guide Work Group members for sharing their time and expertise to assist with informing and guiding the development of this companion guide.

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Related Documents

PROJECT US@ TECHNICAL SPECIFICATION FOR PATIENT ADDRESS

For guidance on how health IT developers, IT staff, researchers, or other technical stakeholders can conform to Project US@, see the [Project US@ Technical Specification](#). The Project US@ Technical Specification for Patient Addresses will be released with the Project US@ Companion Guide.





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Guiding Principles

USING THE COMPANION GUIDE

The following areas in this section were identified as overarching Guiding Principles for the readers and users of this guide. Their intended use is to support and assist with operationalizing the Project US@ Technical Specification and associated Companion Guide recommendations.

MEETING SYSTEMS WHERE THEY ARE

It is recognized that patient matching methods and processes vary. The ability to view or modify patient matching algorithms differ according to an organization's particular technology design and implementation. Likewise, health care systems vary in their capacity and resources dedicated to patient matching, in addition to other clinical and operational responsibilities. In order to create a floor for matching patient addresses across systems², the theme of "meeting systems where they are" was a guiding principle used throughout the development of this guide.

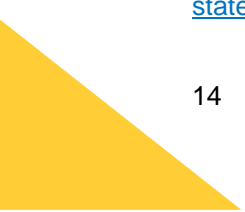
NAMING CONVENTION POLICIES

- While organization's naming convention policies typically focus on all patient demographic data being collected at time of registration, it should be recognized that they influence the capture and management of addresses throughout the health data lifecycle.
- Standardized naming convention policies for patient demographic data elements provides a structure and floor for data entry, collection, and management in the master patient index (MPI) and enterprise master patient index (EMPI) and are essential for preventing the creation of duplicate patient records. In addition, naming policies can help optimize patient matching algorithm accuracy; improving match accuracy.³
- The United States Core Data for Interoperability (USCDI) is a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange.
 - In [USCDI Version 2](#), the Patient Demographics Data Class contains the following data elements: first name, middle name (including middle initial), last name, suffix, previous name, date of birth, e-mail address, current address, previous address, race, ethnicity, phone number, phone number type, preferred language, sex assigned at birth, gender identity, and sexual orientation.⁴ USCDI Draft Version 3 was under draft at the time of this publication. We encourage all readers and users of this guide to reference the most recent version of USCDI for updates.

² AHIMA Patient Identification and Matching Roundtable. "A Realistic Approach to Achieving a 1% Duplicate Record Error Rate" (July 2020)

³ AHIMA Policy Statement: Patient Identification, <https://www.ahima.org/advocacy/policy-statements/patient-identification/>

⁴ ONC, The United States Core Data for Interoperability (USCDI), <https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi#uscdi-v2>





- At this time, few of these data elements have specific standards named for a particular element. Therefore, it is recommend that health care systems begin placing naming convention policies and standards such as Project US@ into practice. It is also recommended that stakeholders across the industry continue to develop and align standards to advance the interoperability of patient data across a wide variety of use cases.
- Other patient data demographics that would benefit from standardization include date of birth and names.
 - Dates are provided by patients, displayed on proofs of identity, and captured in a variety of ways, and as such, may be recorded and exchanged in different formats within and between health IT standards. For example, most patients in the United States would report their birth date in a month-day-year format, but patients who are international students, recent immigrants, or tourists may express their date of birth in very different formats that do not align with common practice in the U.S. or with context and exchange standards used across the U.S. healthcare ecosystem.
 - For example, the date format YYYY-MM-DD is not often used outside of Asia, but this format is compliant with [ISO 8601](#), the international standard for writing dates, and with HL7® FHIR®. Misalignment between technical and non-technical standards and formats leave patient demographic data vulnerable to typos, transpositions, and other errors that may limit the success patient matching systems have when leveraging patient birth dates.
 - Patient Names: There is variability in how the patient's first, middle and last names are entered into a system and managed by the MPI/EMPI; dependent upon the organization's technology design and implementation. [AHIMA's Naming Policy](#) addresses best practice and guidance for collecting names, including but not limited to: complete legal name, recording multiple names within a single field, unidentified patients, newborns, fetal care, prefixes, suffixes, nicknames, preferred, alias and VIP, and the use of hyphens, apostrophes and punctuation.⁵

DATA INTEGRITY AND QUALITY IMPROVEMENT

A key tenet of data quality is to collect data that is accurate, timely, relevant, valid and complete to ensure reliability and overall integrity. Quality improvement programs should address these data characteristics⁶ and include auditing processes and reconciled interdepartmental policies and procedures to standardize data collection throughout the organization. In addition, data quality issues are magnified when source systems are not kept in sync throughout an exchange network.⁷

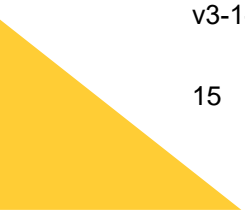
AHIMA defines Data Quality and Integrity as “the extent to which healthcare data are complete, accurate, consistent and timely throughout its lifecycle including collection, application (including aggregation), warehousing and analysis”.⁸

⁵ AHIMA Patient Identification Naming Policy, <https://ahima.org/media/npmfrpmy/2022-naming-policy-v3-1-21-22.pdf>

⁶ ISO 8000-63 includes a process measurement structure for data quality management, including metrics.

⁷ AHIMA Work Group, Managing the integrity of patient identity in health information exchange. Journal of AHIMA. 2014; 85(5): Expanded web version.

⁸ AHIMA Patient Identification Naming Policy, <https://ahima.org/media/npmfrpmy/2022-naming-policy-v3-1-21-22.pdf>





The Patient Demographic Data Quality Framework (PDDQ) offers guidance for small to medium ambulatory healthcare practices in making critical decisions that affect patient demographic data assets⁹ and planning and implementing a comprehensive approach for the detection of defects, definition of quality requirements, and the data cleansing and improvements that ensure data quality.¹⁰ For more information on the framework, visit

<https://www.healthit.gov/playbook/pddq-framework/introduction/>.

STAFF TRAINING AT POINT OF REGISTRATION

Staff training is critical to the success of collecting accurate patient data. Training must be iterative and include competency assessments. Scripted questions with examples should be provided and updated regularly to assist registrars in collecting data from the patient and/or assisting patients to self-register online. Real-time observation of the registration process will identify workflows and shortcuts that may decrease patient matching accuracy. If available, customizable alerts (e.g. homeless or foster care flag) in technology should be explored and implemented.

Standards and corresponding recommendations apply to all areas where patient demographic data are collected. This includes patient registration areas as well as the upward trend of patient self-registrations through various electronic mediums such as kiosks and the use of application programming interfaces (APIs) through mobile devices.

CLEANSING, MITIGATION AND REMEDIATION

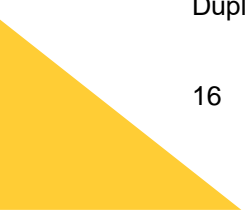
Cleansing duplicate records in the MPI/EMPI must be a daily task. The following are operational recommendations for mitigation and remediation of potential duplicate records¹¹ :

- Staff education and training must be iterative to prevent, identify, and resolve errors;
- Incorporate processes for front-end and back-end database functions including, but not limited to, [naming policies/conventions](#), [feedback loops](#), and [duplicate record prevention](#);
- Patient record adjudication and merging workflows should underscore the importance of accuracy first; and
- Operationalize and prioritize stringent, daily process for working the duplicate error queue, otherwise known as a duplicate record report.
 - These steps must be concurrent with cleaning the MPI database. Efforts should align across the enterprise, as should system harmonization and alignment.

⁹ ONC, Patient Demographic Data Quality Framework, Data Governance, <https://www.healthit.gov/playbook/pddq-framework/data-governance/>

¹⁰ ONC, Patient Demographic Data Quality Framework, Data Quality, <https://www.healthit.gov/playbook/pddq-framework/data-quality/>

¹¹ AHIMA Patient Identification and Matching Roundtable. “A Realistic Approach to Achieving a 1% Duplicate Record Error Rate” (July 2020)



Project US@

STANDARDIZED PATIENT ADDRESSES

A Project US@ standardized patient address is one that includes all required address elements and that uses standard abbreviations as shown in the Project US@ Technical Specification. The intention of the standardization is to clarify address format and content guidance to provide a uniform approach to represent patient records containing addresses within and between health IT systems.

Companion Guide Recommendation(s)

- Educate staff why correct patient addresses are important, including:
 - Ensures correct location of patient for emergency services, home visit, etc.;
 - Leads to better patient matching to facilitate family reunification and access to the patient's health record during disasters (e.g. hurricane, fires) and/or public health emergencies;
 - Facilitates mailing medications and medical supplies efficiently;
 - Enables service delivery by community based organizations (CBOs) such as meals on wheels or transportation services; and
 - Supports public health monitoring and reporting.

PRIVACY AND SECURITY OF PATIENT DATA

Neither this document nor the Technical Specification mandates a single technical approach to security and privacy. If entities handle patient addresses in the service to, or on behalf of, a covered entity, then The Health Insurance Portability and Accountability Act of 1996 (HIPAA) compliance is not optional. Any data element more specific than state, including street address, city, and in many cases ZIP Codes and their equivalent geolocation data, is considered protected under [HIPAA law](#).

Companion Guide Recommendation(s)

- Assess whether certain patient addresses may need special handling or attention.
 - Privacy provisions should be in place for handling sensitive addresses.
 - Example: Addresses that may disclose the location of a patient who is a victim of domestic violence, sexual assault, or stalking.¹²
 - Worker's compensation cases where the employee requests the employer's address be attached to the employee's encounters.
 - Example: Firefighter
 - Best practice would be to add the employer's address as an additional address to the patient's record, but not to override or remove any addresses that already exist in the record. Employer's addresses may need to conform to guidance outlined in the [Standardized Patient Business](#) Addresses section, be flagged as a temporary address, or may need to follow other guidance outlined in the technical specification.

¹² National Criminal Justice Association. Confidentiality of Domestic Violence Victims' Addresses. (1995), Available at <https://www.ojp.gov/pdffiles1/Digitization/164064NCJRS.pdf>.



- Information technology (IT) developers should strive for ensuring data flagged “confidential” be held and not disclosed or exchanged externally unless specifically authorized by the patient.
- Addressing identity theft and/or insurance fraud:
 - Evaluate behavior of potential identity theft or insurance fraud by the use of technology flags (if applicable within technology). This activity will ensure operational workflow efficiency and should include regular review by key stakeholders (e.g. health information, corporate compliance, risk management, etc.) to determine if the activity is a true case of identity theft and/or insurance fraud.
 - Regularly scheduled reporting and audits listing addresses that show an unusual history of edits should be performed.
 - Registrars should be trained to identify potential identity theft and insurance fraud activities and have a clear method of reporting.
 - Recommend identity theft process, plan or program in place and associate with the organizational overlay reconciliation and mitigation plan.

INTERPRETATION OF REQUIREMENTS

The goal of any specification is to instill trust and confidence in the software implementation. The requirements outlined in the Project US@ Technical Specification form the basis of any implementation and tests for conformance to the specification. The language used is intended to reduce ambiguity in interpreting the requirements in a precise and testable manner. The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in the technical specification are to be interpreted as described in [IETF RFC 2119](#).

CONTENT AND EXCHANGE

In order to approach the problem of patient matching in a more holistic manner, where application of the Project US@ specification would support patient address standardization throughout the life cycle of the data, we believe best practice would be to consider both content and exchange. This specification is not a database design document. We encourage health IT developers to tailor patient registration, scheduling, and other health IT applications to conform to the specification and support health information professionals in their efforts to follow the guidance and best practices outlined in this document. We also recommend systems who exchange patient demographic data with other systems to standardize patient address information according to the specification before exchange and matching in such a way that limits information loss.

BEST PRACTICES FOR ADDRESS VERIFICATION AND VALIDATION

Verifying the identity, including the address, of every patient prior to treatment significantly reduces the risks associated with identity theft, fraud, rejected claims, returned mail and lost invoices. Address verification can improve cash flow, reduce billing costs, and minimize bad debt by ensuring the billing statements are





mailed to the correct address.¹³ Refer to [NIST 800-63-3 Digital Identity Guidelines](#) for more information on areas of identity proofing such as authenticators and authentication protocols.

Best practice also includes using an address validation tool, if available. Address verification and validation during the patient registration process allows for an address to be cross-referenced against the United States Postal Service (USPS) standards to ensure the address is valid (i.e., mailable) and properly formatted. Some validation tools allow registrars to receive customizable alerts and scripting for dealing with discrepancies and potential cases of identity theft and insurance fraud.¹⁴

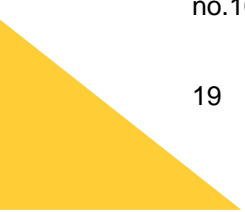
At the time of this publication, USPS address validation services could not be used by healthcare providers, payers, public health agencies, and others who seek to improve patient matching without relying on a 3rd party application to do so. We encourage these application developers to conform to the Project US@ specification to support patient matching efforts led by their clients.

Companion Guide Recommendation(s)

- Verify patient address(es) at each visit.
 - Processes should include address verification in person, over the phone, and when patients self-register through portals or other applications using APIs (e.g., telehealth visits, vaccines, laboratory testing, etc.)
 - Scripted questions should be utilized by any staff collecting patient demographic data. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection, such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “Confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing correspondence to be sent?
- Evaluate third party tools that can be integrated into an electronic health record (EHR) for address verification to support improved patient matching.

¹³ Ibid

¹⁴ AHIMA Work Group. "Best Practices for Patient Matching at Patient Registration" Journal of AHIMA 87, no.10 (October 2016): 74-81.





- For example, some referential matching tools provide address history through data sources such as credit reporting and public utilities; at times providing a view of any associated family members residing at a particular address. While using referential matching tools, it should be recognized that certain populations (e.g., pediatrics) will not have rich data in a referential database, and so the potential impact these tools may have on improving patient matching may be limited.
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

CURRENT AND HISTORICAL ADDRESSES

The Project US@ Technical Specification applies to current and historical patient addresses. Historical addresses may be defined as any address that is not considered current. There MAY be no limit to the number of historical patient addresses that systems could maintain. Sometimes the storage and exchange of historical patient addresses is limited by technology. For systems that are able to leverage these data, historical addresses may be valuable for patient matching. For example, if patient records do not successfully match on current address because updates have been documented in one patient record but not the other.

MAILING, PHYSICAL, OR OTHER ADDRESSES

Some health IT systems capture, store, and exchange patient addresses that have been designated as a patient's mailing address, patient's physical address, or other addresses that represent a designated physical location to the patient or may serve different clinical and administrative needs. These designations do not add significant value to matching patient records, but may serve other purposes, such as indicating where a patient may receive medications or medical supplies.

Companion Guide Recommendation(s)

- Update registration scripted questions when collecting mailing addresses from patients:
 - Educate staff and coordinate across teams (e.g., patient registration staff and billing staff) on how to handle addresses indicated by the patient to be a billing address or one associated with the patient's health insurance coverage); and
 - If a PO BOX is provided, best practice is to also collect a physical address along with any other address that the patient provides.

UNKNOWN ADDRESS

If components of a patient's address are unknown, then those fields SHOULD be left blank. If those fields are not left blank, then UNKNOWN (spelled out, all capital letters) MUST be entered for that element in the patient record. Patient matching algorithms SHOULD NOT match on the value UNKNOWN, developers SHOULD flag UNKNOWN in their patient matching solution to avoid misclassification. See the





[Patient Address Metadata Schema](#). Developers MAY indicate UNKNOWN for any component of a patient address in accordance with the standard(s) in use (e.g., if a standard only allows numeric text in the ZIP Code field, then that field may be left blank).

Companion Guide Recommendation(s)

- Align Project US@ guidance to organizational policies and practices for unknown address data..
- Scripted questions should be utilized by any staff collecting patient demographic data. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult street or unusual street names or provide a best guess for their ZIP Code if unknown.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “Confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reenforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays.
- Discuss and explore potential system enhancements with your technology vendor, including:
 - Use of CAPITAL letters in certain address fields;
 - Adding known, repetitive data (such as UNKNOWN) to an algorithm exclusion list; and
 - Patient flags such as confidential address, homeless patient, active military or veteran.
- Limit capture of “test”, “dummy”, or “bogus” data that may increase false positive while patient matching (e.g., entering 123 Main Street Anytown, USA for patients without a recorded address instead of UNKNOWN).
- Recording Temporary Addresses due to homelessness, migration or displacement due to unforeseen event (e.g. declared disaster or public health emergency):
 - Capture Temporary Address and Previous Address to enable better patient matching rates.
 - When capturing addresses, include the following question in scripts to assist with collecting and maintaining accurate addresses for minors:
 - Does the legal guardian’s address match up to the patient’s address?





- For homeless individuals, collect the most frequented visited, stable, consistent and standard patient address where the patient can receive mail is preferred (homeless shelter, day shelter).
- Both of these practices will assist in returned mail to the organization and increase patient matching rates.
- Refer to the [Patient Unified Lookup System for Emergencies \(PULSE\)](#) for more information on accessing health information during disasters and public health emergencies.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

GUARDIAN/GUARANTOR ADDRESSES

Companion Guide Recommendation(s):

- Guardian:
 - Guardian’s address should be retained as long as possible, within allowable law and in accordance with local policies and practices. This information is critical to identifying and having a historical picture of past and present guardians for patient care.
 - Collect parent’s prior surname (if applicable) for pediatric patients to increase patient matching success
 - Special privacy considerations should be given for minors who are in foster care.
 - Historically, addresses of children in foster care are archived, although not taken into consideration by patient matching algorithms.
 - To indicate situations such as a minor within the foster care system or that the contact is the guardian, technology flags should be explored.





- The “confidential” metadata field in the [Patient Address Metadata Schema](#) section should be considered for instances where a confidential address is needed.
- If the guardian is deceased or the legal documentation provided is not adequate to change or remove guardians, refer to health information management policies and procedures.
- Guarantor:
 - Educate staff on the use of [“Patient/Person/Subscriber”](#) verbiage. Depending upon your service organization and the technology used, these terms may be the nomenclature utilized instead of “Guarantor”.
 - Collect a full and complete address to ensure the guarantor receives billing statements.

Example:

FIRST MIDDLE LASTNAME
123 MAIN ST
ANYWHERE, IL 11111

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA’s Naming Policy](#) for more information.

ADDRESS FIELD PARSING

The Project US@ Technical Specification does not prescribe parsing rules, including the direction in which patient addresses are parsed if parsing is necessary. If patient address data is captured and stored in a single string field, where elements such as street address and city are not parsed into separate fields





for the purposes of patient matching, systems SHOULD uniformly parse data according to the following format:

Element	Description
Business/Firm Name	Only to be used for patient addresses containing businesses
Street Address Line	<PRIMARY ADDRESS NUMBER><PREDIRECTIONAL><STREET NAME><SUFFIX><POSTDIRECTIONAL><SECONDARY ADDRESS IDENTIFIER><SECONDARY ADDRESS>
Last Line	<CITY><STATE><ZIP+4>

Companion Guide Recommendation(s)

- Follow parsing logic provided by USPS at https://pe.usps.com/text/pub28/28c2_012.htm for mailing purposes.
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

NON-ADDRESS INFORMATION

At times, non-address data will be captured and stored in fields intended to represent a patient's address. In these cases, this information SHOULD be removed. Business names are allowed as outlined in the [Standardized Patient Business Addresses section](#). Use of geographic features are discouraged if the patient's record contains a street address. If the patient's record does not contain a street address, then it is recommended that developers and health information professionals not abbreviate whatever data is presented by the patient.

Companion Guide Recommendation(s)

- Limit the use of statements like "DO NOT USE" in the address field. Organizations often use this to indicate the presence of a known duplicate record that has not been merged. This type of data can be easily misinterpreted and misunderstood and creates additional issues when patient matching.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.



- Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
- Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

LETTER CASE

Alphabetical letters SHOULD be uppercase on all lines of the address. Lowercase letters are acceptable, provided they remain human and machine readable.

Companion Guide Recommendation(s)

- Explore update to fields with technology vendor if capital letters in the address field are not supported under certain circumstances.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





SPECIAL CHARACTERS

Diacritics

The U.S. Census Bureau codes 1,333 individual languages and language groups to help simplify and manage all of the languages spoken in the United States.¹⁵ Many, though not all of these languages use diacritics to alter the verbal pronunciation of a word by placing marks above, below, or to the side of a character. Common examples of diacritics include:

- an acute accent (á) common to Albanian, Catalan, Croatian, Czech, Dutch, French, Hungarian, Icelandic, Polish, Portuguese, Serbian, Slovak, Slovene, and Spanish;
- a grave accent (à) common to Catalan, Dutch, French, Italian, and Portuguese; or
- a tilde (ñ) common in Estonian, Portuguese, and Spanish.

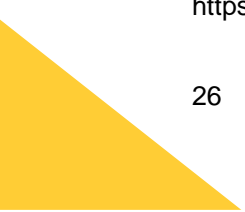
Some, though not all health information technology systems, have the capacity to capture diacritics, and the ability to meaningfully exchange them relies on a number of factors, including the capacity of the receiving system in the exchange to read and accurately match records containing diacritics. In addition, diacritic marks that do not successfully convert to Unicode will often display as an inverted question mark. If patient matching algorithms are not designed to identify and disregard these or any other unrecognizable character, additional matching errors may occur.

Diacritics SHOULD follow [Appendix A](#) for mapping guidance between letters containing diacritics and other representations.

Companion Guide Recommendation(s)

- Educate data integrity teams on the usage of diacritics in the organization's technology (if applicable) and how they may affect patient matching algorithms and how they are represented on mailing documents or other printed materials.
- Provide education to registration staff by sharing [Appendix A. Diacritic Mapping Guidance](#)
- During data cleanups, diacritics will need to be translated into the most accurate character on the keyboard.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged "confidential", or in multiple guardian/parental situations.
 - Example questions may include:

¹⁵ United States Census Bureau, Frequently Asked Questions (FAQs) About Language Use, <https://www.census.gov/topics/population/language-use/about/faqs.html>





- Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Punctuation

With the exception of the hyphen in the ZIP+4 Code and in the primary number used in the patient street address line, punctuation SHOULD be omitted in the patient address record.

Remove special characters, multiple blanks, and punctuation as follows:	
	All white space characters including groups of multiple white space characters MUST be changed to a single space, except between state abbreviations and ZIP Codes or ZIP+4 Codes and when patients have Canadian addresses, two spaces should be between the province abbreviation and the postal code.
*	Asterisks
,	Commas
.	Periods, except when patient address contains grid style addresses.
()	Parentheses
“ ”	Quotations
:	Colons
;	Semicolons
`	Apostrophes
-	Hyphens, except in the ZIP+4 Code and in the primary number used in the patient street address line. Spaces before and after the hyphen or slashes (/) SHOULD be removed from the address or business/firm name line. Spaces SHOULD NOT be removed between elements, as concatenation is to be avoided.
@	At
&	Ampersand

The pound sign (#) is not considered a special character or punctuation, hence, the pound sign should not be removed. PO Box services in some locations allow for an option to use the Post Office street address for the address, along with the PO Box number preceded by a “#” sign. The pound sign (#) MAY be used as a secondary unit designator if the correct designation, such as APT or STE, is not known. Unprintable characters may be considered white space.





Companion Guide Recommendation(s)

- Unnecessary punctuation and special characters should not be included in a patient address to prevent returned or undeliverable mail items.
- Evaluate systems for usage of punctuation and strive to comply with technical specification.
- Evaluate how the pound sign is being used by staff in the collection of data. It is best practice not to use the pound sign (#) and instead, use a specific second unit designator.

Examples:

Incorrect Form	Correct Form
APT #10	APT 10
ROOM #5	RM 5
PIER #1	PIER 1

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

HYPHENATED ADDRESS RANGES

Hyphenated address ranges are prevalent in New York City (for example, *112–10 BRONX RD*), Hawaii, and areas in southern California. The hyphen in the primary range **MUST NOT** be removed.

Companion Guide Recommendation(s)

- Staff education should include the use of hyphens in address ranges for accurate collection.





- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Examples of hyphenated address ranges used in New York City:

Correct Form
132-12 88 th ST, NEW HYDE PK, NY 11040
94-40 133 rd AVE, OZONE PK, NY 11417
142-1 MCLAUGHLIN ST, SI, NY 10305
83-08 LANGDALE ST, NEW HYDE PK, NY 11040

GRID STYLE ADDRESSES

These MAY contain significant punctuation, such as periods (for example, 39.2 RD, 39.4 RD). There are also grid style addresses in Salt Lake City that include double directionals (for example, in 842 E 1700 S: E is a predirectional, S is a postdirectional, and 1700 is located in the street name field).

Companion Guide Recommendation(s)

- Staff education should include the use of grid style addresses for accurate collection.





- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Examples:

Correct Form
37 1/2 ROAD, GRAND JUNCTION, CO
F 1/2 ROAD, GRAND JUNCTION, CO

ALPHANUMERIC COMBINATIONS OF ADDRESS RANGES

Some patient addresses MAY contain a combination of alpha and numeric characters. For example, N6W23001 BLUEMOUND RD, as found in Wisconsin and Northern Illinois. Alphanumeric address ranges create a challenge for accurate matching.

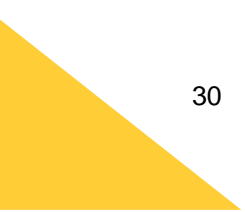
Companion Guide Recommendation(s)

- Alphanumeric combinations of address ranges should be entered without additional spaces exactly as written to not change the meaning or negatively effect matching.

Example:

Incorrect Form	Correct Form
N6 W23001	N6W23001

Additional address examples include:





Correct Form
S79W31370 GREEN MEADOWS DR
W128S9020 BOXHORN RESERVE DR
W210N5407 CARTERS CROSSING CR
N24W23899 HAWKS MEADOW DR
N6W23001 BLUEMOUND RD

- Staff education should include the use of alphanumeric combinations of address ranges for accurate collection.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

FRACTIONAL ADDRESSES

Fractional patient addresses MAY be represented as three or four character positions (for example, 123 1/2 MAIN ST). 123 1/2 takes seven character positions in the range field.

Companion Guide Recommendation(s)

- Fractional addresses should be typed with a slash per technical specification.
- Fractional addresses should NOT be spelled out.



Example:

Incorrect Form	Correct Form
123 and a half	123 ½

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

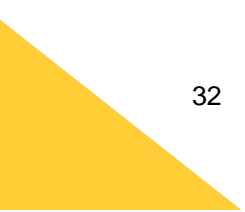
SPANISH AND OTHER NON-ENGLISH WORDS

Patient addresses may contain Spanish, French, Native American and other non-English words that could be difficult to match. Each patient matching solution is designed differently, and some health IT developers apply different enhancements to their solutions such as phonetic algorithms. Phonetic algorithms index words according to their pronunciation, and most were designed to consider the pronunciation of English words only.

English translations contained in the technical specification and this document are provided for information only. Do not replace the Spanish words with the English translation in the patient record.

Additional information on Spanish words used in primary street names may be found in [Appendix F](#).

See [Puerto Rico Addresses](#) for a complete description of the format for these addresses.





Companion Guide Recommendation(s)

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

ADDRESS ELEMENTS AND ABBREVIATIONS

Street Address Line

Each known address element **MUST** be segmented into individual components with one space between each element. These components are the primary address number, predirectional, street name, suffix, postdirectional, secondary address identifier, and secondary address. Follow guidance in the [Unknown Address](#) section if address elements are unknown or unavailable.

Companion Guide Recommendation(s)

- Explore update to fields with technology vendor if address elements are not segmented into individual components set forth by the technical specification.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:





- Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Primary Address Number

To standardize a patient address, the primary address number MUST be placed before the street name.

Companion Guide Recommendation(s)

- If the patient or patient representative cannot provide the primary address number, collect as much of the address as possible. For example, collecting just the street name without a number.

Predirectional

Directional is a term used to refer to the part of the address that gives directional information for a patient address (e.g., N, S, E, W, NE, NW, SE, SW). If a directional word is found as the first word in the street name and there is no other directional to the left of it, then this is considered a predirectional. The predirectional SHOULD be abbreviated to the appropriate one- or two-character abbreviation. Geographic directional abbreviations are in Appendix D. The AHIMA Companion Guide also contains guidance on Spanish directional.

Examples:

Incorrect Form	Correct Form
NORTH BAY STREET	N BAY STREET
EAST END AVE	E END AVE





Companion Guide Recommendation(s)

- Use USPS accepted abbreviations for directionals (N, NE, S, SE, etc.) and suffixes (AVE, ST, BLVD, & PKWY). Geographic directional abbreviations are provided in [Appendix D](#)
- Cities should be spelled out in their entirety. Abbreviations are not acceptable.

Incorrect Form	Correct Form
LI	LONG ISLAND
MPLS	MINNEAPOLIS
SLC	SALT LAKE CITY
SPFD	SPRINGFIELD
STL	SAINT LOUIS

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Street Name

Numeric street names, for example, 7TH ST or SEVENTH ST, MUST be conveyed exactly as it appears in the patient’s official identification (government issued or insurance card). Corner addresses SHOULD be replaced by standardized street addresses if known.

Companion Guide Recommendation(s)

- Collect street name as it appears on acceptable form of identification.





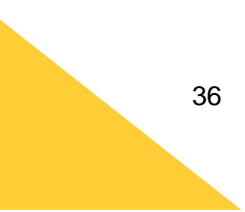
- If a corner address such as “7th and MAIN” is provided, ask patient for a standardized street address (if known).
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Street Suffix Abbreviations

Street suffixes such as Boulevard and Avenue MUST be abbreviated according to the standard suffix abbreviations in [Appendix B](#).

Companion Guide Recommendation(s)

- Share [Appendix B. Street Suffix Abbreviations](#) with staff and incorporate into training and reference materials.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?





- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Postdirectional

If a directional word is located to the right of the street name and suffix, then the directional **MUST** be abbreviated to the appropriate one- or two-character abbreviation and located in the postdirectional field. Spaces **SHOULD NOT** be entered between letters making up an abbreviation for a postdirectional.

Example:

Incorrect Form	Correct Form
BAY DRIVE WEST	BAY DRIVE W

Companion Guide Recommendation(s)

- An exception to the technical specification: If the street name is a letter such as “N”, “S”, “E”, or “W”, only the letter would be used.
 - Example: 124 N HWY S – highway “S” is the street name
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





Other Directional Considerations

Two Directionals

If two directional words appear consecutively as one or two words, before the street name or following the street name or suffix, then the two words **SHOULD** become either the pre- or the post-directionals.

Exceptions are any combinations of NORTH-SOUTH or EAST-WEST as consecutive words. In these cases, the second directional **SHOULD** become part of the street name and **SHOULD** be spelled out completely in the street name field. Directionals **SHOULD** be spelled out if part of the patient street address name.

Examples:

Incorrect Form	Correct Form
NORTH E MAIN STREET	NE MAIN ST
SOUTHEAST FREEWAY NORTH	SOUTHEAST FWY N

Directional letters **SHOULD NOT** be combined with alphabet indicators. Directional street names **SHOULD** be spelled out. Directionals **SHOULD** be abbreviated after the street name.

Incorrect Form	Correct Form
COUNTY ROAD N EAST	COUNTY ROAD NE

Companion Guide Recommendation(s)

- Recommend that anytime human entry cannot be consistently relied upon, IT Developers should add these special technical specifications to their data normalization efforts.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.





- Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Directional as Part of Street Name

If the directional word appears between the street name and the suffix, then it SHOULD appear as part of the street name and SHOULD be spelled out in the patient record

Examples:

Incorrect Form	Correct Form
BAY W DRIVE	BAY WEST DRIVE
NORTH AVENUE	NORTH AVE

Companion Guide Recommendation(s)

- Recommend that anytime human entry cannot be consistently relied upon, IT Developers should apply specifications to their data normalization efforts.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





Secondary Address Unit Designators

Technical Specification: Secondary address unit designators, such as apartment or suite, are required elements for those patient demographic records containing secondary unit designators. Secondary address unit designators MUST be at the end of the Patient Street Address Line. The pound sign (#) MUST NOT be used as a secondary unit designator if the correct designation, such as APT or STE, is known. See the [Special Characters](#) section for more information.

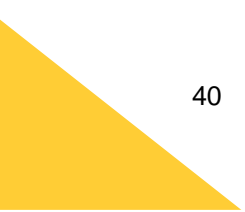




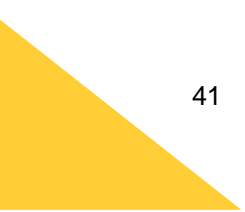
Table 1: Secondary Address Unit Designators

Description	Approved Abbreviation
Apartment	APT
Basement	BSMT**
Building	BLDG
Department	DEPT
Floor	FL
Front	FRNT**
Hanger	HNGR
Key	KEY
Lobby	LBBY**
Lot	LOT
Lower	LOWR**
Office	OFC**
Penthouse	PH**
Pier	PIER
Rear	REAR**
Room	RM
Side	SIDE**
Slip	SLIP
Space	SPC
Stop	STOP
Suite	STE
Trailer	TRLR
Unit	UNIT
Upper	UPPR**

** Does not require additional data, such as number or letter, to follow. These secondary unit designators SHOULD stand alone at the end of the patient address line.

Companion Guide Recommendation(s)

- Secondary Address Unit Designators are used at the end of the address. In these cases, the pound (#) sign should not be used:





Examples:

Incorrect Form	Correct Form
APT #10	APT 10
ROOM #5	RM 5
PIER #1	PIER 1

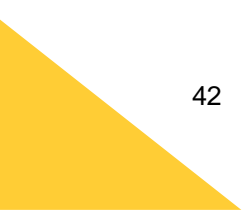
- Share [Table 1: Secondary Address Unit Designators](#) with staff and incorporate into training and reference materials.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Suffixes

Technical Specification: The suffix of the address MUST conform to the standard suffix abbreviations outlined in Appendix B.

Companion Guide Recommendation(s)

- Share [Appendix B. Street Suffix Abbreviations](#) with staff and incorporate into training and reference materials.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.





- Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
- Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Two Suffixes

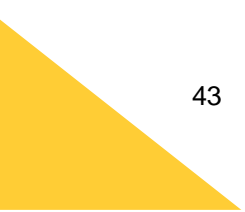
If an address has two consecutive words that appear in [Appendix B](#), the second of the two words **MUST** be abbreviated according to the standard suffix abbreviations and **MUST** be placed in the suffix field. The first of the two words **SHOULD** be part of the street name, and **SHOULD** be spelled out in the patient record in its entirety after the street name.

Examples:

Incorrect Form	Correct Form
789 MAIN AVENUE DRIVE	789 MAIN AVENUE DR
4513 3RD STREET CIRCLE WEST	4513 3RD STREET CIR W
1000 AVE E	1000 AVENUE E

Companion Guide Recommendation(s)

- Share [Appendix B. Street Suffix Abbreviations](#) with staff and incorporate into training and reference materials.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:





- Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Highways

County, state, and local highways MUST follow the standardized format as illustrated by examples in [Appendix C](#). Please note that words like HIGHWAY, COUNTY, or INTERSTATE are not abbreviated if part of the patient's street name. More examples can be viewed in Appendix C.

Companion Guide Recommendation(s)

- Share [Appendix C. Address Standardization - County, State, Local Highways](#) with staff and incorporate into training and reference materials.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged "confidential", or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Last Line

City Names

City names SHALL be spelled out in their entirety. Patient address records MUST have at least one space between the city name, two-character state abbreviations, and ZIP+4 Code.





Companion Guide Recommendation(s)

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Two Letter State and Possession Abbreviations

Names of states and U.S. possessions MUST follow the standardized abbreviations outlined in [Appendix D](#).

Companion Guide Recommendation(s)

- When using verification and validation tools through a third party, the ZIP+4 should be returned and entered into the patient’s record.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.





- Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

MILITARY ADDRESSES

Patient records containing addresses to Army/Air Post Offices (APOs), or Fleet Post Offices (FPOs) are required to include the patient's name and rank, per USPS Publication 28. Guidance for the patient's name and rank is out of scope for this document.

APO/FPO patient addresses MUST include the unit, the box number, the APO/FPO address, and the 9-digit ZIP Code. City or country names MUST NOT be included in APO/FPO shipping addresses.

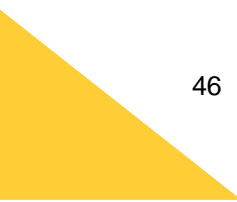
The Street Address Line for all APO/FPO military patient addresses MUST be standardized to include the appropriate military address type with its assigned number and a box number. There are five possible military address types: CMR (Consolidated Mail Room), OMC (Official Mail Center), PSC (Postal Service Center), UMR (Unit Mail Room), and UNIT. The assigned number and the box number MUST follow one of these acronyms.

Examples:

Service Post Office	Correct Form
Army/Air Post Office (APO)	PSC 3 BOX 4120 APO AE 09021-0002
	UNIT 2050 BOX 4190 APO AP 96278-2050
	CMR 802 BOX 74 APO AE 09499-0074
Fleet Post Office (FPO)	UNIT 100100 BOX 4120 FPO AP 96691-0104
	UNIT 4856 BOX 121 FPO AP 96667-3931
Diplomatic Post Office (DPO)	UNIT 8400 BOX 0000 DPO AE 09498-0048

Companion Guide Recommendation(s)

- Addresses change often for patients who are active military.
 - Home addresses may be historical and different military addresses may be recorded depending upon if the service member is deployed
 - Historical addresses are important to distinguish the veteran's or service member's status (e.g. active, separated, retired, etc.).





- The service member is responsible for updating their address in the Defense Enrollment Eligibility Reporting System (DEERS) system. This enables the assignment of an electronic data interchange personal identifier (EDIPI) for better patient matching.
 - If the patient has military insurance such as TRICARE and the spouse is deceased, scripts and educational materials should be developed to encourage the spouse to submit a copy of the death certificate to DEERS to update the system. DEERS feeds into the Defense Finance Accounting Service (DFAS), Tricare and other systems that verify eligibility for medical care.
- The patient address should always be entered exactly as provided including Name and Rank.
 - Educate staff on the fact that the Name and Rank of the service member are required in order to receive mail at their duty station.
 - Recommended rank resource: <https://www.defense.gov/Resources/Insignia>
 - Military Rank should be included in organizational naming policies as it is represented on the service member’s military ID card.

Examples:

Service Post Office	Correct Form
Army/Air Post Office (APO)	FIRSTNAME LASTNAME, SERGEANT MAJOR PSC 3 BOX 4120 APO AE 09021-0002
	FIRSTNAME LASTNAME, SENIOR AIRMAN UNIT 2050 BOX 4190 APO AP 96278-2050
	FIRSTNAME LASTNAME, PRIVATE CMR 802 BOX 74 APO AE 09499-0074
Fleet Post Office (FPO)	FIRSTNAME LASTNAME, MASTER PETTY CHIEF OFFICER UNIT 100100 BOX 4120 FPO AP 96691-0104
	FIRSTNAME LASTNAME, CAPTAIN UNIT 4856 BOX 121 FPO AP 96667-3931
Diplomatic Post Office (DPO)	FIRSTNAME LASTNAME UNIT 8400 BOX 0000 DPO AE 09498-0048

- Provide education to staff and reenforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.





- Adding Rank increases the likelihood of matching since many military address maybe alike.
- Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Domestic Locations

Most domestic military addresses must have a conventional street style address. Domestic Military addresses MUST use only the city name along with the approved two-character state abbreviation and the ZIP Code or ZIP+4 Code.

Companion Guide Recommendation(s)

- Recommend including collection of a street style address for domestic military bases.

Example:

Correct Form
MACDILL AIR FORCE BASE 9211 MARINA BAY TAMPA FL 33621

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





Overseas Locations

Technical Specification: Overseas military addresses MUST contain the APO or FPO designation along with a two-character “state” abbreviation of AE, AP, or AA and the ZIP Code or ZIP+4 Code. AE is used for armed forces in Europe, the Middle East, Africa, and Canada; AP is for the Pacific; and AA is for the Americas excluding Canada.

Companion Guide Recommendation(s)

Example¹⁶:

Incorrect Form	Correct Form
SGT. SMITH 23 RD BATTALION UNIT 2340, BOX #132 BAGHDAD IRAQ	SGT JOHN SMITH UNIT 2340 BOX 132 APO AE 09350

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

¹⁶ <https://faq.usps.com/s/article/How-Do-I-Address-Military-Mail>



DEPARTMENT OF STATE ADDRESSES

Technical Specification: DPOs are postal facilities that operate at one of the Department of State's missions abroad as a branch post office of the U.S. Postal Service (USPS). DPO patient addresses MUST include the unit, the box number, the DPO address, and the 9-digit ZIP Code. City or country names MUST NOT be included in DPO shipping addresses. Patient records containing addresses to DPOs are required to include the patient's name, per USPS Publication 28. Guidance for the patient's name is out of scope for this document.

Example:

Correct Form
UNIT 9900 BOX 0500
DPO AE 09701-0500

Companion Guide Recommendation(s)

- S Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Correct Form
FIRSTNAME, LASTNAME
UNIT 8400 BOX 0000
DPO AE 09498-0048



RURAL ROUTE ADDRESSES

The rural route number in a patient record **MUST** be standardized as follows:

RR ___ BOX ___

Examples:

Incorrect Form	Correct Form
RURAL ROUTE 91 BOX A7	RR 91 BOX A7
RFD 82 BOX 12	RR 82 BOX 12
RD 51 # 25	RR 51 BOX 25
RFD Route 4 #87a	RR 4 BOX 87A
RR 2 BOX 18 Bryan Dairy Rd	RR 2 BOX 18
RR03 BOX 98D	RR 3 BOX 98D

Developers:

SHOULD NOT use the words RURAL, NUMBER, NO., or the pound sign (#).

MUST NOT add a leading zero before the rural route number.

SHOULD include hyphens as part of the box number only when they are part of the address.

SHOULD change the designations RFD and RD (as a meaning for rural or rural free delivery) to RR.

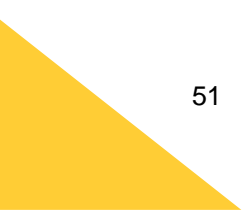
SHOULD NOT allow additional designations, such as town or street names, on the patient Street Address Line of rural route addresses.

Companion Guide Recommendation(s)

- If a box number is included in the address, the associated ZIP+4 Code representing the range for that box number should be used.
- If a box number is not available, the Rural Route base record must be used.

Examples:

Incorrect Form	Correct Form
RFD ROUTE 4 #87a	RR 4 BOX 87A
RR 2 BOX 18 BRYAN DAIRY RD	RR 2 BOX 18
RR03 BOX 98D	RR 3 BOX 98D





- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

GENERAL DELIVERY

Technical Specification: Developers MUST use the words GENERAL DELIVERY, all uppercase, spelled out (no abbreviation), as the patient street address line in the patient record if the patient has a general delivery address. Each general delivery record SHOULD carry the –9999 add-on code. The ZIP Code or ZIP+4 Code MUST be correctly applied for patient addresses with a general delivery. Note that General Delivery is not available at every post office.

Example:

Incorrect Form	Correct Form
GEN DELIVERY TAMPA, FL 33602	GENERAL DELIVERY TAMPA FL 33602-9999

Companion Guide Recommendation(s)

- If a patient presents a General Delivery address, the use of “9999” as a ZIP+4 is best practice.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.





- Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
- Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

POST OFFICE BOX ADDRESSES

Post Office Box addresses in a patient record MUST be standardized as follows:

PO BOX _____ (the actual number, numbers, or letter)

Examples:

Incorrect Form	Correct Form
POST OFFICE BOX 11890	PO BOX 11890
POST OFFICE BOX G	PO BOX G

Developers MUST NOT add a leading zero before the post office box number.

PO Box addresses often appear with the words CALLER, FIRM CALLER, BIN, LOCKBOX, or DRAWER, or other synonyms. When this occurs, developers MUST change these words to PO BOX in the patient record.

PO Box services in some locations allow for an option to use the Post Office street address for the address, along with the PO Box number preceded by a “#” sign or “UNIT” designation.

Companion Guide Recommendation(s)

- Punctuation and special characters should not be used.

For example, no periods should be used:

Incorrect Form	Correct Form
P.O.	PO

- Educate staff that the pound sign “#” is not a special character





- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
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 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

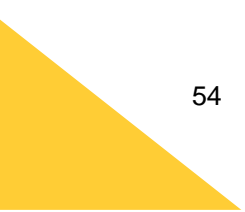
PRIVATE MAILBOX ADDRESSES

Technical Specification: Private companies offering mailbox rental services to patients are considered commercial mail receiving agencies (CMRA). Addresses on mail received at a CMRA must adhere to specific requirements in the use of their private mailbox number (PMB).

Patient addresses at a CMRA MUST include either the PMB identifier or the numerical identifier, followed by the appropriate private mailbox number. Developers MUST NOT use any other identifiers.

Where the CMRA's physical address requires its own secondary address element, the PMB or # address must follow the specific format rules stated below. Developers MUST NOT combine the secondary address element of the address for the CMRA and the CMRA patient's private box number.

The words POST OFFICE BOX or PO BOX and the private mailbox number MUST NOT be used on the Street Address Line. The Street Address Line is the standardized address of the private company.





Examples:

Correct Form
PMB 234 RR 1 BOX 12 HERNDON VA 22071-2716
PMB 234 10 MAIN ST STE 11 HERNDON VA 22071-2716
123 MAIN STREET PMB 4545 HERNDON VA 22071-2716
PO BOX 159753 PMB 3571 HERNDON VA 22071-2716

Companion Guide Recommendation(s)

- Educate staff to collect a physical address vs. private address mailbox.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





PUERTO RICO ADDRESSES

Format

Puerto Rico's common addressing consists of various formats, such as:

Format	Correct Form
Urbanization House Number and Street Name City, State, and ZIP+4	URB LAS GLADIOLAS 150 CALLE A SAN JUAN PR 00926-3232
House Number and Street Name City, State, and ZIP+4 Code	1234 CALLE AURORA MAYAGUEZ PR 00680-1233

Exceptions

Some areas in Puerto Rico do not have street names or repetitive house numbers. The urbanization name **SHOULD** substitute as the street name.

Format	Correct Form
House number and Urbanization Name City, State, and ZIP+4	1234 URB LOS OLMOS PONCE PR 00731-1235\

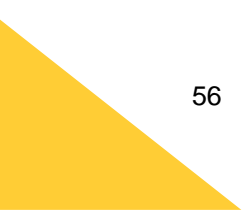
There are also public housing projects (residenciales) without street names or repetitive apartment numbers. In these cases the apartment number **SHOULD** be the primary number and the name of the public housing project **SHOULD** become the street name.

Format	Correct Form
Apartment Number and Residential Name City, State, and ZIP+4	23 RES LLORENS TORRES SAN JUAN PR 00924-1234

Certain condominiums are not located on a named street or have an assigned number to the building. The name of the condominium **SHOULD** be substituted for the street name.

Format
Residential Name Building No. and Apt. No. City, State, and ZIP+4

The word CALLE **MAY** be placed before the street name and number. CALLE means STREET in Spanish, and placing the word CALLE prior to other address components is proper use based on Spanish composition. In addition to the word CALLE, the word AVENIDA or its abbreviation AVE **MAY** also appear in this position.





Apartment Buildings and Condominiums

There are two basic address formats for apartment buildings and condominiums. Developers **MUST** follow abbreviation guidance outlined in the [Secondary Address Unit Designators](#) section for patient addresses located within apartment buildings and condominiums.

Buildings with a physical street address

Format	Correct Form
Building Name Street Number, Street Name, Apartment Number City, State, and ZIP+4	COND ASHFORD PALACE 1234 AVE ASHFORD APT 1A SAN JUAN PR 00907-1234

Buildings without a physical address

Certain condominiums are located on an unnamed street and may not have an assigned number. The name of the condominium **SHOULD** substitute as the street name and the number 1 **SHOULD** be used when no building number exists.

Format	Correct Form
Bldg Number, Bldg Name, and Apt Number City, State, and ZIP+4	1 COND MIRAFLOR APT 104 SAN JUAN PR 000907-1335

Where there are multiple buildings (or towers) with the same name, the building number **SHOULD** become the primary number.

Examples:

Incorrect Form	Correct Form
COND VERDE APT 1120	1 COND VERDE APT 1120
VISTA SUITES III APT 104	3 VISTA SUITES APT 104

Patient Street Address Line

The components of the patient Street Address Line are the urbanization (when required), primary address number and street name, secondary address identifier, and secondary address range.

Format	Correct Form
Urbanization Name Secondary Address Identifier and Number Primary Address Number and Street Name	URB HIGHLAND GDNS COND LAS AMAPOLAS APT 103 123 CALLE MAIN



In Puerto Rico there are usually no directionals or suffixes, but developers SHOULD follow guidance provided in [Appendix G. Spanish Directionals](#) for those patient addresses containing directionals.

Additionally, some apartment buildings do not have a street address. In this situation, the building name SHOULD be part of the primary address identifier. If directionals are present in an address, they are part of the street name. Developers MUST NOT translate directionals.

1510 CALLE 3 NO (NO = Northwest)

1620 CALLE 17 SO (SO = Southwest)

Street Names and Prefixes

Developers MUST NOT abbreviate street names.

Spanish street names generally have the suffix element preceding the root street name, making it a prefix.

Examples:

CALLE AVENIDA, PASEO, PLAZA, PASAJE, CARR, PARQUE, VEREDA, VISTA, VIA, CALLE JON, PATIO, BLVD, CAMINO, CAMINITO, CALETA, MARGINAL

Correct Form
585 AVE FD ROOSEVELT
105 CAMINO AMAZONA
1025 PARQUE DEL REY
1212 VIA ANGÉLICA

Developers MUST NOT translate CALLE to the suffix ST. This translation will lead to additional errors when matching patient records.

Note that patient addresses that will also be used for billing purposes or other mailing SHOULD always include CALLE, AVENIDA, etc.

Numbered Streets

Numbered streets MUST always contain the word CALLE. This avoids misinterpretation between numbered streets and house numbers in patient addresses.





Examples:

Incorrect Form	Correct Form
CALLE 1 A17	A17 CALLE 1
CALLE 191 B113	13 CALLE 191

House Numbers

House numbers may have fractional or alphabetic modifiers. Developers **MUST** place the house number before the street name. When placing alphanumeric house numbers prior to the street name, developers **MUST NOT** use hyphens to separate the letter from the number.

Examples:

Incorrect Form	Correct Form
CALLE 125 C-19	C19 CALLE 125
A-17 CALLE AMAPOLA	A17 CALLE AMAPOLA
B-17A CALLE 1	B17A CALLE 1

Due to the amount of numbers within a block and a house number in Puerto Rico addresses, many identifiers are commonly used to separate address elements, including BLOQUE, NUM, NO, CASA, LOTE, or a # sign. These identifiers **MUST NOT** be included in patient addresses.

Hyphens in the address range are sometimes necessary. When addresses contain block numbers and house numbers, developers **MUST** use a hyphen to separate the block number from the house number. When addresses contain up to three-digit numeric block numbers, developers **MUST** include a hyphen.

Examples:

Incorrect Form	Correct Form
CALLE 19 BLQ 199 Casa 31	199-31 CALLE 19
CALLE 117 Bloque 23 Núm.18	23-18 CALLE 117

Urbanizations

Urbanization denotes an area, sector, or development within a geographic area. In addition to being a descriptive word, it precedes the name of the area. This URB descriptor, commonly used in urban areas of Puerto Rico, is an important part of the addressing format, as it describes the location of a given street.

Urbanizations **MUST** be abbreviated to URB followed by the urbanization name. Urbanizations are not repeated within five-digit zones.





Examples:

Incorrect Form	Correct Form
URBANIZATION GOLDEN GATE	URB GOLDEN GATE

In Puerto Rico, identical street names and address number ranges can be found within the same ZIP Code. In these cases, the urbanization name is the only element that correctly identifies the location of a particular address.

Examples:

Correct Form
URB ROYAL OAKS 123 CALLE 1 BAYAMON PR 00961-0123
URB HERMOSILLO 123 CALLE 1 BAYAMON PR 00961-1212

Exceptions

Certain urbanizations are known as extensiones, mansiones, repartos, villas, parques, and jardines. When these names are present in a patient address, **MUST NOT** place the abbreviation URB prior to the name of the urbanization. Some addresses in Puerto Rico urbanizations do not have a street name, where the urbanization **MUST** become the street name.

Examples:

Incorrect Form	Correct Form
A17 URB JARDINES FAGOTA PONCE PR 00731	A17 JARD FAGOTA PONCE PR 00731

The following urbanization names stand alone and **MUST NOT** require the use of the abbreviation URB.

Urbanization	Abbreviation
Altura(s)	ALT(S)
Barriada	BDA
Barrio	BO
Bosque	BOSQUE
Brisa(s)	BRISA(S)



Urbanization	Abbreviation
Ciudad	CIUDAD
Colina(s)	COLINA(S)
Chalets	CHALETS
Comunidad	COMUNIDAD
Estancias	EST
Extensión	EXT
Hacienda	HACIENDA
Jardines	JARD
Industrial	IND
Loma(s)	LOMA(S)
Mansiones	MANS
Parque	PARQ
Parcela(s)	PARCELA(S)
Paseo	PASEO
Pradera	PRADERA
Portal	PORTAL
Portales	PORTALES
Quintas	QUINTAS
Residencial	RES
Reparto	REPTO
Riberas	RIBERAS
Sector	SECT
Terraza	TERR
Valle	VALLE
Villa(s)	VILLA(S)
Vista(s)	VISTA(S)

Examples:

Incorrect Form	Correct Form
URB EXT VISTA BELLA	EXT VISTA BELLA
URB ALTS DE CANÁ	ALTS DE CANA



Post Office Box

Developers MUST capture or transform Post Office Box addresses as PO BOX in the patient record. Developers MUST NOT use Spanish words to represent PO BOX.

Examples:

Incorrect Form	Correct Form
XYZ COMPANY APARTADO 2018	XYZ COMPANY PO BOX 2018
ABC COMPANY GPO BOX 1118	ABC COMPANY PO BOX 1118

In certain areas, the postal station name appears in a patient's address. The postal station name is not needed because the ZIP Code identifies the station. However, when the station name is present, it SHOULD be placed above the delivery line.

Example:

Incorrect Form	Correct Form
PO BOX 1190 OLD SAN JUAN STA SAN JUAN PR 00902-1190	OLD SAN JUAN STA PO BOX 1190 SAN JUAN PR 00902-1190

Rural Routes

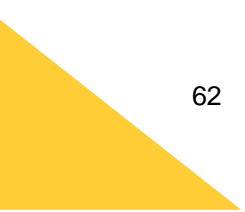
A rural route address in the patient record MUST be standardized as follows:

RR__ BOX__

Developers MUST NOT use the words RURAL, RUTA RURAL, BUZON, or BZN. The designations RFD, RD, and RT (meaning rural route) MUST be changed to RR and developers MUST have a space between RR and the route number and BOX and the box number. Developers MUST NOT add a leading zero before the rural route number.

Examples:

Incorrect Form	Correct Form
RR03 BOX 9800	RR 3 BOX 9800
RFD ROUTE 4 BZN 1725	RR 4 BOX 1725
RUTA RURAL 3 BUZON 12000	RR 3 BOX 12000
RFD 1 Bzn 17-A	RR 1 BOX 17A





There **MUST NOT** be additional designations, such as sector names, on the Street Address Line of rural route addresses.

Names of sectors used together with route and box numbers can lead to increased matching errors. Health IT developers **MUST** eliminate this information in Puerto Rico addresses.

Examples:

Incorrect Form	Correct Form
RR 2 BOX 1980 SECTOR EL BRINCO	RR 2 BOX 1980
RR 3 BOX 3415 BARRIO VISTA ALEGRE	RR 3 BOX 3415

Highway Contract Routes

Highway contract route addresses **MUST** be standardized as HC____BOX____. It is basically the same format utilized for rural routes. Likewise, Health IT developers **MUST NOT** include leading zeros before the route number.

Examples:

Incorrect Form	Correct Form
Ruta Estrella 1 Buzón 18	HC 1 BOX 18
HC 03 Bzn 1050	HC 1 BOX 1050

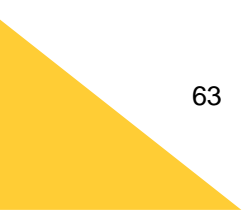
As with rural route addresses, developers **MUST NOT** include any additional designations, such as names of sectors in the patient address line of highway contract addresses.

Last Line

Patient addresses **SHOULD** include the last line, which **MUST** include the city, state and ZIP Code, if known. Certain areas of the San Juan metropolitan area are identified by residents with names such as Condado, Barrio Obrero, and Rio Piedras. Developers **MUST NOT** use these names to represent the city of San Juan. These are not valid last line entries. Developers **MUST** include SAN JUAN as the only valid city name for patient addresses within San Juan.

Companion Guide Recommendation(s)

- Educate staff on variations in Puerto Rico addresses, including:
 - Urbanization (URB) refers to the “community” in which the person lives
 - Urbanizations are important when collecting addresses from patients. It may be the only differentiation in the address that will aid in better patient matching.
 - “23 RES LLORENS TORRES” is an example of an address for public housing, where:
 - “23” is the apartment number.





- “RES” stands for “residencial” or public housing
- Mail typically does not reach the person by the street name. Instead, the name of the public housing complex is used.
- Condominiums such as “SAN JUAN VIEW” where this name appears first in the address:

Examples:

Data	Correct Form
Condominium Name	CONDOMINIO SAN JUAN VIEW
Building number, street name, apartment-tower	999 CALLE EIDER 305-Z
City, State, ZIP Code	SAN JUAN, PR 00924

- Abbreviations to represent “STREET” should not be used.

Examples:

Incorrect Form	Correct Form
C/II EIDER	CALLE EIDER
CII EIDER	CALLE EIDE

- The city of “RIO PIEDRAS” is now incorporated into “SAN JUAN”. If the patient provides RIO PIEDRAS as the city, staff should edit to SAN JUAN.
- Directionals in Spanish are included in [Appendix G](#).
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.



- Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.
- Encourage communication with EHR vendors to include all address fields and components such as additional field for address2 and ZIP+4.

U.S. ISLANDS AND OTHER TERRITORIES

Format

The U.S. Virgin Islands and other territories do not use urbanizations or Spanish words. Single primary street addresses do not have lot numbers as part of the patient addresses. These are physical identifiers. For patient addresses to the U.S. Virgin Islands, developers MUST use VI as the correct abbreviation for the Virgin Islands. Developers MUST NOT use USVI, VIS, VI USA, or USA VI.

Examples:

Correct Form
2 MOUNT ROYALE EST CHRISTIANSTED VI 00820-4470
RR 1 BOX 6601 KINGSHILL VI 00850-9802

Companion Guide Recommendation(s)

- Use the appropriate USPS abbreviation for U.S. territories found in [Appendix D](#).
- The following resource includes color-coded guidance to distinguish between the contiguous states, non-contiguous states, territory or possession, and the U.S. Capital and includes the following information:
 - <https://faq.usps.com/s/article/What-are-the-USPS-abbreviations-for-U-S-states-and-territories>
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?



- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

OTHER INTERNATIONAL ADDRESSES

The very last (or bottom) line of an international patient address **MUST** contain only the COUNTRY name, and **MUST** be written in full with no abbreviations and **SHOULD** be in capital letters. Developers **MUST NOT** place the postal codes of foreign country designations on the last line of the address and **MUST NOT** underline the COUNTRY name.

Examples:

Correct Form
HARTMANNSTRASSE 7 5300 BONN 1 GERMANY
DUBAI HOSPITAL AL KHALEEL STREET AL BARAHA PO BOX 7272 DUBAI UAE
ST VINCENTS PRIVATE HOSPITAL SYDNEY 406 VICTORIA STREET DARLINGHURST NSW 2010 AUSTRALIA
SAINT MARIEN-HOSPITAL BERLIN GALLWITZALLEE 123/143 12249 BERLIN GERMANY





Companion Guide Recommendation(s)

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

MEXICO ADDRESSES

Companion Guide Recommendation(s)

- It is recommended to use USPS international mailing guidelines for Mexico addresses.
- If the MPI accepts Mexico states, enter appropriately according to reputable source.

Mexican State Name	Mexican State Code
Aguascalientes	AG
Baja California	BC
Baja California Sur	BS
Campeche	CM
Chiapas	CS
Chihuahua	CH
Coahuila	CO
Colima	CL
Distrito Federal	DF
Durango	DG
Guanajuato	GT



Mexican State Name	Mexican State Code
Guerrero	GR
Hidalgo	HG
Jalisco	JA
Mexico	MX
Michoacán	MI
Morelos	MO
Nayarit	NA
Nuevo Leon	NL
Oaxaca	OA
Puebla	PU
Queretaro	QT
Quintana Roo	QR
San Luis Potosi	SL
Sinaloa	SI
Sonora	SO
Tabasco	TB
Tamaulipas	TM
Tlaxcala	TL
Veracruz	VE
Yucatan	YU
Zacatecas	ZA

- If the state is unknown or if the MPI does not allow for capture of the Mexican city and state, best practice is to capture “MX” in the state field.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?



- Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

CANADIAN ADDRESSES

The following address format is used when the postal address delivery zone is included in the address. Developers **MUST** use the standard two-character abbreviation for provinces and territories. On patient records with addresses to Canada, developers **SHOULD** have two spaces between the province abbreviation and the postal code, as shown below between “ON” and “K1A 0B1”:

Example:

1010 CLEAR STREET
OTTAWA ON K1A 0B1
CANADA

Canadian Province/Territory	Postal Service Abbreviation
Alberta	AB
British Columbia	BC
Manitoba	MB
New Brunswick	NB
Newfoundland and Labrador	NL
Northwest Territories	NT
Nova Scotia	NS
Nunavat Territory	NU
Ontario	ON
Prince Edward Island	PE
Quebec	QC
Saskatchewan	SK
Yukon Territory	YT

Companion Guide Recommendation(s)

- In addition to following the technical specifications, strive to include the city name as represented in the following example:



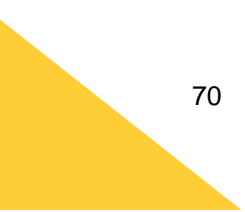


Data	Correct Form
Organization Name	TRILLIUM HEALTH PARTNERS
Street Address	100 QUEENSWAY W
City	MISSISSAUGA
Province or Territory and Postal Code	ON L5B 1B8
Country	CANADA

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

OTHER INTERNATIONAL ADDRESSES

The very last (or bottom) line of an international patient address **MUST** contain only the **COUNTRY** name, and **MUST** be written in full with no abbreviations and **SHOULD** be in capital letters. Developers **MUST NOT** place the postal codes of foreign country designations on the last line of the address and **MUST NOT** underline the **COUNTRY** name.





Example:

Correct Form
HARTMANNSTRASSE 7 5300 BONN 1 GERMANY

STANDARDIZED PATIENT BUSINESS ADDRESSES

This section applies to patient records that contain business address information. Some patients use business addresses for one or more of their addresses for a number of reasons. For example, patients may be housed in a homeless shelter or domestic violence shelter, they may reside in a correctional facility, dormitory, long term care facility, or work camp, or they may live in a remote area where it is common practice to receive mail at a nearby business. Regardless of the reason, our goal is to standardize all patient addresses as much as possible and whenever feasible.

Business Addressing Standards

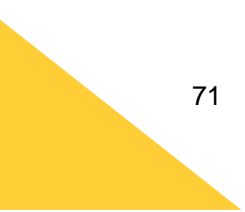
If a patient record contains a business address, developers **MUST** include a patient address line, and **MUST** contain the last line which **MUST** contain City, State, ZIP Code, and ZIP+4, if known. Business addresses may contain other address data elements including apartment or suite numbers, Post Office Box addresses, and a rural/highway contract route address (with route and box numbers). Developers **MUST** use the recommended abbreviations or suffix tables identified in this document. The business/firm name **MUST** be a separate element in a patient address, **SHOULD** follow other formatting rules outlined in this document, and **MAY** disregard the business/firm name when matching records to avoid error. Developers **SHOULD NOT** remove the hyphen between the ZIP Code and ZIP+4 Code. See the [Special Characters](#) section for more information on how to handle special characters in business addresses.

Example:

Incorrect Form	Correct Form
BIG BUSINESS INCORPORATED 12 EAST BUSINESS LANE, SUITE-209 KRYTON, TN 38188-0002	BIG BUSINESS INC 12 E BUSINESS LN STE 209 KRYTON, TN 38188-0022
PIZZA DELIVERY COMPANY 61-20 EAST RIVER DRIVE NEW YORK, NY 10021-0905	PIZZA DELIVERY COMPANY 61-20 E RIVER DR NEW YORK NY 10021-0905

Companion Guide Recommendation(s)

- Business names or addresses should not be included in the patient matching algorithms.
Example:
 - A worker’s compensation case where the employee requests the employer’s address (e.g. firefighter, EMT, etc.) be attached to their encounters.





- Privacy provisions should include handling sensitive addresses such as a domestic violence shelter.
- Individuals experiencing incarceration:
 - Return address of the sender must be included.
 - Recipient's Address:
 - First address line must include the first and last name of the incarcerated individual and their identification (ID) number.
 - Second address line must include the facility's physical address. If housing is known, that can be included however, is not required.
 - Third address line includes location of housing if known. Prison cells can be reassigned for a variety of reasons and the mailroom officers verify information prior to delivery to the housing units. Correctional facility addresses contain additional designations in the address that provides detail on the location of the patient, such as cell number. For example, if a patient's address contains alphanumeric data at the end of the street address line or above lines on the patient's address, "MAXIMUM SECURITY R3-2T" may be interpreted as R wing, 3rd tier, cell number 2, Top bunk. There is no national standard by which correctional facilities conform to represent inmate location.

Example:

Correct Form
CHRIS A RECIPIENT ID#589428 RI DEPARTMENT OF CORRECTIONS MAXIMUM SECURITY P2-15B 9000 PONTIAC AVENUE ANYWHERE, RI 12345-6789

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged "confidential", or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?





- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Patient Business Address Elements

To understand the complexity of business addressing, efforts have been made to identify and define the many individual data elements that can be included in a business address for patients. The following elements are within the scope of Project US@:

- Street Number
- Predirectional
- Street Name
- Street Suffix
- Postdirectional
- Secondary Unit Indicator
- Secondary Number
- PO Box Number
- City
- State
- ZIP Code
- ZIP+4 Code

In those instances where certain constraints limit the number of words or characters that can be placed in the patient record, the developers **MUST** replace fully spelled words with standard address and business word abbreviations.

Example:

Data Elements	Correct Form
Patient Address Line	12 E BUSINESS LN STE 209
City, State, Zip+4 Line	KRYTON TN 38188-0002

Companion Guide Recommendation(s)

- Follow guidance provided in the technical specifications to ensure the correct address abbreviations are used.

Example:

Data Elements	Correct Form
Patient Address Line	16149 OH-104





Data Elements	Correct Form
City, State, Zip+4 Line	CHILLICOTHE OH 45601-2249

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.

Remove Certain Words

Developers SHOULD replace or remove certain words as listed below. Further, developers SHOULD use standard business word abbreviations and SHOULD NOT remove words from a patient business address. The following compression technique should be applied only if the standard abbreviations do not meet particular business needs.

- Remove etc., i.e., in care of, and et al.
- Remove words like the, of, by, for, at, also.
- Remove ATTENTION, ATTN:.

Companion Guide Recommendation(s)

- “LLC” and “INC” are typically captured at the end of the business name.
- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.





- Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
- Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





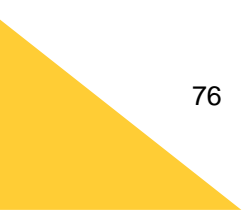
PATIENT ADDRESS METADATA SCHEMA

The metadata schema below is intended to improve visibility into the source of, and alterations to, patient address data and improve the confidence systems have in the reliability and trustworthiness of shared data. Metadata could also assist in partial or fully automated patient matching solutions to help people and systems determine whether two or more records represent the same patient, and may inform the direction of a merge or other decisions when matching, linking, aggregating, and deduplicating patient data. Metadata may also help inform investigations of adverse events related to inaccurate patient matching, providing source data as well as a history of changes to the data over time.

Both mandatory and optional fields are provided to establish a standardized way for capturing and exchanging data about patient address data.

M = Mandatory, if known
O = Optional

ID	Field	Optionality	Content
1.0	Current or Historical	O	
1.1	Current	O	Any current known address.
1.2	Historical	O	Any address that is not considered current. Developers MAY support historical addresses. There is no limit to number of historical addresses.
2.0	Address Type	M	
2.1	Home	O	
2.2	Business	O	Any address known to be the location of a business or including the name of or other information relevant to a business at that address. Business may include schools, correctional facilities, care facilities, homeless shelters, or other organizations.
2.3	Billing	O	Any address indicated by the patient to be the receiving address for billing correspondence or the address associated with the patient's insurance coverage.
2.4	Military address	O	Any address indicated by the patient to be a U.S. military base or installation.
2.5	Temporary	O	Any address used by a patient for a temporary period.
2.6	Other	O	Any address type that does not fall into other categories for type.
3.0	Address Use	O	
3.1	Physical	O	Any address used to indicate a geographic location.
3.2	Mailing	O	Any address used by a patient specifically for mailing purposes.
4.0	Unknown	O	See the Unknown Address section for additional guidance. Precedence should be given to any data available for the patient, where the existence of an unknown flag for a specific data element would not preclude that patient's address information from matching.





ID	Field	Optionality	Content
5.0	Multi-unit or shared housing	O	Indicator intended to reduce false positives related to apartments, care facilities, and other multi-unit housing.
6.0	Homeless	O	If a patient is known to be homeless, recommend collecting any available data from the patient (e.g., ZIP Codes may be valuable).
7.0	Confidential	O	Any address indicated by the patient to remain confidential and not shared with any individual or entity without their consent.

Companion Guide Recommendation(s):

- Scripted questions should be utilized by any staff collecting patient demographic data from patients. In addition, consideration should be given for including scripts in self-registration applications to help guide patients when they are entering their own demographic information into the system.
 - Scripts should be used regularly and updated often to guide data collection such as asking the patient to spell difficult or unusual street names.
 - Scripts will remind staff to capture all valid addresses in addition to providing guidance on approaching sensitive circumstances such as homelessness, addresses that should be tagged “confidential”, or in multiple guardian/parental situations.
 - Example questions may include:
 - Would you like to provide us with any other address that we may not have on file?
 - Is there a different address where you would like your billing to be sent?
- Provide education to staff and reinforce interdepartmental policies and procedures must be reconciled to standardize data collection throughout the organization.
 - Applying naming standards wherever patient demographic data are collected provides a baseline for adoption and consistency, thereby reducing duplicate records and overlays. See the latest version of [AHIMA's Naming Policy](#) for more information.





Appendices

APPENDIX A. DIACRITIC MAPPING GUIDANCE

Mapping is intended to provide guidance on mapping diacritic characters for patient addresses to characters that still represent the character, but in a computationally friendly way. Please note this guidance is not comprehensive, and includes only Latin diacritics.

Latin Diacritics

Symbol	ISO decimal code	ASCII map character	Unicode	Description
À	192	a	U+00C0	Capital letter A with grave accent
Á	193	a	U+00C1	Capital letter A with acute accent
Â	194	a	U+00C2	Capital letter A with circumflex accent
Ã	195	a	U+00C3	Capital letter A with tilde
Ä	196	a	U+00C4	Capital letter A with dieresis or umlaut mark
Å	197	a	U+00C5	Capital letter A with ring above
Æ	198	a	U+00C6	Capital letter AE diphthong
Ç	199	c	U+00C7	Capital letter C with cedilla
È	200	e	U+00C8	Capital letter E with grave accent
É	201	e	U+00C9	Capital letter E with acute accent
Ê	202	e	U+00CA	Capital letter E with circumflex accent
Ë	203	e	U+00CB	Capital letter E with dieresis or umlaut mark
Ì	204	i	U+00CC	Capital letter I with grave accent
Í	205	i	U+00CD	Capital letter I with acute accent
Î	206	i	U+00CE	Capital letter I with circumflex



Symbol	ISO decimal code	ASCII map character	Unicode	Description
İ	207	i	U+00CF	Capital letter I with dieresis or umlaut mark
Ð	208	e	U+00D0	Capital letter ETH (Icelandic)
Ñ	209	n	U+00D1	Capital letter N with tilde
Ò	210	o	U+00D2	Capital letter O with grave accent
Ó	211	o	U+00D3	Capital letter O with acute accent
Ô	212	o	U+00D4	Capital letter O with circumflex
Õ	213	o	U+00D5	Capital letter O with tilde
Ö	214	o	U+00D6	Capital letter O with dieresis or umlaut mark
Ø	216	o	U+00D8	Capital letter O with slash
Ù	217	u	U+00D9	Capital letter U with grave accent
Ú	218	u	U+00DA	Capital letter U with acute accent
Û	219	u	U+00DB	Capital letter U with circumflex
Ü	220	u	U+00DC	Capital letter U with dieresis or umlaut mark
Ý	221	y	U+00DD	Capital letter Y with acute accent
Þ	222	p	U+00DE	Capital letter THORN
ß	223	s	U+00DF	Small letter sharp s - ess-zed
à	224	a	U+00E0	Small letter a with grave accent
á	225	a	U+00E1	Small letter a with acute accent
â	226	a	U+00E2	Small letter a with circumflex
ã	227	a	U+00E3	Small letter a with tilde



Symbol	ISO decimal code	ASCII map character	Unicode	Description
ä	228	a	U+00E4	Small letter a with dieresis or umlaut mark
å	229	a	U+00E5	Small letter a with ring above
æ	230	a	U+00E6	Small letter ae
ç	231	c	U+00E7	Small letter c with cedilla
è	232	e	U+00E8	Small letter e with grave accent
é	233	e	U+00E9	Small letter e with acute accent
ê	234	e	U+00EA	Small letter e with circumflex
ë	235	e	U+00EB	Small letter e with dieresis
ì	236	i	U+00EC	Small letter i with grave accent
í	237	i	U+00ED	Small letter i with acute accent
î	238	i	U+00EE	Small letter i with circumflex
ï	239	i	U+00EF	Small letter i with dieresis
ð	240	e	U+00F0	Small letter eth
ñ	241	n	U+00F1	Small letter n with tilde
ò	242	o	U+00F2	Small letter o with grave accent
ó	243	o	U+00F3	Small letter o with acute accent
ô	244	o	U+00F4	Small letter o with circumflex
õ	245	o	U+00F5	Small letter o with tilde
ö	246	o	U+00F6	Small letter o with dieresis
ø	248	o	U+00F8	Small letter o with slash



Symbol	ISO decimal code	ASCII map character	Unicode	Description
ù	249	u	U+00F9	Small letter u with grave accent
ú	250	u	U+00FA	Small letter u with acute accent
û	251	u	U+00FB	Small letter u with circumflex
ü	252	u	U+00FC	Small letter u with dieresis
ý	253	y	U+00FD	Small letter y with acute accent
þ	254	p	U+00FE	Small letter thorn
ÿ	255	y	U+00FF	Small letter y with dieresis
Œ	338	o	U+0152	Capital letter OE
œ	339	o	U+0153	Small letter oe
Š	352	s	U+0160	Capital letter S with caron
š	353	s	U+0161	Small letter s with caron
Ÿ	376	y	U+0178	Capital letter Y with dieresis



APPENDIX B. STREET SUFFIX ABBREVIATIONS

The following table lists examples of suffix forms that are primary street suffix names, common street suffixes or suffix abbreviations, and required standard suffix abbreviations.

Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
ALLEY	ALLEE	ALY
	ALLEY	
	ALLY	
	ALY	
ANEX	ANEX	ANX
	ANNEX	
	ANNX	
	ANX	
ARCADE	ARC	ARC
	ARCADE	
AVENUE	AV	AVE
	AVE	
	AVEN	
	AVENU	
	AVENUE	
	AVN	
	AVNUE	
BAYOU	BAYOO	BYU
	BAYOU	
BEACH	BCH	BCH
	BEACH	
BEND	BEND	BND
	BND	
BLUFF	BLF	BLF
	BLUF	
	BLUFF	
BLUFFS	BLUFFS	BLFS
BOTTOM	BOT	BTM



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	BTM	
	BOTTM	
	BOTTOM	
BOULEVARD	BLVD	BLVD
	BOUL	
	BOULEVARD	
	BOULV	
BRANCH	BR	BR
	BRNCH	
	BRANCH	
BRIDGE	BRDGE	BRG
	BRG	
	BRIDGE	
BROOK	BRK	BRK
	BROOK	
BROOKS	BROOKS	BRKS
BURG	BURG	BG
BURGS	BURGS	BGS
BYPASS	BYP	BYP
	BYPA	
	BYPAS	
	BYPASS	
	BYPS	
CAMP	CAMP	CP
	CP	
	CMP	
CANYON	CANYN	CYN
	CANYON	
	CNYN	
CAPE	CAPE	CPE
	CPE	



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
CAUSEWAY	CAUSEWAY	CSWY
	CAUSWA	
	CSWY	
CENTER	CEN	CTR
	CENT	
	CENTER	
	CENTR	
	CENTRE	
	CNTER	
	CNTR	
	CTR	
CENTERS	CENTERS	CTRS
CIRCLE	CIR	CIR
	CIRC	
	CIRCL	
	CIRCLE	
	CRCL	
	CRCLE	
CIRCLES	CIRCLES	CIRS
CLIFF	CLF	CLF
	CLIFF	
CLIFFS	CLFS	CLFS
	CLIFFS	
CLUB	CLB	CLB
	CLUB	
COMMON	COMMON	CMN
COMMONS	COMMONS	CMNS
CORNER	COR	COR
	CORNER	
CORNERS	CORNERS	CORS
	CORS	
COURSE	COURSE	CRSE



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	CRSE	
COURT	COURT	CT
	CT	
COURTS	COURTS	CTS
	CTS	
COVE	COVE	CV
	CV	
COVES	COVES	CVS
CREEK	CREEK	CRK
	CRK	
CRESCENT	CRESCENT	CRES
	CRES	
	CRSENT	
	CRSNT	
CREST	CREST	CRST
CROSSING	CROSSING	XING
	CRSSNG	
	XING	
CROSSROAD	CROSSROAD	XRD
CROSSROADS	CROSSROADS	XRDS
CURVE	CURVE	CURV
DALE	DALE	DL
	DL	
DAM	DAM	DM
	DM	
DIVIDE	DIV	DV
	DIVIDE	
	DV	
	DVD	
DRIVE	DR	DR
	DRIV	



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	DRIVE	
	DRV	
DRIVES	DRIVES	DRS
ESTATE	EST	EST
	ESTATE	
ESTATES	ESTATES	ESTS
	ESTS	
EXPRESSWAY	EXP	EXPY
	EXPR	
	EXPRESS	
	EXPRESSWAY	
	EXPW	
	EXPY	
EXTENSION	EXT	EXT
	EXTENSION	
	EXTN	
	EXTNSN	
EXTENSIONS	EXTS	EXTS
FALL	FALL	FALL
FALLS	FALLS	FLS
	FLS	
FERRY	FERRY	FRY
	FRRY	
	FRY	
FIELD	FIELD	FLD
	FLD	
FIELDS	FIELDS	FLDS
	FLDS	
FLAT	FLAT	FLT
	FLT	
FLATS	FLATS	FLTS



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	FLTS	
FORD	FORD	FRD
	FRD	
FORDS	FORDS	FRDS
FOREST	FOREST	FRST
	FORESTS	
	FRST	
FORGE	FORG	FRG
	FORGE	
	FRG	
FORGES	FORGES	FRGS
FORK	FORK	FRK
	FRK	
FORKS	FORKS	FRKS
	FRKS	
FORT	FORT	FT
	FRT	
	FT	
FREEWAY	FREEWAY	FWY
	FREEWY	
	FRWAY	
	FRWY	
	FWY	
GARDEN	GARDEN	GDN
	GARDN	
	GRDEN	
	GRDN	
GARDENS	GARDENS	GDNS
	GDNS	
	GRDNS	
GATEWAY	GATEWAY	GTWY
	GATEWY	



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	GATWAY	
	GTWAY	
	GTWY	
GLEN	GLEN	GLN
	GLN	
GLENS	GLENS	GLNS
GREEN	GREEN	GRN
	GRN	
GREENS	GREENS	GRNS
GROVE	GROV	GRV
	GROVE	
	GRV	
GROVES	GROVES	GRVS
HARBOR	HARB	HBR
	HARBOR	
	HARBR	
	HBR	
	HRBOR	
HARBORS	HARBORS	HBRS
HAVEN	HAVEN	HVN
	HVN	
HEIGHTS	HT	HTS
	HTS	
HIGHWAY	HIGHWAY	HWY
	HIGHWY	
	HIWAY	
	HIWY	
	HWAY	
	HWY	
HILL	HILL	HL
	HL	
HILLS	HILLS	HLS

Note that Highway should only be abbreviated as a suffix.



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	HLS	
HOLLOW	HLLW	HOLW
	HOLLOW	
	HOLLOWS	
	HOLW	
	HOLWS	
INLET	INLT	INLT
ISLAND	IS	IS
	ISLAND	
	ISLND	
ISLANDS	ISLANDS	ISS
	ISLNDS	
	ISS	
ISLE	ISLE	ISLE
	ISLES	
JUNCTION	JCT	JCT
	JCTION	
	JCTN	
	JUNCTION	
	JUNCTN	
	JUNCTON	
JUNCTIONS	JCTNS	JCTS
	JCTS	
	JUNCTIONS	
KEY	KEY	KY
	KY	
KEYS	KEYS	KYS
	KYS	
KNOLL	KNL	KNL
	KNOL	
	KNOLL	
KNOLLS	KNLS	KNLS



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	KNOLLS	
LAKE	LK	LK
	LAKE	
LAKES	LKS	LKS
	LAKES	
LAND	LAND	LAND
LANDING	LANDING	LNDG
	LNDG	
	LNDNG	
LANE	LANE	LN
	LN	
LIGHT	LGT	LGT
	LIGHT	
LIGHTS	LIGHTS	LGTS
LOAF	LF	LF
	LOAF	
LOCK	LCK	LCK
	LOCK	
LOCKS	LCKS	LCKS
	LOCKS	
LODGE	LDG	LDG
	LDGE	
	LODG	
	LODGE	
LOOP	LOOP	LOOP
	LOOPS	
MALL	MALL	MALL
MANOR	MNR	MNR
	MANOR	
MANORS	MANORS	MNRS
	MNRS	



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
MEADOW	MEADOW	MDW
MEADOWS	MDW	MDWS
	MDWS	
	MEADOWS	
	MEDOWS	
MEWS	MEWS	MEWS
MILL	MILL	ML
MILLS	MILLS	MLS
MISSION	MISSN	MSN
	MSSN	
MOTORWAY	MOTORWAY	MTWY
MOUNT	MNT	MT
	MT	
	MOUNT	
MOUNTAIN	MNTAIN	MTN
	MNTN	
	MOUNTAIN	
	MOUNTIN	
	MTIN	
	MTN	
MOUNTAINS	MNTNS	MTNS
	MOUNTAINS	
NECK	NCK	NCK
	NECK	
ORCHARD	ORCH	ORCH
	ORCHARD	
	ORCHRD	
OVAL	OVAL	OVAL
	OVL	
OVERPASS	OVERPASS	OPAS
PARK	PARK	PARK



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	PRK	
PARKS	PARKS	PARK
PARKWAY	PARKWAY	PKWY
	PARKWY	
	PKWAY	
	PKWY	
	PKY	
PARKWAYS	PARKWAYS	PKWY
	PKWYS	
PASS	PASS	PASS
PASSAGE	PASSAGE	PSGE
PATH	PATH	PATH
	PATHS	
PIKE	PIKE	PIKE
	PIKES	
PINE	PINE	PNE
PINES	PINES	PNES
	PNES	
PLACE	PL	PL
PLAIN	PLAIN	PLN
	PLN	
PLAINS	PLAINS	PLNS
	PLNS	
PLAZA	PLAZA	PLZ
	PLZ	
	PLZA	
POINT	POINT	PT
	PT	
POINTS	POINTS	PTS
	PTS	
PORT	PORT	PRT



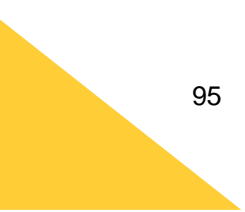
Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	PRT	
PORTS	PORTS	PRTS
	PRTS	
PRAIRIE	PR	PR
	PRAIRIE	
	PRR	
RADIAL	RAD	RADL
	RADIAL	
	RADIEL	
	RADL	
RAMP	RAMP	RAMP
RANCH	RANCH	RNCH
	RANCHES	
	RNCH	
	RNCHS	
RAPID	RAPID	RPD
	RPD	
RAPIDS	RAPIDS	RPDS
	RPDS	
REST	REST	RST
	RST	
RIDGE	RDG	RDG
	RDGE	
	RIDGE	
RIDGES	RDGS	RDGS
	RIDGES	
RIVER	RIV	RIV
	RIVER	
	RVR	
	RIVR	
ROAD	RD	RD
	ROAD	



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
ROADS	ROADS	RDS
	RDS	
ROUTE	ROUTE	RTE
ROW	ROW	ROW
RUE	RUE	RUE
RUN	RUN	RUN
SHOAL	SHL	SHL
	SHOAL	
SHOALS	SHLS	SHLS
	SHOALS	
SHORE	SHOAR	SHR
	SHORE	
	SHR	
SHORES	SHOARS	SHRS
	SHORES	
	SHRS	
SKYWAY	SKYWAY	SKWY
SPRING	SPG	SPG
	SPNG	
	SPRING	
	SPRNG	
SPRINGS	SPGS	SPGS
	SPNGS	
	SPRINGS	
	SPRNGS	
SPUR	SPUR	SPUR
SPURS	SPURS	SPUR
SQUARE	SQ	SQ
	SQR	
	SQRE	
	SQU	
	SQUARE	

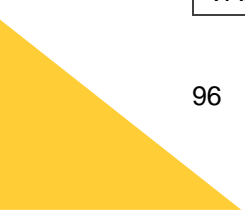


Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
SQUARES	SQRS	SQS
	SQUARES	
STATION	STA	STA
	STATION	
	STATN	
	STN	
STRAVENUE	STRA	STRA
	STRAV	
	STRAVEN	
	STRAVENUE	
	STRAVN	
	STRVN	
	STRVNUE	
STREAM	STREAM	STRM
	STREME	
	STRM	
STREET	STREET	ST
	STRT	
	ST	
	STR	
STREETS	STREETS	STS
SUMMIT	SMT	SMT
	SUMIT	
	SUMITT	
	SUMMIT	
TERRACE	TER	TER
	TERR	
	TERRACE	
THROUGHWAY	THROUGHWAY	TRWY
TRACE	TRACE	TRCE
	TRACES	





Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	TRCE	
TRACK	TRACK	TRAK
	TRACKS	
	TRAK	
	TRK	
	TRKS	
TRAFFICWAY	TRAFFICWAY	TRFY
TRAIL	TRAIL	TRL
	TRAILS	
	TRL	
	TRLS	
TRAILER	TRAILER	TRLR
	TRLR	
	TRLRS	
TUNNEL	TUNEL	TUNL
	TUNL	
	TUNLS	
	TUNNEL	
	TUNNELS	
	TUNNL	
TURNPIKE	TRNPK	TPKE
	TURNPIKE	
	TURNPK	
UNDERPASS	UNDERPASS	UPAS
UNION	UN	UN
	UNION	
UNIONS	UNIONS	UNS
VALLEY	VALLEY	VLY
	VALLY	
	VLLY	
	VLY	
VALLEYS	VALLEYS	VLYS





Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	VLYS	
VIADUCT	VDCT	VIA
	VIA	
	VIADCT	
	VIADUCT	
VIEW	VIEW	VW
	VW	
VIEWS	VIEWS	VWS
	VWS	
VILLAGE	VILL	VLG
	VILLAG	
	VILLAGE	
	VILLG	
	VILLIAGE	
	VLG	
VILLAGES	VILLAGES	VLGS
	VLGS	
VILLE	VILLE	VL
	VL	
VISTA	VIS	VIS
	VIST	
	VISTA	
	VST	
	VSTA	
WALK	WALK	WALK
WALKS	WALKS	WALK
WALL	WALL	WALL
WAY	WY	WAY
	WAY	
WAYS	WAYS	WAYS
WELL	WELL	WL
WELLS	WELLS	WLS



Primary Street Suffix Name	Commonly Used Street Suffix or Abbreviation	Project US@ Standard Suffix Abbreviation
	WLS	



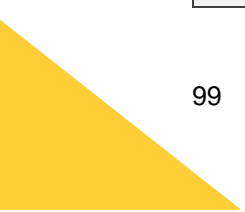


APPENDIX C. ADDRESS STANDARDIZATION - COUNTY, STATE, LOCAL HIGHWAYS

The following are examples of county, state, and local highway primary names and the recommended standardized format. These are not the only possible examples. Some examples contain explanatory notes to aid interpretation.

- Because county, state, and local highways are used as street names, these are not abbreviated.
- Please note that if the highway is a state highway, then the state is abbreviated following abbreviations in [Appendix D](#), but the word highway is not abbreviated.
- Note: When the name of a state is used as a portion of the Primary Street Name, developers SHOULD use the standard two-letter abbreviation. However, when the state name is the complete Primary Street Name, such as OKLAHOMA AVE, then the state name SHOULD be spelled out completely

Examples in Use	Project US@ Standard	Notes
COUNTY HIGHWAY 140	COUNTY HIGHWAY 140	The word county is not abbreviated if part of a street name.
COUNTY HWY 60E	COUNTY HIGHWAY 60E	
CNTY HWY 20	COUNTY HIGHWAY 20	Neither the word county nor the word highway should be abbreviated because they are part of the street name.
COUNTY RD 441	COUNTY ROAD 441	Road is not abbreviated because it precedes the primary address number and is part of the street name.
CR 1185	COUNTY ROAD 1185	
CNTY RD 33	COUNTY ROAD 33	
CA COUNTY RD 150	CA COUNTY ROAD 150	Road is not abbreviated because it precedes the primary address number and is part of the street name.
CALIFORNIA COUNTY ROAD 555	CA COUNTY ROAD 555	
EXPRESSWAY 55	EXPRESSWAY 55	
FARM to MARKET 1200	FM 1200	Farm to Market is always abbreviated to FM.
FM 187	FM 187	
HWY FM 1320	FM 1320	It is incorrect to place the word Highway (or HWY) before FM
HWY 64	HIGHWAY 64	The word highway is not abbreviated because it is part of the street name.





Examples in Use	Project US@ Standard	Notes
HWY 11 BYPASS	HIGHWAY 11 BYP	The word bypass is abbreviated as a suffix, and not part of the street name.
HWY 66 FRONTAGE ROAD	HIGHWAY 66 FRONTAGE RD	The word frontage is never abbreviated. Road is abbreviated as a suffix.
HIGHWAY 3 BYP ROAD	HIGHWAY 3 BYPASS RD	The word bypass is not abbreviated because it is part of the street name.
I10	INTERSTATE 10	The word interstate is never abbreviated.
IH280	INTERSTATE 280	
INTERSTATE HWY 680	INTERSTATE 680	
I 55 BYPASS	INTERSTATE 55 BYP	Interstate is never abbreviated. Bypass is abbreviated as a suffix.
I 26 BYP ROAD	INTERSTATE 26 BYPASS RD	Bypass is not abbreviated as it is part of the street name.
I 44 FRONTAGE ROAD	INTERSTATE 44 FRONTAGE RD	Road is abbreviated as a suffix.
RD 5A	ROAD 5A	Road is not abbreviated if it is part of the street name.
RT 88	ROUTE 88	The word route is only abbreviated if it is a suffix, but not part of the street name.
RTE 95	ROUTE 95	
RANCH RD 620	RANCH ROAD 620	
ST HIGHWAY 303	STATE HIGHWAY 303	
STATE HWY 60	STATE HIGHWAY 60	
SR 220	STATE ROAD 220	
ST RD 86	STATE ROAD 86	
SR MM	STATE ROUTE MM	
ST RT 175	STATE ROUTE 175	
STATE RTE 260	STATE ROUTE 260	
TOWNSHIP RD 20	TOWNSHIP ROAD 20	Road is not abbreviated as it is part of the street name.
TSR 45	TOWNSHIP ROAD 45	The word township is never abbreviated.
US 41 SW	US HIGHWAY 41 SW	





Examples in Use	Project US@ Standard	Notes
US HWY 44	US HIGHWAY 44	
KENTUCKY 440	KY HIGHWAY 440	
KENTUCKY HIGHWAY 189	KY HIGHWAY 189	State names that are part of street names may be abbreviated following Appendix D .
KY 1207	KY HIGHWAY 1207	
KY HWY 75	KY HIGHWAY 75	
KY ST HWY 1	KY STATE HIGHWAY 1	The word state is not abbreviated if part of a street name.
KENTUCKY STATE HIGHWAY 625	KY STATE HIGHWAY 625	



APPENDIX D. TWO-LETTER STATE AND POSSESSION ABBREVIATIONS

Use the abbreviations below when capturing or transforming patient addresses.

State/Possession	Abbreviation
Alabama	AL
Alaska	AK
American Samoa	AS
Arizona	AZ
Arkansas	AR
California	CA
Colorado	CO
Connecticut	CT
Delaware	DE
District of Columbia	DC
Federated States of Micronesia	FM
Florida	FL
Georgia	GA
Guam	GU
Hawaii	HI
Idaho	ID
Illinois	IL
Indiana	IN
Iowa	IA
Kansas	KS
Kentucky	KY
Louisiana	LA
Maine	ME
Marshall Islands	MH
Maryland	MD
Massachusetts	MA
Michigan	MI
Minnesota	MN
Mississippi	MS
Missouri	MO





State/Possession	Abbreviation
Montana	MT
Nebraska	NE
Nevada	NV
New Hampshire	NH
New Jersey	NJ
New Mexico	NM
New York	NY
North Carolina	NC
North Dakota	ND
Northern Mariana Islands	MP
Ohio	OH
Oklahoma	OK
Oregon	OR
Palau	PW
Pennsylvania	PA
Puerto Rico	PR
Rhode Island	RI
South Carolina	SC
South Dakota	SD
Tennessee	TN
Texas	TX
Utah	UT
Vermont	VT
Virgin Islands	VI
Virginia	VA
Washington	WA
West Virginia	WV
Wisconsin	WI
Wyoming	WY





Geographic Directional	Abbreviation
North	N
East	E
South	S
West	W
Northeast	NE
Southeast	SE
Northwest	NW
Southwest	SW

Military "State"	Abbreviation
Armed Forces Europe, the Middle East, and Canada	AE
Armed Forces Pacific	AP
Armed Forces Americas (except Canada)	AA



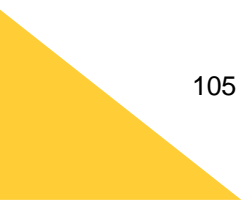


APPENDIX E. STANDARD ABBREVIATIONS FOR SPANISH-LANGUAGE ADDRESSES

In many areas of the country, street names are influenced by Hispanic culture. In these areas, Spanish prefix words such as *AVENIDA*, *CALLE*, and *CAMINO* are frequently used as the first word of the street name and often combined with prepositional phrases such as *de*, *la*, *de las*, and the noun they are describing. For example, *AVENIDA DE LA ESTRELLA* and *CAMINO DE LAS VILLAS* are Hispanic words called *prefixes* because they normally occur at the beginning of the street name, while the English translation would be placed as a suffix in an address.

Spanish Prefix	Standardization	English Translation
AVENIDA	AVE	Avenue
CALLE	CLL	Street
CAMINITO	CMT	Little Road
CAMINO	CAM	Road
CERRADA	CER	Closed
CIRCULO	CIR	Circle
ENTRADA	ENT	Entrance
PASEO	PSO	Path
PLACITA	PLA	Little Plaza
RANCHO	RCH	Ranch
VEREDA	VER	Small Path
VISTA	VIS	View

Note: The English translation is provided for information only. Do not replace the Spanish words with the English translation.





APPENDIX F. COMMON TRANSLATIONS FOR PUERTO RICO ADDRESSES

The following is a list of commonly used phrases that may appear in Puerto Rico addresses:

Spanish	English
Apartado	PO Box
Buzon	Box
Buzon Rural	Rural Box
Ruta Rural	Rural Route
Ruta Estrella	Highway Contract
Edificio	Building

The following is a list of Spanish words and their corresponding abbreviations that may appear in Puerto Rico addresses:

Spanish Word	Abbreviation	Spanish Word	Abbreviation
Apartamento	APT	Extencion	EXT
Barriada	BDA	Hospital	HOSP
Building	BLDG	Industrial	IND
Bloque	BL	Jardines	JARD
Barrio	BO	Mansiones	MANS
Carretera	CARR	Parcelas	PARC
Caserio	CAS	Quebrada	QBDA
Condominio	COND	Reparto	REPTO
Cooperativa	COOP	Residencial	RES
Corporacion	CORP	Sector	SEC
Departamento	DEPT	Terraza	TERR
Edificio	EDIF	Urbanization	URB
Entrega General	GEN DEL	Villa	VIL



APPENDIX G. SPANISH DIRECTIONALS

Spanish directionals will not typically be addressed in MPI software. Therefore, operational consideration must be given before entering them into the MPI. Work with your vendor to ensure that Spanish directionals are allowed and are not translated, amended, or removed during data cleansing or normalization. Directionals are not commonly used in Puerto Rico addresses because other descriptions, such as urbanization, identify geographic areas. Of particular note: West directionals are the only discrepancies between English (NW, SW, W) and Spanish (NO, SO, O). This guidance should be included in staff training guides and relayed to registration staff.

Spanish Directional	Abbreviation	English Directional	Abbreviation
Norte	N	North	N
Noreste	NE	Northeast	NE
Noroeste	NO	Northwest	NW
Sur	S	South	S
Sureste	SE	Southeast	SE
Suroeste	SO	Southwest	SW
Este	E	East	E
Oeste	O	West	W





APPENDIX H. ACRONYMS

Organization	Description
AHIMA	The American Health Information Management Association
ONC	Office of the National Coordinator for Health Information Technology
SDO	Standards Development Organization
USPS	United States Postal Service





Additional Resources

- [Moscovitch, B. \(2018\) Enhanced patient matching is critical to achieving full promise of digital health records. Pew Charitable Trusts](#)
- [Patient ID Now Framework for a National Strategy on Patient Identity](#)
- [Riplinger, L., Piera-Jimenez, J., Pursley Dooling, J. \(2020\) Patient Identification Techniques – Approaches, Implications, and Findings. Yearb Med Inform; 29\(01\): 081-086, doi: 10.1055/s-0040-1701984](#)
- [The Sequoia Project. \(2018\) A Framework for Cross-Organizational Patient Identity Management](#)
- [United States Postal Service. Publication 28 – Postal Addressing Standards](#)



Glossary of Terms

Adverse Event: A type of injury that most frequently is due to an error in medical or surgical treatment rather than the underlying medical condition of the patient. Adverse events may be preventable when there is a failure to follow accepted practice at a system or individual level. Not all adverse outcomes are the result of an error; hence, only preventable adverse events are attributed to medical error. Adverse events can include unintended injury, prolonged hospitalization, or physical disability that results from medical or surgical patient management. Adverse events can also include complications resulting from prolonged hospitalization or by factors inherent in the healthcare system.¹⁷

Confidential Flag: Technology flag to indicate when all or part of a patient's record should not be shared in order to protect the patient and/or guardian.

Data Integrity Team: A team in healthcare organizations whose focus is on data integrity and managing the collection and management of the data in the MPI and EMPI.

Data Lifecycle: Consists of capture, process, use, store and dispose and supported by enterprise-wide data governance practices.¹⁸

Data Quality & Integrity: The extent to which healthcare data are complete, accurate, consistent and timely throughout its lifecycle including collection, application (including aggregation), warehousing and analysis.¹⁹

Duplicate Patient Record: More than one entry or file for the same person in a single enterprise-wide master patient index (MPI) or across several. Two separate records from the same source that are in fact the same patient and should be one single record. This causes one patient to have two different medical records within the same enterprise, and incomplete records available for clinical decision support and exchange.

Duplicate Record Detection: The process of comparing records from a single database with the objective to identify pairs or groups of records that refer to the same entity. These pairs or groups of records are known as duplicates.

Enterprise Master Patient Index (eMPI): A system that coordinates patient identification across multiple systems by collecting, storing, and managing IDs and patient-identifying demographic information from a source system. Intended to maintain consistent, accurate, and current patient-identifying data to

¹⁷ Rodziewicz TL, Houseman B, Hipskind JE. Medical Error Reduction and Prevention. [Updated 2021 Aug 6]. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from:

<https://www.ncbi.nlm.nih.gov/books/NBK499956/>

¹⁸ <https://journal.ahima.org/social-determinants-of-health-improving-capture-and-use-by-applying-data-governance-strategies/>

¹⁹ AHIMA Naming Policy –pending link



facilitate patient matching. The objective is to ensure that the identifying data for each patient is represented only once across all systems under the eMPI.

Entity Resolution: The process of comparing records from one or more databases with the objective to identify pairs or groups of records that refer to the same entity, to classify these pairs or groups as matches (and pairs or groups of records that do not refer to the same entity as non-matches), and to merge all records that refer to the same entity into a new combined record. The result of an entity resolution process is a set of combined records that each corresponds to one entity, and each of the entities stored in the database(s) that were matched is represented by a single combined record only. Entity resolution applied on a single database is also known as deduplication.

False Positive Matching: A match of two records to one identity when the records actually belong to two individuals.²⁰

Feedback Controls/Loops: A back-end process that monitors and measures output and then compares it to expectations and identifies variations that then must be analyzed so correction action plans can be developed and implemented.²¹

Identification Error: The error that results from incorrect identification of a patient, including wrong patient errors. Identification errors may be preventable with sufficient technology, policies, and best practices in place that are consistently and diligently applied in an effort to prevent a negative safety event.

Master Patient Index (MPI): A patient-identifying directory referencing all patients related to an organization and which also serves as a link to the patient record or information, facilitates patient identification, and assists in maintaining a longitudinal patient record from birth to death within that organization.²²

Mismatch: A colloquial term sometimes used when the records of two patients are mixed up by a healthcare provider, or could be used to describe false positive matches, potentially leading to adverse consequences.

Naming policies/conventions: Provides structure for data entry and collection in the master patient index (MPI) and enterprise master patient index (EMPI).²³

Overlap: More than one MPI entry or file for the same person in two or more facilities within an enterprise. For example, patient Alice Smith has medical record number 12345 at facility A and a medical record number 447788 at facility B within the same enterprise-wide system. When both MPI databases

²⁰ Pocket Glossary of Health Information Management and Technology, Fifth Edition, AHIMA Press

²¹ Oachs, P.K., Watters, A.L., Health Information Management, Concepts, Principles and Practice, Sixth Edition, AHIMA Press

²² AHIMA. *Pocket Glossary of Health Information Management and Technology*. Available from: VitalSource Bookshelf, (5th Edition). American Health Information Management Association (AHIMA), 2017.

²³ AHIMA Patient Identification and Matching Naming Policy. Retrieved from: https://ahima.org/media/2rxdhfb/ahima-patient-identification-and-matching-naming-policy_june_2021.pdf



are loaded into an enterprise MPI, the database does not link the two records. Thus, Smith ends up with two different enterprise identifiers and providers cannot view all clinical information across the enterprise for that patient. Two or more records for an individual from different sources with different types of data.

Overlay: An overlay occurs when one identity's information overrides or "collides" with the information of another, different record. One MPI entry or file for more than one patient (i.e., two people erroneously sharing the same identifier). Overlaid records are frequently caused when patient access staff select another patient's record during a scheduling or registration event. Sometimes interfaces cause the error if the receiving system lacks a robust patient record-matching program and "overlays" another patient's record from that inbound interface transaction. On occasion, overlays are caused by an incorrect merge of two records that belong to two different people. Two or more records that appear to be for an individual but are actually for different individuals.

Scripted Questions: A set of prepared questions used at patient registration to help guide the registrar to support accurate data collection.

Standards Development Organization: SDOs are member-supported organizations, often accredited by the American National Standards Institute (ANSI), who develop and maintain standards to meet industry needs. Members include health care providers, insurers, health IT software developers, patients, care givers, and others. Many SDOs are international organizations with U.S. branches, and there are at least 40 SDOs who currently develop and maintain standards for the healthcare field. A single SDO may only develop one standard, or they may have hundreds of standards, depending on the mission or interests of the organization.²⁴

²⁴ <https://www.healthit.gov/playbook/sdo-education/chapter-2/>

