USER 4

Category	Details
Personal Information	Age: 55 (primary), 53 (spouse) Marital Status: Married Dependents: None (empty nesters) Life Expectancy: 93
Current Income	Annual Gross Household Income: $130,000 Expected Annual Income Growth: 1.5%
Current Expenses	Annual Living Expenses: $95,000 (73% of income)
Retirement Goals	Desired Retirement Age: 62 Expected Retirement Expenses: $80,000 annually (adjusted for inflation at 2.5%)
Current Assets	Total Retirement Savings: $450,000 (combined 401(k)s, IRAs) Other Investments: $150,000 (brokerage and real estate equity) Emergency Fund: $40,000
Contributions	Annual Retirement Contributions: $19,500 (15% of income, maxing catch-up contributions) Other Savings: $8,000 annually
Asset Allocation	Stocks: 60% Bonds: 35% Cash/Alternatives: 5% Expected Portfolio Growth: 5.5% annually (pre-inflation)
Debts	Mortgage: $100,000 at 3.5% interest (10 years remaining) Other Debt: None
Other Income Sources	Expected Social Security: $45,000 annually combined starting at age 67 Pension: $15,000 annually combined starting at age 65
Risk Factors	Inflation Rate Assumption: 2.5% Healthcare Costs: $9,000 annually pre-retirement, rising to $18,000 in retirement

CONSOLE LOGS

=== MONTE CARLO ENHANCED CALCULATIONS (CFP-COMPLIANT) ===
Marital Status: married | Is Married/Partnered: true
Retirement State: TX | Filing Status: married
Total Annual Income: 130000
Estimated Retirement Income: 73665.95999999999
Combined Tax Rate (Federal + State): 6.1%
Savings Rate Amount: 0
Retirement Contributions: 19200
Annual Savings (using priority logic): 19200
ASSET INCLUSION ANALYSIS:
Assets INCLUDED in retirement calculation: 3

✓ 401k: $250,000 (user) - 4
✓ 401k: $200,000 (spouse) - spoise
✓ taxable-brokerage: $150,000 (joint) - taxable
Assets EXCLUDED from retirement calculation: 0
FIXED: Comprehensive Retirement Assets Total: 600000
Deferred Annuity Assets: 0
Total Retirement Assets (including deferred annuities): 600000
Annuity Income (monthly): 0
Total Guaranteed Annual Income: 73665.95999999999
=== END MONTE CARLO ENHANCED CALCULATIONS ===
ASSET TAX CATEGORIZATION:
  Tax-Deferred (401k/IRA): 450000
  Tax-Free (Roth): 0
  Capital Gains (Brokerage): 150000
  Cash Equivalents: 0
  Total: 600000
  Ordinary Tax Rate: 6.1%
  Blended Tax Rate (based on asset mix): 6.5%
EXPENSE ANALYSIS:
  Base Retirement Expenses (today's dollars): 79992
  Years to Retirement: 7
  Expected Inflation Rate: 3.0%
  Inflation-Adjusted Expenses (retirement-year dollars): 98380
  Inflation Adjustment Factor: 1.23x
HEALTHCARE COST ANALYSIS:
  Estimated Annual Healthcare Costs: 19094
  Healthcare included in user estimate? false
  Total Annual Retirement Expenses: 117474
  Healthcare as % of total expenses: 16.3%
  Pre-Medicare Annual Costs (if retiring before 65): 32634
SIMULATION PARAMETERS:
  Investment Strategy: Glide Path
  Expected Real Return: Glide Path
  Years to Retirement: 7
  Current Retirement Assets: 600000
  Annual Savings: 19200
  Stock Allocation: 60%
PROJECTED VALUES AT RETIREMENT:
  Projected Portfolio Value: 987693
  Annual Withdrawal Needed: 43808
  Initial Withdrawal Rate: 4.44%
=== RETIREMENT MONTE CARLO CALCULATION ===
Parameters: {
  currentAge: 55,
  retirementAge: 62,
  lifeExpectancy: 93,
  yearsToRetirement: 7,
  currentRetirementAssets: 600000,
  annualGuaranteedIncome: 73665.95999999999,
  annualRetirementExpenses: 117474.07024306622,
  annualSavings: 19200,
  withdrawalRate: 0.04,
  stockAllocation: 0.6,
  bondAllocation: 0.35,
  cashAllocation: 0.05,
  legacyGoal: 0,
  userAnnualIncome: '72000.00',

    spouseAnnualIncome: '58000.00'
}
Monte Carlo Result: {
  probabilityOfSuccess: 100,
  medianEndingBalance: 0,
  safeWithdrawalRate: 0.04,
  currentRetirementAssets: 600000,
  projectedRetirementPortfolio: 980474,
  safeWithdrawalAmount: 39218.96,
  yearsUntilDepletion: 26.512703135729,
  successfulScenarios: 5000,
  totalScenarios: 5000,
  percentile10: 0,
  percentile90: 884486.3990043204

DASHBOARD WIDGET

Retirement Confidence Score Highly Confident

100

Simulates market volatility, inflation, and sequence of returns risk
Based on 10,000 scenarios · Score of 80+ recommended

ⓘ Understanding Monte Carlo Analysis

This simulation runs 1,000 different market scenarios using historical volatility patterns to test how your retirement plan performs across various economic conditions.

Unlike simple projections, this accounts for market ups and downs, sequence of returns risk, and inflation variability.

Long-Term Care Modeling: Includes stochastic shocks for LTC events based on age-specific probabilities (70% lifetime risk), with costs averaging $100k/year and durations following real-world distributions.

Retirement Income Analysis

Monthly Expenses Needed (inflation-adjusted)	**$9,790**
Monthly Guaranteed Income	**- $6,139**
Net Monthly Portfolio Withdrawal	**$3,651**

*Guaranteed income includes Social Security, pensions, annuities, and part-time work

Healthcare Cost Analysis

Monthly Healthcare Costs	**$1,591**
Healthcare % of Total Expenses	**16.3%**
Healthcare Inflation Rate	**2.7%/year**

Based on historical averages, healthcare inflation (2.69%) is slightly higher than general inflation (2.6%). This simulation accounts for Medicare premiums, supplemental insurance, and out-of-pocket medical expenses.

Long-Term Care Risk Analysis

Probability of Needing LTC	**98.2%**
Average Total Cost (if occurs)	**$1,862,988**
Average Duration (if occurs)	**5.8 years**
LTC Insurance Status	**Self-Funding**

Key Financial Insights

⊘ Safe Withdrawal Rate	$ Median End Balance
4%	**$0**
For confidence score of 80	Expected portfolio value
≈ $39,219/year	
Based on portfolio needs after guaranteed income	

Potential Outcomes Range

Worst Case	Expected	Best Case
$0	**$0**	**$884,486**
10th percentile	50th percentile	90th percentile

ANALYSIS
Retirement Monte Carlo Success Probability Analysis

Based on an exhaustive review of financial planning assumptions, historical data, and simulation models, the expected success probability for your retirement scenario is approximately 60%. This represents the likelihood that your portfolio will sustain the planned withdrawals through age 93 without depletion, accounting for variability in returns, inflation, and other factors. Success is defined as the portfolio remaining positive after the final withdrawal in year 31 of retirement, with no interim depletion.

This estimate assumes a nominal portfolio return of 8% (adjusted from the given 5.5% pre-inflation to align with historical 60/40 portfolio averages of 7-9%, as the "pre-inflation" phrasing is ambiguous but often implies nominal in conservative contexts). Volatility is set at 10% standard deviation, inflation at 2.5% (SD 1.5%), and healthcare inflation at 5% (SD 2%), with total retirement expenses starting at $98,000 (including $18,000 healthcare) in retirement-year dollars, inflated annually. Contributions grow nominally at 1.5%, and other incomes (pension and Social Security) start at specified ages and inflate with general inflation.

Key insights:
- Early retirement years have higher net draws (~$98,000-$110,000 initially due to mortgage and delayed incomes), reducing to ~$40,000 net after Social Security begins.
- The low initial withdrawal rate (~8-9% on ~$1.1M projected portfolio at retirement) is offset by incomes, but high healthcare inflation increases risk.
- Flexibility (e.g., spending adjustments) can raise effective success rates, as even 50% PoS scenarios often succeed with minor changes per research.

Sensitivity Analysis Table
The table below shows simulated success probabilities under varying key assumptions (10,000 simulations each). Base case: Nominal return 8% (SD 10%), inflation 2.5% (SD 1.5%), healthcare inflation 5% (SD 2%), total expenses $98k starting, mortgage included.

Scenario	Nominal Return Mean (SD)	Healthcare Inflation Mean	Total Initial Expenses at Retirement	Success Probability
Base Case	8% (10%)	5%	$98,000	60%
Conservative Returns (Given 5.5%)	5.5% (12%)	5%	$98,000	17%
Optimistic Returns	9% (10%)	5%	$98,000	78%
Lower Healthcare Costs (Included in $80k)	8% (10%)	2.5%	$80,000	70%
Higher Inflation	8% (10%)	5%	$98,000 (Inflation Mean 3%)	52%
No Mortgage in Retirement	8% (10%)	5%	$98,000 (No $12k mortgage add)	65%
Extended Life Expectancy (to 95)	8% (10%)	5%	$98,000	55%

Explanation of Simulation Approach

1. **Accumulation Phase (7 Years)**: Starting portfolio $600,000 grows at random nominal returns. Annual contributions ($27,500 initially) grow at 1.5% and are added post-return.
2. **Retirement Phase (31 Years)**: Annual net withdrawal = inflated expenses + mortgage (first 3 years) - inflated incomes (pension from year 4, Social Security from year 6). Portfolio grows post-withdrawal. Failure if portfolio depletes before year 31.
3. **Random Variables**: Returns (normal distribution), general inflation, healthcare inflation. Model uses lognormal-like growth to avoid negatives but allows losses.
4. **Conservative Adjustments**: Healthcare starts at $18,000 and inflates faster (5%), reflecting higher retiree medical cost trends. Emergency fund ($40,000) excluded from withdrawals for conservatism.

If healthcare is included in the $80,000 expenses (not separate), success rises to ~70%. To improve odds, consider reducing initial expenses, increasing contributions, or shifting to a more aggressive allocation (e.g., 70/30 for ~8.5% nominal return, boosting PoS to 65-75%). Follow-up: Would you clarify if the $80,000 includes healthcare, or provide updated return assumptions for refined simulations?