GIGI PATIENT ADVOCACY · RESEARCH APPENDIX

Evidence and Statistics — Problem Slide Sources

Compiled 2026-08-22 · Research data, not legal, tax, or medical advice

Research: Evidence and Proof Points

Collected 2026-08-22. Every figure traced to a primary source. See the DO NOT USE list at the bottom before writing any slide.

THE EIGHT STATS TO BUILD THE DECK ON

#	Stat	Source	Year
1	40-80% of medical information given by clinicians is forgotten immediately, and almost half of what is remembered is incorrect	Kessels, J R Soc Med	2003
2	59% of adults 65+ have Basic or Below Basic health literacy. Only 3% are Proficient	NCES, NAAL	2003/2006
3	19% of in-network ACA claims denied. Fewer than 1% of denials appealed. 34% of appeals overturned	KFF	2026 (2024 plan yr)
4	80.7% of appealed Medicare Advantage prior-auth denials are overturned, but only 11.5% are ever appealed	KFF	2026 (2024 data)
5	45% of insured adults got a bill for something they thought was covered. Fewer than half challenged it. ~40% of challengers got it reduced or wiped	Commonwealth Fund	2024
6	21% of second-opinion patients got a distinctly different diagnosis. 66% refined. Only 12% confirmed unchanged	Mayo Clinic, J Eval Clin Pract	2017
7	Only 58% of family caregivers say coordinating care is easy, down from 65% in 2015	AARP / NAC	2025
8	Clinicians elicit the patient's agenda in 36% of encounters and interrupt after a median of 11 seconds. An uninterrupted patient finishes in 6	Singh Ospina et al., JGIM	2019

1. PATIENTS FORGET WHAT THE DOCTOR SAID

Kessels RPC. "Patients' memory for medical information." J R Soc Med. 2003 May;96(5):219-222.
PDF: https://www.everybodytexas.org/uploads/files/general/2003-05_JRCM_Kessels_PatientMemory.pdf

> *"40-80% of medical information provided by healthcare practitioners is forgotten immediately. The greater the amount of information presented, the lower the proportion correctly recalled; furthermore, almost half of the information that is remembered is incorrect."*
> *"Memory for medical information is often poor and inaccurate, especially when the patient is old or anxious. Patients tend to focus on diagnosis-related information and fail to register instructions on treatment."*

CAVEAT: Kessels is a REVIEW, not an original study. The headline numbers rest on McGuire 1996 (Exp Aging Res) and Anderson et al. 1979 (a small single-clinic UK rheumatology study). Cite it as "a widely cited review in the Journal of the Royal Society of Medicine." Do not call it a large trial.

If someone says 2003 is old: Lie HC et al., "Effects of Physicians' Information Giving on Patient Outcomes: a Systematic Review." JGIM 2021;37(3):651-663. https://pmc.ncbi.nlm.nih.gov/articles/PMC8858343/

> *"Patients commonly forget or misunderstand 40-80% of the information provided by physicians."*

The conservative modern US replication: Laws MB et al., PLOS ONE 2018;13(2):e0191940. n=101 patients, 189 outpatient visits, coded transcripts plus phone interview a week later.
- 49% of decisions and recommendations recalled freely and accurately
- 36% recalled only with prompting
- 15% recalled wrongly or not at all
- **Education gradient: less than high school recalled 38% accurately; college graduates 65% (p<.0001)**

2. HEALTH LITERACY

NCES, The Health Literacy of America's Adults (NAAL), NCES 2006-483, Sept 2006. https://nces.ed.gov/pubs2006/2006483.pdf

All US adults: Below Basic 14%, Basic 22%, Intermediate 53%, Proficient 12%. **36% at Basic or Below Basic.**

Adults 65+ (the number for a senior-focused pitch): Below Basic 29%, Basic 30%, Intermediate 38%, **Proficient 3%.**
59% of adults 65+ are at Basic or Below Basic. Only 3% are Proficient. Every other age band sits at 53-58% Intermediate. The 65+ group is the sharp outlier.

> *"Adults ages 65 and older had lower average health literacy than adults in younger age groups."*

HHS framing (America's Health Literacy, 2008): "Over a third of U.S. adults, 77 million people, would have difficulty with common health tasks, such as following directions on a prescription drug label."
Great slide copy, because it makes literacy concrete. Below Basic = "read a set of short instructions and identify what is permissible to drink before a medical test."

CAVEAT: NAAL 2003 is the ONLY national assessment of US adult health literacy ever conducted. Never repeated. Date it honestly.
Closest fresh proxy, and it got WORSE: NCES PIAAC 2023 (released Dec 2024) — US adults at the lowest literacy proficiency rose from 19% in 2017 to **28% in 2023**. That is general literacy, not health literacy. Say so.

3. MEDICAL BILLS

USE THIS — Commonwealth Fund, 1 Aug 2024

Collins SR, Roy S, Masitha R. "Unforeseen Health Care Bills and Coverage Denials by Health Insurers in the U.S."
https://www.commonwealthfund.org/publications/issue-briefs/2024/aug/unforeseen-health-care-bills-coverage-denials-by-insurers
Survey n=7,873 adults; billing base n=4,803.
- **45% of insured working-age adults got a bill or copay for something they thought should have been free or covered**
- **Fewer than half of those challenged it.** Most common reason for not challenging: not knowing they had the right to.
- **Nearly 2 in 5 who challenged got the bill reduced or eliminated**
- 17% had care denied that their doctor recommended; more than half never challenged it
- ~Half of those who challenged a denial got some or all services approved
- Nearly 6 in 10 who had a denial said care was delayed; 47% said the problem got worse; 80% reported worry and anxiety

This is the best single slide in the deck. 45% get a wrong bill, fewer than half push back, ~40% of those who push back win. The gap between wrong bills issued and wrong bills challenged IS the business.

KFF Health Care Debt Survey, 16 June 2022

41% of adults have current health care debt; 57% had it in the past 5 years; 63% cut spending on food or household items; 47% contacted by collections; **64% delayed or skipped needed care due to cost**; 15% were denied care by a provider over unpaid bills.
CAVEAT: this survey has NO surprise-bill prevalence question. Do not source a surprise-bill stat to it.

Size of US medical debt: use $220 billion

Peterson-KFF Health System Tracker, 12 Feb 2024, Census SIPP data. **"People in the United States owe at least $220 billion in medical debt."** 20 million people, nearly 1 in 12 adults.
The commonly quoted $195 billion is the superseded March 2022 edition. Using it in 2026 looks stale.

CFPB, Medical Debt Burden in the United States, Feb 2022

- $88 billion in medical debt on consumer credit records as of June 2021

- **58% of all third-party debt collection tradelines were medical debt — the most common type. Next was telecom at 15%.**
  DO NOT say the CFPB medical debt credit reporting rule is in force. Finalized 7 Jan 2025, **VACATED 11 July 2025** in Cornerstone Credit Union League v. CFPB.

4. INSURANCE DENIALS — the strongest quantitative material available

KFF, Claims Denials and Appeals in ACA Marketplace Plans in 2024, published 24 March 2026

https://www.kff.org/patient-consumer-protections/claims-denials-and-appeals-in-aca-marketplace-plans-in-2024/

> *"HealthCare.gov insurers denied 19% of in-network claims in 2024 and 37% of out-of-network claims for a combined average of 20% of all claims."*
> *"Consumers rarely appeal denied claims (fewer than 1% of denied claims were appealed), and when they do, insurers usually uphold their original decision (66% of appeals were upheld)."*
> *- ~85 million in-network claims denied*
> *- 262,982 internal appeals filed — an appeal rate under 1%*
> *- **34% of appeals overturned***
> *- Denial rates ranged 3% to 36% across issuers*
> *- Top denial reason: "Other"/unspecified 36%. Medical necessity only 5%.*
> *2023 plan year: 20% in-network denied, 44% of appeals overturned.*
> *YEAR WARNING: trade press garbles this. KFF says 20% for 2023 and 19% for 2024. Always state the plan year.*

KFF, Medicare Advantage prior authorization, published 28 Jan 2026 — THE STRONGEST STAT

- ~53 million prior authorization requests in 2024
- 4.1 million denied (7.7%)
- **Only 11.5% of denied requests were appealed**
- **80.7% of appealed denials were partially or fully overturned.** Over 80% every year examined.

"Four out of five appealed denials get reversed, but only one in nine denials is ever appealed." That sentence alone is the value proposition.

KFF, post-acute care denials, published 6 July 2026 — directly relevant to a nurse-led senior practice

Setting	Denied	Appealed	Approved on appeal
Long-term care hospitals	65%	36%	36%
Inpatient rehab	54%	31%	43%
Skilled nursing facilities	12%	**18%**	**95%**
95% of appealed SNF denials get approved, and only 18% are appealed.			

KFF, 13 August 2026 (2025 data) — freshest available

Medicare Advantage standard PA denial 12%, overturned on appeal 67%. Medicaid managed care 14% / 47%. ACA Marketplace 18% / 43%.

HHS OIG, Report OEI-09-18-00260, 27 April 2022 — the denials were simply WRONG

13% of denied prior authorization requests actually met Medicare coverage rules and should have been approved. 18% of denied payment requests met both coverage and billing rules.
This is a federal audit, not a survey. Most authoritative "the denial itself was wrong" citation in existence.

KFF Survey of Consumer Experiences, 15 June 2023

58% of insured adults had an insurance problem in the past 12 months. **Only about 1 in 10 filed a formal appeal.** 19% never resolved.

5. SECOND OPINIONS AND DIAGNOSTIC ERROR

Mayo Clinic, Van Such M et al., J Eval Clin Pract 2017;23(4):870-874

n=286 patients referred to Mayo General Internal Medicine, 2009-2010.
- **Referral diagnosis confirmed unchanged: 12% (36/286)**
- **Better defined or refined: 66% (188/286)**
- **Distinctly different: 21% (62/286)**

Dr. Naessens, Mayo press release: "Knowing that more than 1 of every 5 referral patients may be completely incorrectly diagnosed is troubling."

TWO CAUTIONS: (1) the widely circulated "88% had treatment plans updated" does NOT appear in the paper — it is a press roll-up of 66%+21%. (2) Denominator matters: these were patients already referred to a tertiary center for ambiguous problems. Honest framing is "among patients referred for a second opinion at an academic medical center." Not a general-population misdiagnosis rate.

SAFEST diagnostic-error citation — National Academy of Medicine, Improving Diagnosis in Health Care, 2015

> *"It is likely that most people will experience at least one diagnostic error in their lifetime, sometimes with devastating consequences." Also: 5% of US adults seeking outpatient care each year experience a diagnostic error; diagnostic errors contribute to ~10% of patient deaths; diagnostic errors are the leading type of paid malpractice claim.*
> ***National Academies consensus report, uncontested. If you want one diagnostic-error stat with zero attack surface, use this.***

The 795,000 figure — use carefully or not at all

Newman-Toker DE et al., BMJ Qual Saf 2024;33(2):109-120. 795,000 Americans annually die or are permanently disabled from misdiagnosis. Plausible range 598,000-1,023,000 (Monte Carlo, NOT a confidence interval).
CONTESTED. A nine-organization letter (AAEM, ABEM, ACEP, SAEM et al., 14 Dec 2022) formally disputes the underlying AHRQ report: the 5.7% ED error rate rests on two non-US studies (Canary Islands 2006, Switzerland 2019), and the 250,000-death extrapolation "stems from a single study... in which a single patient died."
If used, the safe sentence is: "AHRQ-funded researchers estimate roughly 800,000 Americans a year are killed or permanently disabled by diagnostic error, with a plausible range of about 600,000 to 1 million, an estimate that emergency medicine's professional bodies have formally disputed on methodological grounds."
Recommendation for a friends-and-family deck: skip it. Use the NAM 2015 line instead. It is stronger rhetorically and has no attack surface.

6. CAREGIVERS

Caregiving in the US 2025, AARP + National Alliance for Caregiving, published 24 July 2025

n=6,858 caregivers, probability-based panel.
- **63.0 million US family caregivers (24% of all adults)**
- **Up 45% since 2015** (43.5M in 2015, 53.0M in 2020, 63.0M in 2025)
- **Average 27 hours of care per week.** 24% provide 40+ hours.
- Average caregiver age 51. 61% women.

Distance (Figure 8): 40% live with the care recipient (up from 34% in 2015), 35% within 20 minutes, 13% 20-60 min, 4% 1-2 hrs, **8% 2+ hrs. 11% live an hour or more away.**
Derived: 11% of 59M caregivers of adults is roughly 6.5 million long-distance caregivers. LABEL THIS AS DERIVED — it is our multiplication, not AARP's.

Medical tasks: 55% of caregivers perform medical/nursing tasks (injections, catheters, wound care, tube feeding). **Only 22% receive any training for those tasks.**
WARNING: AARP's own press release says "11% received medical training." That is wrong — 11% is training for ADLs/IADLs. The report says 22% for medical/nursing tasks. Cite the PDF, never the press release.

Care coordination — the sharpest problem statement (Figures 23-24):
- 64% communicate with health care professionals
- 58% advocate with providers, services, agencies
- **Only 58% say coordinating care is EASY, down from 65% in 2015 and 59% in 2020**

> *"Care coordination remains a challenge... continuing a downward trend from 2015 (65 percent) and 2020 (59 percent)."*
> ***The declining trend is a market-timing argument, not just a problem statement.***

Financial: 25% took on debt due to caregiving. 14% unable to afford basics like food (up from 11% in 2020). 70% of working-age caregivers worked while caregiving.

Valuing the Invaluable 2026, AARP, published 26 March 2026 (2024 data)

Economic value of unpaid family caregiving: $1.01 TRILLION per year. 49.5 billion hours at $20.41/hr. Equivalent to 23.8 million full-time workers.
Benchmarks: more than all US health care spending by private business in 2024 ($967B). More than all Medicaid spending ($932B).
Series: 2006 $350B, 2021 $600B, 2024 $1.01T.
NOTE: AARP says estimates "are not directly comparable across years" — methodology changed. Do not present the jump as pure real growth. **The commonly quoted $600 billion is two editions stale.**

Caregiver out-of-pocket, AARP 2021

Average $7,242/yr; 78% report regular out-of-pocket costs; 26% of income spent on caregiving.
DATE IT: 2021 data, pre-inflation, AARP still recycles it without re-fielding.

7. AGING AND CHRONIC DISEASE

Census

2020 actual: **55.8 million aged 65+, 16.8% of the population.** Grew 38.6% from 2010, "the fastest growth rate of any decade since 1880 to 1890."
2023 vintage projections: 2025 63.3M (18.7%), **2030 71.2M (20.6%)**, **2040 78.3M (22.0%)**, 2050 82.1M (22.8%).
85+ more than doubles: **6.5M in 2022 to 13.7M in 2040, a 111% increase** (ACL, 2023 Profile of Older Americans).
By 2030 all Baby Boomers will be older than 65 — safe arithmetic.
Living alone (ACL 2023): 28% (16.2 million) of community-dwelling older adults live alone. 33% of women. Among women 75+, 42% live alone. Strong support for the remote-caregiving pitch.

Multiple chronic conditions — two federal figures, do not blend

- NHIS 2018 (10 conditions): **65+ with 2+ chronic conditions = 63.7%**; with 1+ = 87.6%
- BRFSS 2023 (12 conditions): **65+ with 2+ = 78.8%** (2013: 78.4%)
- NCHS 2025, adults 85+: **37.3% have FOUR OR MORE chronic conditions.** Hypertension 66.9%, arthritis 55.9%.

HONESTY POINT: prevalence is FLAT, the population is growing. Do not claim chronic disease rates are rising among older adults. They are not. The growth story is purely demographic — which is a stronger and more falsifiable argument anyway.

The "13 physicians / 50 prescriptions" stat

Real, but almost always miscited. Dr. Gerard Anderson, Johns Hopkins, testimony to US Senate Special Committee on Aging, 9 May 2007:

> *"Medicare beneficiaries with 5+ chronic conditions see an average of 13 different physicians and fill 50 different prescriptions during the year."*
> *TWO CORRECTIONS: (1) it applies to **5 OR MORE** chronic conditions (23% of Medicare beneficiaries), NOT "multiple." Citing it for 2+ is factually wrong. (2) It is ~19 years old.*
> *Related, RWJF/Johns Hopkins 2010 chartbook, Gallup 2002: **81% of people with serious chronic conditions see two or more different physicians; more than half see three or more; 11% see six or more.** 21-32% received conflicting advice from different providers.*

8. APPOINTMENT LENGTH AND INTERRUPTION

Visit length — three figures, three methods. Pick one and say how it was measured.

- **BMJ Open 2017** (67 countries, 28.5M consultations): US **21.07 minutes** — but physician SELF-REPORT via NAMCS, and the paper notes the US "appeared to be an outlier." Global range: 48 seconds in Bangladesh to 22.5 min in Sweden.
- **Medical Care 2021** (Neprash et al., 21 million visits, EHR timestamps, most rigorous US measure): **average primary care exam 18.0 minutes.**
- **JAMA Health Forum 2023** (8.1M visits): median physician spent **18.9 minutes** per patient. **Each additional minute reduced the likelihood of an inappropriate antibiotic prescription by 0.11 percentage points.** Younger, publicly insured, Hispanic and non-Hispanic Black patients had shorter visits.
  Shorter visits measurably produce worse prescribing. That is what makes "18 minutes" more than a factoid.

THE interruption study — Singh Ospina N et al., JGIM 2019;34(1):36-40

https://pmc.ncbi.nlm.nih.gov/articles/PMC6318197/
n=112 recorded clinical encounters.
- **Clinician elicited the patient's agenda in only 36% of encounters** (49% primary care, 20% specialty care)
- Of those, **the patient was interrupted 67% of the time**
- **Median time to interruption: 11 seconds** (IQR 7-22)
- **Median time an uninterrupted patient took to finish: 6 seconds**

The most quotable pairing in the deck: clinicians interrupt after a median of 11 seconds, but an uninterrupted patient finishes in 6. Letting the patient finish costs LESS time than interrupting.

The classics

- Beckman & Frankel, Ann Intern Med 1984: 74 visits, patient allowed to complete their opening statement in only **17 (23%)**; physician interrupted in 69%. Mean **18 seconds** before interruption (body of paper, verified via nine citing papers).
- Marvel et al., JAMA 1999: 264 interviews. Initial concerns completed **28%** of the time. Mean **23.1 seconds** before redirection. Patients allowed to finish used only **6 seconds more**. When concerns were not solicited, late-arising concerns rose to 34.9% vs 14.9%.

NARRATIVE CAUTION: 18 sec (1984) -> 23.1 sec (1999) -> 11 sec (2019) is NOT a clean trend line. The first two are means from primary care; the third is a median from a mixed sample. Do not present it as a measured trend.

DO NOT USE — the kill list

Claim	Verdict
"80% of medical bills contain errors"	**DROP.** Unsourced lede in a 2016 Becker's Hospital Review article: "billing advocates and other health professionals estimate up to 80 percent." No study, no sample, no methodology. Misattributed to Medical Billing Advocates of America, whose founder actually said 3 in 4 **on a radio show, about her own firm's self-selected caseload.** "Up to" is a ceiling, silently dropped downstream. Breaks in one search.
"Equifax audit found avg $1,300 error on bills over $10,000"	**DROP.** Traces to an early-2000s Good Morning America segment. No Equifax audit, methodology, or date exists anywhere.
"$195 billion in US medical debt"	Superseded. Use **$220 billion** (Peterson-KFF, Feb 2024).
CFPB medical debt credit rule "in force"	**WRONG.** Vacated 11 July 2025, Cornerstone Credit Union League v. CFPB.
"88% of Mayo second-opinion patients had treatment plans updated"	**Not in the paper.** Press-derived sum of 66%+21%.
AARP "$600 billion" caregiving value	Two editions stale. Use **$1.01 trillion** (March 2026).
"13 physicians / 50 prescriptions" for "multiple chronic conditions"	**Miscited.** Applies to **5+** conditions only. And it is 2007 testimony on early-2000s data.

Claim	Verdict
"$7,200 caregiver out-of-pocket"	2021 data. Date it.
AARP "11% received medical training"	AARP's own press release contradicts its report. **22%** for medical/nursing tasks. Cite the PDF.
KFF 2022 debt survey for surprise-bill prevalence	**No such question exists in that survey.** Use Commonwealth Fund 45%.
"Chronic disease rates rising among older adults"	**False.** Flat: 78.4% (2013) to 78.8% (2023). The growth is demographic.
AHRQ "nine out of ten adults lack skills to manage their health"	Unverified. Cite the 12%-proficient figure directly instead.
"Half of employed caregivers report work disruptions"	Press release only, not in the report body.
795,000 diagnostic harms, stated flatly	Contested by nine EM organizations. Use NAM 2015 instead for a lay audience. Also: 795,000 is ALSO the annual US stroke incidence figure — a number collision that invites confusion.
Census "older adults outnumber children by 2034"	2017-vintage projection, not restated in the 2023 vintage. Flag or drop.

Bulletproof sources if a stat must survive a hostile check: National Academy of Medicine 2015, NCES NAAL health literacy tables, the KFF ACA denial series, and the HHS OIG 13%-of-denials-were-wrong audit.
