

The End of Ghost Networks

Evidence and Opportunity from
a Nationwide Secret Shopper Study

What's Inside →

- Ghost Networks Are a Data Problem PG 4
- Surveys Can't Keep Up PG 5
- The Evidence PG 6
- A System That Validates Itself PG 9

The End of Ghost Networks

Evidence and Opportunity from a Nationwide Secret Shopper Study



A patient looking for a health provider opens her state’s Medicaid directory and sees dozens of options. She starts calling. The first number just rings and rings. The second has been disconnected. The third reaches a practice that stopped accepting her plan. Five calls later, she has no appointment – and no time left to keep trying.

Her experience is not unusual. It is the predictable outcome of a system that treats provider directories as static records rather than living infrastructure. When the information connecting patients to care is wrong, even adequate supply becomes invisible and every barrier to access gets worse. The patients with the least margin for error – those in rural communities, those on Medicaid, those seeking behavioral health care – feel this first and worst.

Zocdoc conducted a nationwide secret shopper study of approximately 1,000 providers, all of whom had new patient availability and were listed in both Zocdoc’s provider directory and in the Centers for Medicare & Medicaid Services directory data. One-hundred percent of the providers were bookable online through Zocdoc; none were

bookable online through CMS.

When these providers were called by phone, using the phone number from Zocdoc’s continuously validated directory, the number proved to be the correct number 97% of the time. Using phone numbers for the same providers from the Centers for Medicare & Medicaid Services directory data, that figure drops to 80%. The other 20% were wrong numbers – meaning one in five patients relying on conventionally sourced directories hits a dead end before they can even ask for an appointment.

20%

of phone numbers in publicly available provider directories are just wrong

The End of Ghost Networks

Evidence and Opportunity from a Nationwide Secret Shopper Study

Even when a directory has the correct data, calls to providers often turn out to be fruitless. Over 25% of calls made to valid numbers were not picked up, whether they went to voicemail, were redirected, or just rang. And this is no surprise. Practices are busy. Office staff are on the phones all day chasing prior authorizations and making referrals – living in a world that still depends on getting two people to do the same thing at the same time.

The usefulness of even the most up-to-date data is thus limited by the practical and human aspects of a phone call. A provider's office staff can only answer so many phones at once, voicemail is unreliable, and calls continually slip through the cracks.

Whatever the broader challenges facing healthcare access, this much is clear:

inaccurate directory data and reliance on older technologies are compounding them – and these are problems with known fixes.

Directories built on periodic surveys start decaying the moment the survey ends. Only continuous, transaction-based verification keeps pace – and Zocdoc's verified provider data is available to state agencies today, at no cost, with no commitment.

But better phone numbers only solve half the problem. **Online booking guarantees a 100% connection rate – no ringing, no voicemail, no one slipping through the cracks.** States can plug into Zocdoc's scheduling infrastructure to stand up their own real-time booking systems, turning a broken directory into a working front door for care.



“Every day, patients are being told their insurance network has thousands of providers. And every day, they pick up the phone and can't reach them. We believe it comes down to outdated technology – and data.”

● **Oliver Kharraz, MD**
Zocdoc Founder & CEO

Ghost Networks Are a Data Problem

Provider directories too often turn out to be ghost networks, populated by listings that fall apart when patients attempt to use them: disconnected phone numbers, providers who have moved or retired, practices that are no longer accepting patients, or offices that simply cannot be reached.

“The assumption has always been that access is hard because there aren't enough providers. But the providers are there. The appointments are there. What's missing is an availability clearinghouse backed by accurate information connecting patients to the care options that already exist.”



Alex Doyne
Zocdoc Chief Strategy Officer

The scope of the problem is well documented:

- A 2023 investigation by the U.S. Senate Finance Committee into 12 Medicare Advantage plans across 6 states found that **82% of mental health providers were unreachable or unavailable**.
- Later that year the New York Attorney General revealed that in a study of directories from 13 health care plans, **86% of provider listings contained inaccuracies**.
- More recently, the HHS Office of Inspector General reported similar findings in Medicare Advantage directories, including high rates of inactive providers.

It's a persistent issue, it is getting worse, and its severest impacts fall on those who depend on these directories the most: patients in rural areas, those who need specialized care, or those who simply do not have spare hours to call multiple providers until they finally find one who answers.

The providers are out there; appointments are available. The breakdown is happening in the information and coordination layer connecting patients to care. When directory data is incomplete or out of date, networks that appear adequate on paper fail to function in practice.

Unfortunately, without significant change, the data will always be out of date; failure is built into the very nature of how these directories are verified and corrected.

Surveys Can't Keep Up

Federal and state regulators have increasingly focused on more stringent rules for the verification of provider directories. CMS has finalized new “secret shopper” requirements for Marketplace plans beginning in 2028, and several states, including New York, Texas, and California, have enacted legislation aimed at improving directory accuracy through surveys and similar audits.

It is encouraging that regulators are aware of the problem and are attempting to ensure that listings reflect real providers and available care. **But all verification surveys are built on a structural limitation: They measure accuracy only at a single point in time.**

The dilemma is not simply that directories are checked too infrequently or that surveys are conducted imperfectly. Even a perfectly executed survey begins to lose accuracy the moment it is completed. The underlying issue is architectural.

Any system that relies on periodic audits will struggle to keep pace with the daily changes occurring across thousands of medical practices. Schedules change constantly; providers regularly move locations, join new groups, or stop accepting patients. A directory verified today can be outdated tomorrow.

What is needed instead is a system designed to validate directory information continuously.

When provider information is confirmed through real appointment bookings, each successful booking becomes a live verification event, authenticating that the provider is active, practicing at that location, accepting patients, and offering real availability at that moment. Every time a patient is successfully directed to an appointment, this confirms that the information connecting them to care is accurate.

Survey verification creates a snapshot of a provider directory. Continuous validation turns that directory into a living system.

This model represents a fundamentally different approach to maintaining provider directories – one based on continuous validation via real patient access, rather than periodic attempts to audit a list that is always changing.

The question then becomes: Is there evidence that continuously validated data actually produces better outcomes? To answer that, Zocdoc conducted a head-to-head comparison study.

“There's a huge delta between directories built on attestations and surveys and those powered by living networks. In our study, it wasn't a small difference – it was a lake.”



Laurent Crenshaw
Zocdoc VP of Government Affairs

The Evidence

Zocdoc conducted a nationwide “secret shopper” audit of approximately 1,000 medical practices listed in both the CMS directory and the Zocdoc provider directory.

Providers were sampled randomly across multiple specialties and geographic regions. Each practice had online appointment availability via Zocdoc during the study period.

The secret shoppers attempted to contact the same practices using the phone numbers listed in each directory. If the phone numbers did not match, calls were made to the same practice using both numbers. Calls were placed during normal business hours using a standardized protocol, and results were documented

contemporaneously. For each attempt, researchers recorded:

- Phone number
- Whether they were accepting new patients
- Address
- Specialty
- In-person only, Telehealth only, or Both
- Timeframe for first appointment

The outcomes when calling the numbers in both databases were then compared, in order to evaluate how differences in directory data affect patients’ ability to successfully reach providers and obtain appointments within mandated timeframes.

	Zocdoc Online Scheduling	Phone call scheduling			
		Zocdoc Directory		CMS Directory	
Total providers contacted, all with available appointments for new patients bookable in Zocdoc's network	1042				
Phone number confirmed correct and belonging to a practice ¹	N/A	1014	97%	833	80%
Provider answered phone	N/A	732	70%	435	42%
New patient appointment offered	100%	695	67%	401	38%

¹ Phone numbers that resulted in no answer or that were answered by voice mail with an outgoing message that did not identify the practice could not be confirmed as belonging to the practice.

At every level, the data shows the advantages of a database that is continually checked over one that is audited periodically.

The Evidence

The Phone Number Gap

Zocdoc's directory had a more correct list of phone numbers: 97% of calls using those numbers were confirmed valid, while just 80% using CMS numbers were.

Some valid numbers went to voicemail or otherwise went unanswered – which is unsurprising in a busy practice – but 70% of those contacted with a Zocdoc-provided number picked up their phone, while only 42% of those called with government directory numbers did.

Both sets of calls targeted the same providers, but public sector numbers often routed to general corporate or billing lines, while Zocdoc numbers are the ones practices actively use for appointment management – meaning callers were more likely to reach staff who could actually offer an appointment.

There was also a significant difference in the usefulness of the data from the two directories in terms of how often the calls led to an appointment being offered. When using phone numbers from Zocdoc's directory, 67% ended in an offered appointment, while only 38% did using public directory numbers. While each call set targeted the same cohort of providers, public sector data frequently routed callers to administrative or corporate billing departments. In contrast, Zocdoc-sourced numbers are those actively utilized by practices for patient management – meaning callers were significantly more likely to connect with the frontline staff who actually facilitate care.

The Online Advantage

These results appear even more stark when we note that 100% of the providers in the study had available appointments that could be booked online. Every single practice in both directories – whether it had an incorrect listed number (3% for Zocdoc, 20% for CMS), had a valid number but nobody picked up (27% for Zocdoc, 38% for CMS), or answered but did not offer an appointment (3.6% for Zocdoc, 3.2% for CMS) – could be found on Zocdoc's platform and booked instantly.

With the understanding that phone directories are often mandated by state law, this demonstrates definitively that even a theoretically perfect phone directory without a single ghostly listing will still be inferior to an online booking system. Phone directories depend on people to make and answer phone calls and on 20th century technologies to transmit and relay them, introducing issues like busy office staff, dropped calls, full voicemail, and so on, which online booking simply doesn't have to contend with.

One note: every provider in this study was already listed in Zocdoc's directory. When the same test was run on a random sample of providers outside Zocdoc's directory, the results were dramatically worse – a forthcoming paper will cover that data in full.

100% of providers were bookable online, while only 38% offered an appointment by phone using government directory numbers.

The Evidence

The Wait Time Divide

There was also a significant contrast in how long a patient had to wait for their appointment when contacted via the two directories.

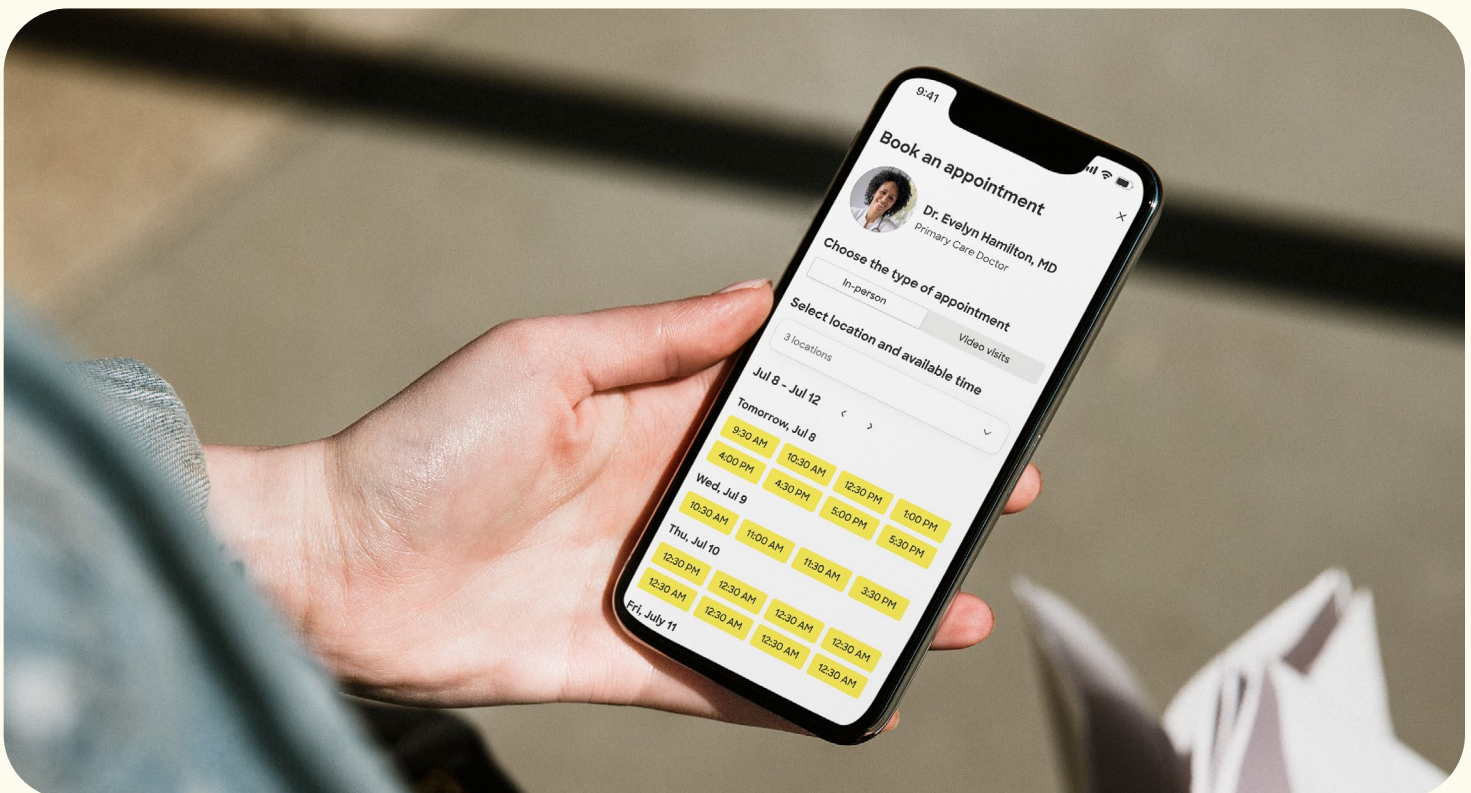
Measured against CMS’s standards for appointment wait times for Federally-funded Exchanges (FEEs), 75% of providers who were reachable using the numbers in Zocdoc’s directory offered an appointment within the mandated timeframe, while just 60% of CMS-contacted providers met the standard.

Overall, providers in Zocdoc’s directory never dipped below 65% availability within 10 business days, suggesting that even for providers that can be contacted through either dataset, there is more compliance, and the patient experience is much better, using Zocdoc-verified data.

“Today’s provider directories work like an Encyclopedia Britannica – out of date the moment they’re published. What’s needed is something closer to Wikipedia: a system that stays accurate because it’s continuously updated through real use.”



Alex Doyne
Zocdoc Chief Strategy Officer



A System That Validates Itself

Because the problem is architectural – periodic audits inherently cannot keep pace with how quickly provider data changes – the solution has to be architectural, too. Not a better survey. A different kind of system.

Verified Data – Free, Immediate, No Commitment

States can gain immediate visibility into who is bookable in their state using data that Zocdoc already maintains across more than 250,000 providers. This includes verified phone numbers, confirmed addresses, real-time availability status, and online scheduling links – delivered via FHIR open-source standards, at no cost, and with no integration required. This is the same source data Zocdoc will be providing to CMS to support the national provider directory.

For agencies managing directory compliance today, the value is immediate: Use the data to identify gaps in your current listings, benchmark your directory against a continuously validated source, or give your care coordinators better information for the calls they are already making. States can also share this data with providers, encouraging them to connect and keep their information current – building a more accurate network over time without mandating a wholesale technology change.

The country digitized medical records; the next chapter is digitizing access to care itself.

Real-Time Scheduling

For states ready to go further, real-time scheduling replaces static directory listings with live, bookable appointments. Instead of a phone number that may or may not connect, patients and care coordinators see actual open appointment slots and book directly into a provider’s calendar.

This is the architecture that produced the results in this study: Every booking confirms the provider is active, at the listed address, and accepting new patients. The directory validates itself through use.

Two implementation paths are available. States with existing digital tools can integrate scheduling via Zocdoc’s API. States building from scratch can work with established government technology partners to stand up a bookable directory tailored to their needs. In both scenarios, the offering is the same infrastructure already deployed with Blue Shield of California – where members’ average time-to-care dropped from 31 days to under 10 – and supporting the VA, which achieved comparable reductions.

A System That Validates Itself

Patient-Facing Provider Search

For the most thorough option, Zocdoc offers a consumer-facing experience that does not just list providers but helps patients find the right one – based on real-time availability, proximity, and network status. This is the point where better data and live scheduling translate into a patient experience that actually works.

Zocdoc processes millions of healthcare searches per week, and the algorithms behind those searches improve continuously with scale. States can deploy this capability for their beneficiaries – adapted to their network and their population’s needs – without having to build a provider search engine from scratch.

States can start with data, move to scheduling, and expand at their own pace.

“We’ve spent nearly twenty years connecting patients to providers through real appointments. That infrastructure doesn’t just improve access – it produces a continuously validated dataset that no survey can replicate. We think states should have access to it.”



Oliver Kharraz, MD
Zocdoc Founder & CEO

A System That Validates Itself

For Policy Makers

For years, healthcare transparency policy has focused on what care costs and which providers are in a patient's network. But neither matters if a patient can't actually get an appointment. Increasingly, policymakers are recognizing that a third question matters just as much: whether patients can find and reach available care in real time. Ghost networks are what happens when policy hasn't caught up to that question.

The challenge is especially acute in Medicaid, rural care, and behavioral health networks, where fragmented scheduling systems and inaccurate directories create significant barriers even when providers technically participate in-network. These are the populations with the least slack – the fewest hours to spend on hold, the fewest backup options if the first call doesn't connect.

Ghost networks persist in part because current regulations specify a method for audits – periodic attestations – rather than a required outcome. The data in this study suggests a different standard: Measure directories by whether patients can actually reach care through them, not by whether the attestation process was completed on time.

Model legislation advancing in New York and California is moving in this direction. At the federal level, pending appropriations language would direct CMS to use Rural Health Transformation Program funds to modernize directory infrastructure. The data and methodology behind this study are available to any legislator, committee, or regulatory body working on these efforts.

Contact · publicsector@zocdoc.com

A System That Validates Itself

For State Health Agencies

The first step is straightforward: See how your state's directory data compares to what is actually available. This is especially valuable for Medicaid, rural care, and behavioral health networks, where fragmented scheduling systems and inaccurate directories create significant barriers even when providers technically participate in-network – and where the gap between a directory listing and an actual appointment matters most.

Zocdoc's verified provider data is accessible for any state – free, with no commitment – and can inform whatever comes next, whether that is a pilot, a policy change, or a broader integration.

Contact · publicsector@zocdoc.com

About Zocdoc

Zocdoc is the healthcare access infrastructure that connects patients to great care. By powering seamless scheduling wherever patients are seeking care, Zocdoc helps them move from being stuck to being seen. Each month, millions of patients find and book appointments with providers, powered by Zocdoc – on the company’s website and app, and across online search, insurance directories, providers’ websites, practice phone lines, AI platforms, and more – with the typical appointment happening within 24 to 72 hours from booking.

With nearly two decades of experience unifying healthcare’s fragmentation, Zocdoc is uniquely positioned to power access across insurance plans, EHRs and PMS systems, specialties, visit types, and provider organizations of every size. By fixing healthcare at the start, Zocdoc empowers patients to get the care they need, when they need it, while delivering scaled patient growth providers can count on.