

Exhibit 561

Expert Report of Andrew Brod, Ph.D.

In the matter of

Diane L. Rothchild v. United States of America

Case No. 7:23-CV-00858

May 8, 2025



1. Introduction

In this report, I provide a preliminary assessment and rebuttal of the plaintiff's expert report regarding economic damages in Rothchild v. USA. The report, written by Chad L. Staller and Stephen M. Dripps (S&D), claims damages for lost earnings, lost household services, and the value of a life-care plan (LCP).

Ms. Rothchild began experiencing tremors in 1993 and was diagnosed with Parkinson's disease (PD) after she began treatment with Dr. Joel Perlmutter in 1999. She claims that the disease resulted from her exposure to contaminated water at Camp Lejeune. She further claims to have incurred economic damages as a result of that exposure. For the sole purpose of producing this report, I will assume that liability has been established.

In addition, I will address the issue of offsets for Ms. Rothchild's support and care by the U.S. government.

As further information becomes available on any of the issues addressed in this memorandum, I may update my analysis.

2. About Dr. Brod

I did my undergraduate work at the University of Illinois and earned a Ph.D. in economics from the University of Minnesota. My undergraduate majors were mathematics and economics, and my graduate fields were econometrics and industrial organization. I have worked for the American Medical Association and the University of North Carolina at Greensboro. At UNCG, I taught courses in statistics, forecasting, econometrics, and microeconomics, and I directed an applied economic research center for more than a decade. I retired from UNCG in 2010 and have worked since then as a self-employed economic consultant.

I have worked in forensic economics for more than 25 years. I work for both plaintiffs and defendants, primarily analyzing and testifying about economic damages, though I have conducted other kinds of analyses. My work focuses on projections of lost earnings in personal-injury and wrongful-death cases, lost profits in complex commercial cases, and the valuation of life-care plans.

My billing rates are \$480 per hour for case review, research, and report writing; \$240 per hour for out-of-town travel, and \$750 per hour for testimony (with a \$1,800 daily minimum). I bill for my assistant's time at a rate of \$160 per hour.

My resume and a four-year testimony log are included in this report as Appendices B and C. A list of recent publications is included in my resume.

3. Lost Earnings

S&D opine that Ms. Rothchild's lost earning capacity is \$406,660. I have no material disagreement with the plaintiff's claimed value of lost earnings.

4. Lost Household Services

S&D's report presents a value of lost household services through March 1, 2025, at which point such services are assumed to be covered by the LCP. However, S&D do not express an expert opinion regarding the number of service hours Ms. Rothchild could have provided but for her PD. They present an average number of hours based on data published by the U.S. Bureau of Labor Statistics, but that number applies to all women of Ms. Rothchild's age. S&D do not address the likelihood that Ms. Rothchild would have actually done that many hours of household chores.

Given the uncertainty regarding the extent of Ms. Rothchild's pre-PD provision of household services, and because S&D do not express an opinion about the number of service hours that were lost due to PD, it is my opinion that there is no basis to include lost household services in Ms. Rothchild's economic damages.

5. Future Medical Expenses: Life-Care Plan

A life-care plan (LCP) for Ms. Rothchild was prepared by the defense life-care planner, Michael Shahnasarian, Ph.D. The LCP describes various medications, treatments, and equipment that Dr. Shahnasarian believes Ms. Rothchild will need in the future as a result of her PD. The plan provides estimates of the costs of these items over Ms. Rothchild's remaining life expectancy.

The economic analysis of an LCP involves (a) identifying inflation, or growth, rates that allow medical costs to be projected into the future, and (b) using a discount rate to express the streams of future costs as lump-sum present values. I took the cost estimates provided in the Shahnasarian LCP and obtained reasonable growth rates for the costs in each category, based on components of the Consumer Price Index (CPI). Following S&D, I calculated average inflation rates over the period 2013-2024.¹ For the most part, I assigned CPI components in order to capture the bulk of the spending in each category, though I divided a few of Dr. Shahnasarian's categories into subcategories to capture the different nature (and inflation rates) of the activities in that category.

Table A on the following page associates these growth rates with the LCP categories.

The Shahnasarian LCP expresses costs in ranges for some items, so I followed suit and calculated lower and upper bounds on the value of the LCP. My projections start on March 1, 2025, and extend until the expected end of Ms. Rothchild's life. I used CDC demographic data to determine that Ms. Rothchild's remaining life expectancy on March 1 was 10.5 years, implying a total life expectancy of 88.5 years.²

¹ S&D state that their growth rates are the average annual percent changes in the corresponding components of the CPI between 2003 and 2023, but my calculations indicate that they were actually the averages between 2013 and 2023. I added 2024 because we now have data for all of that year.

² S&D calculate a total life expectancy of 88.3 years from February 6, 2025, the date of their report.

Table A: Life-Care Plan Categories and Growth Rates

LCP category	Growth Rate	CPI Component
Evaluations	1.52%	Physicians' services
Therapeutic Needs – Physicians		
Therapeutic Needs	1.45%	Services by other medical professionals
Diagnostic Tests		
Home Environmental Analysis		
Wheelchair Needs	0.84%	Medical equipment and supplies
Aids for Independent Living		
Supply Needs		
Drugs	2.11%	Prescription drugs
Home Facility Care	3.49%	Care of elderly and invalids at home
Finance/Accountant	2.74%	All items
Personal Fitness		

In order to calculate the present value of future medical expenses, I discounted all future values, using the same 4.35% discount rate that S&D used. The results of my analysis appear in Table B; detailed results appear in Appendix A.

Table B: Present Value of Life-Care Plan, by Category

LCP category	Lower	Upper
Evaluations	\$6,697	\$16,492
Therapeutic Needs – Physicians	\$14,039	\$19,167
Diagnostic Tests	\$530	\$1,280
Home Environmental Analysis	\$627	\$1,282
Wheelchair Needs	\$6,664	\$9,022
Aids for Independent Living	\$9,018	\$14,350
Supply Needs	\$8,190	\$9,034
Drugs	\$5,316	\$14,032
Home Facility Care – CNA	\$354,956	\$383,736
Home Facility Care – Support	\$16,336	\$21,781
Finance/Accountant	\$18,137	\$34,274
Personal Fitness	\$31,274	\$31,274
Other Medical Professionals	\$9,459	\$33,522
Total	\$481,243	\$589,246

As Table B shows, the present value of the cost of the Shahnasarian LCP is between **\$481,243** and **\$589,246**.

6. Offsets to Damages

The economic damages in this case are properly offset by certain defined expenses that have been and will be incurred by the federal government on behalf of Ms. Rothchild. In

principle, such offsets fall into two categories, (a) past and future disability benefits, and (b) past and future medical benefits.

Disability Benefits: Ms. Rothchild is not a military veteran, which means that disability benefits from the VA are not relevant to this analysis.

Medical Offsets: Ms. Rothchild's past medical offsets are addressed in a memorandum by a contractor to the federal agency that oversees Medicare. The memorandum states that **\$3,242.54** in PD-related claims by Rothchild in the past have been covered by Medicare.³

Ms. Rothchild's future medical offsets are summarized in a report by Henry Miller of the Berkeley Research Group, which lists the projected Medicare payments for the items in the Shahnasarian LCP. The Miller report retains the categories and treatments of the Shahnasarian LCP, and its implied results can be construed as a modification of the LCP. The results of the modified Shahnasarian LCP appear in Table C.

Table C: Present Value of Modified LCP, by Category – Medicare

LCP category	Lower	Upper
Evaluations	\$2,874	\$3,246
Therapeutic Needs – Physicians	\$6,320	\$6,320
Diagnostic Tests	\$181	\$181
Home Environmental Analysis	\$206	\$211
Wheelchair Needs	\$5,723	\$10,330
Aids for Independent Living	\$4,359	\$5,100
Supply Needs	\$0	\$0
Drugs	\$4,544	\$4,544
Home Facility Care – CNA	\$0	\$0
Home Facility Care – Support	\$0	\$0
Finance/Accountant	\$0	\$0
Personal Fitness	\$0	\$0
Other Medical Professionals	\$5,228	\$11,051
Total	\$29,435	\$40,984

As Table C shows, Medicare is projected to cover between **\$29,435** and **\$40,984** of the cost of the Shahnasarian LCP.

The court may decide to subtract these amounts from the corresponding lower and upper bounds of the present value of the original Shahnasarian LCP, to arrive at a net value of the cost of Ms. Rothchild's future medical care.

³ Memorandum by Kathleen Hunter, Benefits Coordination and Recovery Center, April 2025, CLJA_CMS_0000000127-133

7. Plaintiff's LCP

A plaintiff's LCP was produced by Michael Fryar, M.S. S&D calculated the present value of the Fryar LCP to be between \$588,408 and \$2,123,538. In case the court adopts the Fryar LCP, I calculated the value of the future medical offsets that apply to that LCP.

The Miller report addresses the Fryar LCP in addition to the Shahnasarian LCP. As he did with the latter, Mr. Miller lists the projected Medicare payments for the items in the Fryar LCP. The results of the modified Fryar LCP appear in Table D.

Table D: Present Value of Modified Fryar LCP, by Category – Medicare

LCP category	Lower	Upper
Physician Care	\$4,852	\$5,636
Evaluations	\$5,096	\$5,381
Therapies	\$14,748	\$26,233
Medications	\$13,490	\$13,490
Diagnostic & Laboratory Studies	\$177	\$177
Medical Equipment	\$18,401	\$18,401
Medical Supplies	\$0	\$0
Health & Strength Maintenance	\$0	\$0
Financial Management Services	\$0	\$0
Support Services	\$0	\$0
Home Care Services	\$0	\$0
Facility Care	\$37,577	\$0
Transportation	\$79	\$79
Residential Modifications	\$79	\$211
Total	\$94,498	\$69,608

Therefore, according to the Miller report, Medicare is projected to cover between **\$69,608** and **\$94,498** of the cost of the Fryar LCP.

It is counterintuitive for the upper bound in Table D to be smaller than the lower bound. That happened here because facility care and home care are treated differently by Medicare. Of the four “options” in the Fryar LCP, the cheapest one, Option 3 (which represents the lower bound in Table D), features facility care, while the most expensive one, Option 2 (which represents the upper bound in Table D), features home care. There is no facility care in Option 2, which is why there's a zero for Facility Care in the upper bound in Table D.

The other factor at work here is that Medicare doesn't cover the cost of a CNA when there is no skilled nursing, and as it happens, there are no RNs or LPNs in the Fryar LCP. As a result, Home Care is ignored by Miller and absent from Table D. It's still in the underlying LCP, but from a Medicare-payment perspective, it's absent and cannot offset the cost of Facility Care in the lower bound. Therefore, to calculate the cost of the Fryar LCP, net of offsets, one should subtract the larger number in Table D, \$94,498, from the lower bound of the Fryar LCP.

8. Conclusions

My findings in this report are as follows:

- (a) I have no material disagreement with the plaintiff's claimed value of lost earnings;
- (b) There is no basis for a claim of lost household services;
- (c) The present value of the Shahnasarian LCP is between **\$481,243** and **\$589,246**;
- (d) Past medical offsets total **\$3,243**;
- (e) The present value of future medical offsets is between **\$29,435** and **\$40,984**; and
- (f) If the court adopts the plaintiff's LCP, the present value of future medical offsets is between **\$94,498** and **\$69,608**, where the values are ordered in this way for the reasons discussed at the end of the previous section.

The opinions set forth in this report, which are my present opinions to a reasonable degree of certainty, are based in part upon my review of the available documents provided to me. The data and facts relied upon in formulating my conclusions are the type of data reasonably and typically relied upon by experts in the field of forensic economics.

9. References

- Short-Form Complaint
- Life-care plan by Michael Shahnasarian, Ph.D., May 2025
- Rehabilitation Evaluation of Diane Lynn Rothchild, by Michael Shahnasarian, Ph.D., May 2025
- Expert report by Henry Miller, May 2025
- Draft letter by Stephen Gollomp, M.D., May 2025
- Expert report by Chad L. Staller and Stephen M. Dripps, February 2025
- Life-care plan by Michael Fryar, February 2025
- Benefits Coordination and Recovery Center, Memorandum by Kathleen Hunter, April 2025, and associated data
- Department of Veterans Affairs, Office of Integrated Veteran Care, Memorandum and exhibit on Community Care Network, February 2025, and associated data
- Veterans Health Administration, Memorandum on VHA Expenses, March 2025, and associated data
- Letter from VBA, dated May 1, 2025, along with data spreadsheet, "RITA_2025-54151_results_04302025.xlsx"
- First Amended Track 1 Trial Plaintiff Damages Assessment of Diane Rothchild
- U.S. Department of Labor, Bureau of Labor Statistics: Consumer Price Index data at www.bls.gov/cpi/
- "United States Life Tables, 2021," *National Vital Statistics Reports*, Vol. 72, No. 12, November 2023

10. Author Information

My business name and address are:

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A handwritten signature in black ink that reads "Andrew C. Brod". The signature is written in a cursive, flowing style.

Appendix A

Shahnasarian LCP

Lower Bound

Year	Age on 1/1	Aids Indep Living	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$2,419	\$455	\$2,600	\$745	\$530	\$19,240	\$0	\$3,860	\$424
2026	79	\$483	\$535	\$3,072	\$864	\$0	\$22,897	\$0	\$634	\$0
2027	80	\$467	\$523	\$3,025	\$835	\$0	\$22,707	\$0	\$616	\$0
2028	81	\$494	\$512	\$2,978	\$807	\$0	\$22,519	\$0	\$599	\$0
2029	82	\$1,254	\$501	\$2,932	\$780	\$0	\$39,189	\$0	\$582	\$0
2030	83	\$525	\$490	\$2,887	\$754	\$0	\$38,864	\$0	\$566	\$109
2031	84	\$445	\$480	\$2,842	\$728	\$0	\$38,542	\$0	\$550	\$0
2032	85	\$1,106	\$470	\$2,799	\$704	\$0	\$38,222	\$0	\$535	\$0
2033	86	\$380	\$459	\$2,755	\$680	\$0	\$37,906	\$0	\$520	\$0
2034	87	\$402	\$450	\$2,713	\$657	\$0	\$37,592	\$0	\$506	\$0
2035	88	\$1,042	\$440	\$2,671	\$635	\$0	\$37,280	\$0	\$492	\$94
		\$9,018	\$5,316	\$31,274	\$8,190	\$530	\$354,956	\$0	\$9,459	\$627

Year	Age on 1/1	Wheel-chair Needs	Evals	Therapies, Physicians	Finance Mgmt	Support Services	Annual
2025	78	\$787	\$2,545	\$1,459	\$3,800	\$1,310	\$40,176
2026	79	\$145	\$352	\$1,419	\$1,536	\$1,559	\$33,496
2027	80	\$140	\$572	\$1,381	\$1,512	\$1,547	\$33,325
2028	81	\$135	\$333	\$1,343	\$1,489	\$1,534	\$32,743
2029	82	\$1,237	\$541	\$1,307	\$1,466	\$1,521	\$51,310
2030	83	\$674	\$315	\$1,271	\$1,443	\$1,508	\$49,408
2031	84	\$651	\$512	\$1,237	\$1,421	\$1,496	\$48,906
2032	85	\$1,131	\$299	\$1,203	\$1,399	\$1,483	\$49,350
2033	86	\$608	\$485	\$1,171	\$1,378	\$1,471	\$47,814
2034	87	\$588	\$283	\$1,139	\$1,357	\$1,459	\$47,144
2035	88	\$568	\$459	\$1,108	\$1,336	\$1,447	\$47,572
		\$6,664	\$6,697	\$14,039	\$18,137	\$16,336	\$481,243

Shahnasarian LCP

Upper Bound

Year	Age on 1/1	Aids Indep Living	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$4,153	\$1,202	\$2,600	\$822	\$1,280	\$20,800	\$0	\$8,263	\$727
2026	79	\$483	\$1,412	\$3,072	\$953	\$0	\$24,753	\$0	\$2,858	\$0
2027	80	\$513	\$1,381	\$3,025	\$921	\$0	\$24,548	\$0	\$2,779	\$0
2028	81	\$582	\$1,352	\$2,978	\$890	\$0	\$24,345	\$0	\$2,702	\$0
2029	82	\$1,355	\$1,323	\$2,932	\$860	\$0	\$42,366	\$0	\$2,626	\$293
2030	83	\$1,679	\$1,294	\$2,887	\$831	\$0	\$42,015	\$0	\$2,553	\$0
2031	84	\$565	\$1,267	\$2,842	\$803	\$0	\$41,667	\$0	\$2,482	\$0
2032	85	\$1,941	\$1,240	\$2,799	\$776	\$0	\$41,321	\$0	\$2,413	\$0
2033	86	\$418	\$1,213	\$2,755	\$750	\$0	\$40,979	\$0	\$2,346	\$262
2034	87	\$1,211	\$1,187	\$2,713	\$725	\$0	\$40,639	\$0	\$2,281	\$0
2035	88	\$1,450	\$1,161	\$2,671	\$700	\$0	\$40,303	\$0	\$2,218	\$0
		\$14,350	\$14,032	\$31,274	\$9,034	\$1,280	\$383,736	\$0	\$33,522	\$1,282

Year	Age on 1/1	Wheel-chair Needs	Therapies, Evals	Physicians	Finance Mgmt	Support Services	Annual
2025	78	\$922	\$7,603	\$1,992	\$5,600	\$1,747	\$57,712
2026	79	\$145	\$1,003	\$1,938	\$3,072	\$2,079	\$41,769
2027	80	\$140	\$976	\$1,885	\$3,025	\$2,062	\$41,255
2028	81	\$135	\$949	\$1,834	\$2,978	\$2,045	\$40,789
2029	82	\$1,306	\$923	\$1,784	\$2,932	\$2,028	\$60,730
2030	83	\$1,409	\$898	\$1,736	\$2,887	\$2,011	\$60,201
2031	84	\$733	\$874	\$1,689	\$2,842	\$1,995	\$57,759
2032	85	\$708	\$850	\$1,643	\$2,799	\$1,978	\$58,468
2033	86	\$684	\$827	\$1,598	\$2,755	\$1,962	\$56,550
2034	87	\$1,652	\$805	\$1,555	\$2,713	\$1,945	\$57,427
2035	88	\$1,187	\$783	\$1,513	\$2,671	\$1,929	\$56,586
		\$9,022	\$16,492	\$19,167	\$34,274	\$21,781	\$589,246

Shahnasarian LCP, Modified by Miller

Lower Bound

Year	Age on 1/1	Aids Indep Living	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$2,390	\$389	\$0	\$0	\$181	\$0	\$0	\$2,159	\$79
2026	79	\$0	\$457	\$0	\$0	\$0	\$0	\$0	\$347	\$0
2027	80	\$0	\$447	\$0	\$0	\$0	\$0	\$0	\$338	\$0
2028	81	\$0	\$438	\$0	\$0	\$0	\$0	\$0	\$328	\$0
2029	82	\$230	\$428	\$0	\$0	\$0	\$0	\$0	\$319	\$0
2030	83	\$0	\$419	\$0	\$0	\$0	\$0	\$0	\$310	\$68
2031	84	\$0	\$410	\$0	\$0	\$0	\$0	\$0	\$302	\$0
2032	85	\$415	\$401	\$0	\$0	\$0	\$0	\$0	\$293	\$0
2033	86	\$0	\$393	\$0	\$0	\$0	\$0	\$0	\$285	\$0
2034	87	\$0	\$384	\$0	\$0	\$0	\$0	\$0	\$277	\$0
2035	88	\$1,323	\$376	\$0	\$0	\$0	\$0	\$0	\$269	\$59
		\$4,359	\$4,544	\$0	\$0	\$181	\$0	\$0	\$5,228	\$206

Year	Age on 1/1	Wheel-chair Needs	Evals	Therapies, Physicians	Finance Mgmt	Support Services	Annual
2025	78	\$292	\$1,174	\$657	\$0	\$0	\$7,322
2026	79	\$0	\$151	\$639	\$0	\$0	\$1,594
2027	80	\$0	\$228	\$622	\$0	\$0	\$1,634
2028	81	\$0	\$143	\$605	\$0	\$0	\$1,514
2029	82	\$5,201	\$215	\$588	\$0	\$0	\$6,983
2030	83	\$0	\$135	\$572	\$0	\$0	\$1,505
2031	84	\$0	\$204	\$557	\$0	\$0	\$1,472
2032	85	\$230	\$128	\$542	\$0	\$0	\$2,009
2033	86	\$0	\$193	\$527	\$0	\$0	\$1,398
2034	87	\$0	\$121	\$513	\$0	\$0	\$1,295
2035	88	\$0	\$183	\$499	\$0	\$0	\$2,709
		\$5,723	\$2,874	\$6,320	\$0	\$0	\$29,435

Shahnasarian LCP, Modified by Miller

Upper Bound

Year	Age on 1/1	Aids Indep Living	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$2,390	\$389	\$0	\$0	\$181	\$0	\$0	\$3,550	\$79
2026	79	\$0	\$457	\$0	\$0	\$0	\$0	\$0	\$849	\$0
2027	80	\$0	\$447	\$0	\$0	\$0	\$0	\$0	\$825	\$0
2028	81	\$0	\$438	\$0	\$0	\$0	\$0	\$0	\$802	\$0
2029	82	\$230	\$428	\$0	\$0	\$0	\$0	\$0	\$780	\$70
2030	83	\$444	\$419	\$0	\$0	\$0	\$0	\$0	\$758	\$0
2031	84	\$0	\$410	\$0	\$0	\$0	\$0	\$0	\$737	\$0
2032	85	\$1,466	\$401	\$0	\$0	\$0	\$0	\$0	\$717	\$0
2033	86	\$0	\$393	\$0	\$0	\$0	\$0	\$0	\$697	\$63
2034	87	\$194	\$384	\$0	\$0	\$0	\$0	\$0	\$677	\$0
2035	88	\$374	\$376	\$0	\$0	\$0	\$0	\$0	\$659	\$0
		\$5,100	\$4,544	\$0	\$0	\$181	\$0	\$0	\$11,051	\$211

Year	Age on 1/1	Wheel-chair Needs	Evals	Therapies, Physicians	Finance Mgmt	Support Services	Annual
2025	78	\$292	\$1,174	\$657	\$0	\$0	\$8,713
2026	79	\$0	\$234	\$639	\$0	\$0	\$2,179
2027	80	\$0	\$228	\$622	\$0	\$0	\$2,122
2028	81	\$0	\$221	\$605	\$0	\$0	\$2,066
2029	82	\$5,201	\$215	\$588	\$0	\$0	\$7,514
2030	83	\$246	\$209	\$572	\$0	\$0	\$2,650
2031	84	\$0	\$204	\$557	\$0	\$0	\$1,908
2032	85	\$0	\$198	\$542	\$0	\$0	\$3,324
2033	86	\$0	\$193	\$527	\$0	\$0	\$1,872
2034	87	\$4,383	\$188	\$513	\$0	\$0	\$6,339
2035	88	\$208	\$183	\$499	\$0	\$0	\$2,298
		\$10,330	\$3,246	\$6,320	\$0	\$0	\$40,984

Fryar LCP, Modified by Miller

Lower Bound

Year	Age on 1/1	Equipment	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$6,965	\$1,156	\$0	\$0	\$177	\$0	\$0	\$2,548	\$79
2026	79	\$0	\$1,357	\$0	\$0	\$0	\$0	\$0	\$1,552	\$0
2027	80	\$393	\$1,328	\$0	\$0	\$0	\$0	\$0	\$1,509	\$0
2028	81	\$0	\$1,300	\$0	\$0	\$0	\$0	\$0	\$1,467	\$0
2029	82	\$367	\$1,272	\$0	\$0	\$0	\$0	\$0	\$1,426	\$0
2030	83	\$5,272	\$1,244	\$0	\$0	\$0	\$0	\$0	\$1,386	\$0
2031	84	\$342	\$1,218	\$0	\$0	\$0	\$0	\$0	\$1,348	\$0
2032	85	\$0	\$1,192	\$0	\$0	\$0	\$0	\$0	\$1,310	\$0
2033	86	\$320	\$1,166	\$0	\$0	\$0	\$0	\$37,577	\$1,274	\$0
2034	87	\$0	\$1,141	\$0	\$0	\$0	\$0	\$0	\$471	\$0
2035	88	\$4,741	\$1,117	\$0	\$0	\$0	\$0	\$0	\$458	\$0
		\$18,401	\$13,490	\$0	\$0	\$177	\$0	\$37,577	\$14,748	\$79

Year	Age on 1/1	Transport	Evals	Physician/ Medical	Finance Mgmt	Support Services	Annual
2025	78	\$79	\$718	\$586	\$0	\$0	\$12,307
2026	79	\$0	\$463	\$570	\$0	\$0	\$3,942
2027	80	\$0	\$512	\$554	\$0	\$0	\$4,296
2028	81	\$0	\$438	\$539	\$0	\$0	\$3,744
2029	82	\$0	\$484	\$525	\$0	\$0	\$4,073
2030	83	\$0	\$414	\$510	\$0	\$0	\$8,828
2031	84	\$0	\$458	\$497	\$0	\$0	\$3,863
2032	85	\$0	\$392	\$483	\$0	\$0	\$3,377
2033	86	\$0	\$434	\$201	\$0	\$0	\$40,972
2034	87	\$0	\$371	\$196	\$0	\$0	\$2,179
2035	88	\$0	\$411	\$191	\$0	\$0	\$6,917
		\$79	\$5,096	\$4,852	\$0	\$0	\$94,498

Fryar LCP, Modified by Miller

Upper Bound

Year	Age on 1/1	Equipment	Medications	Health & Strength	Supplies	Diagnostic Tests	Attendant Care	Facility Care	Other Medical Pros	Architect Renovs
2025	78	\$6,965	\$1,156	\$0	\$0	\$177	\$0	\$0	\$2,977	\$79
2026	79	\$0	\$1,357	\$0	\$0	\$0	\$0	\$0	\$2,803	\$0
2027	80	\$393	\$1,328	\$0	\$0	\$0	\$0	\$0	\$2,725	\$0
2028	81	\$0	\$1,300	\$0	\$0	\$0	\$0	\$0	\$2,649	\$0
2029	82	\$367	\$1,272	\$0	\$0	\$0	\$0	\$0	\$2,575	\$70
2030	83	\$5,272	\$1,244	\$0	\$0	\$0	\$0	\$0	\$2,504	\$0
2031	84	\$342	\$1,218	\$0	\$0	\$0	\$0	\$0	\$2,434	\$0
2032	85	\$0	\$1,192	\$0	\$0	\$0	\$0	\$0	\$2,367	\$0
2033	86	\$320	\$1,166	\$0	\$0	\$0	\$0	\$0	\$2,301	\$63
2034	87	\$0	\$1,141	\$0	\$0	\$0	\$0	\$0	\$1,469	\$0
2035	88	\$4,741	\$1,117	\$0	\$0	\$0	\$0	\$0	\$1,429	\$0
		\$18,401	\$13,490	\$0	\$0	\$177	\$0	\$0	\$26,233	\$211

Year	Age on 1/1	Transport	Evals	Physician/ Medical	Finance Mgmt	Support Services	Annual
2025	78	\$79	\$718	\$586	\$0	\$0	\$12,737
2026	79	\$0	\$526	\$570	\$0	\$0	\$5,256
2027	80	\$0	\$512	\$554	\$0	\$0	\$5,512
2028	81	\$0	\$498	\$539	\$0	\$0	\$4,986
2029	82	\$0	\$484	\$525	\$0	\$0	\$5,293
2030	83	\$0	\$471	\$510	\$0	\$0	\$10,002
2031	84	\$0	\$458	\$497	\$0	\$0	\$4,950
2032	85	\$0	\$446	\$483	\$0	\$0	\$4,487
2033	86	\$0	\$434	\$470	\$0	\$0	\$4,753
2034	87	\$0	\$422	\$457	\$0	\$0	\$3,490
2035	88	\$0	\$411	\$445	\$0	\$0	\$8,142
		\$79	\$5,381	\$5,636	\$0	\$0	\$69,608

Appendix B

ANDREW C. BROD

President, Brod Forensic Economics
Senior Research Fellow, Center for Business and Economic Research, UNC-Greensboro
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E-mail: Info@andrewbrod.com Web: <http://www.andrewbrod.com>

EDUCATION

1992: Ph.D. in Economics, University of Minnesota.
1985: M.A. in Economics, University of Minnesota.
1981: A.B. in Economics and Mathematics, University of Illinois.
Phi Beta Kappa, Cum Laude, and Distinction in Economics.

PROFESSIONAL EXPERIENCE

1997–present: President, Brod Forensic Economics
2010–present: Senior Research Fellow, Bryan School of Business and Economics, University of North Carolina at Greensboro.
1999–2010: Director, Center for Business and Economic Research, Bryan School of Business and Economics, University of North Carolina at Greensboro.
1989–99: Instructor and Assistant Professor, Department of Economics, University of North Carolina at Greensboro.
1988–89: Research Associate, University of Minnesota.
1986–88: Research Associate, Center for Health Policy Research, American Medical Association, Chicago, Illinois.
1981–85: Teaching Associate and Research Assistant, University of Minnesota.

RECENT APPLIED RESEARCH STUDIES

“Triad Business Census 2023,” for Triad Business Bank, February 2023
“Triad Business Census 2021,” for Triad Business Bank, May 2021
“Economic Impact of ‘60-by-30’,” for Community Foundation of Greater Greensboro, February 2020
“Assessing In-State Tuition for DACA Recipients,” for Community Foundation of Greater Greensboro, December 2019
“Triad Business Census 2019,” a feasibility study for TBB Organization, April 2019
“Economic Impact of the Proposed Lehigh Hanson Distribution Yard,” for Lehigh Hanson, Inc., August 2018.
“Valuation of Loflin Concrete and Related Entities,” for Loflin Concrete Company, Inc., August 2018.

“Assessment of Studies of House Values Near Rock Quarries,” for Lehigh Hanson, Inc., October 2017.

“Economic Impact of the Proposed Lehigh Hanson Quarry,” for Lehigh Hanson, Inc., October 2017.

“North Carolina Sales Tax Model,” for the North Carolina Economic Modeling Project, August 2017.

“Bee Safe Feasibility Study,” for The Carroll Companies, August 2016.

“Canada in the North Carolina Economy,” for the Department of Foreign Affairs, Trade and Development, Government of Canada, March 2016.

“The Economic Impact of the Greensboro Fire Department,” for the City of Greensboro, December 2015.

“Cityfi: Citywide Public Wi-Fi,” with Roch Smith, Jr., for the City of Greensboro’s Strong Cities, Strong Communities Challenge, June 2015.

“Assessing the North Carolina Film Tax Credit,” for Winston-Salem Business, Inc., May 2015.

“North Carolina Urban/Suburban Poverty,” for the City of Greensboro, September 2014.

“The Economic Impact of the Fuquay-Varina Cultural Arts Center,” for the FV Arts Foundation, September 2014.

“Macroeconomic Assessment of North Carolina’s Triad Region,” for Kisco Senior Living, August 2013.

“The Economic Impact of Improvements to Highway 17,” subcontract to Atkins Global, for the Highway 17 Association, February 2013.

“The History of Norfolk State University,” subcontract to Jack Faucett Associates, for the Economic Impact of Norfolk State University, Norfolk State University, December 2012.

“Analysis of Hendersonville, TN, Apartment Market,” for The Carroll Companies, May 2012.

“The Economic Impact of the Whitaker Park Development,” for Winston-Salem Business, Inc., June 2011.

“The Economic Impact of RAFI-USA’s Tobacco Communities Reinvestment Fund,” for the Rural Advancement Foundation International-USA, May 2011.

“A GIS Chartbook: RAFI-USA’s Tobacco Communities Reinvestment Fund,” with Bradley Bereitschaft, for the Rural Advancement Foundation International-USA, May 2011.

“Demographic and Economic Projections: North Carolina in 2040,” subcontract to PBS&J, for the North Carolina Statewide Transportation Plan, North Carolina Department of Transportation, March 2011.

“The Economic Impact of the Proposed National Banjo Center,” for Piedmont Folk Legacies, June 2010.

“The Economic Impact of UNCG’s Proposed School of Pharmacy,” for The University of North Carolina at Greensboro, April 2010.

“State Wine Regulations,” for The North Carolina Wine and Grape Council, April 2010.

“The Economic Impact of the Natural Science Center of Greensboro,” for the Natural Science Center of Greensboro, February 2009.

“An Economic Analysis of Case Management in Guilford County,” with Christopher Ruhm, for the Moses Cone Wesley Long Community Health Foundation, November 2008.

“Economic and Demographic Projections: North Carolina in 2020 and 2030,” subcontract to North Carolina State University’s Institute for Transportation Research and Education, for the NC Logistics Plan, North Carolina Office of State Budget and Management, April 2008.

“Guilford County’s Retail ‘Exports’,” for the Greensboro Merchants Association, April 2008.

RECENT NEWSPAPER AND MAGAZINE ARTICLES

“Lost Household Services in Lost Wages Projections,” *Triangle Attorney at Law*, January 2025

“Life-Care Plans and the Forensic Economist,” *Triangle Attorney at Law*, September 2024

“What For? The But-For Scenario,” *Triangle Attorney at Law*, June 2024

“Wrongful Death Cases Can Be Tricky,” *Triangle Attorney at Law*, February 2024

“Could ChatGPT Be Your Next Expert Witness?,” *Triangle Attorney at Law*, August 2023

“Covid-19, Life Expectancy, and Economic Damages,” *Triangle Attorney at Law*, February 2023

“Hedonic Damages in Civil Litigation,” *Triangle Attorney at Law*, October 2022

“Daubert Challenges from an Economist’s Perspective,” *Triangle Attorney at Law*, June 2022

“Lost Profit in Business Litigation,” *Triangle Attorney at Law*, February 2022

“Boom Supersonic Takes Flight,” *Greensboro News & Record*, January 30, 2022

“What the Pandemic Did to Your Business and My Business,” *Triangle Attorney at Law*, October 2021

“Economic Damages Playing Bigger Role in Med-Mal Cases,” *Triangle Attorney at Law*, May 2021

“A Decade of Interesting Economic Policy in N.C.,” *Triad Business Journal*, January 17, 2020

“When Giving, Remember the Cost of Unintended Consequences,” *Triad Business Journal*, December 6, 2019

“Trump in a Landslide?,” *Triad Business Journal*, October 25, 2019

“Don’t Oversell the Creative Economy,” *Triad Business Journal*, October 4, 2019

“Recessions – Remember Them?,” *Triad Business Journal*, September 6, 2019

“State Health Plan: A Game of Chicken?,” *Triad Business Journal*, August 2, 2019

“Let’s Dive Into the Triad’s Payroll Puzzle,” *Triad Business Journal*, May 31, 2019

“Treading Water: It’s Worse Than I Thought,” *Triad Business Journal*, April 26, 2019

“The Life Cycle in Forensic Economics,” *Triangle Attorney at Law Magazine*, April 2019

“The Yield Curve Inverted! The Yield Curve Inverted!,” *Triad Business Journal*, March 29, 2019

“Democratic Socialism or Social Democracy?,” *Triad Business Journal*, March 1, 2019

“NFL Drug Testing and the Sexes of Grandchildren,” *Triad Business Journal*, December 28, 2018

“Flipping the Bird at Pedestrians in the Triad?,” *Triad Business Journal*, November 30, 2018

“Trump, Media Confused on ‘Time Value of Money’,” *Triad Business Journal*, October 26, 2018

“Reflecting on Triad Workforce, 20 Years Later,” *Triad Business Journal*, September 14, 2018

“Medicare For All: Too Costly or Worth the Risk?,” *Triad Business Journal*, August 30, 2018

“The Economic Outlook: Rosy, Gloomy, or Iffy?,” *Triad Business Journal*, August 3, 2018

“If Labor is Scarce, Why Aren’t Wages Rising More?,” *Triad Business Journal*, June 29, 2018

“Are Rising Gasoline Prices an Omen of Recession?,” *Triad Business Journal*, June 1, 2018

“Medicaid Expansion: It’s Still Not Too Late for North Carolina,” *Triad Business Journal*, March 30, 2018

“Can We Really Win a Trade War?,” *Triad Business Journal*, March 9, 2018

“Loss of Auto Plant Hurts Even More the Second Time,” *Triad Business Journal*, January 26, 2018

“Here’s What the Triad Should Be Watching in 2018,” *Triad Business Journal*, January 5, 2018

“Can Greensboro-High Point's land Amazon's HQ2?,” *Triad Business Journal*, November 24, 2017

“Police Pursuits and the Value of a Statistical Life,” *Triad Business Journal*, October 27, 2017

“Celebrate Labor Day by Debunking Workforce Myths,” *Triad Business Journal*, September 1, 2017

“The Occasionally Curious World of Forensic Economics,” *Triangle Attorney at Law Magazine*, September 2017

“A Tale of Two, or Perhaps Five, North Carolinas,” *Triad Business Journal*, July 28, 2017

“Cutting Retiree Health Benefits is Penny-Wise and Pound-Foolish,” *Triad Business Journal*, June 30, 2017

“Public Cruelty as Economic Policy,” *Triad Business Journal*, May 26, 2017

“Auctions in the Air,” *Triad Business Journal*, April 28, 2017

“HB2 Means Slower Growth for North Carolina,” *Triad Business Journal*, March 31, 2017

“U.S. Labor Markets are Returning to (Almost) Normal,” *Triad Business Journal*, February 24, 2017

“Will U.S. Economy Suffer from a Trump Recession?,” *Triad Business Journal*, January 27, 2017

“Why is HB2 Still with Us? It's the Urban/Rural Divide,” *Triad Business Journal*, January 13, 2017

“Can President Trump Bring Back Manufacturing Jobs?,” *Triad Business Journal*, December 2, 2016

“This Year, the Economy Favors Neither Candidate,” *Triad Business Journal*, October 28, 2016

“North Carolina is Suffering from Self-Inflicted Wounds,” *Triad Business Journal*, October 24, 2016

RECENT PUBLIC PRESENTATIONS

“Writing Opinion Columns”: UNCG Young Writers’ Camp, 7/14/23 and 7/12/19

“Brief Economic Update”: Summit Rotary Club, 6/2/23; Institute of Management Accountants, Triad Chapter, 10/18/18; Edward R. Murrow Kiwanis, 8/14/18; Temple Emanuel, 11/1/17; Gate City Rotary Club, 8/17/17; Greensboro Kiwanis Club, 1/12/17; Institute of Management Accountants, Triad Chapter, 10/20/16; Crescent Rotary Club, 10/10/16.

“Coronavirus Economics”: Temple Emanuel, 7/29/20; Gate City Rotary Club, 5/14/20.

“‘60 by 30’: The Impact of Educational Attainment in Guilford County”: Community Foundation of Greater Greensboro, 5/22/20 and 2/25/20.

“U.S./North Carolina Economic Update”: Piedmont Triad Apartment Association, 1/17/20; Society of Financial Service Professionals, 2/20/18; Alamance Community College Foundation, 9/17/17; Society of Financial Service Professionals, 1/17/17; Bernard Robinson & Co., 10/25/16, 10/27/16; Society of Financial Service Professionals, 1/19/16.

“Forensic Economics”: UNCG chapter of National Association for Business Economics, 1/31/18.

“Economic Update for the U.S. and the Transportation Sector”: Transplace Southeast Carrier Symposium, 1/18/18, 11/10/16.

“Triad Economic Update/The Triad Business Index”: Moderate Chic Club, 8/25/16.

“The Economics of the Minimum Wage”: Southern Guilford Rotary Club, 7/19/16.

“Economic Implications of USPS Privatization”: Grand Alliance to Save our Public Postal Service, 6/29/16.

“The Economics of Immigration”: Holy Trinity Episcopal Church, 3/6/16.

ACADEMIC PUBLICATIONS

“Trends in Cooperative Research Activity: Has the National Cooperative Research Act Been Successful?” (with A. Link), in *Innovation Policy in the Knowledge-Based Economy* (edited by M. Feldman and A. Link), Kluwer Academic Publishers, 2001.

“Advantageous Semi-Collusion,” with Ram Shivakumar, *Journal of Industrial Economics*, June 1999.

“Migraine Preventive Medications: A Reappraisal,” with James Adelman, Randal Von Seggern, Lisa Mannix, and Alan Rapoport (2nd author), *Cephalalgia*, November 1998.

“Domestic versus International R&D Spillovers,” with Ram Shivakumar, *Economics Letters*, October 1997.

“R&D Cooperation and the Joint Exploitation of Cooperative R&D,” with Ram Shivakumar, *Canadian Journal of Economics*, August 1997.

“Economics as One of the Humanities: A Comment,” *Southern California Interdisciplinary Law Journal*, Winter 1995.

“Can Green Trade be Free Trade?,” *Global Perspectives*, Summer 1994.

RECENT PROFESSIONAL AND COMMUNITY SERVICE

2020–present: President, Finance Chair, and member of Board of Trustees, Temple Emanuel, Greensboro, NC

2006–20: Vice President, Campaign Chair, and member of Board of Trustees, Greensboro Jewish Federation.

2000–12: President, Vice President for Education, and member of Board of Trustees, Temple Emanuel, Greensboro, N.C.

2010–11: Member, Campaign Planning Committee, Community Theatre of Greensboro.

2006–2010: Faculty advisor, Hillel, The University of North Carolina at Greensboro.

2003–2005, 2006–2010: Vice President and member of Board of Directors, Association for University Business and Economic Research.

1999–2005: Member, Board of Directors, American Civil Liberties Union of North Carolina.

2001–02: Member, Action Greensboro task force on Attracting and Retaining Young Professionals.

2000–02: Member, Technical Advisory Team, City of Greensboro Comprehensive Plan, Greensboro, N.C.

1999–2000: Chair, Living-Wage Study Committee, City of Greensboro, N.C.

1999: Member, Citizen’s Advisory Board, Department of Storm Water Services, City of Greensboro, N.C.

Appendix C

Four-Year Testimony Log for Dr. Andrew Brod As of May 8, 2025

1. Estate of Guadalupe Vazquez-Alvarado v. Stellar HVAC LLC, et al
Damages expert for plaintiff's counsel, Riddle & Riddle LLP
Deposed: February 18, 2025
2. Sopheap Pang v. Wake Forest University Baptist Medical Center, et al
Damages expert for plaintiff's counsel, Law Offices of Gregory Kash
Deposed: January 31, 2025
3. Filomeno Orozco Vaquero v. Toll NC II LP, et al
Damages expert for plaintiff's counsel, Bricio Law Firm
Deposed: December 17, 2024
4. Aaron Casasola-Robles v. Ana T. Daley, R.N., et al
Damages expert for plaintiff's counsel, Mills & Mahoney, PA
Deposed: November 19, 2024
5. Clifford Hyatt v. North Carolina Farm Bureau Insurance, et al
Damages expert for plaintiff's counsel, Poisson, Poisson & Bower
Testified at arbitration hearing: November 6, 2024
6. Gregory Burgess v. United States of America
Damages expert for defendant's counsel, U.S. Department of Justice
Deposed: February 22, 2024
7. Rachelle Robinson-Ware v. Keenen Menefee-Long
Damages expert for plaintiff's counsel, Bullock, Clay & Furr, PLLC
Testified at trial: February 1, 2024
8. Jeffery Cambre v. Medical Imaging Center LLC, et al
Damages expert for plaintiff's counsel, Anderson, Johnson, Lawrence & Butler, LLP
Testified at trial: November 7, 2023
Deposed: May 3, 2023
9. Estate of Larry Toney v. Atrium Health, Inc., et al
Damages expert for plaintiff's counsel, Comerford, Chilson & Moser, LLP
Deposed: July 5, 2023
10. Estate of Worth Carter, Jr. v. Judith Szulecki, M.D.
Damages expert for plaintiff's counsel, Young, Haskins, Mann, Gregory & Wall, PC
Deposed: June 27, 2023

11. David Carmely v. United States of America
Damages expert for defendant's counsel, U.S. Department of Justice
Testified at trial: March 8, 2023
12. Estate of William Conti v. Jeremy Holdsworth, M.D., et al
Damages expert for plaintiff's counsel, Melvin Law Firm
Deposed: February 20, 2023
13. CIP Construction Company, et al v. Schindler Elevator Company
Damages expert for plaintiff's counsel, Rossabi Law Partners
Deposed: August 10, 2022
14. Donald Pearce v. Novant Medical Group, et al
Damages expert for plaintiff's counsel, Melvin Law Firm
Deposed: June 15, 2022
15. Lorraine Rusch v. High Point Clinical Trials Center LLC, et al
Damages expert for defendant's counsel, Rossabi Law Partners
Testified at trial: April 1, 2022
Deposed: December 22, 2021
16. April Williams v. North Carolina Baptist Hospital, et al
Damages expert for plaintiff's counsel, Melvin Law Firm
Deposed: March 10, 2022
17. Estate of Jennifer Huddle Edwards v. William Lindel, MD, et al
Damages expert for plaintiff's counsel, Gardner Barrow & Sharpe PC
Deposed: February 28, 2022
18. Cecil Staton v. Harry Smith, et al
Damages expert for defendant's counsel, Fox Rothschild LLP
Deposed: January 19, 2022
19. Estate of Kristopher Parks v. D Benton, Inc. et al
Damages expert for plaintiff's counsel, Riddle & Brantley
Deposed: December 14, 2021
20. Juanita Danzy v. Coloplast Corp. et al
Damages expert for plaintiff's counsel, Martin Baughman
Deposed: December 10, 2021
21. Estate of Justin Haggard v. Todd Ellis et al
Damages expert for plaintiff's counsel, Tatum Law Firm
Deposed: November 10, 2021
22. Joyce Hardison v. Wanda Goodson
Damages expert for plaintiff's counsel, Poisson, Poisson & Bower
Testified at trial: May 21, 2021