



# Coping with Medical Costs through Life

JPMorgan Chase Institute Insight

Individuals face different types of financial challenges over the life cycle. As the *JPMorgan Chase Institute has shown*, income volatility drops with age while expense volatility remains high across the age spectrum (Farrell and Greig, 2017). Nearly four in ten families—particularly older families—make an extraordinary payment related to health, auto repair, and tax in a given year, payments that might be hard to anticipate. One in six families (16 percent) makes an extraordinary medical payment in any given year, but families 65 years and older are about twice as likely as families under 30 years to have made an extraordinary medical payment.

Recent healthcare reform policy debates have focused on the degree to which families should be expected to shoulder the costs of healthcare services. Their ability to do so is linked closely to not only income, but also age. In this insight, the JPMorgan Chase Institute compares the incidence of extraordinary medical payments and their impact on financial outcomes for different age groups.

Though the need to make major medical payments can occur across all age levels and increases over time, both the financial conditions of families and the resources they have to respond to such expenses differs among younger (18-29 years), middle-aged (30-64 years), and older families (65+ years). Based on a sample of nearly 100,000 families from 2013 to 2015, JPMorgan Chase Institute data show that younger and middle-aged families were more likely to make medical payments in months when they had higher income and liquid assets. However, older families, who had higher liquid assets and experienced less income volatility, did not demonstrate this pattern as strongly. We also observed that there were many younger and older families who increased their revolving credit card debt after making major medical payments, and that these increases persisted, and even grew, in the 12 month period after the medical payment.

## About the data

The JPMorgan Chase Institute assembled a de-identified sample of 96,000 core Chase checking account customers between 2013 and 2015, for whom we could categorize at least 80 percent of expenses and who had ever made an extraordinary medical payment.<sup>1</sup> For the purposes of our research, the unit of analysis is the primary account holder, whom we subsequently refer to as a family. We grouped families by age based on the age of the primary account holder, recognizing that other account users or family members paid for through the account may have been of any age.<sup>2</sup> In evaluating the impact on financial outcomes, we focused on a sub-sample of 55,000 families who had made exactly one extraordinary medical payment between 2013 and 2015.

## KEY FACTS

Based on a sample of nearly 100,000 families from 2013 to 2015, we observe:

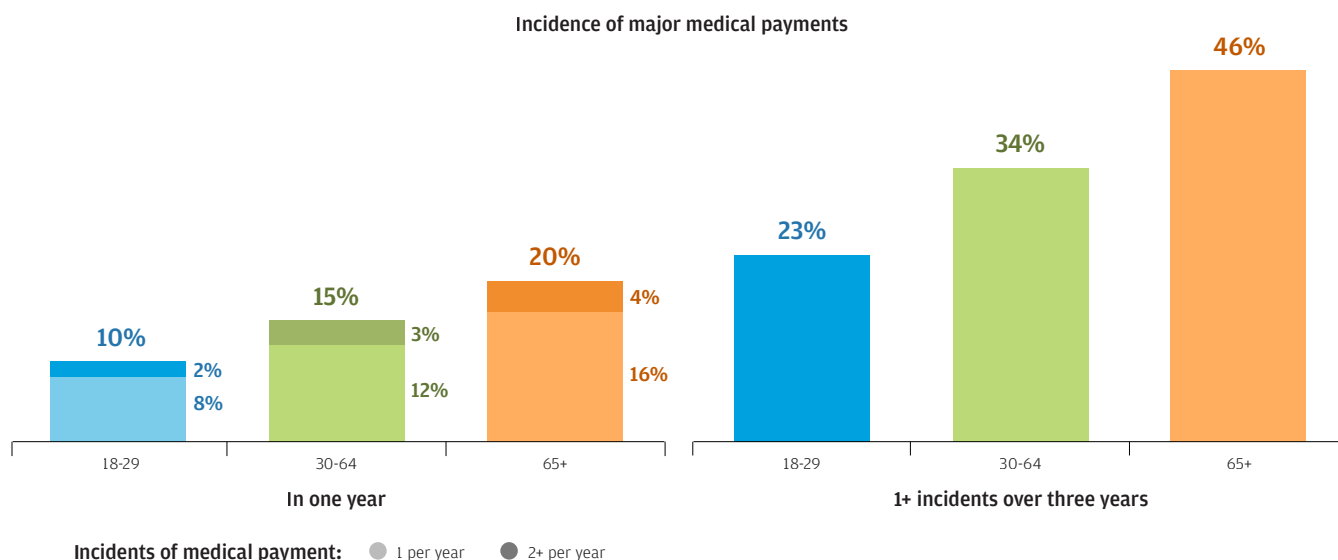
- The incidence and magnitude of extraordinary medical payments increased with age.
- Younger families (18-29 years) had lower liquid assets and higher income volatility and were much more likely than older families (65+ years) to make extraordinary medical payments in months when they had a higher ability to pay.
- Among younger families (18-29 years) and older families (65+ years), revolving credit card debt remained more than 10 percent higher relative to baseline a year after the medical payment.
- A year after making an extraordinary medical payment, younger families (18-29 years) were most likely to have newly taken on revolving credit card debt, while older families (65+ years) experienced the greatest increase in amount of debt.

We defined a medical payment as “extraordinary” if the monthly expense was at least \$400, more than one percent of annual income, and more than two standard deviations away from the family’s average monthly medical expenses.<sup>3</sup> These three criteria ensured that the magnitude of the medical payment was both large and unusual, hence extraordinary, for each family across the income spectrum. We examined changes in families’ overall financial behavior that coincided with an extraordinary medical payment relative to a baseline period between four and six months prior to the medical payment.<sup>4</sup> We describe our key insights below.

### 1. The incidence and magnitude of extraordinary medical payments increased with age.

Major medical payments were common for all families, and the likelihood of making at least one extraordinary payment in a year increased from 10 percent for younger families to 20 percent for older families (Figure 1). Nearly half of the older families made at least one major medical payment over the three year period.

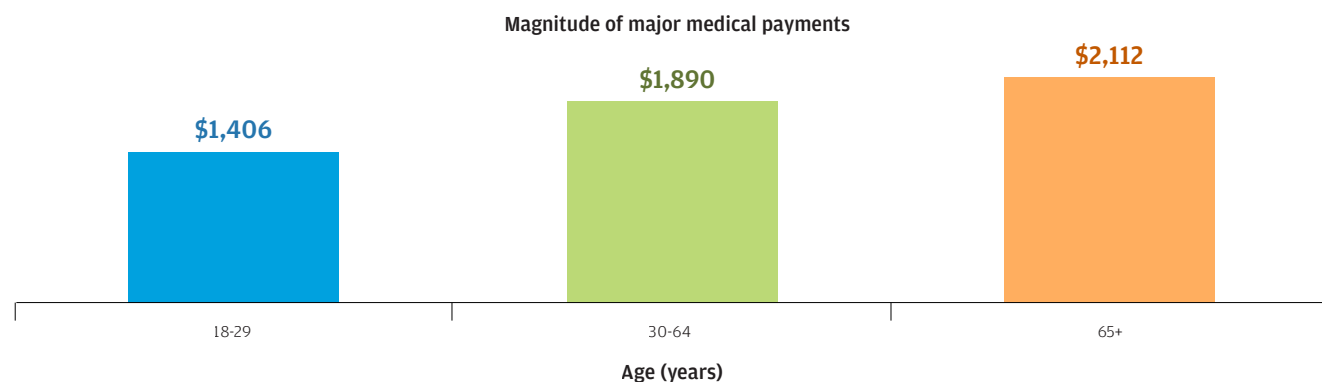
Figure 1: Older families (65+ years) were twice as likely to have made extraordinary medical payments as younger families (18-29 years).



Source: JPMorgan Chase Institute

The magnitude of these medical payments also grew with age: among those who made at least one extraordinary medical payment between 2013 and 2015, the mean medical payment was \$1,406 for younger families, \$1,890 for middle aged families, and \$2,112 for older families (Figure 2).

Figure 2: The average major medical payment of older families (65+ years) was 50 percent higher than that of younger families (18-29 years).

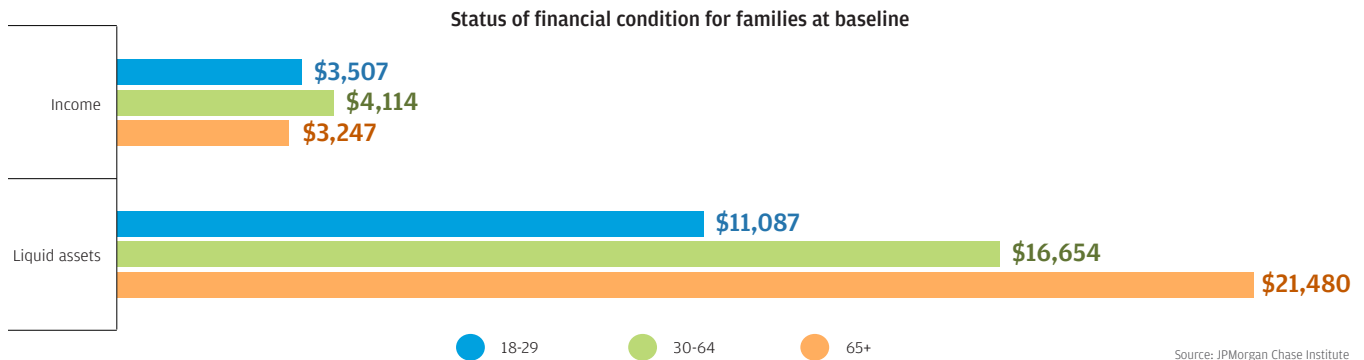


Source: JPMorgan Chase Institute

**2. Younger families (18-29 years) had lower liquid assets and higher income volatility and were much more likely than older families (65+ years) to make extraordinary medical payments in months when their income and liquid assets increased.**

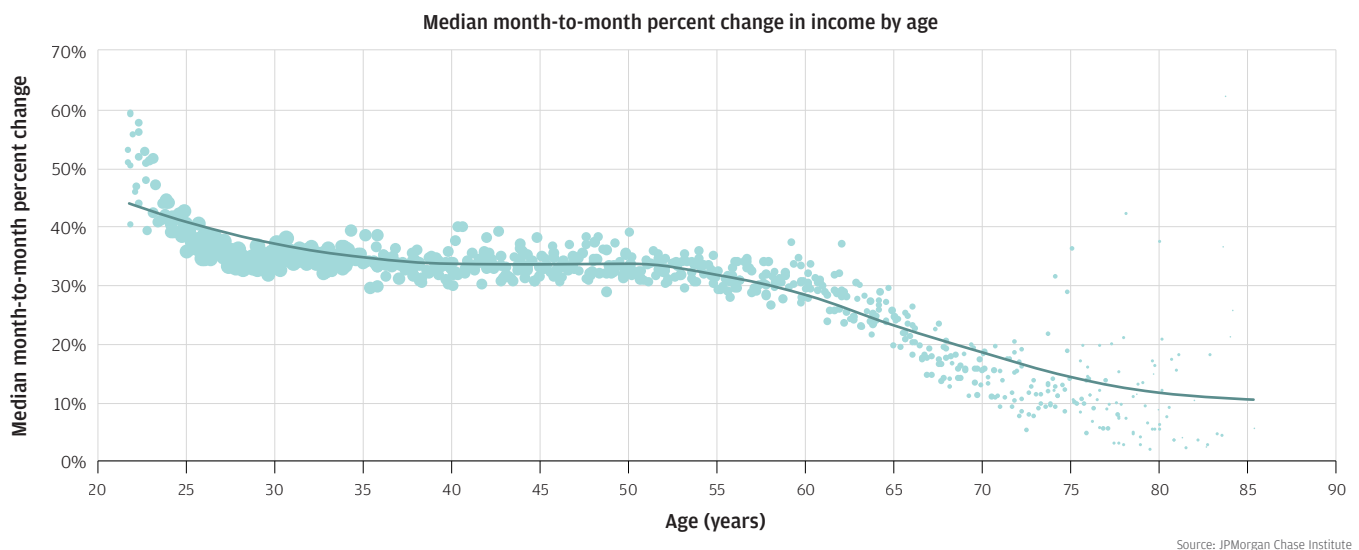
The financial conditions of families varied substantially by age prior to an extraordinary medical payment (Figure 3).<sup>5</sup> Younger families had lower incomes and lower liquid assets compared to middle-aged and older families. Middle-aged families had higher income at baseline but lower liquid assets than families 65 and older. Older families had the lowest incomes but the highest liquid assets.

Figure 3: Middle-aged families (30-64 years) had the highest income at baseline, while older families (65+ years) had the highest liquid assets at baseline.



As the JPMorgan Chase Institute *recently documented*, young families faced high income volatility, while older families faced lower income volatility. This variation in income volatility is an important consideration in understanding how families managed extraordinary medical payments across the age spectrum.

Figure 4: Income volatility for families decreased with age.



Younger and middle-aged families (under 65) timed their major medical payments to occur in months where they had higher income (Figure 5). Further, families under 65 showed accumulation in liquid assets prior to the medical payment (Figure 6). These spikes in income and liquid assets were especially pronounced for younger families. The income of younger families was 5.0 percent (\$178) higher in the month of medical payment from baseline, and 4.0 percent (\$166) higher for middle-aged families.<sup>6</sup> Liquid assets increased by more than 7.4 percent for younger families (\$840), and 6.2 percent for middle-aged incomes (\$1,042). With lower baseline income and liquid assets and higher income volatility, younger families appeared to be more likely to time their medical payment around months in which they had a higher ability to pay—when they had a spike in their income or liquid assets.

This connection between the timing of medical payments and ability to pay was less pronounced for older families. With less volatile incomes and considerably higher liquid assets, increases in income (2.6 percent) and liquid assets (2.8 percent) around the time of a major medical payment were smaller for families under 65, suggesting that older families are less likely than younger ones to time their medical payments around changes in their financial condition.

Figure 5: Both younger (18-29 years) and middle-aged (30-64 years) families made major medical payments in months of increased income, while older families (65+ years) did not follow this pattern as strongly.

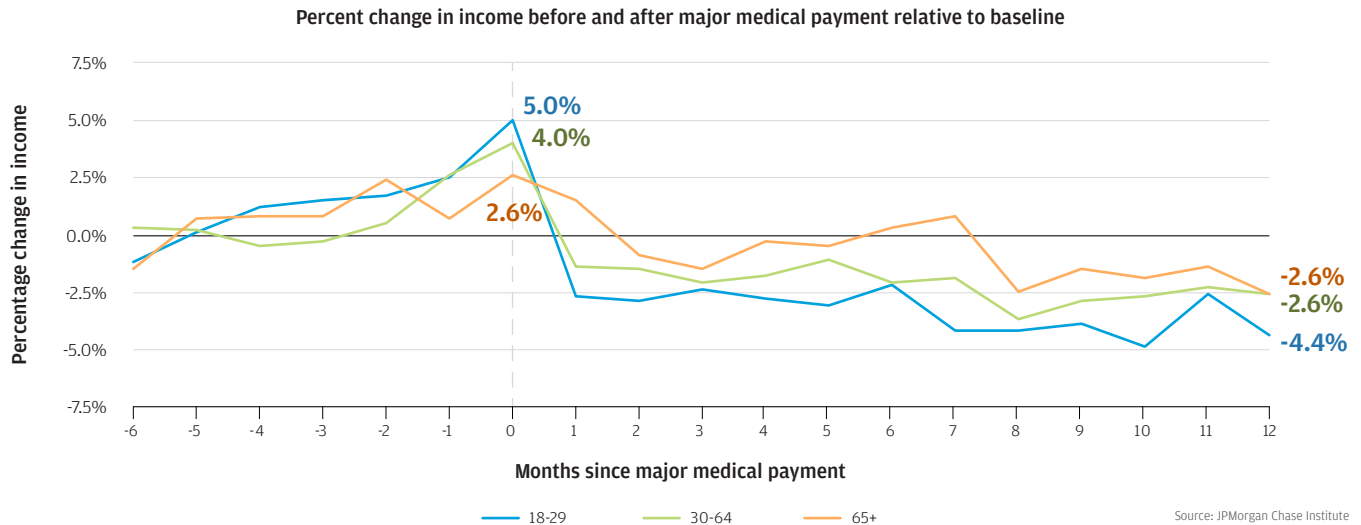
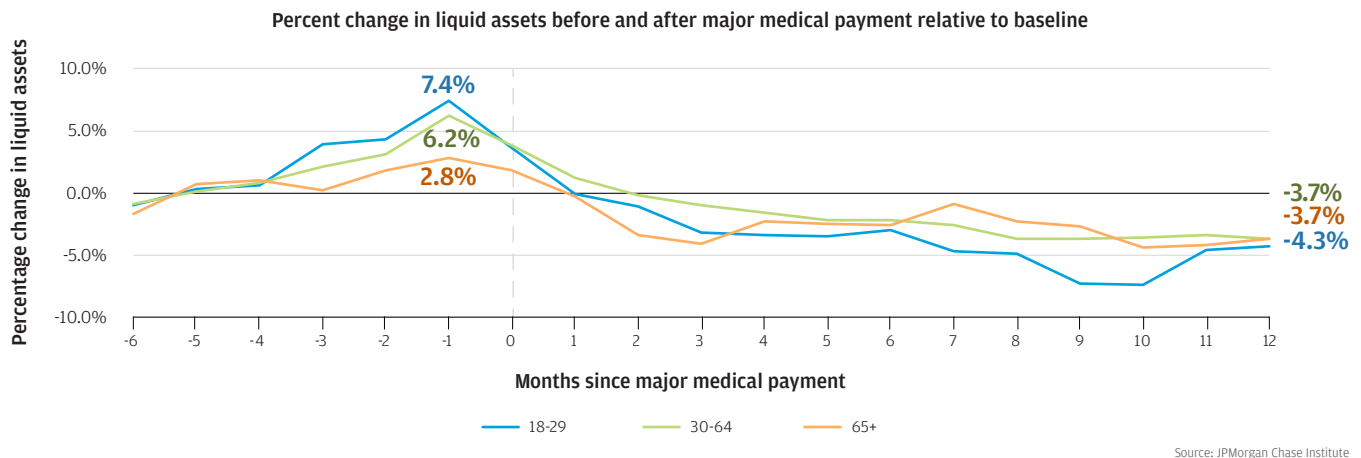


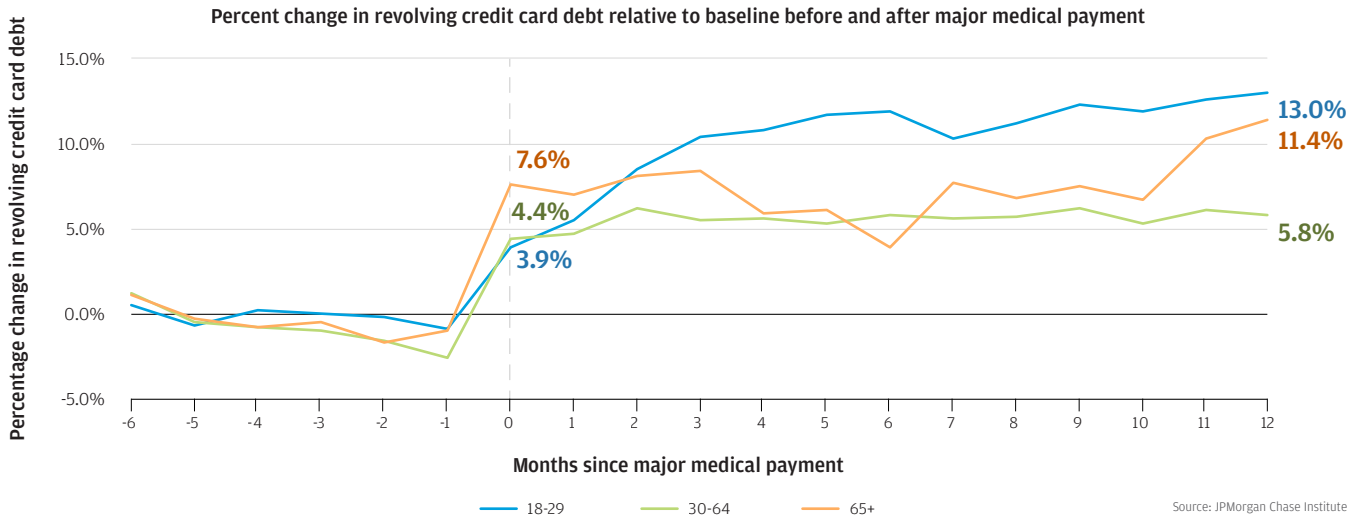
Figure 6: Younger (18-29 years) and middle-aged (30-64 years) families made major medical payments after having increased their liquid assets from baseline levels, while older families (65+ years) did not exhibit this tendency as strongly.



**3. For younger families (18-29 years) and older families (65+ years), revolving credit card debt remained more than 10 percent higher relative to the baseline a full year after the medical payment.**

Revolving credit card debt increased at time of medical payment across all age groups, suggesting that many families used credit cards to make their medical payments. With smaller amounts of income and liquid assets at baseline, younger families exhibited the largest increase in their revolving credit card debt 12 months after making a major medical payment compared to the other age groups (Figure 7). For them, revolving credit card debt was on average 13.0 percent higher (\$206), compared to baseline. In contrast, older families exhibited the largest increase in revolving credit card debt immediately at time of medical payment (7.6 percent or \$172) and continued to have substantially higher revolving credit card debt a year after making the medical payment (11.4 percent higher, equivalent to \$259).

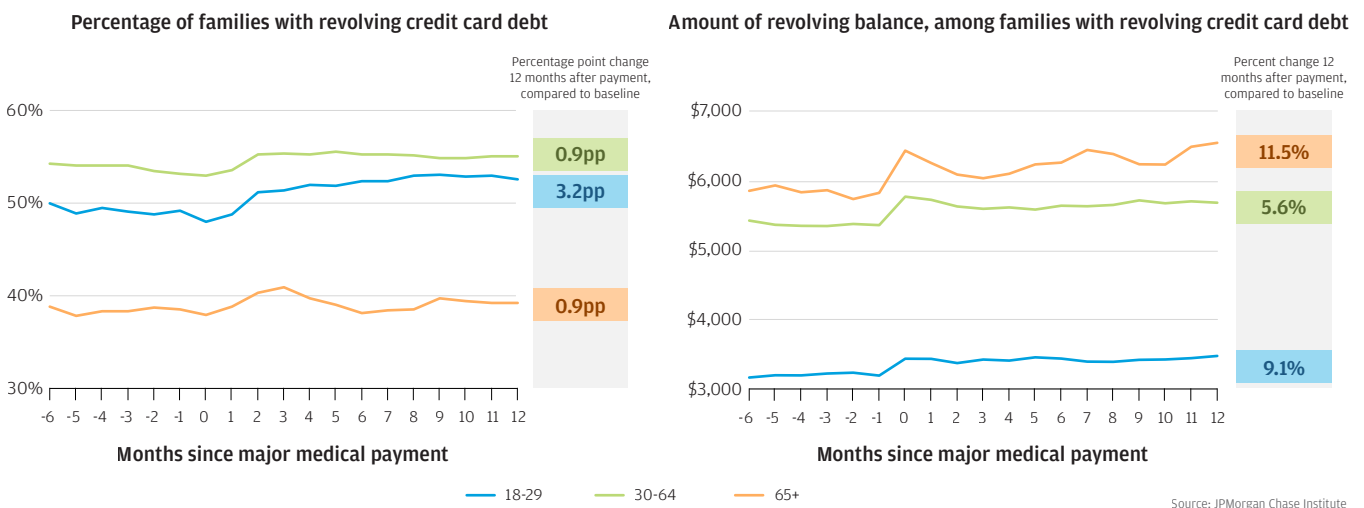
Figure 7: Across all age groups, revolving credit card debt increased at the time of an extraordinary medical payment and remained elevated, especially for younger families (18-29 years) and older families (65+ years).



Some of the families who experienced an increase in revolving credit card debt had not previously carried a revolving balance. Across all age groups, families newly took on revolving credit card debt in the months after the medical payment (Figure 8). Among younger families, the percentage of families with revolving credit card debt grew in the months following the medical payment. A year after the medical payment, there was a 3.2 percentage point increase in the percent of families under 30 with revolving credit card debt compared to baseline (49.5 percent to 52.6 percent). In contrast, the percentage of older families carrying a revolving credit card debt returned to near baseline levels (just 0.9 percentage points higher than baseline) a year after the medical payment, indicating that many of those older families who had newly taken on credit card debt at the time of the medical payment were able to pay off their credit card debt in the months following.

Twelve months after the medical payment, 39.2 percent of families 65 and older had revolving credit card debt, compared to 52.6 percent of families under 30 and 55.1 percent of middle-aged families. But as Figure 8 shows, the revolving credit card debt for older families was substantially higher: on average, their credit card debt was \$6,549 a year after the medical payment (11.5 percent increase from baseline), compared to \$3,468 for younger families (9.1 percent increase) and \$5,683 for middle-aged families (5.6 percent increase).

Figure 8: A year after making an extraordinary medical payment, younger families (18-29 years) were most likely to have newly taken on revolving credit card debt, while older families (65+ years) experienced the greatest increase in amount of debt.



## Implications

Families respond to extraordinary medical payments differently over the life cycle. Our analysis shows that younger families, who had lower liquid assets and experienced more income volatility, timed their medical payments with increases in income and liquid assets. For older families, medical bills are more commonplace and frequent. Their exact timing and amount can remain uncertain, however. Older families had less volatile incomes and greater liquid assets, which they tended to draw down in order to pay a major medical bill. Still, for both groups, there were many families who turned to revolving credit card debt to cope. Revolving credit card debt remained elevated a year after the medical payment among both younger and older families, with younger families sustaining the largest increase in credit card debt. This increased revolving credit card debt could be particularly challenging for older families, as they tended to have lower incomes with which to reduce the credit card debt.

These findings support the need for more effective financial solutions to help younger and older families weather health-related financial shocks. These solutions could help families build an *everyday cash buffer*, potentially through employer-sponsored pre-tax health reimbursement accounts or other “side-car” savings accounts, to allow families to pay for medical services when they need them without having to rely on income and asset spikes or credit card debt.

Additionally consumers might benefit from better tools and payment options to help families anticipate and manage their medical expenses. Patients should be able to see full, accurate estimates of their healthcare costs as or before costs are incurred. When the bill arrives they might benefit from having flexible payment options, including financing options over the short and long run, as well as discounts for paying on time. In planning for and managing their medical expenses over time, consumers might be well served by more integrated tools that help consumers shop around for non-emergency care and put their medical-related account balances, bills, and payments all in one place.

Better understanding the incidence and impacts of major medical expenses among the young and the old is critical to designing effective solutions tailored to the needs of families in different life stages.

## Suggested Citation

Farrell, Diana and Greig, Fiona. “Coping with Medical Costs through Life.” JPMorgan Chase Institute, 2017.

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- 1 The sample used in this brief is a subset of a sample of roughly 250,000 families used in Farrell and Greig (2017), who had at least five outflows from their checking account in every month, had a credit bureau record on file, used their debit or credit card at least once each month, spent less than 20 percent of total expenses through channels that cannot be categorized, (e.g. checks, cash, payments to unobserved credit cards, and other uncategorizable electronic channels), and made at least one housing payment in each year between 2013 and 2015. Observations in this sample were weighted to match the age and income distribution of the US population in 2014.
- 2 Among our sample 67 percent of accounts had multiple authorized users on the account, and 33 percent of primary account holders were individual account holders. The mean number of authorized users per account was 1.66, lower than the national household size of 2.65 in the 2014 American Community Survey (ACS), due to the fact that authorized users are typically adults whereas ACS household size would include children. It may also be the case that some families have multiple accounts with different individuals listed as the primary account holder.
- 3 We used \$400 as a minimum threshold in order to provide some comparability between our measure of extraordinary payments and the 2015 Survey of Household Economic Decision making (Board of Governors of the Federal Reserve System, 2016). We allowed for this minimum threshold to scale with income in order to account for higher costs of services typically consumed by high-income families as well as to ensure that we were examining an extraordinary payment that would be material in magnitude across the income spectrum. In aggregate, extraordinary medical payment dollars included doctor's visits (19 percent), ambulance and hospital (13 percent), dental (36 percent), optical (8 percent), medical equipment (7 percent), other medical services (15 percent), and prescription drugs (1 percent). Extraordinary auto repair payments included only payments to auto repair shops. Tax payments excluded tax refunds. The standard deviation was calculated using all 36 months, including months with zero payment.
- 4 Between 2013 and 2015, income, non-medical expenses, end-of-month liquid assets, and revolving credit card debt increased considerably (8 percent per year for income, 5 percent per year for non-medical expenses, 11 percent per year for liquid assets, and 6 percent per year for revolving credit card debt). To account for this growth, we removed these secular trends from these time series. See Farrell and Greig (2017) for an in-depth discussion of each of the de-trending procedures used to adjust for secular trends.
- 5 Figure 3 represents families who made at least one major medical payment. When looking at all families, income and liquid assets were lower, indicating that there was already selection happening in which families made such payments.
- 6 Month zero is the month in which the extraordinary medical payment was made. Baseline period corresponds to four to six months prior to the payment month.

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