

HEALTH POLICY BRIEF

CULTURE OF HEALTH

Cash Flow Dynamics And Family Health Care Spending: Evidence From Banking Data

Diana Farrell, Fiona Greig, Amar Hamoudi

Consumer health care spending is sensitive to cash flow fluctuations, causing patients to defer health care. Improved savings tools could ensure that consumers receive health care when they need it rather than when they have the cash to pay for it.

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KEY POINTS

- **Bank transaction data reveal that in any given year, one in six families makes an extraordinary health care payment of roughly \$2,000 in a single month. They time such payments to coincide with positive cash flow events, yet they have not recovered financially even a year later, as evidenced by a lower level of liquid assets and higher credit card debt.**
- **Consumers increase health care spending by 60 percent in the week after receiving a tax refund, and the majority of these payments are made in person—likely for care received on that day. This increase is much larger for people in the lowest quintile of account balances.**
- **Health care spending is sensitive to a wide range of cash flow events, including job loss and the end of unemployment insurance natural disasters, and mortgage interest rate changes.**
- **The findings suggest that many consumers make decisions about when to pay for and receive health care based on whether they have cash on hand. Further efforts are needed to reduce out-of-pocket spending for families and encourage and enable them to save. The health care system should promote cost transparency and support discussions between providers and patients about the costs of care.**

A large body of literature documents the relationship between health care spending and consumer finance, including the impact of such spending on long-term debt, poverty, and use of health services. Two

earlier Health Policy Briefs added to that conversation with an examination of the impact of two specific economic policies on health—the [Earned Income Tax Credit](#) and the [minimum wage](#). This brief highlights the health care–finance connection from a different angle by exploring how short-term changes in household cash flow influence consumer decisions about whether and when to seek medical care. The JPMorgan Chase Institute brings to these questions new empirical evidence based on high-frequency banking transaction data for large samples of Chase checking account customers.

Our data show that consumers immediately increase their use of health services after they receive large infusions of cash. This finding suggests that consumers make health decisions—some of which have long-term consequences—based on short-term financial factors. Far from affecting only low-income people, immediate cash shortages cause people at all income levels to delay care. This behavior is especially concerning in the context of rising out-of-pocket health care spending.

In this brief, we describe our data sets and highlight findings on health spending, including the frequency and impact of extraordinary health care expenses and how tax refunds and other cash flow events influence health spending and use. We discuss how our findings fit within the context of the health services research literature on out-of-pocket spending, debt, and health care use. We conclude that policy tools that encourage people to save may have a positive impact on health by reducing the extent to which health care consumption decisions are influenced by short-term cash flow, rather than by clinical need.

The JPMorgan Chase Institute Data

Our analysis is based on two data sets, both of which capture out-of-pocket health care spending directly from consumers for health care providers.

The first data set was assembled for [a report on expense volatility](#) and covers a deidentified sample of 250,000 Chase customers ages eighteen and older, for whom we could categorize 80 percent of expenses in the period January 2013–December 2015 and who had a Chase checking account with at least five outflows each month (providing confidence that the Chase account was a primary payment tool), had a Chase credit card, used their debit or credit card at least once a month, and made at least one housing payment (rent or mortgage) per year. Our sample was weighted to match the age and income distribution of the United States.

The second, much larger and annually refreshed, data set is the JPMorgan Chase Institute [Healthcare Out-of-Pocket Spending Panel](#) (JPMCI HOSP). The latest release of JPMCI HOSP covers annual samples of roughly four million Chase checking account customers for whom we observed at least five account outflows per month. The data span the period January 2014–December 2017. The primary account holder had to be age 18–64. We selected account holders who had at least \$5,000 in annual take-home income (based on checking account deposits), paid for more than 50 percent of observed expenses through channels that provided information about where the money went (namely, debit cards, credit cards, or direct electronic payments made via the Automated Clearing House [ACH] rather than paper checks, non-Chase credit cards, or ATM withdrawals), and lived in one of the twenty-three states with a Chase retail branch (70 percent of the US population lives in these states). Our sample was then weighted to match the age and income distribution within each state.

These data sets paint a robust picture of household cash flow and health payments, among which we can identify income from paychecks and other sources; expenses—including the amount paid and merchant information, which allows us to identify health care providers; debt payments to credit cards and mortgages; and transfers to savings or investments.

Our data do not show everything, however. They do not reveal what payments made to health care providers were for, and thus whether the care received was time-sensitive or whether the payment was eligible for reimbursement by an insurer. In addition, the data sets do not provide information on account holders' health insurance status. However, given that about **90 percent of the US population has insurance**, health care spending and utilization among both the uninsured and the insured are reflected in our results. Finally, because **59 percent** of the population ages 19-64 has private health insurance, with premiums typically deducted from paychecks for employer-sponsored insurance, our data could not detect spending on premiums for the vast majority of account holders. Therefore, we do not include premiums in our health care spending estimates.

Extraordinary Health Care Payments

The first data set described above revealed that in any given year **one in six families** (17 percent) makes at least one extraordinary health care payment, defined as at least \$400 and 1 percent of annual income, and more than two standard deviations from the family's monthly health care spending. In the period 2013–15, these payments averaged \$2,089. Even twelve months after making such a payment, liquid assets were still 2 percent below baseline, and revolving credit card balances were still elevated by 9 percent.

In addition to these financial consequences of extraordinary health care payments, we identified a financial antecedent: In the two months before making such a payment, families experienced a 5 percent boost in cash balances and a 4 percent boost in take-home income deposited into the account, above their normal baselines.

One explanation for these findings is that people save in advance of an anticipated health expense. Another is that people wait to see the doctor until they have an inflow of cash to pay for it. To learn more, we assembled the JPMCI HOSP.

Tax Refunds And Health Care

Data from the [JPMCI HOSP](#) confirmed the relationship we observed between health care spending and cash flows. In particular, we saw that aggregate health care spending spiked in March, around tax time.

[Seventy percent of tax filers receive a refund](#), and for 40 percent of our sample that refund is the single largest cash infusion of the year. Account holders increased their out-of-pocket health care spending by 60 percent in the week after receiving a tax refund, and spending remained elevated by 20 percent for over seventy-five days after receiving a refund (exhibit 1).

We know that cash flow drives this response. In the week following the arrival of the tax refund, health care payments made via debit card increased by 83 percent, and direct electronic payments made via ACH increased by 56 percent. Credit card spending did not change in anticipation of or after the tax refund payment, which suggests that consumers waited for the cash to arrive before spending and began spending immediately when it did.

Moreover, the arrival of the tax refund appears to influence when people received care, not just when they paid for it. Sixty-two percent of health care spending associated with tax refunds was in the form of in-person payments for care likely received on the same day; 37 percent was in the form of remote payments, likely made to pay for care received in the past. (We can distinguish in-person payments from remote payments because we can determine whether or not the payment was made by the physical use of a credit or debit card at a payment terminal.) Only 1 percent of the spending was for goods that can be stockpiled, such as contact lenses or medicines.

The fact that the majority of tax refund–enabled health care payments were for in-the-moment, as opposed to past, care suggests that people deferred care until they had cash on hand to pay for it. Though we do not know if these health care services were time-sensitive, we did observe that consumers who had higher account balances before receiving a refund were less likely to have a health care spending spike after receiving one. This implies that at least some consumers would have seen a health care provider earlier, if they had had the cash to do so. Likewise, we observed that it took longer for in-person payments to return to baseline, compared to remote payments, which may reflect the time required to schedule deferred visits.

The need for care may even influence tax filing behavior and the timing of tax refunds. People who filed earlier in the season and received their tax refund in February (38 percent of our sample) **increased their health care spending by 38 percent** in the seventy-five days after the tax refund's arrival, compared to 20 percent for the whole sample and just 12 percent for those who received their refund in April or May. In addition, a larger percentage of refund-enabled health care spending by February filers was done in person for care likely received on the same day (64 percent versus 62 percent for the whole sample).

Tax refund–enabled health care spending is particularly striking when viewed in relation to other postrefund spending: In the week following the receipt of a tax refund, the increase in debit card spending not related to health care was 56 percent, smaller than the 83 percent increase in health care spending on debit cards. There was no change in credit card spending.

Families at all levels of income defer care, but those with the fewest resources and least access to credit are the most likely to do so. Account holders in the lowest quintile of account balances increased health care spending by 220 percent after receiving their first tax refund, a twentyfold larger response than the 11 percent increase among those in the highest quintile of account balances. Overall, the account holders in the lowest 40 percent of the income distribution increased spending the most (by roughly 30 percent) after receiving a tax refund.

Nontax Cash Flow Events

We have also seen cash flow impacts on health care in analyses of other JPMCI data sets. For example, in a study of families experiencing unemployment, we saw that people who lost a job and remained unemployed after unemployment insurance expired **cut their health care spending by 24 percent**.

Similarly, when we evaluated household spending **in the wake of hurricanes Harvey and Irma in 2017**, we found that in the week after each storm's landfall, account inflows dropped by 20 percent and spending at health care providers dropped by 65 percent and 53 percent in Houston and Miami, respectively. Some portion of this drop is certainly the result of office closures and transportation challenges, but health care spending was still lower than baseline twelve weeks

after the storms had passed, which suggests continued suppression of demand.

Just as health care spending drops when available cash decreases, it rises when available cash increases. When we looked at the impact of mortgage interest rate resets on spending, we found that households spent **16 percent more** on health care after a downward adjustment in their monthly mortgage payment.

The Findings In Context

We are not the first to examine the impact of health care expenses on either personal finance or health care utilization. The Urban Institute has shown that **one in five** nonelderly Americans has medical debt, and the Consumer Financial Protection Bureau found that medical debt represents a disproportionate **52 percent of debt** that ends up in collections. Other researchers have revealed that a major medical event—such as a **hospital admission**, a **cancer diagnosis**, or a **car crash**—leads not only to increased medical expenses but also to lower income, higher debt, and increased bankruptcy rates. The extent of these financial impacts has been **hotly debated**.

Likewise, as consumer-driven health plans (CDHPs) with high deductibles have become more widely adopted, researchers have observed the ways in which increasing out-of-pocket spending affects both overall health costs and when patients seek care. A **research synthesis** found that in employer-sponsored insurance markets, CDHPs reduce consumers' total health costs, mostly due to low- and medium-risk people filling fewer prescriptions and making fewer doctor visits. **Another recent research review** likewise shows total health care cost savings with CDHPs but also concludes that these savings are associated with reductions “in both appropriate and inappropriate

care”—most notably, reductions in preventive care and medication adherence.

The utilization impact of high deductibles can be particularly marked for people with low incomes. For instance, a Harvard study on patients with diabetes who had high-deductible plans showed a **22 percent increase** in emergency department visits for low-income participants as a consequence of delaying specialist visits for acute complications.

Our findings offer a unique perspective that complements this literature. The high-frequency nature of our data allows us to see the relationship between cash flow dynamics and health care payments on a day-to-day level and as recently as 2017. Most of the data in the literature, in contrast, is annual. Moreover, both our large sample size and the variety of financial data we see—including information about income, savings, expenditures, and credit card debt—offer new insights into the role that immediate cash flow status plays in health care decisions.

Policy Implications

The trend toward increased consumer cost sharing for health care **shows no signs of slowing**. It has substantial support from both government regulators and health care payers, based largely on the belief that asking consumers to pay for more of the cost of their health care will cause them to seek care only when they need it, evaluate providers using price as one consideration, and avoid unnecessary treatments. Yet that is not what we see. Instead, our findings suggest that health care consumers are rationalizing consumption, but not in the ways that stakeholders expected. Consumers are making decisions based on whether they have cash in their pocket right now, not based

on a longer-term view of what they could afford over time. Assuming that at least some of the delays in care are for necessary services, which is consistent with [the findings of others](#), these delays have the potential to increase long-term costs for the entire health care system, since poorly managed chronic conditions often result in health care costs many times higher than well-managed conditions do.

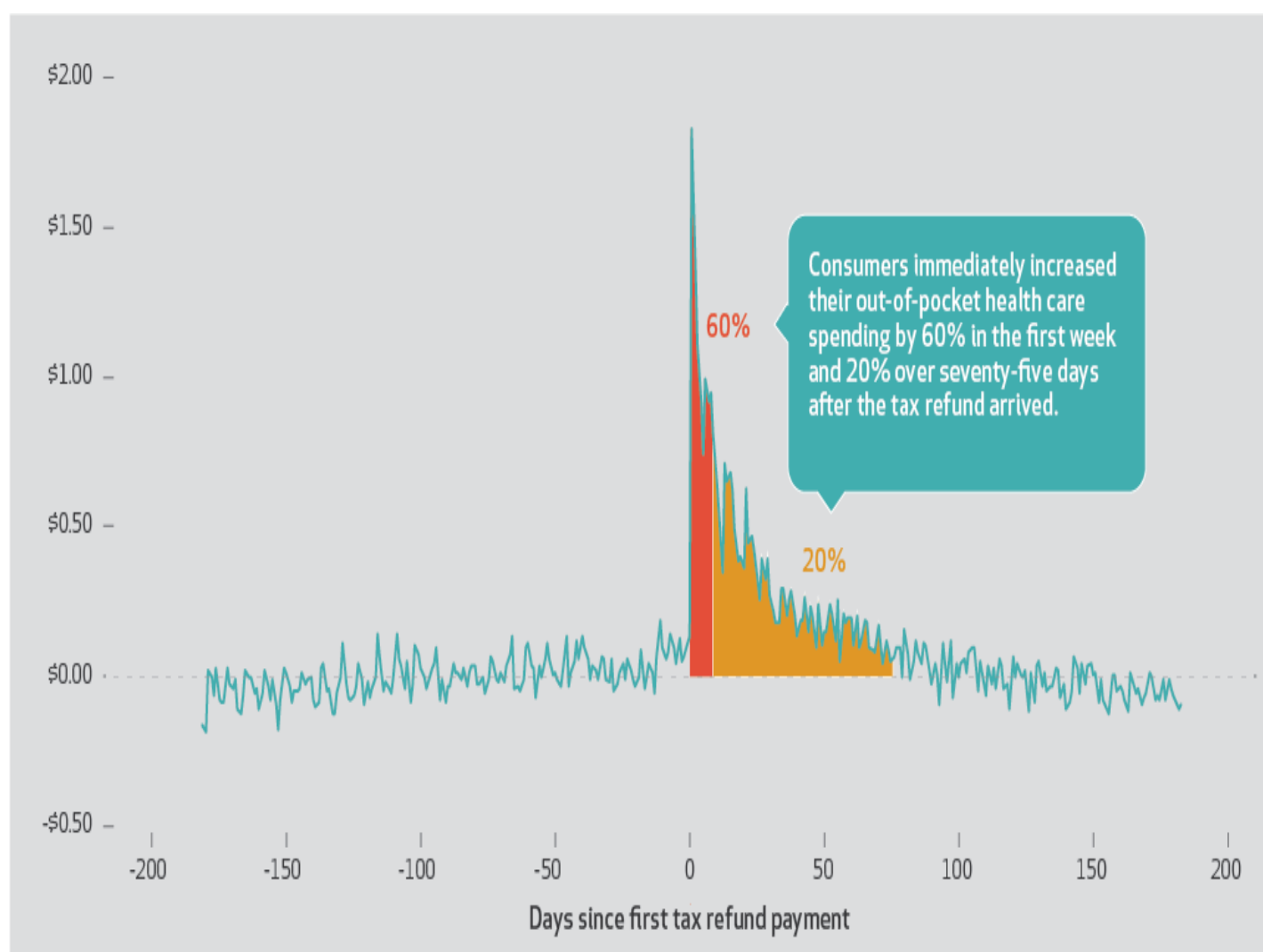
Our findings also point to the importance of tools that encourage people to save. People who have cash reserves fare better when faced with an extraordinary expense, in that their finances do not show the same persistent adverse consequences of large payments. The health savings accounts and other savings vehicles that are often paired with CDHPs are a positive innovation in that regard. Yet consumers clearly do not have enough savings in them to cope with health costs. If they did, they would put cash into them when they had a cash infusion and spend money in them when they had a health need, which means that we wouldn't see as large health care spending spikes as we do.

There are many reasons why families don't save. They may not have the financial slack, or there may be a mismatch in timing between when they have a reserve and when they have a health need. In addition, health savings and reimbursement accounts can be used only for health expenses, which may discourage their use among people who need more flexibility. For these reasons, consumers need savings tools that are automatic, low risk, and uncomplicated.

Front-line providers also have a role to play in addressing these problems. In designing patient care plans, providers are often unable to take costs into account. They may not know what care will cost patients and are often uncomfortable discussing finances with them. The persistence of fee-for-service income models creates mixed incentives for physicians. That should change. Still, providers can help

consumers understand how to prioritize elements of their health care planning. They can offer clear medical advice about the consequences of delay so that less urgent care gets pushed into the seventy-five-day period after a patient receives a tax refund, and necessary care is received sooner.

EXHIBIT 1: Out-of-pocket health care spending per account per day



Source Farrell D, Greig F, Hamoudi A. [Deferred care: how tax refunds enable healthcare spending](#) [Internet]. New York (NY): JPMorgan Chase and Co.; 2018 Jan [cited 2018 Nov 6]. Used with permission. Note The

percentages in the figure show the difference from the average during the six months leading up to the refund.

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