

# 13

## Costly address data mistakes in healthcare

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you can't afford to ignore (and how to fix them)



smarty

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In [healthcare](#), the accuracy of patient address data is not just a matter of operational efficiency—it's a matter of trust, patient safety, government compliance, and cost control. Healthcare professionals must rely on Electronic Medical Records (EMRs) and Electronic Health Records (EHRs) to maintain up-to-date, complete, and accurate patient information.

Within the vast healthcare record ecosystem stands a small but critically important piece of information — the address

While the address of the patient, healthcare professional, or insurance company is but a sliver of information among the vast amount of data in electronic records, it can become one of the slivers that cause the most pain if not properly diagnosed and treated. Ironically, as you'll read, fixing address problems is one of the easiest things you can do.

If you're a normal player in the healthcare space, address data quality often falls short due to outdated, incomplete, or incorrect information being entered or stored in EMRs and EHRs, causing several problems for you and your organization.

Erroneous address data in EMRs and EHRs causes a myriad of problems for your organization, such as misdeliveries of critical information, increased operational costs, incorrect billing information, and patient dissatisfaction.

Prescription medications, lab results, appointment reminders, and other essential communications may fail to reach the right patient in time. Customer service hours have to increase to manually chase down correct addresses. And there's the expense of re-mailing costs. Delays in payment processing or billing disputes cause mounting revenue loss over time.

And you can guarantee that your patients are not standing by enjoying your company's chaos. In the quick-fix world we live in, the client's reduced trust is sure to damage a healthcare professional's reputation.

How will you climb out of this mess without burning everything to the ground and starting from zero?

Take Smarty's hand, and we'll guide you through the quick and simple solution you have been looking for.

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In this ebook, we identify and offer an implementable solution for each of the 13 most common address data mistakes healthcare organizations are making.

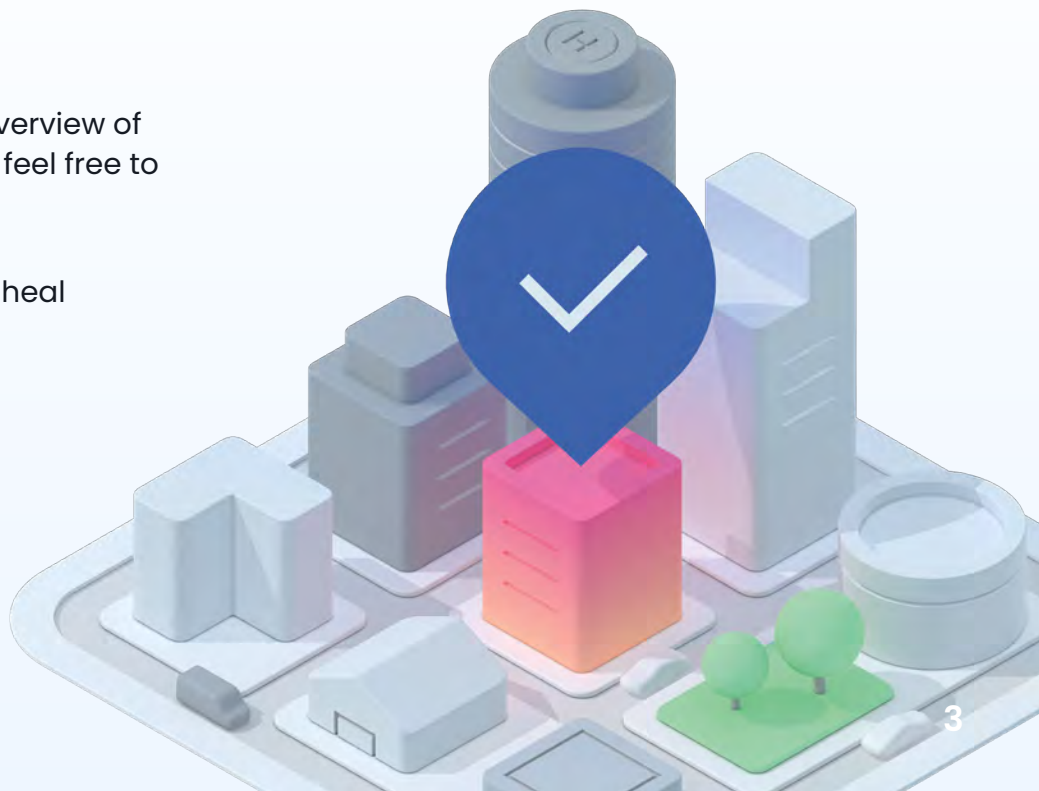
These valuable insights can be found through reading the book's prose, but we also recognize that your time is limited, so the ebook is structured with clickable links for efficient skimming.

Here are the 13 common address data mistakes your healthcare organization might be unintentionally making today and how to fix them:

1. [Compliance with regulations](#)
2. [Address data quality](#)
3. [Form fills](#)
4. [Fraud](#)
5. [Locating patients](#)
6. [Patient matching across aggregate data](#)
7. [Billing](#)
8. [Locating resources](#)
9. [Epidemiology](#)
10. [Shipping](#)
11. [Analytics](#)
12. [Patient demographics](#)
13. [QHIN compliance](#)

If you'd like to just read our brief overview of how we solve healthcare hiccups, feel free to [jump to our conclusion](#).

Without further ado, let's help you heal what's broken in healthcare data.



# 01

## Compliance with regulations

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# Chapter 1: Compliance with regulations

We both know compliance with government regulations is crucial for any industry, but it's especially so in healthcare—not just to avoid penalties but also to uphold patient privacy, ensure data accuracy, and promote equitable care across diverse communities.

There are so many programs and regulations US healthcare professionals must comply with. We know it can feel overwhelming.

Let's review 3 to illustrate how Smarty can help, including 1) following HIPAA mailing guidelines to protect patient privacy, 2) Affordable Care Act (ACA) compliance, and 3) adhering to health equity requirements, where the focus is on equitable service distribution across socio-economic groups, often measured at the [census tract level](#).

Accurate patient address data is foundational to meeting these compliance goals. By leveraging address standardization and census tract geocoding, you can verify HIPAA-compliant mailing practices and ACA compliance, ensure services are distributed fairly, and secure patient record delivery.

## The compliance challenge

Healthcare organizations like yours must tackle health equity, data privacy, and deliverability challenges.

First, you're required to ensure equitable access to healthcare services [across different census tracts](#), analyzing data to identify any underserved or at-risk communities. Ensuring equitable distribution is a critical public health objective and requires accurate provider network adequacy reporting by organizations like the Centers for Medicare and Medicaid Services (CMS).

Second, healthcare professionals must [strictly adhere to HIPAA rules](#) when mailing medical records, as even minor errors in patient addresses can lead to serious privacy breaches and penalties.

For instance, without HIPAA-compliance practices in place, an inaccurate address can result in sensitive patient information being sent to the wrong recipient, both a serious compliance issue and a violation of patient trust, not to mention poor outcomes in patient care.

Patients without a diagnosis or treatment plan may be unable to act promptly to get the critical care they require.

And patients aren't going to take the fall for that one. They'll blame you.



Third, healthcare companies face significant challenges in complying with the ACA, particularly in ensuring accurate patient communications, eligibility verification, and regional compliance based on address data. Errors in address records can lead to undelivered health plan notifications, tax documents, or subsidy determinations, exposing organizations to regulatory penalties.

## HIPAA and ACA compliant mailing and census tract geocoding: Why they matter

To meet HIPAA and ACA regulatory requirements, you and other healthcare professionals must maintain precise, up-to-date patient address data. Furthermore, any third-party services you use to assist in that endeavor must also be HIPAA and ACA-compliant. Here's why maintaining compliance is critical:

**HIPAA-compliant mailing** requires that any mailed communication containing sensitive patient information reaches the intended recipient without fail. Without address standardization and validation in place, your organization is at risk of 4 things:

- 1. Civil penalties** – Your organization could be slapped with a painful fine from \$100–\$50,000 PER VIOLATION, depending on the determined level of negligence.
- 2. Criminal penalties** – Criminal penalties can include jail time and have been known to be career-ending for many. This also comes with some legal fees attached.
- 3. Reputational damage** – Loss of trust looks bad for you and your organization's reputation—ultimately causing a significant loss in revenue.
- 4. Operational consequences** – Unsatisfactory levels of care can trigger time-eating, back-breaking investigations, and further scrutiny from the higher-ups.

**ACA-compliant mailing** requires that all communications related to health insurance coverage, tax documents, and patient notifications reach the correct recipient promptly and accurately. We know that you understand the significance:

- 1. Regulatory penalties** – Failure to comply due to undeliverable mail can result in substantial fines, including penalties for incomplete or incorrect reporting to the IRS.

Your organization could be slapped with a painful fine from \$100–\$50,000 PER VIOLATION



**2. Operational inefficiencies** – Invalid or incomplete addresses lead to returned mail, delayed communications, and a heavier administrative burden. This inefficiency drains resources, slows patient outreach, and increases costs related to re-sending documents or manually correcting errors.

**3. Legal exposure** – Sending sensitive documents, such as tax forms or health plan details, to the wrong address could lead to legal disputes and liability claims. [Learn more about your legal risks, including how penalties can escalate to millions of dollars in fines and even years of imprisonment.](#)

**4. Reputational damage** – Similar to missteps with HIPAA compliance, errors in ACA-mandated mailings can erode trust, lead to complaints, and harm your reputation.



**Census tract geocoding** is necessary for healthcare professionals like you who are aiming to fulfill health equity requirements. By mapping patient addresses to census tracts, you can better understand how your services reach various socio-economic groups.

This data can inform outreach efforts to underserved areas, demonstrating your commitment to equitable care and affording your company opportunities to receive grants to aid you in your efforts.

Together, HIPAA and ACA-compliant mailing and census tract geocoding support your ability to serve all communities fairly, ensure the security of sensitive patient information, and keep your organization compliant and fee/jail-free.

## Smarty's solution: Accurate geocoding and verification

Smarty's advanced [address verification](#) and [geocoding solutions](#) simplify meeting regulatory requirements. The company's HIPAA and ACA-compliant platform ensures each patient address is accurate and complete and linked to the correct census tract.

Smarty offers both bulk and fully-automated, real-time address verification options to make cleaning addresses a snap. Smarty ensures sensitive patient information is delivered accurately and securely, reducing the risk of HIPAA data breaches and compliance penalties. For ACA, Smarty streamlines communication of required documents like 1095 tax forms and health plan notifications by validating addresses to meet strict regulatory standards.


Smarty's advanced address verification and geocoding solutions simplify meeting regulatory requirements

Smarty's solution includes assigning the respective census tract to each patient's address and [precise rooftop geocoding](#), which assigns exact coordinates (latitude and longitude) to each patient's residence. This enables healthcare professionals like you to identify underserved areas, improve resource allocation, and ensure equitable care access across diverse populations.

This level of precision is fundamental in healthcare, where the smallest error can lead to compliance issues and compromised patient privacy.

Furthermore, [SmartyKey®](#), our [persistent unique identifier](#), allows you to have a [historical view of an address](#) for a more comprehensive approach to healthcare address data. It also assists you in [deduplicating your records](#) and is the most accurate step to help you verify that patients are correctly linked to their healthcare data.

Through these advanced address validation and geocoding capabilities, Smarty's solution helps your organization maintain compliance while streamlining administrative tasks and reducing errors, keeping your hard-earned money and reputation safe from any legal recourse.



Smarty's solution helps your organization maintain compliance while streamlining administrative tasks and reducing errors



# 02

## Address data quality

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# Chapter 2: Address data quality

Accurate data is critical in healthcare, and few pieces of information are more essential than a patient's address. Yet, as electronic medical records (EMRs), electronic health records (EHRs), and online directories become the norm, address quality issues are increasingly becoming a chronic pain point.

Address quality issues are increasingly becoming a chronic pain point

This rise in the use of EMRs, EHRs, and online healthcare professional directories is due not only to the fact that the Internet is more accessible than ever (thanks cellphones) but also because healthcare organizations are collecting vast amounts of patient information as population growth and increasing information storage shift the need from paper trails to more-easily stored digital ones.

But without proper electronic health records address cleansing tools, inaccurate or incomplete addresses can quickly turn this valuable data into a liability for your organization—and it likely already is one for you.

## Undiagnosed risks of bad address data

When a patient's address is incorrect or incomplete in your electronic records and healthcare professional directories, the effects are akin to an infection flowing downstream. It creates cantankerous holes in your process efficacy and decays your potential profits. It impacts patient safety, the quality of care, billing, and regulatory compliance.

Healthcare professionals, just like you, rely on accurate EMR, EHR, and directory address information for several critical functions, from billing to patient communications and even delivering necessary equipment, prescriptions, or in-home care directly to the patient.

Here's where unhygienic address data begins to chip away at the efficiency and compliance of your organization:



- **Misdeliveries and returned mail:** Whether it's a patient bill, a prescription, or crucial medical equipment, items sent to an incorrect address can lead to delays, redelivery costs, or worse — your patients not receiving critical care on time, leading to costly legal recourse and even more endless paperwork.



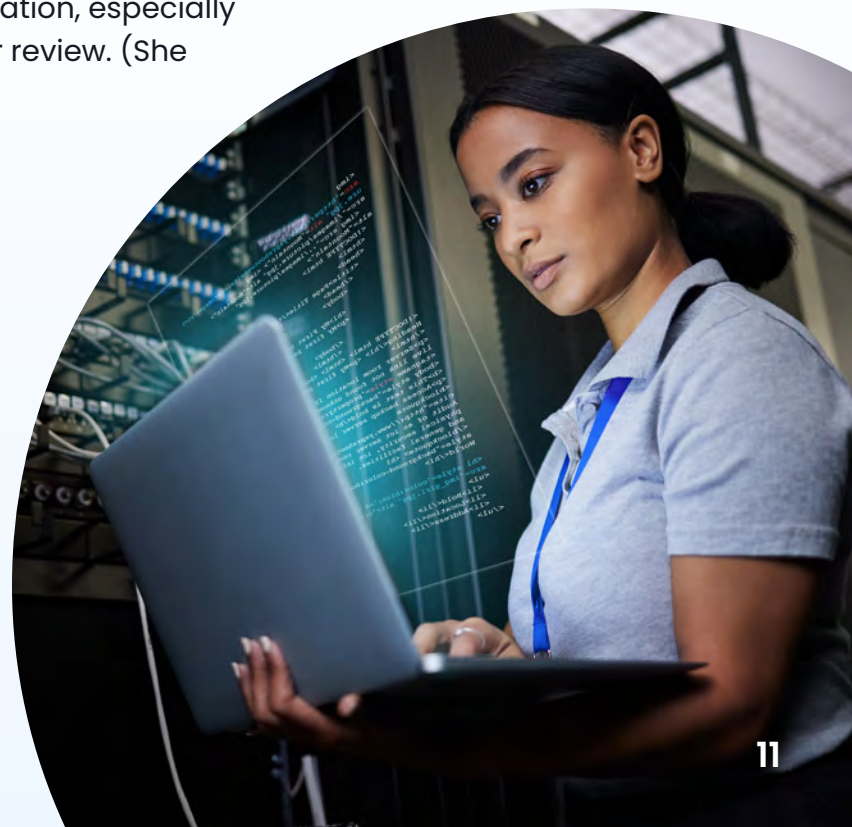
Consider, for example, that you or someone in your facility needs to notify a patient of critical follow-up instructions, appointment reminders, or test results. Having the right address ensures the patient receives this information promptly. With validated and standardized address data, communication is streamlined and reliable. You won't be left wondering if you selected the most updated address or if you're sending these instructions off into the aether.

- **Increased postage and handling costs:** Every time an organization sends out mail that gets returned due to an invalid or insufficient address, that's additional time, money, and resources wasted. Even minor errors in addresses can accumulate into significant operational expenses over time.

Even minor errors in addresses can accumulate into significant operational expenses over time

- **Incorrect billing:** Poor address quality often leads to your organization sending invoices to the wrong place, resulting in delayed payments and costly back-and-forth with patients or insurance providers. Not to mention the frustration that comes with billing issues. [More on that in Chapter 7: Billing.](#)
- **Customer dissatisfaction:** Nothing frustrates patients more than not receiving vital information or services promptly when their health is involved. When address errors cause your deliveries to be late, billing statements to never show, or a patient to drive in circles looking for a provider, you unknowingly create distrust between you and your patients. In an industry where patient satisfaction and trust are paramount, this can have long-term, festering consequences for your organization's reputation, especially when Karen leaves your facility with a 1-star review. (She would've left 0 if she could've.)

From home health visits to the delivery of medical supplies, having accurate addresses helps you deliver better care to your patients. A simple error in an address could result in a missed appointment or an undelivered prescription, both of which can have severe consequences for the patient's health.



- **Regulatory compliance and legal recourse:** See [Chapter 1: Compliance with regulations for a refresher course](#).

These problems don't just create headaches; they contribute to escalating costs and inefficiencies across your entire healthcare system. Addressing the issue of poor data quality in EMRs, EHRs, and healthcare professional directories is, therefore, not just a technical necessity or something that will make your lawyers and HIPAA compliance officers smile—it's a business imperative.

You must improve electronic health records address quality

You must improve electronic health records address quality.

## Recommended treatment? EMR, EHR, and directory address cleansing

EMR, EHR, and provider directory address cleansing is the first line of defense against these infectious problems.

Think of it as address sterilization

It involves identifying, correcting, and standardizing address information within electronic health records and provider directories to ensure that it's accurate, complete, and formatted correctly. This keeps the database functioning properly and eliminates the possibility of further reintroduction of contaminated data. Think of it as address sterilization.

Even if you and your team are trying to do everything manually to ensure accuracy, sometimes, change occurs behind the scenes.

Address data in EMRs, EHRs, and provider directories expires or contains mistakes for various reasons—patients move, clerical errors occur, fat fingering on a tiny phone keypad, or data might be entered inconsistently. Sometimes, even a patient [doesn't know that their street name has changed](#) or that a new, [unique ZIP Code](#) has been assigned to their apartment complex.

By easily implementing electronic healthcare record address cleansing as an automated behind-the-scenes practice, you can maintain accurate address records by keeping the bad stuff out, avoiding the ripple effect it can wreak on your systems and internal processes.



# What is involved in electronic health records address cleansing?



## Validation:

Ensuring that an address exists in the real world. In other words, just because an address looks correct doesn't necessarily mean you can deliver anything there. An address validation tool checks whether the address is deliverable according to postal standards in the [US](#) or [internationally](#). This process can be performed [one address at a time](#), [in bulk](#) to clean up your existing database, or in real-time via an [API](#).



## Standardization:

Formatting addresses to follow consistent, standardized rules, ensuring that all addresses within the system adhere to a uniform format. This includes correcting abbreviations, fixing typos, and adjusting the address to meet local postal requirements. For those of you who are in a [Qualified Health Information Network \(QHIN\)](#) or are looking to become certified as one, you may also want to learn about the specific standardization requirements [referred to as Project US@](#).



## Deduplication:

Identifying and merging duplicate records. Multiple entries for the same patient with slight variations in the address—whether from fat-fingering or blatant fraud entered by the patient or your staff—can lead to redundancy and confusion. Deduplication cleans the database by matching patients or providers and merging these variations into a single, accurate and standardized EMR, EHR, or provider directory.



## Autocomplete:

Autocomplete tools help prevent mistakes at any point of entry (patient or staff) by suggesting verified addresses in real-time as the user types. This speeds up data entry and ensures that the addresses entered are accurate and correctly formatted from the start.

Together, these processes will ensure that your records contain high-quality address data. This, in turn, reduces the operational inefficiencies and costs associated with bad address data. (We can hear your board praising your name already and drafting up your raise.)



## Your solution: Top-tier address validation for healthcare

So, how can healthcare organizations effectively implement address cleansing? This is where Smarty's solutions come into play. Integration with Smarty's [APIs](#) via stellar [SDKs](#) is a cinch; with Smarty, it's easier than you think. [Tell us your sad story](#), and we'll guide you to a happier ending.

Integration with  
Smarty's APIs via stellar  
SDKs is a cinch

You want what Smarty offers: top-tier address validation and autocomplete solutions specifically designed to cleanse and standardize address data, ensuring that addresses in EMRs, EHRs, and provider directories are always accurate and up-to-date. Smarty's platform ensures that addresses are verified in real-time, meaning your data is cleansed at the point of entry and even at re-entry should a patient's information change, and this is true globally through Smarty's expansive coverage.

Using Smarty's solutions benefits you.

- Your organization can instantly verify an address anytime you enter data while you type with real-time address validation.
- Your users and patients will thank you for how easy autocomplete makes inputting their addresses into your forms. You'll achieve the enviable address trifecta: 1) clean address data coming in, 2) improved user experiences, and 3) increased form completion rates.
- Your addresses will always be standardized and adhere to postal standards with address standardization.
- Your organization's reach is unlimited with address validation across 250+ countries and territories to accommodate any patient visiting from around the world.

When you integrate  
Smarty into your  
existing systems, you  
are ensuring that  
only valid, complete  
addresses are saved to  
the system

When you integrate Smarty into your existing systems, you are ensuring that only valid, complete addresses are saved to the system, significantly reducing postage and handling costs, improving billing accuracy, and enhancing overall customer satisfaction.

In a world where patients expect smooth, error-free interactions with their healthcare professionals, your efforts at maintaining high-quality address data in EMRs, EHRs, and provider directories won't go unnoticed by patients, partners, or your boss.

# 03

## Form fills



## Chapter 3: Form fills

When patients walk into your clinic or hospital, they're often greeted with physical or digital paperwork—lots of it. Hopefully, it's digital. [93% of patients](#) expect healthcare professionals like you to use digital tools.

From patient intake forms to insurance documentation, the process can be lengthy and frustrating, especially when considering extreme cases requiring emergency care. Even if patients can fill it out later, it's going to be difficult for someone who is medicated for pain management or someone who is highly concussed to fill those forms out accurately.

Even with family or friends helping, there's a high risk of getting inaccurate patient information. Think of how many of your friends' and family members' addresses you have memorized.

Yeah.

It's probably slim to none.

For healthcare professionals like you, it's critical for patients to provide you with the correct information upfront. You already know how inefficient, costly, and frustrating it is to manually correct bad information once the patient leaves your office. It's a pain point you'd happily avoid if you could.

For healthcare professionals like you, it's critical for patients to provide you with the correct information upfront

But, it's not like we can just get rid of the forms, though, at least not yet. (We'll eventually evolve into cyborgs.)

These form fills are necessary for administrative purposes and critical for ensuring that accurate patient information is captured and stored correctly in your EHR. Unfortunately, lengthy forms lead to errors, incomplete data, form abandonments, and dissatisfied patients.

So, what do you do? Is there a win for you?

Yes, but we might need to digest some info first.



## The challenge of form completion

The widespread use of electronic health records (EHRs) has made it easier for patients and healthcare professionals to access complete and current medical information. Yet, research has found that match rates between organizations [can be as low as 50 percent](#), even when they share the same EHR system. Yikes.

Your EHR needs to be able to match records for each patient across different hospitals, offices, and facilities to help coordinate care.

Forms are meant to streamline your administrative healthcare processes but often become a roadblock.

Lengthy, complex, and repetitive forms are overwhelming, especially for your patients who are already dealing with medical issues. The last thing you want is for patients to leave your organization with the added symptom of a headache.

Medical form friction leads to input errors, incomplete forms, and patient dissatisfaction.

### • Input errors

When patients repeatedly have to fill out lengthy forms, they often rush through them or become confused by lengthy or unclear fields. Mistakes are bound to happen. Bad addresses create a cascade of challenges:

1. **Failed communications:** You send bills, statements, and appointment reminders (unintentionally or not) to the wrong location. And now you have HIPAA violations (see chapter 1 again for more information on those.) Oh boy!
2. **Failed care delivery:** Patients accrue missed home care appointments.
3. **Wasted resources:** Tedious manual work is required to correct bad addresses.
4. **Revenue leakage:** According to the [2016 Ponemon Misidentification Report](#), the average hospital loses \$17.4 million annually in claim denials based on misidentification. The study states, "On average, hospitals have 30% of all claims denied, and an average of 35% of these denied claims are attributed to inaccurate patient identification or inaccurate/incomplete patient information." Denials adversely affect both cash flow and AR days. [Discover how address cleansing can reduce claims denials and deliver millions in savings.](#)

35% of these denied claims are attributed to inaccurate patient identification or inaccurate/incomplete patient information

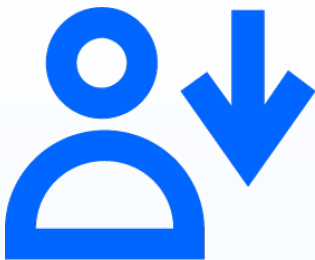
- 5. Inaccurate patient matching costs:** You also face the financial burden of correcting medical record errors. The American Health Information Management Association (AHIMA) Foundation reports that [fixing duplicate medical records for a single patient](#), known as overlaps, can cost up to \$1,000 each. Additionally, when records for two different patients are mistakenly merged, resulting in overlays, the correction can be as costly as \$5,000 due to the extensive administrative time needed to search for and sort the data.
- 6. Bad reporting:** Bad public health study data provides flawed epidemiology analysis and faulty decision-making for treating your patients.

## • Incomplete or abandoned forms

When patients give up halfway through a form or abandon it altogether due to frustration, you are left with incomplete records. This impacts everything from care delivery to administrative tasks like billing or insurance claims and greatly affects the quality of care you can provide.



For example, what would happen if the section where the patient was supposed to fill out any current prescriptions they were taking was at the end of your form? What if the patient never makes it to the section identifying a history of drug or alcohol abuse? Patient form-filling fatigue is real, and it demolishes your ability to provide excellent care.



## • Patient dissatisfaction

This might be the deadliest form-flub yet. Frustrating forms lead to unhappy patients. When a patient is already stressed or anxious about a medical issue, navigating tedious or confusing forms can diminish their overall experience and trust in their provider.

Patient dissatisfaction in healthcare can happen for several reasons, such as poor communication, long wait times, and mistakes in administrative tasks like data entry.

[A study by Accenture](#) found that 61% of patients switched providers because of bad customer service. Patients often feel frustrated with inefficiencies, like unnecessary paperwork and errors in managing information, greatly impacting their overall satisfaction.

With cancel culture dangerously evolving, you can never be too careful about taking protective precautions for your organization.

## Data quality

Electronic form completion isn't only a matter of convenience but also a matter of data quality.

So, how can healthcare professionals like you streamline the process while reducing the risk of address errors? Use an address autocomplete product.

Electronic form completion isn't only a matter of convenience but also a matter of data quality

## The solution: Patient form optimization

Patient form optimization is all about making the form-filling process user-friendly, ensuring that patients provide accurate information with minimal friction, and finishing the entire form.

The address field is one of the most common and error-prone sections in any form

The address field is one of the most common and error-prone sections in any form. Patients might accidentally type the wrong street name, transpose digits in their ZIP Code, or leave out key information like apartment or unit numbers necessary for delivery.

Lost mail, incorrect billing, and even missed follow-up appointments are just a few of the symptoms of mistakes made in patient-filled forms.

Patients aren't the only ones who benefit.

Think of every time you, your staff, or a friend or family member enters information on a patient's behalf. Each person may enter the address differently. Some might abbreviate "Street" or "Avenue," while others write out the entire word. Without a standard format for the addresses, matching patients is significantly harder.

In addition, consider every time an address is updated in just one year, let alone a lifetime of patient care. Without a streamlined process in place, mistakes and errors are going to get in your records.

Installing an autocomplete solution with built-in address verification that uses the US formatting standards for postal and [non-USPS addresses](#) helps to reduce medical form friction, regardless of who might be filling it out.

# Autocomplete: Medical address form optimization

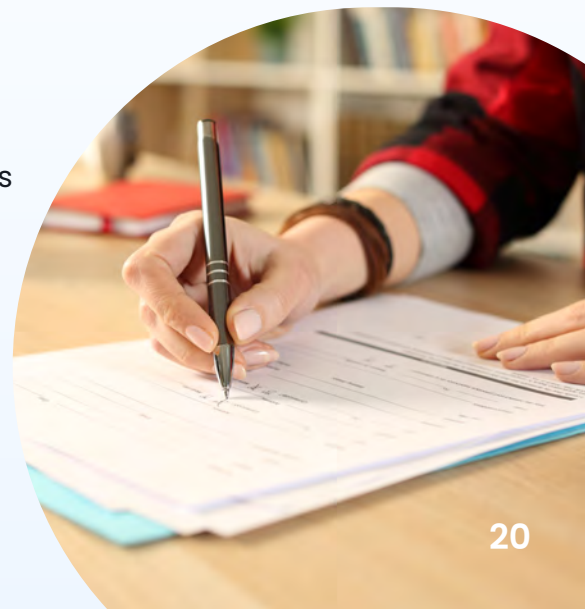
Smarty's [US Address Autocomplete](#) and [International Address Autocomplete](#) solutions offer a simple but powerful fix: as soon as patients begin typing their addresses, the system automatically suggests verified addresses, allowing patients to select the correct option with a click.

Here's how Smarty's address autocomplete reduces medical form friction and optimizes the patient form experience:

Smarty's US Address Autocomplete and International Address Autocomplete solutions offer a simple but powerful fix

- 1. Autocomplete address suggestions:** In as little as 1 keystroke, Smarty's autocomplete instantly suggests complete, verified addresses based on the user's location from its national or global database (depending on your chosen plan). This allows patients to fill out their addresses more quickly, significantly reducing the likelihood of typos or missing information.
- 2. Eliminates the need for manual address input:** Because people are always around their phones, forms are more frequently filled out on this handy device. Instead of manually entering every detail of their address with their finger, patients can simply select a suggested address with autocomplete, saving time and reducing frustration. This feature is particularly useful for long addresses or in areas where address formats can be complex or street spellings are unique and not found in typical phone dictionaries.
- 3. Improves data quality:** Smarty's autocomplete suggestions are based on verified address data, drastically reducing the chances of errors. You can be confident that the addresses entered into their systems are valid, reducing issues with billing, patient follow-ups, correspondence, and HIPAA violations. Also, because the autocomplete suggestions can be based on a user's IP address, patients can rest easy knowing the address they select is their own and not a lookalike address in another city or state.
- 4. Reduces form abandonment:** When patients encounter easy-to-use, streamlined forms, they're more likely to complete the process. Autocomplete reduces the effort required to fill out forms, making it more likely that patients will complete their intake forms in full, even if they're lengthy.

By optimizing medical forms—especially the address fields—you can unlock a range of benefits beyond reducing patient frustration. Faster patient check-in and enhanced data quality become permanent features in daily processes.



# 04

## Fraud



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# Chapter 4: Fraud

Fraudulent activities in the healthcare industry are costly and threaten the integrity of services and resources, not to mention patient trust. Whether it's medical billing address fraud or synthetic identity address fraud, identifying and preventing fraud before it results in financial loss for your organization should be a top priority.

Fraudsters often exploit weaknesses in address data, providing fake or inaccurate addresses to create equally fraudulent accounts, order unauthorized medical services, or submit false claims.

Fraudsters often exploit weaknesses in address data

Implementing advanced tools like Smarty's address verification and geocoding solutions can serve as a frontline defense, enabling organizations to identify red flags and investigate suspicious activities early.

## Address fraud in healthcare

Address fraud schemes often rely on inaccuracies or inconsistencies to bypass detection. In medical billing address fraud cases, fraudsters may use fake or stolen addresses to claim reimbursements for services not rendered. Similarly, synthetic identity address fraud involves creating false identities using fabricated addresses combined with a real, stolen social security number to establish accounts or file fraudulent insurance claims.

These schemes cost financial institutions [\\$20 billion annually](#), so consider the hit that healthcare organizations like yours might also be unknowingly taking. The healthcare sector is particularly vulnerable to these types of scams due to the high value of medical data (and medical equipment and services) and the complexity of billing systems.

Fraudsters exploit these vulnerabilities with ease.

Without robust address verification processes, these activities can go undetected until significant financial losses have accrued

One example of fraudulent activity is when patients provide addresses that are far from their actual location to collude with unethical providers. This might involve ordering unnecessary medical supplies or billing for treatments that never occurred. Without robust address verification processes, these activities can go undetected until significant financial losses have accrued.

## How Smarty prevents address fraud

Smarty's address verification and rooftop geocoding solutions are designed to catch fraudulent activities early by ensuring the accuracy and legitimacy of address data. By integrating Smarty's tools, healthcare organizations can reduce fraud through several mechanisms:

### Address standardization and correction

Smarty's address verification API converts addresses into a standardized format, correcting typos, misspellings, and other inaccuracies. Fraudulent entries often contain intentional or bot-generated errors, making them difficult to trace. For example, a fraudster may enter "100 Healthee Way" instead of "100 Healthy Way" to evade detection by other agencies. By correcting these errors and comparing the data against authoritative postal databases, Smarty helps you confidently flag suspicious entries that don't align with valid formats or that are duplicates of records already aligned with another patient.

### Address validation

One of Smarty's core capabilities is validating addresses against authoritative postal datasets, such as the USPS or geographic datasets. Fraudsters frequently use non-existent or undeliverable addresses to carry out schemes. If an address cannot be validated as a legitimate, deliverable location, Smarty's API flags it for review. For instance, an address like "456 Fake Avenue" would fail validation, alerting the organization to investigate further.

Sometimes, investigations involve contacting the customer to ask for additional factors. Maybe the address isn't validating because it's a [non-postal address](#), such as a new construction. That's why it's important to know when to investigate further to prevent ostracizing those patients in unique address circumstances.

If an address cannot be validated as a legitimate, deliverable location, Smarty's API flags it for review

Fun fact: Over 20 million real, legitimate places in the U.S. aren't served by the USPS—but people live and work there. Smarty's proprietary database includes these addresses, enabling you to validate them and eliminate tedious manual exception handling.



## Geolocation and risk analysis

Smarty's [rooftop geocoding](#) ensures that an address corresponds to a precise physical location. Our geocoding is ultra-precise, with coordinates landing on the exact rooftop 97% of the time. This feature is particularly useful for detecting fraud when an address provided doesn't align with the expected location of a patient. For example, if a patient claims to live in New York City but provides an address in rural Ohio, this discrepancy could raise a fraud warning. By combining geolocation data with other verification methods, organizations gain a powerful tool for risk analysis.

## Preventing fake accounts

Fraudsters often use fake or stolen addresses to create multiple accounts for submitting false claims or ordering medical supplies. Smarty's address verification ensures that users provide real, physical addresses during account creation. By catching fake, incomplete, or duplicate addresses early, healthcare organizations can prevent fraudulent accounts from infiltrating their systems.

## Fraudsters in action in healthcare

Fraudulent activities often involve undeliverable goods or services.

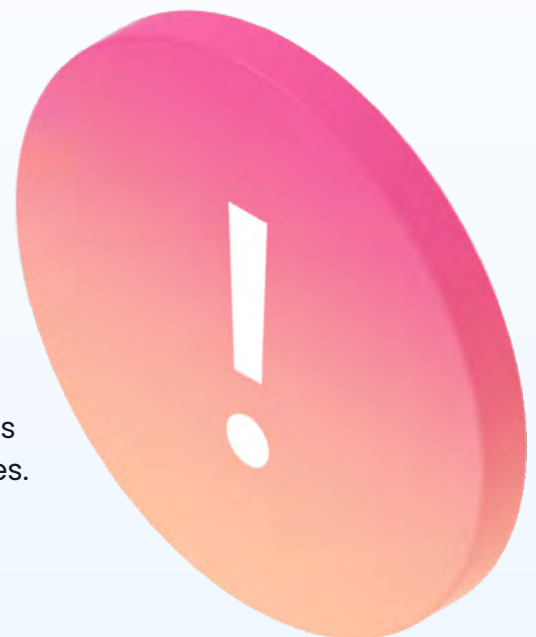
For example, a fraudster might use a stolen address to order medical supplies they never intend to receive.

Fraudulent activities often involve undeliverable goods or services

Fraudsters may use false addresses to divert medical supplies to a location where they can be resold or exploited. They might bill insurance companies or government programs (such as Medicare or Medicaid) for supplies that are either never delivered or are sent to fraudulent or untraceable locations, allowing them to collect fraudulent payments.

They may also use stolen or fabricated identities, including fraudulent addresses, to obtain medical supplies or prescriptions under a false name. This allows them to bypass some verification systems and acquire products without being traced.

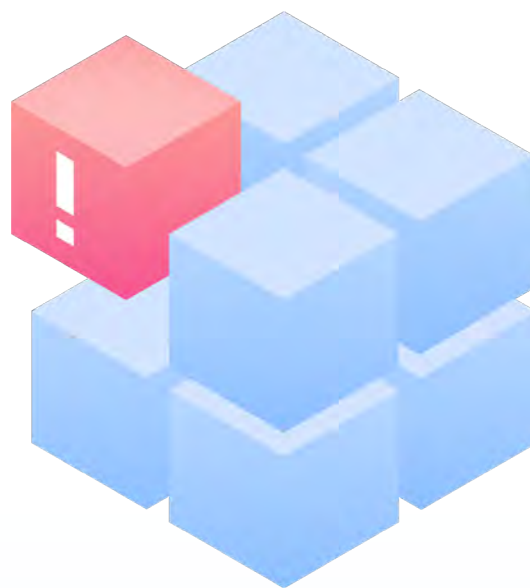
Smarty's verification, combined with rooftop geocoding, ensures that addresses are deliverable, reducing the likelihood of fraud related to non-existent or stolen address locations. Organizations can verify that services and supplies are being sent to legitimate addresses within their databases.



## Advanced fraud detection techniques with Smarty

Smarty's solutions go beyond standard verification to provide additional metadata and historical tracking that enhance fraud detection capabilities:

- **Metadata for validation changes:** Smarty's API includes metadata that can flag potential fraud, such as whether or not an address is vacant. Smarty's metadata also indicates the level of changes made to validate an address. If a large change is required, such as altering multiple address components, this could signal potential fraud, warranting manual investigation to confirm the legitimacy of an application.
- **Cross-referencing data points:** Address verification is even more effective when used alongside other data verification tools and vice versa. Identity verification or payment validation with the added benefit of address verification and rooftop geocoding makes your system stability unparalleled. If an address doesn't match other provided details, red flags can be raised for potential fraud.
- **Historical and repetitive address checks:** Fraud rings often reuse the same fake addresses across multiple accounts or transactions. Smarty's address verification system, combined with SmartyKey, makes identifying duplicate addresses a snap.



### Real-world example: stopping address fraud in its tracks

Consider a healthcare organization that noticed an uptick in claims from patients supposedly living in out-of-state locations. By integrating Smarty's address verification API, the organization quickly identified several addresses that failed validation. In one instance, a patient provided "123 Lake Rd" as their address, but Smarty's validation revealed that the location did not exist. Further investigation uncovered a scheme involving multiple false claims submitted by the same fraud ring.

Using Smarty's tools, the organization flagged fraudulent accounts before they could result in further losses. The integration not only saved the organization from financial harm but also improved their ability to detect and prevent similar schemes in the future.

Using Smarty's tools, the organization flagged fraudulent accounts before they could result in further losses

## Benefits of Smarty's address verification for fraud prevention

Implementing Smarty's solutions offers healthcare organizations several critical advantages in combating fraud:

- 1. Reduced financial losses:** By identifying fraudulent addresses early, organizations can avoid paying out on false claims or delivering supplies to illegitimate locations.
- 2. Increased operational efficiency:** Automation of real-time address verification reduces the manual effort required to detect fraud, allowing teams to focus on other priorities.
- 3. Improved compliance:** Validating addresses ensures compliance with regulations and reduces risks associated with fraudulent billing activities.
- 4. Enhanced reputation:** By proactively preventing fraud, organizations build trust with patients and stakeholders, strengthening their reputation for integrity.

Fraud prevention is a pressing challenge for healthcare organizations, particularly when it comes to medical billing address fraud and synthetic identity address fraud. By leveraging Smarty's top-tier address verification and rooftop geocoding, organizations can identify red flags early, ensuring that fraudulent activities are stopped before they result in costs.



# 05

## Locating patients



# Chapter 5: Locating patients

Home-based healthcare services are a lifeline for many patients, especially those with mobility challenges or chronic conditions requiring ongoing care.

For healthcare companies providing these services, the ability to find patients' homes quickly and accurately is critical to operational efficiency and customer satisfaction. Inaccurate location data can lead to missed or delayed appointments, wasted fuel and personnel time, and frustrated patients who could damage your good name.

To fight these challenges, healthcare organizations can leverage Smarty's rooftop-accurate geocodes as inputs to improve their route planning and efficiency.

The ability to find patients' homes quickly and accurately is critical to operational efficiency and customer satisfaction

## Why locating patients can be difficult

Consider the typical day of a healthcare worker providing home-based services.

Their schedule is packed with multiple stops, tight appointment windows, and varying levels of care with varying tools required for each stop.

If even one address is incorrect or incomplete, the worker's entire schedule can be thrown off in an agonizing ripple effect. Patients waiting for time-sensitive care, like wound management or medication delivery, may face health risks due to these disruptions.

A misstep, such as navigating to the wrong house or circling a neighborhood to find the correct address, wastes valuable time, increases fuel costs, adds additional miles to the company or personal vehicles, and disrupts the patient experience.

We understand these inefficiencies translate into higher operational costs and lost opportunities to serve more patients.

## The solution: Precise location data with Smarty

Smarty's [address verification](#) and [geocoding solutions](#) combat these challenges by providing precise, accurate location data down to the very rooftop. This is incredibly useful for multi-unit buildings, like apartment complexes. It's also helpful to get the exact home coordinates in rural areas where properties can be hundreds of acres in size.



By assigning a rooftop geocode to every patient home, Smarty enables home-based care personnel to arrive at the right address on the first attempt every time. This level of precision is the foundation of effective healthcare route optimization and medical route planning optimization, enabling companies to streamline their operations while enhancing the patient experience.

## Address verification for accuracy

Smarty's address verification and autocomplete tools can check for errors in patient-provided addresses (autocomplete does this in real-time as patients type into digital forms).

Both tools can stop typos in their messy tracks, assist in filling in missing apartment numbers, and correct incorrect postal codes.

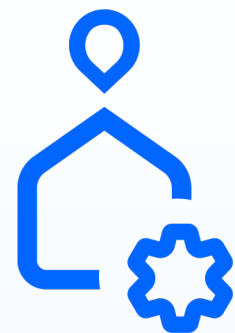
By validating and correcting these errors in the background, Smarty ensures that addresses are accurate before being added to a care professionals's routing system. This proactive approach eliminates the guesswork and manual corrections that often slow down healthcare operations, and it definitely helps that your staff doesn't have to do that while driving.

Smarty ensures that addresses are accurate before being added to a care professionals's routing system

## Rooftop geocoding for precision

Unlike basic geocoding systems that provide general location coordinates, [Smarty's US Rooftop Geocoding](#) delivers exact latitude and longitude coordinates for each address. This precision is particularly valuable for healthcare workers navigating dense urban areas, rural settings with unmarked roads, or neighborhoods with similarly named streets.

With rooftop geocoding, care personnel can be confident they're headed to the correct location. We'll even let you [try out 1000 geocodes](#) completely free. We promise; no credit cards are required or automatic charging if you forget to cancel.



### A note on verifying claims of rooftop-accurate geocoding

While Smarty has rooftop-accurate geocodes, well, we're not the only ones making that claim. Some of our competitors also tout they have rooftop accuracy, but here are 7 things to be wary of before going with the other guy, besides the fact that our API can beat up their API:

1. A good geocoding API should include address verification to avoid "garbage in, garbage out"

2. The API should provide the “As seen on TV” or as advertised claims they make. Many geocoding providers claim rooftop accuracy but [only provide parcel centroid accuracy](#) (which leaves your healthcare professionals driving circles around those building complexes, parking lots, or farm fields).
3. [“No-match addresses”](#) should be indicated in the API, not guessed. Sometimes, when an address isn’t a match, geocoding providers will guess the next closest address, which doesn’t exactly help you if you’re trying to treat a specific patient, especially in a rural area where the home could literally be miles away from the “closest location” suggested.
4. Sub-address geocodes (also known as [secondary addresses](#)) should be included in the geocode. Duh. This is the most important one for your in-home providers. Without that information, is it really rooftop-level accuracy? We think not.
5. Is the API [fast](#)? Like, ludicrously fast? It should be, and you shouldn’t have to be the one to babysit how many you process per second or how much power to allocate per job, just like you shouldn’t have to predict your usage levels. Your healthcare provider should be able to allocate more resources instantly for any project you undertake.
6. The API should be cloud-based if you’re looking to recoup your ROI. On-premise geocoding solutions are incredibly expensive and can potentially be slower than cloud-based ones.
7. The geocoding solution should allow GIS platform usability. Ours does. We even have a [QGIS plugin](#).

## Real-world application: Improve routing with accurate geocodes

Think of a home healthcare company specializing in wound care for elderly patients. Before implementing Smarty, they might struggle with locating patients’ homes, especially in suburban neighborhoods with multiple houses sharing similar addresses. Even worse, many elderly opt to live in nursing homes or downgrade from a house to a condo or apartment as they don’t need the space or want the stairs.

We’re not judging. Stairs are the worst.

Integrating Smarty’s address verification and rooftop geocoding provides the inputs needed by route planning technology to reach the correct location on the first try.

During route planning, Smarty can help flag incomplete addresses and prompt your team to confirm missing details with patients. Any attempt to alter the information in this patient’s chart in the



future can also have that same response. (Maybe they want to move to that place with the pool.)

Smarty's geocoding can help your staff ensure that the correct address is entered every time and standardized upon entry, preventing delays in care, stopping duplicate records from entering your systems that can interfere with the quality of patient care, and reducing frustration for you and your patients.

Over time, healthcare companies using Smarty's solutions will see additional benefits like being able to form more optimized routes, leading to lower fuel costs and more efficient use of staff time.

We'll handle the nitty-gritty background noise of addresses for you

Smarty wants you to spend time doing what you do best—caring for your patients. We'll handle the nitty-gritty background noise of addresses for you. These improvements empower you to take on more patients without increasing operational costs, all while enhancing the overall patient experience so you can get that shiny 5-star review you deserve.

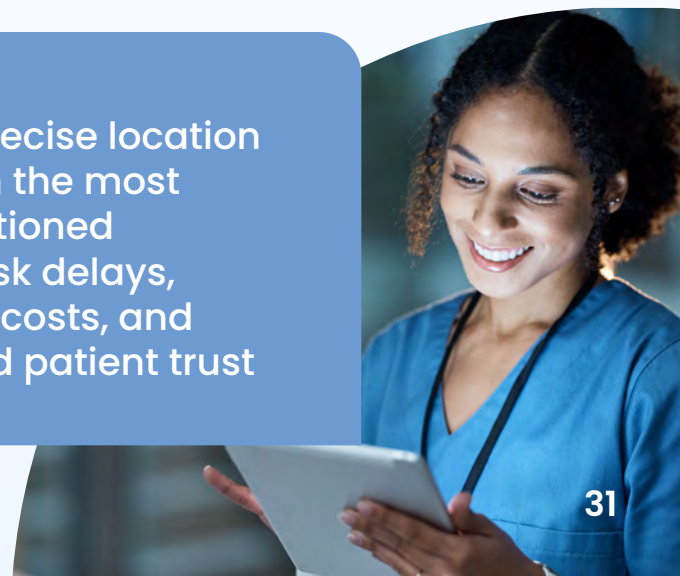
## Benefits of healthcare route optimization summary

Integrating Smarty's solutions into home-based healthcare services offers several key advantages:

- **Reduced operational costs:** By ensuring accurate addresses and optimizing travel routes, companies save on fuel expenses and reduce wear and tear on vehicles.
- **Enhanced patient satisfaction:** Timely arrivals and consistent care build trust and improve patient experiences, fostering long-term relationships with clients.
- **Improved operational efficiency:** With fewer delays and missed appointments, care professionals can serve more patients within the same time frame, boosting productivity.
- **Support for scalable growth:** As companies expand their service areas, Smarty's precise geocoding ensures consistent accuracy, even in unfamiliar regions.

Finding patients' homes accurately and efficiently is the cornerstone of successful home-based healthcare services. Without precise location data, even the most well-intentioned services risk delays, increased costs, and diminished patient trust.

Without precise location data, even the most well-intentioned services risk delays, increased costs, and diminished patient trust



# 06

## Patient matching across aggregate data

# Chapter 6: Patient matching across aggregate data

Accurate patient records are essential for seamless care, yet managing patient information across multiple data sources is often a significant challenge. From doctors' offices and laboratories to pharmacies and specialized clinics, healthcare professionals need a way to unify patient information gathered from diverse systems.

Unfortunately, one of the most frequent obstacles is inconsistent patient address data. Even minor discrepancies in address formatting or details between systems can prevent accurate record matching, creating fragmented patient profiles.

For you, ensuring accurate patient address matching across these data sources is critical. Without it, information may get lost, and incorrect details could lead to errors in treatment. Incomplete patient profiles can impact the quality of your care. Address inconsistencies and discrepancies can also create compliance issues, especially in sensitive patient data contexts.

## The problem with inconsistent address data in patient records

Healthcare organizations typically receive data from a variety of third-party sources, such as referring physicians, diagnostic labs, insurance companies, and healthcare facilities. Each source might record the same patient's address differently—one may use abbreviations, another may spell out full street names, or there could be slight variations in apartment or unit numbers. For example, a lab might have an address listed as "123 Elm St Apt 4," while a doctor's office records it as "123 Elm Street, Unit 4."

Each source might record the same patient's address differently

Even though these addresses represent the same location, they may not match within a healthcare professional's system. As a result, matching records can become a frustratingly manual and error-prone task, causing inefficiencies in data management and risking incomplete patient information. Moreover, with the increasing importance of interoperability, growing volumes of patient data, and reliance on third-party sources, the need for automated, reliable record-matching solutions has become more pressing.

Duplicate records can cost your organization \$40–\$50 each, and with a typical duplicate rate of 20% in healthcare systems, the financial impact adds up quickly. Variations in patient addresses make detecting duplicates challenging, often requiring extensive manual effort. For some organizations, duplicate records result in losses reaching \$10 million. [Learn more about how better address matching can save costs.](#)



## The solution: standardized patient address matching with Smarty

To address this challenge (pun intended), healthcare organizations need a way to standardize address data and create consistent, easily matched records. Smarty offers both bulk address verification to clean up your existing databases of addresses and real-time, automated address validation to keep things clean on autopilot.

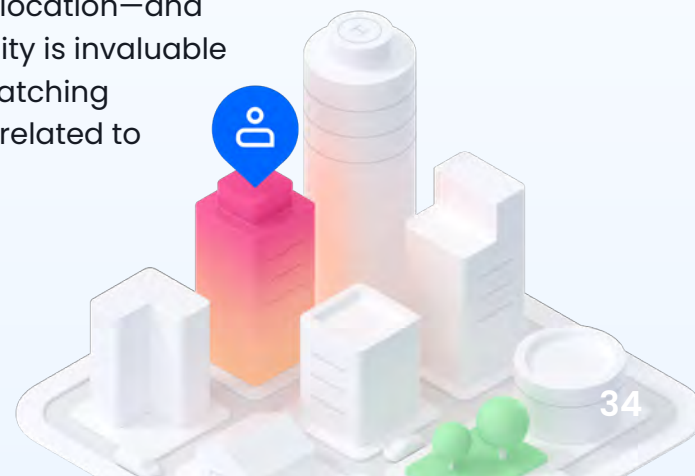
Smarty goes a step further for our healthcare customers by standardizing addresses in the Project US@ format, created by the Office of the National Coordinator for Health Information Technology (ONC) to optimize patient data blending from 3rd parties. This format creates healthcare record uniformity, ensuring that addresses are formatted consistently across systems, eliminating minor variations that could otherwise disrupt patient record matching.

In addition to address standardization, Smarty provides a persistent, unique identifier known as SmartyKey® with each validated address. The SmartyKey remains constant, even if the address changes due to updates or corrections, making it simple to identify addresses that refer to the same patient over time. With this approach, healthcare professionals can confidently match and maintain a single, complete patient record, no matter how many sources supply the data.

The SmartyKey remains constant, even if the address changes

## How Smarty's address standardization and SmartyKey enhance patient record matching

- 1. Standardized address format:** By standardizing addresses according to the USPS standards and additionally to the Project US@ format, Smarty helps healthcare organizations ensure consistency across patient records. The Project US@ format is designed for optimal compatibility with U.S.-based healthcare systems, making it easier for healthcare professionals to blend data from various sources and systems without needing additional address adjustments.
- 2. Alias detection and unified records:** SmartyKey allows healthcare professionals to detect alias addresses—variations that refer to the same location—and consolidate them into a single record. This capability is invaluable for healthcare systems, where accurate patient matching improves operational efficiency and reduces risks related to patient privacy and compliance.



## Real-world application: Blending patient data with precision

Consider a healthcare professional who receives patient data from multiple facilities and partners, each with slightly different address formats.

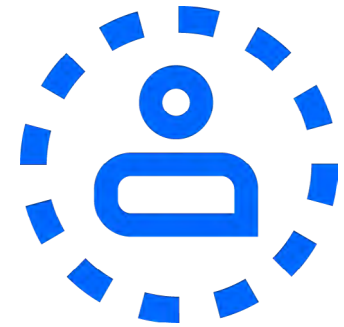
Before implementing Smarty, a healthcare professional's data team may have struggled to ensure accuracy when matching records, often encountering slight variations in address data that complicated their efforts to create a single, comprehensive patient profile.

Minor differences—like abbreviating “Apt” or spelling out “Apartment”—required manual intervention, slowing the care process and introducing potential errors.

With Smarty's standardized Project US@ format, this healthcare professional can simply standardize their addresses in the background with our integration, as well as standardize the incoming addresses from 3rd parties.

Voilà - matching by address is automated, accurate, and easy. No more getting bogged down by address discrepancies. Each address from third-party data sources (and even your fat-fingering or patient misentry) is formatted consistently.

SmartyKey provides a reliable identifier to track those addresses over time, regardless of changes. This streamlined process has enabled the professional to reduce manual data handling, consolidate patient profiles more efficiently, and focus on delivering high-quality care.



Voilà - matching by address is automated, accurate, and easy



## Benefits of standardized patient address matching

Implementing Smarty's address standardization and persistent SmartyKey identifier offers several critical benefits for healthcare professionals:

- **Improved data accuracy:** Consistent address formats reduce mismatches and duplicates, ensuring a more accurate view of patient information and medical history.
- **Enhanced patient care:** A unified patient profile allows healthcare professionals to make informed care decisions based on a comprehensive view of the patient's history, no matter the data source.
- **Increased efficiency:** Automated record matching with standardized addresses and persistent identifiers reduces the need for time-consuming manual intervention, saving resources and allowing staff to focus on higher-value tasks.
- **Compliance and privacy protection:** Accurate matching and secure handling of patient records help healthcare professionals adhere to regulatory requirements, reducing the risk of HIPAA and ACA violations and protecting patient privacy.

In a healthcare landscape that relies on data integration for effective care, Smarty provides the tools needed to ensure that patient information is unified, accurate, and accessible across the board.



# 07

## Billing



13 Costly address data mistakes in healthcare

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# Chapter 7: Billing

There's a very high cost associated with medical bills being returned to sender. Returned billing statements due to incorrect addresses disrupt cash flow, delay payments, and impact patient satisfaction, especially in healthcare settings where accurate billing is essential.

There's a very high cost associated with medical bills being returned to sender

This is more than an administrative issue—it's a compliance risk as well. Under HIPAA medical billing requirements, healthcare organizations are responsible for ensuring that billing information reaches the intended recipient securely. When a bill is misdirected or returned, it can expose billing information to unauthorized individuals, risking fines and loss of patient trust.

Given the stringent guidelines, many healthcare professionals ask, "Does HIPAA apply to billing information?" The answer is a clear yes: HIPAA mandates accurate handling of patient data, including billing, making address accuracy critical for your organization to maintain compliance.

## Smarty's address verification for HIPAA-compliant billing

To address this challenge (pun intended), healthcare organizations need a way to standardize address data and create consistent, easily matched records. Smarty offers both bulk address verification to clean up your existing databases of addresses and real-time, automated address validation to keep things clean on autopilot.

Smarty goes a step further for our healthcare customers by standardizing addresses in the Project US@ format, created by the Office of the National Coordinator for Health Information Technology (ONC) to optimize patient data blending from 3rd parties. This format creates healthcare record uniformity, ensuring that addresses are formatted consistently across systems, eliminating minor variations that could otherwise disrupt patient record matching.

## Real-world example: reducing returned bills and administrative costs

Consider a healthcare professional with high rates of returned bills due to missing or incorrect addresses. After implementing Smarty's address verification, they experienced a significant reduction in returned statements and associated administrative costs. For instance, a patient recently entered an address missing the apartment number, which Smarty's system flagged, prompting staff to complete the address before mailing. This proactive approach prevented a delay in payment, ensured the patient received their bill promptly, and avoided unnecessary re-mailing expenses.




Want to see the details on how a \$5 million healthcare organization might incur up to \$250,000 in billing losses related to bad addresses? Or see how a \$100 million organization may lose up to \$5 million? [See the true ROI potential of accurate healthcare address validation.](#)

## Additional benefits of optimizing healthcare billing logistics

Beyond simple cost savings and HIPAA compliance, optimizing healthcare shipping logistics for billing leads to improved patient satisfaction. Patients are more likely to pay bills on time when they receive them promptly and accurately, and accurate billing reinforces trust in the healthcare professional-patient relationship.

Additionally, with less time spent correcting addresses or managing re-sent bills, staff can focus on other critical billing and coding tasks, resulting in greater operational efficiency and alignment with HIPAA medical billing standards.



Beyond simple cost savings and HIPAA compliance, optimizing healthcare shipping logistics for billing leads to improved patient satisfaction

# 08

## Locating resources

13 Costly address data mistakes in healthcare

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# Chapter 8: Locating resources

This chapter will be short and sweet—a pill-sized dose of just the essentials.

In healthcare tech, connecting patients to essential resources—whether that’s a doctor’s office, pharmacy, or testing lab—depends on the accuracy of location data. Health tech solutions are built to simplify and streamline patient access to care.

But.

No matter how robust or user-friendly the platform is, if the location data built into that platform or provider directory is flawed, your patients will quickly discredit your solution.

A patient who can’t find the right facility risks missed appointments and delayed treatments. They’re also highly likely to grow frustrated, which compounds when they’re late to their appointment and annoyed at your service for making them late by the time they reach their destination.

All of this affects their experience and trust in you.

## The challenge of inaccurate location data

Let’s imagine that patient once more.

Your patient searches for directions to a lab for necessary bloodwork through a health tech app or provider directory (whether yours or one you use through a third-party vendor).

The address information provided is incorrect or inaccurate, and the patient arrives at the wrong location (think on the wrong side of the street a block away from the actual facility). Not only is this a frustrating experience for the patient, but it also causes unnecessary delays in their care.

In a field where every minute may matter, ensuring precise location data isn’t just a technical requirement; it’s imperative for patient care.

Address verification alone is often not enough. Many addresses, whether in complex urban or rural areas, require rooftop-level precision to guide patients accurately so they don’t spend aimless time walking around a complex looking for the unlocked patient-entrance door.

Relying on general or unverified location data is a common pitfall for health tech solutions that connect patients to healthcare resources. This lack of precision can lead to costly errors, from patient no-shows to missed care opportunities.

**Relying on general or unverified location data is a common pitfall for health tech solutions that connect patients to healthcare resources**

## Solution: Precise location data with Smarty's address verification and geocoding

Smarty's [address verification and geocoding tools](#) provide health tech solutions with the accurate, reliable data they need to connect patients to the right locations—every time. With [rooftop geocoding](#), Smarty verifies each address down to its exact coordinates, ensuring that patients are directed to the correct facility without fail.

Here's how Smarty's solution enhances healthcare resource location:

- 1. Top-tier address verification:** Smarty's address verification instantly validates and standardizes addresses, filtering out inaccuracies at every data entry point before they cause patient misdirections. Every address is checked against a comprehensive global database, ensuring it's accurate and deliverable.
- 2. Rooftop geocoding for precise locations:** Unlike general geocoding, which may only provide approximate coordinates or a parcel centroid marker, Smarty's rooftop geocoding pins down the exact building down to the actual roof (97% of the time)—imperative for finding offices in a business complex. For health tech applications, this means patients aren't just close—they're precisely where they need to be, reducing missed appointments and enhancing patient satisfaction and efficiency in your workflow.
- 3. Enhanced patient experience:** With accurate location data, patients using health tech portals, apps, directories, or websites can confidently navigate to their destinations. This precision directly contributes to a more positive patient experience, fostering trust and reliability in the technology and getting you all of the 5 star reviews.



In healthcare technology, you need precise location data. By using Smarty's top-tier address verification and rooftop geocoding, your company can ensure that your patients reach the right location on the first try.

09

# Epidemiology



13 Costly address data mistakes in healthcare

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# Chapter 9: Epidemiology

In epidemiology, Smarty knows that understanding where people live and how diseases spread across specific locations is core to effective public health planning. Accurate location data allows public health professionals to identify infection hotspots, analyze trends, and deploy targeted interventions.

However, these efforts can be wasted without precise, verified location information, leading to misinterpretation of data and ineffective or oversized response strategies.

This is where geocoding becomes invaluable.

The solution that provides your organization with exact location data to support comprehensive public health analysis and action lies within address geocoding.

## The challenge of flawed location data in Epidemiology

Epidemiology relies on identifying patterns of disease across geographies to inform interventions. Organizations track address data to understand where clusters of cases occur and how diseases might spread through communities. If that data is flawed, your plan of attack will be, too.

For instance, tracking a disease outbreak like influenza, COVID-19, or even foodborne illnesses requires knowing the precise locations of reported cases to determine proximity, assess risk factors, and predict potential spread.

When address data is inaccurate or incomplete, epidemiologists face significant obstacles:

- 1. Inaccurate mapping of disease hotspots:** If addresses are incorrect or misrepresented on a map, infection patterns may appear in the wrong places. This is specifically true in urban areas where populations are highly concentrated, and even an address that's slightly off can mean a whole different at-risk population. This could lead to misunderstandings about how and where diseases spread, compromising interventions such as targeted vaccine drives, public awareness campaigns, quarantine and isolation attempts, travel restrictions, and more.
- 2. Ineffective intervention strategies:** Without accurate location data, resources may be allocated to areas that don't need them, while genuine hotspots go unaddressed. For example, antimicrobial distribution and treatment protocols must be precise to address the contaminated area correctly. In the case of an outbreak such as measles, inaccurate address information could lead to delayed responses and greater spread of infection. Foodborne illness tracking with inaccurate address information could lead to delayed responses in identifying the cause of the outbreak. In both cases where prompt treatment



is key to preventing poor health outcomes, inaccurate location data could delay treatment delivery and result in increased severe morbidity and mortality rates.

- 3. Reduced trust in public health measures:** Flawed location data can undermine public trust in epidemiological data, especially if interventions don't seem to have the intended effect. Accurate data builds credibility and ensures that public health efforts have maximum impact.

## The solution: Accurate geocoding with Smarty

To solve these challenges, epidemiologists and healthcare organizations need a geocoding solution that delivers reliable and precise address data.

Smarty's top-tier address verification and rooftop geocoding provide exactly that, enabling public health professionals to map and analyze disease spread with pinpoint accuracy.

Smarty's solution helps you address several key needs for accurate epidemiological mapping and reporting.



### Address verification

Smarty's top-tier address verification ensures that each address is validated and standardized to the secondary address level (unit, apartment, suite, etc.), correcting incomplete or inaccurate data before it enters epidemiological reports.

Address verification plays a crucial role in ensuring that the data epidemiologists work with truly reflects the locations of individuals and cases. This allows professionals to base their analyses and response strategies on reliable data.

By using a trusted solution like Smarty, epidemiologists can avoid data confusion and inaccuracies, such as address aliases, duplicate records, and population misrepresentation.

**\*A side note on address verification:** Many fail to consider a major problem with address verification: false positives. [Here's a deep dive into what those are](#), but if you don't have the time, we'll give you the drive-by version. In this context, false positives are entered addresses that appear valid, but while they walk and talk like an address, they aren't one.

These are the worst kind of bad address data because they can easily be mistaken for "good" data when it's garbage in disguise. And we all know what they say: "Garbage in, garbage out."

Yikes.

If you add incorrect addresses to your database, when tragedy strikes, you'll either spend too much money overpreparing supplies or be empty-handed in the areas that need your resources most.

Avoid data confusion and inaccuracies, such as address aliases, duplicate records, and population misrepresentation



## Rooftop-accurate geocoding

Another essential feature of Smarty's solution is rooftop geocoding for precise mapping.

Unlike [generalized geocoding](#), which provides approximate coordinates that may lack the required precision, [Smarty's rooftop geocoding](#) delivers exact latitude and longitude coordinates for each address, pinpointing the physical location down to the rooftop level (97% of the time).

This high level of precision is particularly beneficial in epidemiology, where having precise information on infection clusters—sometimes even within specific buildings or densely populated areas—can provide insight into disease movement and help identify areas most at risk.

Rooftop-accurate geocoding is also useful for environmental exposure analyses. For example, PM2.5 levels (fine particulate matter in our air) are much higher immediately around major roadways compared to several hundred feet away.

Rooftop-accurate geocoding is also useful for environmental exposure analyses

In this case, geocoded data could be used to comparatively monitor the adverse effects of PM2.5 exposure (like respiratory and cardiovascular health outcomes) between people whose homes are built along major roadways and their more suburban neighbors.

Similarly, people at risk of extreme weather events (such as heat waves) can be [identified using their geographic location](#). "Most heat-related deaths are preventable with outreach and intervention," says Dr. Dan Knecht, a practicing physician, vice president, and chief clinical innovation officer for [CVS Caremark®](#). Dr. Knecht is currently heading up a new public healthcare initiative with geocoding-backed data to support the public during heat-related incidents.

\*Another quick side note: Geocoding accuracy depends on verifying addresses beforehand. While it might seem obvious, some geocoders will geocode any address—even fake ones, based on their best guess. Smarty ensures all addresses are verified before geocoding, so you get reliable, accurate results every time.



## Address standardization for Interoperability: [Project US@](#)

Additionally, Smarty's solution supports [consistent data across systems](#). Because Smarty's address data is standardized and verified, it enables seamless integration and interoperability across your health data systems, whether tracking cases from hospitals, labs, or local clinics.

Epidemiologists working with various data sources need reliable, uniform location data that makes cross-system analyses possible and straightforward. With Smarty, public health professionals can trust that data from multiple sources will align as we use the stringent digital requirements for [QHINs](#) with Project US@, enhancing the ease and accuracy of data interpretation.

Together, these features make Smarty an invaluable tool for anyone looking to create data-backed, targeted intervention strategies in disease control and severe weather-related intervention efforts.

## Optimizing public health interventions with accurate geocoding

With precise location data, you can optimize public health interventions confidently. Let's sum up how accurate geocoding benefits public health strategies:

With precise location data, you can optimize public health interventions confidently

Implementing Smarty's address standardization and persistent SmartyKey identifier offers several critical benefits for healthcare professionals:

- **Targeted resource allocation:** By identifying exact infection clusters, your organizations can allocate resources and personnel more effectively, directing vaccines, aid, and/or preventive resources to high-risk areas. This approach maximizes resource use and improves intervention impact, especially during widespread outbreaks.
- **Informed policy-making:** With reliable location data, you can make better, data-driven decisions to protect public health. For example, during a respiratory illness outbreak, city planners may introduce temporary zoning changes or restrict access in high-risk neighborhoods, all based on precise data gathered through geocoding.
- **Enhanced surveillance and prevention:** You can use geocoding to monitor trends over time, identifying areas prone to outbreaks or regions that consistently show high infection rates. Additionally, analyzing weather patterns for extreme heat or other severe weather patterns aids healthcare professionals with the right information to quickly prevent a decline in health and even death due to weather-related factors. This information informs preventive measures like vaccination drives or community health initiatives, creating a proactive approach to public health.

[Reliable address geocoding](#) is the technical advantage essential to understanding and controlling disease spread in epidemiology. With Smarty's address verification, rooftop geocoding, and standardization, epidemiologists like you can take comfort in knowing you rely on accurate location data to analyze patterns, identify infection hotspots, and deploy precise interventions that save lives and promote public health.

Look at you, keeping up with your Hippocratic Oath.

As public health faces complex challenges, from new viral strains to climate-related health impacts, having precise and trustworthy location data allows you to stay ahead, making data-driven decisions that effectively protect communities.



# 10

## Shipping



13 Costly address data mistakes in healthcare

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# Chapter 10: Shipping

Delivering pharmaceuticals and medical devices directly to consumers is a critical service that demands precision.

However, incorrect addresses can lead to returned shipments, resulting in increased costs, more manual administrative work, delays in patient care, and diminished customer satisfaction. Optimizing medical shipping logistics is essential to ensure that products reach their intended destinations promptly and accurately.

## The challenge of incorrect addresses in medical shipping

Shipping errors often stem from simple mistakes: misspelled street names, incorrect house numbers, or missing apartment details.

Sometimes, the error doesn't happen on the first input of information but rather during information updates like address changes from a move or street renaming.

In the context of healthcare, these errors can have significant consequences.

A patient awaiting essential medication may experience delays due to a returned package, potentially compromising their health and your organization's reputation. Additionally, the costs associated with reshipping, handling returns, and managing customer service inquiries can accumulate, impacting the bottom line. This is especially the case with medical device shipping, which costs more based on the weight of the shipped supplies alone.

Consider a scenario where a customer orders a medical device online but inadvertently enters "123 Main St" instead of "123 Main Street Apt 4B." Without the apartment number, the package is undeliverable and returned to the sender.

Quality address verification often produces the highest ROI of all your investment choices

If you send the package through a shipping company like FedEx or UPS, you'll be charged \$20+ for the return of your package. (What would just 1% of bad addresses cost your company annually just in return fees alone? It's one reason that quality address verification often produces the highest ROI of all your investment choices.)

The company must then contact the customer to obtain the correct address, resend the package, and absorb the additional external shipping and internal labor costs. This process delays the patient's access to the device and incurs unnecessary expenses for your company.



Don't forget about the damages accrued over time by negative customer experiences and reviews that stop future patients from considering your organization as a viable and trustworthy source for their care.

There's hope to avoid this chain of events, though.

## Smarty's AI-optimized address verification

Implementing an advanced address verification system is crucial for your organization to mitigate these challenges. Smarty's machine-learning-optimized matching algorithm helps you to address common errors. By running all your addresses through verification and by correcting typos in address forms in real-time, you'll ensure that your shipments reach their intended recipients without delays.

### Key features of Smarty's address verification:

- **Real-time validation:** Clean up your entire database of existing addresses with verification and leverage autocomplete to verify addresses at any point of entry or re-entry, allowing your patients, customers, and/or staff to correct errors before finalizing their orders or submitting forms.
- **Standardization:** Converts addresses into a standardized format, reducing inconsistencies across databases and shipping labels. (Project US@, our QHIN-required standardization tool, is available for any organization upon request.)
- **Reducing errors:** Automatically identifies valid addresses and presents them as options to your users as they type (starting at the first keystroke).
- **Missing detail completion:** Autosuggests missing information, such as apartment numbers or postal codes, needed for accurate and timely delivery of your medical devices, billing info, medications, and anything else you might need to send to a patient or other sister facilities.

By integrating Smarty's address verification and autocomplete solutions into your forms and systems, your organization can significantly reduce the incidence of returned or delayed shipments.

This integration is quick to deploy (your developers will thank you for picking a solution with [clear documentation](#)), and it ensures that addresses are accurate and complete, facilitating smoother delivery processes and enhancing overall customer satisfaction.



# 11

## Analytics



13 Costly address data mistakes in healthcare

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# Chapter 11: Analytics

Maintaining accurate address data is the foundation of gaining actionable customer insights, whether optimizing patient care, analyzing treatment outcomes, or forecasting future needs. The accuracy of address and geocode data is particularly crucial for healthcare technology solutions that deliver patient location analysis or patient population analysis.

Yet, inaccurate addresses and imprecise geocodes are persistent challenges, mostly due to the fact that the healthcare industry largely hasn't yet grasped the significance of that data.

Think you're running a cutting-edge healthcare analytics platform? Sorry to break it to you, but if your address data looks like it was entered by a caffeinated intern during a midnight shift, your "insights" are about as reliable as a fortune cookie.

Because of bad data, healthcare organizations like yours often have skewed analytics, limiting the effectiveness of machine-learning models you may employ that rely on this data.

## The challenge of inaccurate patient data in analytics


When address data is incomplete, incorrect, or duplicated, errors are introduced into the analytics process. We've said it before, and we'll keep saying it. Garbage in, garbage out.

Imagine this nightmare scenario: You're trying to track a disease outbreak, but your data shows a patient living at "4 Wild Place" without a unit number. Suddenly, your entire patient distribution analysis goes from "precise medical intelligence" to "wild guessing." Not exactly the reputation you're going for, right?

Take the classic "Elm Street" problem, for instance. "Elm Street" is one of the most common street names in the US. ([Here's a blog we wrote](#) about that if you aren't scared.) Patients can live on "Elm Street" but be in completely different cities. If two patients live on that street but in different cities, an AI model might incorrectly group these people together, skewing your population analysis results.

They don't know any better. They are just good little AI models crawling along and doing their best while blissfully unaware they're creating a statistical disaster.

Flawed address data going in leads to flawed insights and suboptimal resource allocation coming out, not to mention a major headache for anyone working in epidemiology who's trying to track or control the spread of disease.



When address data is incomplete, incorrect, or duplicated, errors are introduced into the analytics process

The stakes are even higher for internal machine-learning models, which depend only on their own data to train predictive algorithms. Only the most accurate, high-quality data should be relied upon, but oftentimes, operations teams skip the step of integrating address cleansing software into their systems, despite the ease and cost effectiveness.

The stakes are even higher for internal machine-learning models, which depend only on their own data to train predictive algorithms

Inaccurate geocodes or mismatched or duplicated patient addresses can degrade model performance, leading to incorrect patient demographics, disease prevalence, or resource utilization predictions. For organizations delivering analytics products to healthcare professionals, maintaining data integrity is critical to building trust and ensuring the value of their solutions.

## Accurate patient location analysis

To tackle these challenges, Smarty offers professionals like you a machine-learning-optimized matching algorithm that matches even messy addresses to their correct counterparts and avoids more false positives. By identifying and correcting typos, filling in missing details, validating data in real-time, Smarty empowers healthcare analytics platforms to provide reliable and actionable insights.

Smarty's address verification process checks for common errors, such as misspelled street names, incorrect house numbers, or missing ZIP Codes. This ensures that every address entered into the system is validated against authoritative databases, creating a strong foundation for patient location analysis.

Correct geocoding further enhances accuracy by mapping each validated address to its precise geographic coordinates down to the rooftop level. This level of precision allows healthcare professionals to confidently understand patient distribution, supporting accurate decision-making and efficient resource planning.

## Improved patient population analysis

For organizations conducting patient population analysis and reporting, such as hospitals, primary care networks, public health departments, etc., Smarty supplements its verification and geocoding tools with the industry's most comprehensive master address lists. Available by county, researchers, planners, and strategists can map all of the business and residential addresses in their areas, opening unlimited insights.

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And, by ensuring that each address is standardized and geocoded correctly, Smarty helps analytics platforms generate precise demographic insights by location. For example, an organization can better identify underserved areas or monitor disease trends (see [Chapter 9: Epidemiology](#) for more details) within specific populations.

Accurate geocoding ensures that every patient is mapped to the correct census tract, facilitating detailed analyses of socioeconomic factors and their impact on healthcare access.

## Supporting machine-learning applications

Machine-learning models thrive on clean, reliable data. Smarty helps you to enhance the quality of the data fed into your models by improving your database's address accuracy and geocode precision. With Smarty, identifying high-risk populations, forecasting resource needs, or optimizing healthcare delivery routes is much more palatable.

Machine-learning models thrive on clean, reliable data

Consider healthcare professionals offering a tool to help clinics optimize patient outreach campaigns. These professionals face issues with patients being misclassified into the wrong geographic clusters due to incomplete address data.

If you integrate Smarty's address verification and geocoding solutions, you may see a dramatic improvement in patient location analysis accuracy.

By standardizing addresses and correcting errors, you ensure that each patient is assigned to the correct geographic region. This enhances the precision of outreach campaigns and boosts the performance of your internal machine-learning models—perfection in, perfection out.

## Benefits of accurate data in healthcare analytics

Using Smarty's address verification and geocoding solutions offers a range of benefits for your healthcare analytics platforms:

- **Reliable insights:** Clean, validated data improves the accuracy of analytics, leading to more actionable insights for healthcare professionals.
- **Efficient resource allocation:** Accurate geocodes allow for a better understanding of patient distribution, ensuring resources are allocated where they're needed most.
- **Enhanced machine-learning models:** By feeding models with accurate data, organizations can improve predictions, optimize healthcare delivery, and uncover trends.
- **Increased trust in analytics products:** Delivering precise and actionable analytics builds trust with healthcare professionals, positioning your product as a critical tool for their decision-making.

Smarty offers affordable and reliable tools for healthcare organizations and analytics platforms to validate and enhance data integrity, enabling more accurate patient insights and better decision-making.

# 12

## Patient demographics



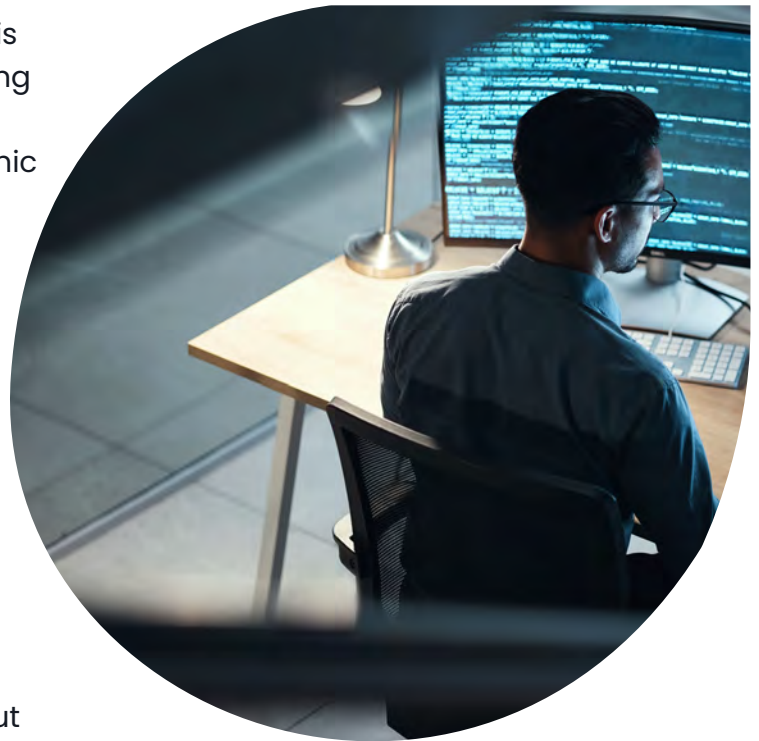
# Chapter 12: Patient demographics

Hopefully, if you've reached this point, you understand that addresses are more than just a location. They're full of unique insight for the healthcare industry experts like you!

Understanding healthcare patient demographics is essential for delivering personalized care, identifying trends, and planning community health initiatives. Enriching patient records with detailed demographic data offers a strategic advantage for healthcare organizations.

Smarty's GeoReference API provides a census block and tract for each address. With this information, you can unlock a wealth of free demographic data for patients living in those areas from [data.census.gov](http://data.census.gov) and other organizations to enable you to enrich your patient info for improved insights.

By connecting patient addresses to census tracts, healthcare professionals can access insights about socioeconomic conditions, population characteristics, and local service availability, enabling more informed decision-making.



## The roles of address data in patient demographics

Accurate patient address data does more than just help locate patients—it provides a gateway to deeper insights. Address data can be enriched to reveal critical information about patients, such as household income, education levels, and access to local services.

By understanding demographic medical data, healthcare organizations can tailor care, allocate resources, and develop targeted outreach campaigns:

### Diabetes intervention in urban food deserts

Imagine you're a healthcare network in Chicago. Your data reveals a shocking pattern: residents in the South Side's Englewood neighborhood have 3x higher diabetes rates compared to more affluent areas.

Address data can be enriched to reveal critical information about patients, such as household income, education levels, and access to local services

**Traditional Approach:** Treat the symptoms of each diabetic patient as they enter your clinic.

**Smarter Approach:** Find the root cause. Use SmartyKey®, our persistent, unique identifier, to reliably tie patient addresses to their respective census tracts and blocks and identify neighborhoods with limited fresh food access. This can be done using [GeoReference data](#) to identify lower-income neighborhoods through census tract information.

From there, your organization could map food deserts against diabetes prevalence, launch targeted mobile health clinics, and partner with local organizations to improve nutrition education, thus proactively preventing the onset of this chronic illness.

This is just one example of how accurate address data and georeference tools can provide valuable insights for your healthcare goals, but there are many more.

SmartyKey® offers a robust solution to many challenges by accurately linking each patient record to the corresponding census tract. This unique identifier ensures the accurate connection to census blocks and tracts so that patient data can be enriched with accurate demographic information, enabling healthcare organizations to analyze trends and plan effectively. With SmartyKey®, healthcare professionals can confidently locate and append socio-economic information, health and disability statistics, and details about access to local services and infrastructure.

## Analyzing patient populations with enriched data

With enriched patient demographics, professionals can segment their patient population based on socio-economic factors

With access to enriched healthcare patient demographics, healthcare professionals can segment their patient population based on socio-economic factors or geographic trends. This segmentation helps identify at-risk groups, monitor disparities in health outcomes, and design targeted interventions.

For example, a clinic serving a diverse urban area might use enriched data to identify neighborhoods with high rates of chronic illness, enabling it to better target resources for education and prevention programs.



## The benefits of patient knowledge through enriched data

Using SmartyKey® to link patient records to census tracts offers several advantages for healthcare organizations:

- 1. Improved resource allocation:** Detailed demographic insights enable healthcare professionals to allocate staff, equipment, and resources where they are most needed, optimizing efficiency and impact.
- 2. Targeted outreach campaigns:** Understanding medical demographics by address allows organizations to develop targeted education and prevention programs, addressing specific community needs.
- 3. Enhanced patient care:** Enriched data helps healthcare professionals consider socio-economic factors in treatment plans, enabling more personalized and effective care
- 4. Data-driven decision-making:** With accurate and enriched demographic data, healthcare organizations can make strategic decisions grounded in a deep understanding of their patient population. Curious how better address data can improve your strategy and save your organization money? [Discover how it can help you save between \\$50,000 and \\$1,000,000 annually.](#)



In today's data-driven healthcare environment, the ability to analyze healthcare patient demographics is critical for improving patient care and planning community health initiatives. Your patient data is speaking. Are you listening?

# 13

## QHIN compliance



# Chapter 13: QHIN compliance

As a Qualified Health Information Network (QHIN) member, ensuring all patient addresses are formatted correctly is essential for maintaining compliance and enabling seamless data exchange. The Project US@ standard, established by the Office of the National Coordinator for Health Information Technology (ONC), provides a unified way to represent addresses in healthcare settings. Adopting this standard improves patient matching, ensures interoperability across systems, and meets QHIN requirements.

Healthcare organizations often struggle with inconsistent address formats that lead to mismatched patient records, inaccurate data exchange, and compliance risks. Implementing QHIN address standardization through a reliable solution is crucial for minimizing these issues and fostering efficient communication within the health information network.

Healthcare organizations often struggle with inconsistent address formats that lead to mismatched patient records, inaccurate data exchange, and compliance risks

## Why healthcare address standardization matters

Address inconsistencies create challenges in managing patient records, especially when multiple organizations share data. A minor variation in how an address is entered—such as “123 Elm Street” versus “123 Elm St., Apt 2”—can lead to mismatches or duplicate records. For QHIN members, this lack of standardization disrupts patient care and compromises compliance.

The Project US@ standard aims to resolve this by establishing a consistent address format across all healthcare organizations. Compliance with this standard ensures that addresses are uniformly represented, which is critical for improving patient matching algorithms and reducing errors in data exchange. Adopting Project US@ formatting simplifies interoperability, a cornerstone of QHIN operations.

## Smarty’s solution: automated Project US@ formatting

Smarty’s robust address validation API makes implementing Project US@ standards easy and efficient. The API automatically standardizes and validates addresses in Project US@ format, ensuring they conform to QHIN requirements. By integrating Smarty’s solution into your systems, you can eliminate manual formatting tasks and reduce the risk of errors.

One of the key features of Smarty’s API is its ability to identify and correct typos, missing components, or inconsistencies in addresses. For instance, if a patient provides “456 Main St, Apt A” but omits the zip code, the API automatically fills in the missing information and converts the address

One of the key features of Smarty’s API is its ability to identify and correct typos, missing components, or inconsistencies in addresses

into the correct standardized format. This ensures that your records are compliant and ready for integration with QHIN systems.

Another advantage of Smarty's solution is real-time validation. The API checks every address against authoritative postal and geographic databases to confirm deliverability. Addresses that fail validation—such as nonexistent or outdated locations—are flagged for review, preventing them from corrupting your records.

## Real-world example: Achieving QHIN compliance

A healthcare organization preparing to join a QHIN faced challenges standardizing its address data. With thousands of patient records collected over decades, inconsistencies in formatting and incomplete entries were common. By integrating Smarty's address validation API, the organization automated the process of standardizing its records to meet Project US@ standards.

For example, Smarty's API flagged an address entered as "123 Elm St." as missing an apartment number. Upon review, staff discovered the record referred to "123 Elm St, Apt 3." By resolving these discrepancies, the organization ensured compliance and improved the accuracy of its patient matching and communication processes. The transition to QHIN membership was seamless, with standardized and validated addresses enhancing data interoperability and exchange.

The transition to QHIN membership was seamless, with standardized and validated addresses enhancing data interoperability and exchange



## Benefits of Smarty for QHIN address standardization

Adopting Smarty's address validation API offers multiple benefits for QHIN compliance:

- **Efficiency:** Automating the standardization process reduces manual workload, freeing up resources for other tasks.
- **Accuracy:** Corrected and validated addresses improve the reliability of patient data, minimize mismatches, and identify duplicate records.
- **Compliance:** Formatting addresses to meet Project US@ standards ensures alignment with QHIN requirements.
- **Interoperability:** Standardized address data facilitates seamless communication between healthcare entities within the network.



Accurate, standardized addresses are the foundation of seamless data exchange, and with Smarty, achieving compliance has never been easier.

# Conclusion

# Discharge papers: The conclusion you maybe skipped to

Again, we know that your time is limited. You're constantly working to provide a more healthy path for the world, and that's a great responsibility. If you skipped to this section, that's great! We'll sum it up for you.

For healthcare professionals looking to modernize their systems, improve patient satisfaction, and reduce operational costs, getting and maintaining a strictly accurate address dataset must be a priority. Your address data quality will determine the type of care you provide to your patients and improve your compliance with healthcare-specific regulations and stipulations.

## How Smarty helps solve healthcare address data issues

### 1. Address validation across global geographies

Smarty offers real-time address validation for the US and over 250 countries and territories, ensuring that healthcare professionals can maintain accurate patient address data across both domestic and international records. This is particularly valuable for healthcare organizations that serve diverse populations or operate internationally.

### 2. Standardization of address formats

Smarty doesn't just validate addresses—it also standardizes them in both USPS and Project US@ formats. This means healthcare companies can maintain consistent address formats across all systems, improving data quality and enabling easier integration with other healthcare platforms and services. Standardized addresses help reduce confusion and discrepancies when interacting with insurance companies, suppliers, and partners.

### 3. Autocomplete functionality for faster, more accurate data entry

Smarty's address autocomplete tool reduces errors at the point of entry. As healthcare staff enter a patient's address into the system, Smarty's autocomplete feature suggests verified addresses in real-time, ensuring that mistakes are caught before they're entered into the EHR. This improves the accuracy of new address entries and reduces the need for later corrections. Autocomplete also provides the same benefits to patients, making filling out your forms both accurate and easy.

### 4. Cost reduction through operational efficiency

Accurate and validated addresses prevent costly errors. Healthcare professionals benefit from fewer returned mailings, eliminating the extra postage and labor costs associated with resending documents and packages or handling customer service inquiries regarding missed communications. Additionally, the accuracy of billing addresses ensures that bills are sent

to the right recipients, reducing billing errors and increasing revenue cycle efficiency.

## 5. Improved patient communication and satisfaction

When healthcare professionals use Smarty to validate and cleanse patient addresses, they enhance their ability to communicate reliably. Patients receive critical documents like prescriptions, appointment reminders, invoices, and test results promptly, increasing trust in the provider. This improves patient satisfaction and strengthens the overall patient-provider relationship.

When healthcare professionals use Smarty to validate and cleanse patient addresses, they enhance their ability to communicate reliably

## 6. Data integrity for regulatory compliance

In the healthcare industry, compliance with regulations like HIPAA (Health Insurance Portability and Accountability Act) is paramount. Smarty's address validation ensures that healthcare organizations have accurate and up-to-date data, which is crucial for both maintaining regulatory compliance and safeguarding patient privacy. Clean, accurate data also supports audit processes and reporting obligations.

## 7. Fraud identification and reduction

Address verification and geocoding work together to effectively identify and reduce fraud. Invalid addresses trigger immediate red flags for investigation, while unusually long distances between patients and healthcare professionals highlight potential inconsistencies.

## 8. Address enrichment for better insights

Smarty's US GeoReference Data links patient addresses to census tracts, enabling healthcare companies to gain insights into patient demographics such as socioeconomic status, age groups, and regional trends. This data helps healthcare professionals better understand patient populations, tailor care plans, and identify areas for targeted outreach, ultimately improving health outcomes and resource allocation.

By leveraging Smarty, healthcare organizations can minimize misdeliveries, reduce customer service burdens, improve billing accuracy, and ensure that patient communications are seamless and reliable, ultimately contributing to a higher standard of care. Isn't that worth fighting for?

Take the first step toward enhancing your healthcare company—[contact Smarty](#) for a friendly consultation or demo and discover the benefits of cleaner, enriched address data.