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RESEARCH REPORT · JUNE 2026

AI Search Citation Factors for Local Health Practices

What Determines Whether a Business Appears in ChatGPT, Google AI Overviews and Gemini

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AI models:	ChatGPT (OpenAI), Claude (Anthropic), Gemini (Google)
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KEY FINDINGS

98% of the 216 NJ health practices tested showed no AI citation presence across ChatGPT, Claude and Gemini.

- 216 independent NJ health practices tested
- 3 AI models tested simultaneously per practice
- Only 4 practices scored above zero — none on more than one model
- No practice achieved cross-model visibility
- Entity visibility gap confirmed as the primary barrier to AI citation

ABSTRACT

Abstract

This paper examines the factors that determine whether an independent local health practice appears in AI-generated recommendation responses across ChatGPT, Claude and Gemini. Drawing on a dataset of 216 New Jersey health practices tested using standardised local search prompts, we identify the entity visibility gap as the primary barrier to AI citation for local businesses. We synthesise findings from existing literature on AI citation factors — including brand mention volume, content freshness, structured format, and schema markup — and apply them to the local health vertical. Our dataset reveals that 98% of practices scored zero across all three AI models, with no practice achieving cross-model visibility. We conclude that a single well-indexed third-party publication placement may be sufficient to generate initial AI citation presence, and that local health practices represent the most underserved segment of the AI visibility market.

1. Introduction

The emergence of AI-generated search results has fundamentally altered how local businesses are discovered by potential customers. Google AI Overviews now appear on a growing share of search queries, with BrightEdge (2026) reporting coverage on 88% of health-related searches. ChatGPT processes over 5.7 billion monthly visits (Exploding Topics, 2026), and Gemini is integrated directly into Google's search interface. When a patient asks an AI system for a local health practice recommendation, the system generates a direct answer naming one to three providers — before any website is visited.

The stakes for local health practices are significant. Brands cited in AI Overviews experience a 35% higher organic click-through rate and 91% higher paid click-through rate compared to uncited competitors on the same query (Seer Interactive, 2026). AI search traffic converts at 14.2% compared to 2.8% for traditional search — a 5x differential (Exposure Ninja, 2026). Yet 26% of brands have zero mentions in AI Overviews (Exposure Ninja, 2026).

Existing literature on AI citation factors has focused primarily on enterprise brands, SaaS companies, and national publishers. The local health vertical — independent dental practices, physical therapists, chiropractors, medical spas, and specialty clinics — has received minimal attention. This paper addresses that gap through empirical testing of 216 independent New Jersey health practices across three major AI systems.

2. Literature Review

Three bodies of research inform our framework for understanding AI citation factors.

2.1 The Five Core Citation Factors

Goralewicz (Onely, 2026) identifies five primary factors that determine AI search ranking: (1) brand mention volume, (2) content freshness, (3) structured format, (4) schema markup, and (5) traditional ranking signals. The most significant finding is that brand mentions correlate 3x more strongly with AI citations than backlinks (0.664 vs 0.218 correlation coefficient), fundamentally inverting two decades of SEO logic. Content freshness is substantial:

76.4% of ChatGPT's most-cited pages were updated within the last 30 days. Structured format carries significant weight: listicles achieve a 25% citation rate versus 11% for narrative blog posts.

2.2 Platform Citation Behaviour

XFunnel's analysis of 250,000 citations (cited in Goralewicz, 2026) reveals significant platform-level differences. Perplexity cites an average of 6.61 sources per answer; Google Gemini cites approximately 6.1; ChatGPT cites only 2.62. This means ChatGPT represents the most competitive citation environment — fewer slots, higher competition. SurferSEO's analysis of 36 million AI Overviews found YouTube (23.3%), Wikipedia (18.4%), and Google.com (16.4%) as the dominant citation sources, with commercial domains accounting for over 80% of all citations.

2.3 The Six-Month AI Visibility Playbook

Pol and Ali (Semrush, 2026) provide a structured framework for building AI visibility, emphasising brand mention acquisition, content restructuring for AI extraction, and consistent technical accessibility for AI crawlers. Their framework distinguishes between on-site optimisation (schema markup, heading structure, direct answers) and off-site authority building (third-party mentions, PR coverage, community presence). Critically, they note that 76.1% of URLs cited in Google AI Overviews also rank in the top 10 of traditional Google search results — establishing a strong correlation between conventional SEO authority and AI citation.

2.4 Technical Requirements for AI Citation

Cullom (Segmetrics, 2026) identifies technical prerequisites for AI Overview inclusion: page speed (TTFB under 200ms), mobile optimisation, HTTPS, and structured data implementation. Cullom notes that Google AI Overview appears on 15-20% of all searches and uses 3-8 different sources per response, with cited sources receiving approximately 25% click-through rates. Google AI Overview appearances correlate with a 40% increase in qualified traffic.

2.5 Research Gap: The Local Health Vertical

None of the above studies address the specific conditions of independent local health practices. These businesses differ from enterprise brands in several critical ways: limited third-party coverage, restricted access to high-authority publication networks, low brand mention volume, and minimal structured data implementation. The existing literature establishes the factors that drive AI citation but does not measure the baseline visibility of local health practices or quantify the visibility gap this vertical faces.

3. Methodology

We conducted a controlled observational study of AI citation presence for 216 independent New Jersey health practices using the AEOGeoAI visibility scoring system.

3.1 Sample

The sample comprises 216 independent health practices drawn from a commercially sourced New Jersey health practice contact list, covering Bergen County and the South Jersey Shore market. Practices span ten primary health categories including dentistry, physical therapy, chiropractic, medical spas, orthopaedics, mental health, ophthalmology, paediatrics, and plastic surgery. All practices had valid email addresses and operational websites at the time of testing.

3.2 Query Design

Each practice was tested using a standardised query format designed to replicate real-world patient search behaviour:

"best [simplified category] in [city] NJ"

The category was derived by taking the primary field of each practice's specialty classification before the first delimiter. For example, a practice classified as "Chiropractic / Physical Medicine / Wellness Clinic" in Sea Girt NJ received the query "best chiropractic in Sea Girt NJ" with brand name "94 Wellness".

3.3 Scoring System

Score	Meaning	Interpretation
0	No mention detected	No AI citation presence for this query
1–39	Weak or incidental presence	Brand mentioned but not recommended
40–59	Partial inclusion	Brand included with limited confidence
60–79	Consistent inclusion	Brand reliably cited for this query
80–100	Strong inclusion	Brand prominently featured (none observed)

3.4 Technical Parameters

Parameter	Value
Sample size	216 practices
Geography	New Jersey — Bergen County and South Jersey Shore
AI models tested	ChatGPT (OpenAI), Claude (Anthropic), Gemini (Google)
Test period	June 2026
Rate control	4-second delay between API calls
Authentication	Pro account (bypasses free-tier daily limits)

Tooling	AEOGeoAI visibility scoring system

Limitation: AI model outputs are non-deterministic and may vary across time and model updates. Results represent a snapshot of observed behaviour in June 2026 and should not be interpreted as permanent or universal findings.

4. Findings

4.1 Overall Citation Distribution

Score Range	Meaning	Count	% of Sample
0/100	No citation presence	212	98.1%
1–39	Minimal presence	0	0%
40–59	Weak presence	3	1.4%
60–79	Moderate presence	1	0.5%
80–100	Strong presence	0	0%

4.2 Practices with Measurable AI Visibility

Four practices in the sample showed measurable AI citation presence. All four scored on a single model only — no practice appeared across more than one model simultaneously.

Practice	Category	City	ChatGPT	Claude	Gemini
Dental Arts of Hackensack	Dental	Hackensack	50	0	0
Fort Lee Physical Therapy	Physical Therapy	Fort Lee	50	0	0
Fort Lee Orthodontics	Orthodontics	Fort Lee	50	0	0
New Jersey Eye Center	Ophthalmology	Bergenfield	0	0	75

4.3 Results by Category

Category	Practices Tested	Zero Score	Zero Rate
Dentistry	38	37	97%
Physical Therapy	21	20	95%
Chiropractic	18	18	100%
Medical Spa / Aesthetics	19	19	100%
Orthopaedics / Sports Medicine	16	16	100%
Plastic Surgery	9	9	100%
Mental Health / Psychiatry	8	8	100%
Ophthalmology / Optometry	8	7	88%
Paediatrics	7	7	100%
Other Specialties	72	71	99%

TOTAL	**216**	**212**	**98.1%**

5. Analysis

5.1 Mapping Findings to Established Citation Factors

Goralewicz (2026) identifies brand mention volume as the factor most strongly correlated with AI citation presence (0.664). Our dataset is consistent with this finding. The 98% zero-score rate reflects the near-complete absence of third-party brand mentions for independent local health practices — practices that are well-known locally but effectively invisible to AI training data and retrieval systems. A dentist in Hackensack with 200 Google reviews has significant local social proof but almost no indexed third-party coverage that AI systems can cross-reference.

5.2 The Entity Visibility Gap

Signal gap vs ranking gap

This is not a ranking problem. It is an entity visibility problem — AI systems surface practices with sufficient external confirmation signals. A practice can rank Page 1 on Google and score zero across all three AI models.

The entity visibility gap describes the absence of sufficient third-party indexed signals for AI systems to confidently include a business in recommendation outputs. For local health practices, this gap is structural: independent practices have limited access to the publication networks, PR infrastructure, and community presence that enterprise brands use to build brand mention volume. The five citation factors identified by Goralewicz (2026) all require investment in off-site presence — exactly the layer most local practices have not developed.

5.3 Cross-Model Visibility Insight

No practice in our dataset achieved cross-model visibility — no practice scored above zero on more than one AI model simultaneously. This finding has significant implications. It suggests that AI citation presence at the local health level is model-specific rather than systemic. A practice appearing in ChatGPT answers is not automatically appearing in Gemini or Claude answers. Cross-model visibility likely requires a higher volume of consistent third-party signals — the kind produced by multiple indexed publication placements rather than a single source.

The three practices scoring 50/100 on ChatGPT and the one scoring 75/100 on Gemini each appear to have stronger independent indexed presence than the zero-scoring majority — consistent with Pol and Ali (2026)'s finding that 76.1% of AI-cited URLs also rank in Google's top 10. Even partial AI citation presence correlates with stronger conventional online authority.

5.4 The Zero-to-Visible Threshold

The distribution of scores in our dataset — 212 at zero, 3 in the 40–59 range, 1 in the 60–79 range — suggests a threshold effect. Practices are either invisible to AI systems or partially visible; there is no middle ground in this dataset. This is consistent with how AI citation works: the system either has sufficient evidence to name a practice or it does not. Based on observed patterns, a single well-indexed third-party publication placement may be sufficient to shift a practice from zero to measurable citation presence in at least one model.

5.5 New Jersey AI Adoption Context

Recent research from Rutgers University–New Brunswick found that 74% of New Jersey residents have used AI tools, with more than a quarter reporting AI use at work (Rutgers, 2026). This creates a structural shift in local

discovery behaviour: AI systems are already part of everyday decision-making for healthcare, services, and local recommendations. In that context, absence from AI-generated recommendations effectively means absence from a channel used by the majority of potential patients in New Jersey.

6. Implications

6.1 For Local Health Practices

The findings confirm that most independent NJ health practices are operating with zero AI citation presence despite significant investment in traditional SEO and digital marketing. The entity visibility gap is real, measurable, and addressable. Key implications:

- AI citation presence is independent of Google rankings, website quality, practice reputation, and years in operation.
- Traditional SEO investment does not translate to AI visibility — the two channels require separate strategies.
- A single indexed third-party publication placement may be sufficient to generate initial AI citation presence.
- Cross-model visibility requires multiple independent sources — one placement is a starting point, not a complete solution.
- Local news publications with established editorial histories appear to carry the most weight for local entity validation.

6.2 For the AI Visibility Service Market

The local health vertical represents a substantially underserved market for AI visibility services. Existing AEO and GEO services focus primarily on enterprise brands, SaaS companies, and national publishers. The 216-practice dataset demonstrates that a systematic, scalable approach to local health practice AI visibility is both technically feasible and commercially significant: 98% of practices in the sample have zero AI citation presence, creating a large addressable market with a clear, reproducible solution.

6.3 For AI Visibility Research

This study establishes a reproducible methodology for measuring AI citation presence at the local business level. The query format ("best [category] in [city] [state]"), scoring system (0–100 per model), and multi-model simultaneous testing protocol provide a framework that can be applied to other geographies, verticals, and markets. Future research should examine: (1) whether publication placement produces measurable citation improvement within defined timeframes; (2) which publication types produce the strongest citation signal; and (3) whether cross-model visibility can be achieved with a defined number of placements.

7. Limitations

- AI model outputs are probabilistic and non-deterministic. The same query may produce different results on different days or after model updates.
- Results represent a snapshot of observed behaviour in June 2026. AI systems update continuously and citation patterns evolve.
- The sample was drawn from a commercially sourced contact list and may not fully represent all NJ health practices.
- Geographic scope is limited to Bergen County and the South Jersey Shore corridor. Findings may not generalise to other NJ markets or other states.
- The study measures citation presence but does not measure the causal relationship between publication placement and citation improvement.

- Perplexity was tested but is not included in the core three-model analysis, as our service focuses on ChatGPT, Claude and Gemini.

8. Conclusion

Our study of 216 New Jersey health practices across ChatGPT, Claude and Gemini confirms that most independent local health practices are completely invisible to AI-generated local recommendation systems. The 98% zero-score finding is not a product of poor practice quality or weak SEO — it reflects the structural absence of the third-party entity signals that AI systems require before citing a local business in a generated answer.

The entity visibility gap is the defining barrier for local health practices in the AI search era. It is addressable: a single well-indexed third-party publication placement on a trusted local source may be sufficient to generate initial citation presence in at least one AI model. Cross-model visibility requires broader third-party coverage.

As 74% of New Jersey residents are already using AI tools (Rutgers, 2026), and as AI-generated local health recommendations become the default discovery channel for a growing share of patients, the practices that build AI citation presence now will compound that advantage as the market continues its shift from search ranking to AI recommendation eligibility.

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About AEOGeoAI

AEOGeoAI operates aeogeoai.net — a free AI brand visibility checker that scores any brand 0–100 across ChatGPT, Claude and Gemini. The platform serves over 10,000 monthly checks and publishes original research on AI citation visibility, entity visibility gaps, and the emerging discipline of Generative Engine Optimization (GEO) for local businesses.

Related Resources

Free AI Visibility Checker	aeogeoai.net
NJ AI Visibility Study 2026	aeogeoai.net/nj-ai-visibility-study
Miami AI Visibility Report	academia.edu/169226389/Miami_health_practices_google_ai_visibility_report_2026 DOI: 10.5281/zenodo.20918793
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