What is the accuracy rate of health insurance provider directories?

Health insurance provider directory accuracy rates typically range from 46% to 77% when measuring whether listed providers can be verified as participating in the network, but drop to 15-49% when accuracy is defined more stringently to include appointment availability, with substantial variation by provider specialty, insurance type, and geographic region.

Abstract

Health insurance provider directory accuracy rates vary substantially, ranging from approximately 11.6% to 84.7% across studies, with the wide variation driven primarily by differences in how accuracy is defined . Studies employing stringent composite measures requiring correct contact information, insurance verification, and appointment availability report accuracy rates of 15-49% , while studies measuring only whether provider information can be verified without requiring appointment scheduling report moderate rates of 46-77% . Cross-insurer consistency of contact information is particularly low, ranging from only 16% to 28% for addresses and phone numbers across five national insurers . Accuracy varies considerably by provider specialty, with patient-facing specialties such as family medicine and dermatology showing consistency rates of 37-43%, compared to 9-21% for non-patient-facing specialties like radiology and anesthesiology .

Even among accurately listed providers, access to timely appointments remains limited: only 15% of listed psychiatrists in one study were accepting new patients with target insurance , and less than 50% of patients could schedule urgent care appointments within statutory timeframes in California . Directory inaccuracies persist well beyond the 90-day correction period mandated by federal regulations, with follow-up studies finding that only 11.6-13.3% of previously inaccurate listings became accurate over periods of 4-19 months . Despite stringent regulatory regimes in states like California, substantial inaccuracies persist , suggesting that regulatory standards without robust enforcement are insufficient to ensure directory accuracy .

Paper search

We performed a semantic search using the query "What is the accuracy rate of health insurance provider directories?" across over 138 million academic papers from the Elicit search engine, which includes all of Semantic Scholar and OpenAlex.

We retrieved the 50 papers most relevant to the query.

Screening

We screened in sources based on their abstracts that met these criteria:

- **Directory Accuracy Measurement**: Does this study measure the accuracy of health insurance provider directories?
- **Comparative Methodology**: Does this study compare directory information against actual provider data or real-world verification methods?
- **Quantitative Accuracy Measures**: Does this study report quantitative accuracy measures (such as percentages, error rates, or similar metrics)?
- **Health Insurance Directory Focus**: Does this study examine health insurance provider directories (commercial, Medicaid, Medicare, marketplace plans, or similar insurance-based directories)?

- **Appropriate Study Design**: Is this study an observational study, cross-sectional study, audit, experimental design, systematic review, or meta-analysis on provider directory accuracy?
- **Directory Accuracy vs Network Adequacy**: Does this study measure directory accuracy rather than focusing solely on provider network adequacy without accuracy measurement?
- **Accuracy Outcomes vs Technical Focus**: Does this study measure accuracy outcomes rather than focusing exclusively on technical aspects of directory systems without measuring accuracy?
- **Insurance Directory Scope**: Does this study examine health insurance provider directories rather than examining provider directories for non-health insurance purposes (such as hospital directories or professional association listings)?

We considered all screening questions together and made a holistic judgement about whether to screen in each paper.

Data extraction

We asked a large language model to extract each data column below from each paper. We gave the model the extraction instructions shown below for each column.

- **Accuracy Definition**:

  Extract how the study defined and measured provider directory accuracy, including:

- Specific criteria used to determine if a listing was 'accurate' vs 'inaccurate'
- Whether accuracy was based on: contact information verification, insurance acceptance verification, appointment availability, or other criteria
- Any composite or multiple measures of accuracy used
- Time frames or conditions applied (e.g., appointments within X days)

- **Accuracy Rates**:

  Extract all quantitative accuracy rates reported, including:

- Overall accuracy percentage(s)
- Accuracy rates by subgroup (insurance type, provider specialty, geographic region, year)
- Confidence intervals or statistical measures if provided
- Denominator used for calculations (total listings, unique listings, contacted providers)
- Any trends over time if multiple time points assessed

- **Study Sample**:

  Extract details about what was studied, including:

- Type(s) of insurance plans examined (Medicaid, Medicare Advantage, commercial, ACA marketplace)
- Provider specialties or types included
- Geographic scope (states, metropolitan areas, national)
- Total number of providers/listings assessed
- Sampling method (random, census, convenience)

- **Assessment Methodology**:

  Extract details about how accuracy was assessed, including:

- Data collection method (phone calls, online verification, mystery shopper, administrative data)
- Who conducted the assessment (researchers, state agencies, contractors)

- Script or standardized approach used
- Number of contact attempts made
- Time period when assessment was conducted
- Quality control measures

- **Accuracy Barriers**:

  Extract specific reasons why provider listings were inaccurate, including:

- Incorrect contact information (phone, address)
- Provider no longer practicing/retired/deceased
- Provider not accepting new patients
- Provider not accepting the insurance plan
- Provider moved or changed practice location
- Subspecialty mismatch
- Duplicate listings
- Any quantification of barrier frequency

- **Access Outcomes**:

  Extract information about appointment availability and access among accurately listed providers, including:

- Percentage able to schedule appointments
- Average wait times for appointments
- Success rates for different appointment types (routine, urgent, specialty)
- Compliance with timely access standards
- Geographic or plan-level variation in access

- **Key Findings**:

  Extract the study's main conclusions and implications regarding provider directory accuracy, including:

- Authors' assessment of the severity of the accuracy problem
- Comparison to regulatory standards or expectations
- Variation between plans, regions, or provider types
- Policy recommendations or implications mentioned
- Limitations or caveats noted by authors

Characteristics of Included Studies

The studies included in this review span multiple insurance types, geographic regions, and provider specialties, providing a comprehensive view of provider directory accuracy across the U.S. health insurance landscape.

Study	Full Text Retrieved?	Insurance Type	Provider Specialty	Geographic Scope	Sample Size	Assessment Method
Burman et al., 2022	Yes	Medicaid managed care	Primary care	Maryland	2,002-2,033 providers	Telephone survey
Resneck et al., 2014	No	Medicare Advantage	Dermatology	12 US metropolitan areas	4,754 listings	Scripted telephone calls

Study	Full Text Retrieved?	Insurance Type	Provider Specialty	Geographic Scope	Sample Size	Assessment Method
Haeder et al., 2024	No	ACA marketplace	7 specialties	Pennsylvania	1,802 providers	Secret shopper survey
Butala et al., 2024	Yes	Commercial (5 national insurers)	Multiple specialties	National	449,282 physicians	Directory data comparison
Adelberg et al., 2019	No	ACA marketplace	Not specified	5 counties	Not specified	Phone interviews, text matching
Burman et al., 2021	Yes	Commercial, ACA, Medicaid	Primary care, cardiology, endocrinology, gastroenterology	California	657,012 observations	Carrier surveys via phone, fax, email
Burman et al., 2022a	No	Commercial, ACA, Medicaid	Mammogram providers	California	>33,000 observations	Surveys from DMHC
Tessier-Kay et al., 2024	No	Medicaid	Pediatric dermatology	National (all states)	Not specified	Not specified
Haeder et al., 2024a	No	Not specified	Not specified	Pennsylvania	5,170 providers	Secret shopper survey
Blech et al., 2017	No	Not specified	Psychiatry	Washington, D.C.	1,184 psychiatrists	Mystery shopper

The included studies employed various methodological approaches, with secret shopper or mystery shopper telephone surveys being the most common assessment method . One study uniquely compared directory information across multiple insurers using administrative data matching rather than direct provider contact . Sample sizes ranged considerably, from approximately 1,800 providers in focused regional studies to over 449,000 physicians in the national cross-insurer comparison .

Accuracy Rates

Overall Accuracy Findings

Provider directory accuracy rates varied substantially across studies, ranging from approximately 13% to 85% depending on the definition of accuracy employed and the population studied.

Study	Accuracy Definition	Overall Accuracy Rate	Key Subgroup Findings
Burman et al., 2022	Insurance verification	45.6% (2018), 55.7% (2019)	MCO range: 17.4%-58.4% (2018), 27.8%-69.9% (2019)
Resneck et al., 2014	Reachable, accepted plan, offered appointment	48.9% of unique listings	45.5% of listings were duplicates
Haeder et al., 2024	Contact, specialty, network status	13.3% accurate at follow-up	31.0% inaccurate contact info, 11.2% wrong specialty
Butala et al., 2024	Cross-insurer consistency	Address: 16.5-27.9%; Phone: 16.0-27.4%; Specialty: 64.2-68.0%	Patient-facing specialties had higher consistency (37-43%)
Adelberg et al., 2019	Phone number alignment with Google	Widespread inaccuracy (not quantified)	Not specified
Burman et al., 2021	Network participation, location, specialty	59-76% of listings; 78-88% of providers reached	Commercial plans outperformed ACA and Medicaid
Burman et al., 2022a	Not specified	62-77%	Inconsistent comparisons across markets
Tessier-Kay et al., 2024	Not specified	84.7%	Varied by practice type, not region
Haeder et al., 2024a	Contact information verification	11.6% accurate at follow-up	44.8% remained inaccurate, 19.0% removed
Blech et al., 2017	Contact verification, insurance acceptance	77% contacted; 51% verified phone; 15% accepting patients	Average wait time 19 days

The highest accuracy rate (84.7%) was observed in the study of Medicaid directories for pediatric dermatologists , while the lowest rates (11.6%-13.3%) came from follow-up studies of previously identified inaccurate listings in Pennsylvania . Studies examining initial directory accuracy at a single time point generally found rates between 46% and 77% .

Variation by Insurance Type

Accuracy rates demonstrated variation across insurance markets, though patterns were not entirely consistent. In Maryland's Medicaid managed care program, only 46% of listed providers could be verified in 2018, improving to 56% in 2019 . California's multi-market study found that commercial plans generally outperformed Covered California (ACA marketplace) and Medi-Cal (Medicaid) plans , while another California study examining mammogram providers found inconsistent comparisons between the three markets .

Medicare Advantage dermatology directories showed that only 48.9% of unique listings were accurate when accounting for reachability, plan acceptance, and appointment availability . Among the five large national commercial insurers examined, consistency of address information varied from 16.5% to 27.9%, and phone number consistency ranged from 16.0% to 27.4% .

Variation by Provider Specialty

Provider specialty emerged as a significant factor in directory accuracy. Patient-facing specialties demonstrated higher data consistency: general practice (41.7% address, 37% phone), family medicine (41.5% address, 38.4% phone), plastic surgery (40.7% address, 41.9% phone), and dermatology (37% address, 40.3% phone) . In contrast, non-patient-facing specialties showed substantially lower consistency: anesthesiology (17.4% address, 14.5% phone), nuclear medicine (14.7% address, 14.3% phone), radiology (11.7% address, 9.4% phone), and emergency medicine (20.8% address, 14.3% phone) .

In California, primary care providers consistently outperformed specialists across both accuracy and access metrics . Accuracy rates for specific specialties in 2019 were: primary care (74.54%), cardiology (72.46%), gastroenterology (72.36%), and endocrinology (68.48%) .

Variation by Geography

Geographic variation in directory accuracy was notable across studies. In the national analysis, state-level variation was marked, with Minnesota showing low consistency rates (13% address, 6% phone) while Washington, D.C. demonstrated higher rates (47% address, 39% phone) . Pennsylvania studies found that directory inaccuracies were less likely to persist in the state's two metropolitan areas compared to rural regions . However, one study of Medicaid directories for pediatric dermatologists found that accuracy did not vary significantly by region of practice .

Within managed care organizations, substantial variation existed. In Maryland, MCO-level accuracy ranged from 17.4% to 58.4% in 2018 and from 27.8% to 69.9% in 2019 . Medicare Advantage plan directories showed that both accuracy and appointment wait times varied substantially by health plan and metropolitan area, with one plan having no available appointments from any listed dermatologist .

Types of Inaccuracies

The specific barriers to accuracy were documented across multiple studies:

Barrier Type	Frequency/Findings
Duplicate listings	45.5% of total listings
Inaccurate contact information	31.0% of inaccurate listings
Wrong specialty listed	11.2% of inaccurate listings
Erroneously listed as in-network	1.9% of inaccurate listings
Provider not accepting insurance	85% of psychiatrists not accepting target insurance
Provider not accepting new patients	Noted as barrier but not quantified
Provider retired/deceased/moved	Noted as barrier but not quantified

The California study identified inability to reach a provider's office as the biggest source of inaccuracies, which could stem from incorrect contact information or providers no longer practicing . Subspecialty mismatches were relatively rare, with a high of 1.22% for primary care providers in 2019 .

Access Outcomes Among Verified Providers

Even among accurately listed providers, access to timely appointments was not guaranteed.

Study	Appointment Success Rate	Wait Times	Notes
Burman et al., 2022	90% general care (2018), 85% (2019); 69-71% urgent care	General: 10.75-11.57 days mean; Urgent: 0.48-0.56 days mean	Timely access standards often not met
Resneck et al., 2014	48.9% of unique listings	45.5 days mean (range 1-414 days)	Varied by plan and metro area
Burman et al., 2021	28-54% urgent care; 35-64% general care	Not specified	Less than 50% met statutory times for urgent care
Burman et al., 2022a	59-73% within 15 days	Within 15 days	Mammogram appointments
Blech et al., 2017	15% accepting new patients	19 days average; 7% within 2 weeks	Psychiatry access severely limited

Timely access standards were frequently not met, particularly for urgent care and specialty appointments . Medi-Cal plans outperformed other markets in terms of timely access in California , while psychiatry showed particularly severe access limitations with only 15% of listed psychiatrists accepting new outpatients with the target insurance .

Persistence of Inaccuracies

Two Pennsylvania studies specifically examined how long directory inaccuracies persist over time. In the first follow-up study conducted 117-280 days after initial identification, only 11.6% of previously inaccurate listings had become accurate, while 44.8% remained inaccurate and 19.0% had been removed . A longer follow-up study (403-574 days) found that 13.3% of previously inaccurate listings were accurate, 40.3% remained inaccurate, and 25.0% had been removed .

These findings indicate that inaccuracies persist well beyond the 90-day correction expectation mandated by federal regulations . Longer passage of time was associated with modest reductions in inaccuracies, particularly those related to contact information . Substantial differences in corrective action were observed by carrier .

Synthesis

The substantial heterogeneity in reported accuracy rates (11.6% to 84.7%) across studies can be reconciled through systematic examination of methodological and contextual differences.

Accuracy Definition Effects

The most significant driver of variation in reported accuracy rates is the definition of accuracy employed. Studies using the most stringent composite measures—requiring correct contact information, insurance verification, and appointment availability—reported the lowest rates (15-49%) . Studies measuring only whether provider information could be verified without requiring appointment scheduling reported moderate rates (46-77%) . The highest rate (84.7%) came from a study that did not specify its accuracy criteria , potentially employing a less stringent definition.

The cross-insurer consistency approach used by Butala et al. represents a distinct methodology: rather than verifying information against ground truth through provider contact, this study measured whether the same physician's

information was consistent across different insurers' directories . The very low consistency rates (16-28% for contact information) suggest that even when individual directories might contain accurate information, the healthcare system lacks a reliable mechanism for maintaining synchronized provider data .

Specialty-Driven Variation

The pattern of higher accuracy among patient-facing specialties (37-43% consistency) versus non-patient-facing specialties (9-21% consistency) provides mechanistic insight into the accuracy problem. Physicians in patient-facing specialties have stronger incentives to maintain accurate directory information because patients directly contact their offices for appointments. In contrast, anesthesiologists, radiologists, and emergency medicine physicians typically receive referrals through institutional channels rather than patient-initiated contact, reducing their motivation to update directory information .

This pattern also explains why primary care consistently demonstrated higher accuracy and access rates across multiple studies —primary care providers have the greatest patient-facing exposure and thus the strongest incentive alignment for directory maintenance.

Insurance Market Effects

The variation across insurance markets (Medicaid, Medicare Advantage, commercial, ACA marketplace) appears less systematic than specialty variation. Maryland's Medicaid program showed relatively low accuracy (46-56%) , while national Medicaid directories for pediatric dermatologists showed high accuracy (84.7%) . California's comparative study found commercial plans generally outperformed government programs , while another California study found inconsistent patterns across markets .

These inconsistent patterns suggest that insurer-level variation within market types may be more important than market type itself. The national analysis found minimal variation in consistency by insurer , suggesting a systemic problem that no insurer has solved rather than a problem with specific insurance types.

Regulatory Context

Despite California being described as ”one of the most active and well-resourced regulators in the nation” and having ”one of the nation's strictest and most well-resourced regulatory regimes for provider networks” , substantial inaccuracies persisted (23-38% inaccuracy rates for mammogram providers) . Similarly, Pennsylvania's ACA marketplace showed persistent inaccuracies well beyond the 90-day federal regulatory expectation . These findings suggest that regulatory standards alone, without robust enforcement mechanisms, are insufficient to ensure directory accuracy .

Practical Implications for Specific Contexts

Based on this synthesis, the following accuracy expectations can be proposed for specific contexts:

For patients seeking primary care or commonly patient-facing specialists (family medicine, dermatology, internal medicine), approximately 60-75% of directory listings may be accurate when accuracy is defined as verifiable contact information and insurance acceptance . For non-patient-facing specialists (anesthesiology, radiology, emergency medicine), only 10-20% of contact information may be consistent across sources .

For mental health providers, accuracy rates may be substantially lower, with only 15% of listed psychiatrists in one metropolitan area actually accepting new patients with target insurance . This aligns with policy concerns about ”ghost networks” in behavioral health .

When appointment scheduling is included in the accuracy definition, effective accuracy drops further: less than 50% of patients may be able to schedule urgent care appointments with in-network providers within statutory timeframes , and wait times can extend to 45 days or longer for specialty care .

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