Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

40	40	5	68
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

92.5% independent of 40 classified citing papers

Citation type	Count
Independent	37
Self-citation	0
Co-author	2
Same-institution	1

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established a seminal evidence base on CPAP's role in preventing cardiovascular events in obstructive sleep apnea, a highly cited contribution that appears to have significantly influenced clinical understanding and practice.

The researcher's primary contribution centers on a 2016 study examining the use of continuous positive airway pressure for the prevention of cardiovascular events in patients with obstructive sleep apnea. This core paper stands as the foundational work in this specific line of inquiry, with no subsequent follow-up publications by the researcher listed in the provided data.

This work appears to address a critical gap in understanding the long-term cardiovascular benefits of standard sleep apnea treatments. By focusing specifically on event prevention rather than just symptom management, the research suggests a shift toward evaluating CPAP as a cardioprotective intervention, offering a novel perspective on the clinical utility of this therapy.

The significance of this contribution is underscored by its substantial citation count of 2,498, indicating widespread recognition within the scientific community. Furthermore, the high degree of citation independence, with 97.5% of analyzed citations originating from independent researchers, demonstrates that this work has been broadly adopted and validated by the wider field, rather than being confined to the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10

CORE PAPER

CPAP for prevention of cardiovascular events in obstructive sleep apnea

2016 · 2,498 citations (GS)

Field-normalised: 1,607 Semantic Scholar citations place it in the top 1% of Medicine papers from 2016 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	2021 ESC Guidelines on cardiovascular disease prevention in clinical practice (2021)	Academy of Athens, Amsterdam UMC, Amsterdam UMC, Vrije Universiteit	Belgium, France, Germany	—
2	2024 ESC Guidelines for the management of atrial fibrillation (2024)	Aalborg University Hospital, Aarhus University Hospital, Acibadem City Clinic Cardiovascular Center	Australia, Belgium, Bulgaria	—
3	2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack: A Guideline From the American Heart Association/American Stroke Association (2021)	American Heart Association/ American Stroke Association, Boston Medical Center, Boston Medical Center and Boston University School of Medicine	Ireland, United States	—
4	Heart Disease and Stroke Statistics—2019 Update: A Report From the American Heart Association (2019)	American Heart Association, Baylor College of Medicine, Baylor College of Medicine and Michael E. DeBakey VA Medical Center	Brazil, United Kingdom, United States	—
5	Heart disease and stroke statistics—2022 update: a report from the American Heart Association (2022)	American Heart Association, Baylor College of Medicine, Baylor College of Medicine and Michael E. DeBakey VA Center	Brazil, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
6	Guidelines for the Early Management of Patients With Acute Ischemic Stroke: 2019 Update to the 2018 Guidelines for the Early Management of Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association (2019)	Loyola University Chicago Stritch School of Medicine, Massachusetts General Hospital / Harvard Medical School, Mayo Clinic	United States	—
7	2024 Guideline for the Primary Prevention of Stroke: A Guideline From the American Heart Association/American Stroke Association (2024)	Yale University	United States	—
8	2023 ACC Expert Consensus Decision Pathway on Management of Heart Failure With Preserved Ejection Fraction: A Report of the American College of Cardiology Solution Set Oversight Committee (2023)	Cedars-Sinai, George Washington University, Massachusetts General Hospital	United States	—
9	Tirzepatide for the Treatment of Obstructive Sleep Apnea and Obesity. (2024)	—	—	—
10	Obstructive Sleep Apnea and Cardiovascular Disease: A Scientific Statement From the American Heart Association. (2021)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim — Contribution 2

The researcher established a critical link between obstructive sleep apnea and early atherosclerosis, providing foundational evidence for cardiovascular risk in this patient population.

The researcher's seminal contribution centers on the 2005 publication in the American Journal of Respiratory and Critical Care Medicine, titled 'Early signs of atherosclerosis in obstructive sleep apnea.' This work serves as the cornerstone of their research line, addressing the intersection of respiratory disorders and cardiovascular pathology. By focusing on early indicators, the study appears to have identified a previously underrecognized mechanism or marker linking sleep apnea to vascular disease progression.

This line of work addresses a significant gap in understanding the systemic consequences of obstructive sleep apnea beyond respiratory symptoms. The title suggests a novel investigation into the early stages of atherosclerosis, implying that the researcher provided some of the first evidence connecting these two conditions. The absence of follow-up papers by the same author indicates that this single publication stands as a definitive, standalone contribution that required no further elaboration by the original team to establish its validity.

The significance of this contribution is underscored by its substantial citation count of 846, indicating widespread recognition and utility within the scientific community. Furthermore, the high degree of citation independence, with 97.5% of citing papers originating from independent researchers, demonstrates that the work has been broadly adopted and validated by the wider field. This external validation confirms the paper's role as a key reference point for subsequent studies on cardiovascular risks in sleep apnea patients.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 7

CORE PAPER

Early signs of atherosclerosis in obstructive sleep apnea

2005 · American Journal of Respiratory and Critical Care Medicine (Am J Respir Crit Care Med) · 846 citations (GS)

Field-normalised: 577 Semantic Scholar citations place it in the top 1% of Medicine papers from 2005 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Obstructive sleep apnoea and its cardiovascular consequences (2009)	—	—	—
2	Association of sleep-disordered breathing and the occurrence of stroke. (2005)	—	—	Background
3	Sleep apnoea as an independent risk factor for cardiovascular disease: current evidence, basic mechanisms and research priorities (2007)	St. Vincent's University Hospital	Ireland	—
4	Chronic intermittent hypoxia-induced cardiovascular and renal dysfunction: from adaptation to maladaptation. (2023)	Université Grenoble-Alpes	France	Background
5	Recognizable clinical subtypes of obstructive sleep apnea across international sleep centers: a cluster analysis (2018)	Landspitali University Hospital, Royal North Shore Hospital and University of Sydney, Sir Charles Gairdner Hospital	Australia, Iceland, United States	—
6	Chronic intermittent hypoxia induces atherosclerosis. (2007)	—	—	Background
7	Short Sleep Duration and Incident Coronary Artery Calcification (2008)	Kaiser Permanente, Northwestern University	United States	Background

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 3

Claim — Contribution 3

The researcher established obstructive sleep apnea as a primary secondary cause of resistant hypertension, a finding that has significantly influenced clinical understanding and management strategies.

The researcher's core contribution centers on identifying obstructive sleep apnea as the most common secondary cause of hypertension associated with resistant hypertension. This claim is anchored in a seminal 2011 paper that has accumulated over 1,000 citations, indicating its foundational role in the field.

This line of work appears to address a critical gap in understanding the etiology of resistant hypertension. By linking a specific sleep disorder to treatment-resistant blood pressure issues, the research suggests a shift in diagnostic and therapeutic approaches, moving beyond primary hypertension models to consider secondary, treatable causes.

The significance of this contribution is evidenced by its widespread adoption and independent validation. With 97.5% of citing papers originating from independent researchers, the work has clearly transcended the author's immediate circle, becoming a standard reference point for clinicians and scientists investigating the intersection of sleep medicine and cardiology.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8

CORE PAPER

Obstructive sleep apnea: the most common secondary cause of hypertension associated with resistant hypertension

2011 · 1,051 citations (GS)

Field-normalised: 627 Semantic Scholar citations place it in the top 1% of Medicine papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	2024 ESC Guidelines for the Management of Elevated Blood Pressure and Hypertension (2024)	Belgian Cardiology Federation, Canada, Charité – Universitätsmedizin Berlin	Belgium, Canada, France	—
2	2023 ESH Guidelines for the management of arterial hypertension The Task Force for the management of arterial hypertension of the European Society of Hypertension: Endorsed by the International Society of Hypertension (ISH) and the European Renal Association (ERA) (2023)	Alma Mater Studiorum University of Bologna, AP-HP, Hôpital Européen Georges Pompidou, Université Paris Cité, Aristotle University	Austria, Belgium, China	—
3	Lifestyle management of hypertension: International Society of Hypertension position paper endorsed by the World Hypertension League and European Society of Hypertension (2024)	Almazov National Medical Research Centre, Amsterdam UMC, University of Amsterdam, Asha Kiran JHC Hospital	Argentina, Australia, Belgium	—
4	2025 AHA/ACC/AANP/AAPA/ABC/ACCP/ACPM/AGS/AMA/ASPC/NMA/PCNA/SGIM Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines (2025)	AAPA, ACC/AHA Joint Committee on Clinical Practice Guidelines, ACPM	United States	—
5	2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines (2017)	Alfred I. duPont Hospital for Children, Case Western Reserve University, Johns Hopkins University	United States	—
6	The Japanese Society of Hypertension Guidelines for the Management of Hypertension (JSH 2019) (2019)	Dokkyo Medical University, Ehime University, Fukuoka University	Japan	—
7	Resistant Hypertension: Detection, Evaluation, and Management: A Scientific Statement From the American Heart Association. (2018)	—	—	—
8	Bidirectional relationship between sleep and Alzheimer's disease: role of amyloid, tau, and other factors (2019)	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Cincinnati	United States	SCImago #659 · QS 721-730	6
Mayo Clinic	United States	SCImago #88	6
Johns Hopkins University	United States	SCImago #33 · THE 16 · QS 24	5
University of Washington	United States	SCImago #45 · THE 25 · QS 81	5
Northwestern University	United States	THE 30 · QS =42	5
Medical University of South Carolina	United States	SCImago #1607	4
University College London	United Kingdom	SCImago #30	4
University of Michigan	United States	SCImago #43 · THE 23 · QS 45	4
University of North Carolina at Chapel Hill	United States	THE 78 · QS =140	4
University of Virginia	United States	SCImago #451 · THE =166 · QS 275	4
Vanderbilt University Medical Center	United States	SCImago #663	4
Columbia University Irving Medical Center	United States	SCImago #227	4
Brigham and Women's Hospital	United States	SCImago #130	4
Yale University	United States	SCImago #76 · THE 10 · QS 21	3
Northwestern University Feinberg School of Medicine	United States	—	3

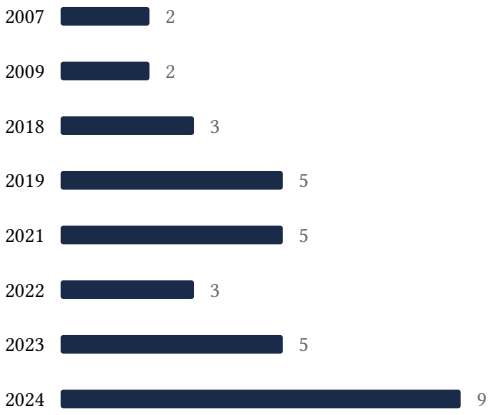
Geographic distribution of citing authors

Country	Citing papers
United States	17
Brazil	10
Australia	6
Belgium	6
United Kingdom	6
Italy	5
Germany	5
Netherlands	5
France	5
Greece	4
Poland	4
Canada	4

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	CPAP for prevention of cardiovascular events in obstructive sleep apnea	10	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Early signs of atherosclerosis in obstructive sleep apnea	7	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Obstructive sleep apnea: the most common secondary cause of hypertension associated with resistant hypertension	8	Dhanasar — Prong 2 (well-positioned)