Evaluation of Medicare Home Health Services under PDGM and Implications for CY 2022 HH PPS Proposed Rule

Assessing the Impact of PDGM Implementation and the COVID-19 Pandemic on Home Health Agencies

Submitted to:
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Introduction

Dobson DaVanzo & Associates (Dobson | DaVanzo) was commissioned by the Partnership for Quality Home Healthcare (PQHH) to analyze available Medicare home health claims data reflecting the implementation of the Patient-Driven Groupings Model (PDGM) in support of PQHH development of comments for the CY 2022 Home Health Prospective Payment System (HH PPS) proposed rule. Dobson | DaVanzo previously supported PQHH in the review of PDGM as included in the Calendar Year (CY) 2018, CY 2019, CY 2020, and CY 2021 Home Health Prospective Payment System (HH PPS) proposed and final rules, as well as accompanying technical reports. To inform our analyses and conclusions, we draw on this prior work along with other responses to the prior comment periods, the Abt Technical Expert Panel report, as well as available claims data, published CY 2022 PDGM case-mix weights and LUPA threshold information, and a Dobson | DaVanzo-led survey of PQHH members on the state of Home Health labor costs.

Effective January 1, 2020, the PDGM overhauled the HH PPS episode and case-mix group definitions, payment weights, and base rate. PDGM is a revision of the Home Health Resource Group (HHRG) case-mix group definitions initially proposed in the CY 2018 HH PPS administrative rulemaking cycle that was refined and finalized in the CY 2019 and CY 2020 HH PPS rulemaking cycles. The CY 2021 HH PPS rule made limited changes to PDGM and in the CY 2022 HH PPS rule CMS' seeks comment on the method used to assess budget neutrality for CY 2020 while proposing additional changes.

When implementing PDGM in the CY2020 Final Rule (FR), CMS prospectively reduced the HH PPS base rate from the budget-neutral calculated level by 4.36%. The level of rate reduction was justified by CMS through analytic assumptions on how providers might change their behavior once PDGM was implemented. In the CY 2020 FR, CMS described three underlying assumptions to determine the behavioral adjustment:

- For one-third of LUPAs that are one to two visits away from the LUPA threshold, HHAs will provide one to two extra visits to receive a full 30-day payment.

- HHAs will change documentation and coding practices and put the highest paying diagnosis code as the principal diagnosis code (payment optimized clinical coding). This allows a 30-day period of care to be placed into a higher-paying clinical group.

- By considering additional ICD-10-CM diagnosis codes listed on the HHA claim (that exceed the six allowed on the OASIS), more 30-day periods of care will receive a comorbidity adjustment than periods otherwise would have received if CMS had only used the OASIS diagnosis codes for payment.

We commend CMS for making extensive case data available and showing transparency to enable robust and productive commentary by the public. In the CY 2020 FR CMS OASIS-LDS PDGM rate-setting and impact files, CMS provided payment estimates which included case-level estimated behavioral responses, as well as data appropriate for reproducing PDGM payments without behavioral responses.

Executive Summary: Conclusion, Supportive Evidence, and Policy Recommendations

1. **CMS's conclusion that CY 2020 base payments were set 6% higher than they should have been is fundamentally flawed**

Supportive evidence: CMS' methodology that compares aggregate payments under both PDGM and the prior 60-day system using CY 2020 data is inherently flawed—under the 60-day system case-mix and payments are largely driven by therapy visits especially when a high number of therapy visits are present. In contrast, under PDGM case-mix and payments rely more heavily on patient clinical characteristics as therapy thresholds are eliminated. CY 2020 data are thereby distorted by the effects of PDGM implementation and the COVID-19 PHE, as the shift of payment incentives away from therapy visits and the COVID-19 PHE drove a 29.7% reduction in CY 2020 therapy visits. This likely explains the inaccurate conclusion by CMS that CY 2020 base payment rates were set 6% higher than they should have been.

Policy recommendation: Similar to CMS conclusions in the CY 2022 SNF PPS final rule, CMS should not consider any temporary or permanent decreases to PDGM 30-day payment amounts reflecting the proposed 6% increase in CY 2020 base payment rates stemming from an inaccurate budget neutrality assessment methodology. This issue can reasonably be addressed using CY 2021 data in the calculation of CY 2023 payment rates, although it is possible that CY 2021 data may also be distorted by recent developing trends related to the surge of COVID-19 delta variant cases.

2. **CMS requested alternative approaches to assess budget neutrality. One approach is to compare CY 2020 30-day period payments to projected 30-day payments obtained from CY 2018 60-episode data converted to 30-day episodes (provided by CMS in CY 2020 HH PPS proposed rulemaking impact files). Based on this approach, we find that the CY 2020 average payments were 1.4% below CMS projections with behavioral assumptions.**

Supportive evidence: In the CY 2022 HH PPS proposed rule, CMS requests alternative approaches to the assessment of budget neutrality. One approach would be to compare actual CY 2020 30-day period payments to projected CY 2020 payments based on data from CY 2018 60-day episodes converted to 30-day episodes provided by CMS in the CY 2020 HH PPS proposed rule impact files. This approach is less biased as CY 2018 data is not distorted by behavioral changes as a result of the implementation of PDGM or the COVID-19 PHE. In contrast to findings from the CMS approach, results from this approach show that CY 2020 average payments were -1.4% under CMS projected average payments with behavioral assumptions. These results mean that for every $10,000 in projected home health payments, CMS behavioral adjustments decrease payments by 4.36% to $9,565, and we find that on average home health payments are 1.4% ($9,431) below the projected budget neutral payments with behavioral adjustments. This suggests that the CY 2020 base payment rates were set approximately 5.76% below budget neutral levels. Ultimately, there appear to be many factors that are driving the reduction in home health payment amounts, of which the three behavioral assumptions are not the totality.

Policy recommendation: Instead of the potential proposed 6% reduction, CMS should consider taking corrective action to increase base payment rates by 5.76% so the HH PPS will be more likely to achieve budget neutrality for CY2022, as authorized by the Bipartisan Budget Act of 2018.

3. **The observed -1.4% difference between average CY 2020 30-day episode payments and projected 30-day episode payments with behavioral assumptions are likely because two of three behavioral assumptions have not been met using CY 2020 claims data with run-out through July 2021.**

Supportive evidence: To ensure that CY 2020 payments were budget neutral, CMS finalized three behavioral assumptions, after considering a phase in approach, which in aggregate resulted in a 4.36% reduction in base payment rates in CY 2020. Using CY 2020 data downloaded in July 2021, we find that two of the three anticipated behavioral changes that CMS used to justify prospective payment rate reductions have largely not occurred:

- The PDGM LUPA rate was higher than projected in 2020. Overall, we find an 8.17% LUPA rate under PDGM compared to the 5.3% average projected by CMS with behavioral assumptions.

- Case-mix groups continue to reflect historical trends of primary diagnoses rather than payment-optimized groupings.

- Comorbidity and functional group scores were higher than anticipated which may be some part behavioral adjustment but also due to the relative increase in case-mix severity as a result of the pandemic-related shifts in types of home health cases.

The combined effects of these behavioral changes impact case-mix in complex ways. Ultimately, an unexpectedly high LUPA rate and clinical grouping reflecting historical trends drive lower case-mix weights and payments than CMS projected with behavioral assumptions, but this is balanced by the increase in case-mix weight due to the increase in high comorbidity and functional group scores. In aggregate, these effects in CY 2020 result in an average payment that is 1.4% lower than projected budget neutral average payments with behavioral adjustments. In total, this means that CY 2020 payments were 5.36% lower than they would have been in absence of the change to the 30-day payment system (PDGM).

Policy recommendation: CMS should continue to track the behavioral assumptions using data for future years not impacted by the COVID-19 PHE to determine the impact of differences between assumed behavior changes and actual behavior changes on estimated aggregate expenditures. We caution however, that given that CY 2021 data may also be distorted by recent developing trends related to the surge of the delta variant of COVID-19 cases, 2021 data may not be useful for such an endeavor.

4. **In the absence of any corrective action, we estimate that CMS behavioral adjustments could lead to a reduction of approximately $2.43 billion in home health payments between CY 2020 and CY 2022.**

Supportive evidence: Using CY 2020 home health payments[1] with behavioral adjustments (approximately $16.86 billion) as a baseline, we assumed payments with behavioral adjustment in CY 2021 and CY 2022 would increase by 5.6% and 5.3% respectively. We estimated the percent increase in payments for CY 2021

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[1] Obtained from actual CY 2020 claims data.

and CY 2022 using data from the Congressional Budget Office's (CBO) baseline of March 2020.[2,3] We then estimated the aggregate payments without behavioral adjustments for CY 2020 through CY 2022 by increasing the total payments with behavioral adjustments by 4.36%. Finally, we determined the aggregate impact of the -4.36% behavioral assumptions reduction on home health payments from the difference in payments with and without behavioral adjustments for the respective years. Our results showed that payment reductions due to behavioral adjustments could lead to approximately $2.43 billion reduction in home health payments between CY 2020 and CY 2022.

Policy recommendation: As CMS recognizes and the data shows, any current or future reductions to account for provider behavioral shifts for payment optimization are not appropriate as this time.

5. HH PPS Market baskets may not be reflective of actual price trends in the HH industry.

Supportive evidence: The COVID-19 PHE in CY 2020 has in some part affected the supply of and demand for certain inputs, including home health labor leading to a general increase in labor and other input prices. The CMS HH PPS market basket update factor, however, has recently declined from 3.0 in CY 2019 to 2.4 in CY 2022. This is likely because the market basket price indices do not reflect the pandemic-driven inflation in large part because the market basket composite index is determined on a 4-quarter rolling average basis and reflect general cost changes across the healthcare industry—failing to account for home health specific price changes on a real-time and industry specific basis.

Based on our construction of an estimated market basket index using results from the 2021 PQHH Labor Cost Survey related to the three largest components of the index (wages and salaries, benefits, and administrative and general expenses), we determined that the home health specific market basket update factor should have increased by approximately 1.1 percentage points between CY 2019 and CY 2020 and by approximately 1.2 percentage points between CY 2020 and CY 2021. These results are in stark contrast to CMS HH PPS market basket update factors that decreased by 0.1 percentage points between CY 2019 and CY 2020, and further by 0.6 percentage points between CY 2020 to CY 2021.

Policy recommendation: CMS should comprehensively assess all aspects of the HH PPS market basket index derivation to ensure that it reasonably forecasts annual cost increases and that the price proxies accurately reflect trends in the home health industry.

6. Inadequate reimbursement for and reporting of telehealth utilization will affect future rate-setting as home health payments and claims do not reflect telehealth utilization and related costs that have risen during the pandemic.

Supportive evidence: Initially allowed under Section 1135 waivers and finalized in the CY 2021 HH PPS proposed rule, CMS has allowed HHAs to use telehealth and remote monitoring to provide services to patients. However, telehealth visits cannot be considered a home visit for the purposes of patient eligibility or payment, but HHAs can report the costs of telecommunication technology as allowable administrative

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[2] Baseline budget projections as of March 6, 2020. Congressional Budget Office. (2020, March 19). https://www.cbo.gov/publication/56268.

[3] Note that these growth rates are reflective of both price and quantity. Additionally, as noted in the document the budget projections provided in the March 2020 update do not account for changes to the nation's economic outlook and the fiscal situation arising from the COVID-19 PHE. As such, projected payments in CY 2021 and CY 2022 may increase at a much higher rate due to deferred care during the PHE and the increased severity of cases for those diagnosed with COVID-19.

and general costs. While the allowance of telehealth visits for home health services will continue to be helpful in ensuring continuous beneficiary access during the COVID-19 pandemic, these visits are still not adequately reimbursed and do not count towards the LUPA threshold. Given there is no requirement to capture these services in the claims and telehealth costs are not well reported in Medicare Cost Reports, the service shift toward telehealth must be accounted for outside of the traditional rate setting and rebasing of payment models at the risk of decreasing the payment accuracy and adequacy of the HH PPS. We raise this issue because this factor can affect analyses and lead to an incorrect imputation that there is less home health care or that home health margins have risen; instead, it this reflects a new source of measurement error.

Policy recommendation: We urge CMS to institute an appropriate reimbursement methodology for home health telehealth services. This will ensure that telehealth services are well captured in home health claims and Medicare Cost Reports which will subsequently increase the accuracy of future rate-setting, case-mix recalibration, and home health reimbursement.

7. **While CMS' proposed case-mix recalibration and subsequent 1.039 case-mix budget neutral adjustments are in accordance with Section 1895(b)(3)(A)(i) of the Act, the redistributional effects of recalibrated case-mix weights based on CY 2020 data are likely inappropriate for CY 2022 payments. Given the impact of the COVID-19 PHE, CY 2020 utilization patterns may not be reflective of future CY 2022 utilization and should only be used for case-mix recalibration with an abundance of caution.**

Supportive evidence: Ultimately the COVID-19 PHE will affect future rate setting, rebasing, and payment system overhauls across all the HH PPS payment system. For instance, CMS uses CY 2020 data to set rates and recalibrate case-mix weights in the CY 2022 HH PPS proposed rule. The recalibrated case-mix weights appear to result in lower aggregate payments for CY 2022 compared to aggregate payments under the CY 2021 PDGM case-mix weights. Although CMS implements a budget neutrality factor of 1.039 to offset the aggregate reduction in payments due to the recalibrated case-mix weights, we believe the varying distributional effects on individual HHAs are unjustifiable.

Additionally, the CY 2020 data that CMS relies upon to set rates and recalibrate case-mix weights are likely not representative of utilization patterns in CY 2022. The COVID-19 PHE directly led to shifts in referral sources for HHAs—most significantly HHAs likely substituted for SNF care. Further, the cancellation of elective surgeries and patient avoidance of institutional settings to handle exacerbations of chronic illnesses resulted in a reduction in STACH referrals to HHAs and an increase in referrals from other sources. Among STACH referrals to HHAs, the severity of cases (as indicated by DRG weights) seemed to increase—suggesting that sicker patients were unable to defer care. Finally, the respiratory home health cases increased by 4.7% while infectious disease home health cases increased by 30.6% between CY 2019 and CY 2020 likely indicating that HHAs took on COVID-19 cases that differed in severity from cases in prior years.

Policy recommendation: We caution against the use of CY 2020 data for case-mix recalibration as indicated in the CY 2022 HH PPS proposed rule.

8. **In conclusion, as with the CY 2022 IPPS proposed rule, we recommend that CY 2020 data should not be used for CY 2022 rate-setting or case-mix recalibration.**

Detailed Findings

The Bipartisan Budget Act (BBA) of 2018[4] mandated CMS to develop a new payment model for the Medicare home health program with a number of requirements, namely that:1) HH PPS cases are shortened from 60 days to 30 days, 2) case payments no longer account for the volume of therapy services, and 3) changes are implemented in a budget neutral manner.

Budget Neutrality Definition

Section 51001(a)(2)(A) of the BBA of 2018 specified that the standard prospective amount for the new payment system (PDGM) had to be calculated in a manner such that the estimated aggregate expenditures under the new 30-day unit of payment system would be equal to the estimated aggregate expenditures <u>that otherwise would have been made under the HH PPS during CY 2020 in the absence of the change to a 30-day unit of payment</u>.[5]

To achieve budget neutrality, the BBA of 2018 mandated that CMS apply "behavioral adjustments" to account for changes in provider behavior given the change to a 30-day unit of payment. The law also required CMS "to annually determine the impact of differences between assumed behavior changes and actual behavior changes on estimated aggregate expenditures beginning with 2020 and ending with 2026"[6] and to make temporary and permanent increases or decreases, as needed, to the 30-day payment amount to offset such increases or decreases.

While the BBA of 2018 did not specify the standards or the process of determining budget neutrality, in the CY 2022 proposed rule (86 FR 35874),[7] CMS provides preliminary analyses of the first year of the PDGM and a description of the methodology CMS used to estimate the difference between assumed and actual behavior changes.

CMS Methodology for Determining Budget Neutrality

"To assess whether the 30-day budget neutral payment amount for CY 2020 maintained budget neutrality given the change to a 30-day unit of payment and the implementation of a new case-mix adjustment methodology without therapy thresholds was accurate", CMS used CY 2020 30-day period claims data to simulate 60-day episodes and estimated <u>what CY 2020 payments would have been under the 153-group case-mix system and 60-day unit of payment in absence of the change the 30-day unit of payment under PDGM</u>. CMS applied exclusions and assumptions to group actual CY 2020 30-day periods under PDGM into 60-day periods of care. CMS then priced out the simulated 60-day episodes of care using the payment parameters under the 60-day payment system and compared the aggregate payments under the 60-day payment system to payments for the same cases under PDGM's 30-day unit of payment system.

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[4] BBA of 2018, H.R.1892. Available at: https://www.congress.gov/bill/115th-congress/house-bill/1892.

[5] Underlined by Dobson | DaVanzo for emphasis.

[6] Section 51001(a)(2)(D)(i) of the BBA of 2018. Available at: https://www.congress.gov/bill/115th-congress/house-bill/1892.

[7] CY 2022 HH PPS Proposed Rule, 86 FR 35874. Available at: https://www.federalregister.gov/documents/2021/07/07/2021-13763/medicare-and-medicaid-programs-cy-2022-home-health-prospective-payment-system-rate-update-home.

CMS' preliminary analyses indicated that aggregate payments to HHAs were higher in CY 2020 under the PDGM case-mix adjustment methodology and the 30-day unit of payment compared to what HHAs would have been paid had the PDGM and 30-day unit of payment not been implemented.

Additionally, CMS calculated what the CY 2020 30-day periods of care base payment rate and fixed-dollar loss ratio (FDL) should have been to achieve the estimated aggregate payments for the simulated 60-day episodes in CY 2020. CMS then calculated a percent change between the base payment rates and determined that the CY 2020 30-day base payment rate was approximately 6% higher than it should have been relative to budget neutral payments.

Why CMS Budget Neutrality Assessment Methodology is Fundamentally Flawed

While CMS does not finalize any specific method or behavior assumption payment adjustments in the CY 2022 HHPPS proposed rule, a few issues warrant examination with regard to the agency's proposed methodology for assessing budget neutrality.

CY 2020 SHIFTS IN THERAPY UTILIZATION

As case-mix weights and resulting payments under the 60-day system were driven by therapy utilization, any shifts in therapy utilization in CY 2020 data will have a significant impact on case-mix and aggregate payments repriced under the 60-day system, thereby undermining attempts to determine what CY 2020 payments would have been under the 60-day payment system. We note that the elimination of therapy thresholds under PDGM and the impact of the COVID-19 PHE in CY 2020 negatively impacted therapy utilization in CY 2020 resulting in CMS' observed lower case-mix and lower aggregate payments under the 60-day unit of payment. Importantly, we also note the CY 2021 data may also present the same limitations to CMS' methodology.

Additionally, we note that CMS acknowledges the impact of the COVID-19 PHE on CY 2020 data in the CY 2022 IPPS proposed rule (86 FR 25070)[8] and suppresses the use of CY 2020 data for FFY 2022 rate setting, and numerous measurements of value-based purchasing, readmissions, and hospital-acquired conditions. CMS indicates for example, that "the differences in utilization for certain types of services in FY 2020 as compared to what would have been expected in the absence of the PHE affects the calculation of CMI values for Rural Referral Centers."[9]

Similarly, in the CY 2022 SNF PPS final rule (86 FR 19954),[10] CMS acknowledges that the COVID-19 PHE and significant differences in both patient assessment requirements and payment incentives under RUG-IV compared to PDPM significantly impacted FY 2020 SNF utilization data in the first year of PDPM. As such, CMS concludes that the methodology they used in the past to calculate a PDPM adjustment factor for budget neutrality may be inappropriate and "could lead to a potentially inaccurate recalibration."[11] For reference, CMS' unfinalized proposed methodology to determine an appropriate adjustment factor to achieve budget neutrality in the SNF PPS compares aggregate payments under both the

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[8] CY 2022 IPPS Proposed Rule, 86 FR 25070. Available at: https://www.federalregister.gov/documents/2021/05/10/2021-08888/medicare-program-hospital-inpatient-prospective-payment-systems-for-acute-care-hospitals-and-the.
[9] 86 FR 86 FR 25070, Page 25438 https://www.federalregister.gov/d/2021-08888/page-25438.
[10] CY 2022 SNF PPS Final Rule, 86 FR 19954. Available at: https://www.federalregister.gov/documents/2021/04/15/2021-07556/medicare-program-prospective-payment-system-and-consolidated-billing-for-skilled-nursing-facilities.
[11] CY 2022 SNF PPS Final Rule, 86 FR 19954, Page 19986. Available at: https://www.federalregister.gov/d/2021-07556/p-283.

current system and the prior system using claims and assessment data for a given year—a methodology similar to CMS' proposed budget neutrality assessment for PDGM.

PAYMENT INCENTIVES-DRIVEN SHIFT IN THERAPY UTILIZATION

Fundamental to the definition of budget neutrality is the idea that the assessment must be conducted under the assumption that all else remains the same except the specific change in payment policy modeled. The desired counterfactual in this instance is CY 2020 home health payments that would have been made in the absence of the change to a 30-day unit of service. However, PDGM resulted in significant differences in payment incentives that dramatically altered CY 2020 home health utilization making aggregate payments made under PDGM incomparable to simulated payments that would have been made under the 60-day system in absence of the payment system change.

Prior to PDGM, under the 60-day payment system, case-mix weight and payments were driven in large part by the number of therapy visits as HHA providers could receive higher payments if certain therapy volume thresholds were met during the 60-day period. PDGM eliminated these therapy thresholds and CY 2020 data shows that therapy visits fell by 29.7% between CY 2019 and CY 2020. The data show a reduction from 41,395,470 total therapy visits under the 60-day payment system in CY 2019 to 29,110,582 total therapy visits under PDGM in CY 2020.

As shown in **Exhibit 1**, therapy visits under the 60-day payment system tended to cluster around the therapy thresholds (0-14, 15-19, 20+) used to adjust payments. As can be observed, 10.3% of 60-day episodes had 21 or more therapy visits, while more than half had at least 10 therapy visits.

Exhibit 1: Percent of Episodes and Average Payments by Therapy Visits Under 2019 HH PPS 60-day Unit of Payment
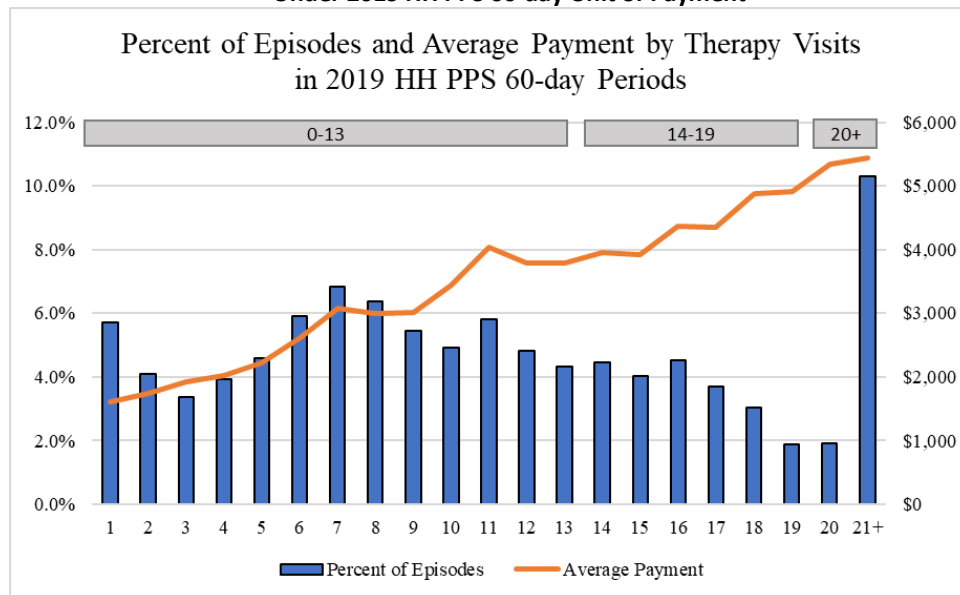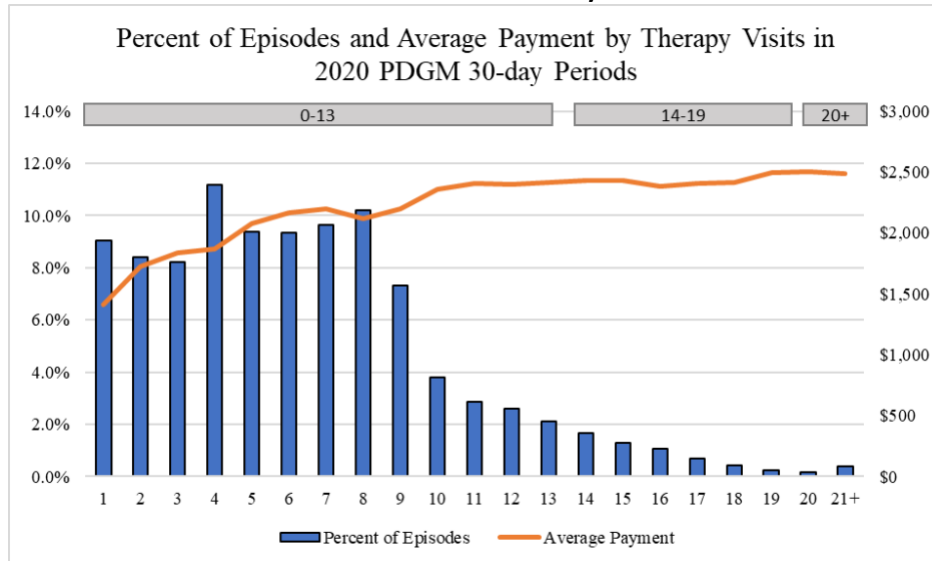

Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 57157 and RIF 54757

In contrast, under PDGM, previously observed clusters around therapy thresholds that are visible in CY 2019 are no longer visible in CY 2020 as shown in **Exhibit 2**. The exhibit shows that therapy visits are left-skewed

in CY 2020 with more than half of 30-day episodes having fewer than 6 visits. This is a marked departure from the therapy visit distributions observed in CY 2019 data.

Exhibit 2: Percent of Episodes and Average Payments by Therapy Visits Under 2020 PDGM 30-day Periods

Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 57157 and RIF 54757

These data show that the change in payment systems from 60-day to 30-day and the elimination of therapy thresholds was accompanied by an overall reduction in volume of therapy visits and a marked change in the distribution of therapy visits delivered in CY 2020. Therefore, the current attempt to use CY 2020 data to estimate what CY 2020 case-mix and payments would have been without the implementation of PDGM is fundamentally flawed. The desired counterfactual is impossible to deduce using CY 2020 data as it exists, because of the introduction and contaminating effect of the 30-day unit of payment under PDGM that eliminated thresholds as a determinant of case-mix and payments.

IMPACT OF COVID-19 PHE ON THERAPY UTILIZATION

Further, the occurrence of the COVID-19 PHE in 2020 also disrupted therapy and other case-mix related service delivery. First, due to the pandemic, there were nationwide cancellations of elective surgeries—the largest referral source for home health therapy—leading to a programmatically significant drop in therapy visits. Additionally, due to fear of contracting the virus, many home health patients declined services or only accepted telehealth visits, which currently aren't reimbursable or otherwise well reported by HHAs. Finally, since some states failed to designate therapists as essential workers, therapy visits could not be conducted in assisted living and other facilities as they would have regularly been further leading to a reduction in the number of therapy visits that could be delivered amid the pandemic. All of these factors had a "dramatic" impact on home health therapy delivery, leading to large reductions and changes in the distribution of therapy visits in CY 2020, which as noted above reduced the case-mix and payments for repriced 30-day payments under the 60-day payment system. Importantly, as the COVID-19 pandemic recedes in future years, these impacts may become a lesser concern.

Exhibit 3 shows the average monthly home health therapy visits by discipline in CY 2020. As shown by the data in **Exhibit 3**, we observed a reduction in monthly Physical Therapy (PT) and Occupational Therapy (OT) visits starting in March 2020 during the initial PHE which appeared to recover during the summer months, and once again declined in November and December, perhaps coinciding with the second major wave of outbreaks. We also observed minimal but directionally consistent declines in Speech Language Therapy (SLP) visits starting in March 2020, although volumes appeared to recover throughout the rest of the year. Importantly, note that the reduction in therapy visits began before COVID-19 PHE started in March 2020—indicating that HHA providers were already experiencing significant declines in therapy visits as a result of PDGM, even before the onset of the pandemic.

Exhibit 3: Monthly Average Number of Home Health Therapy Visits in CY 2020
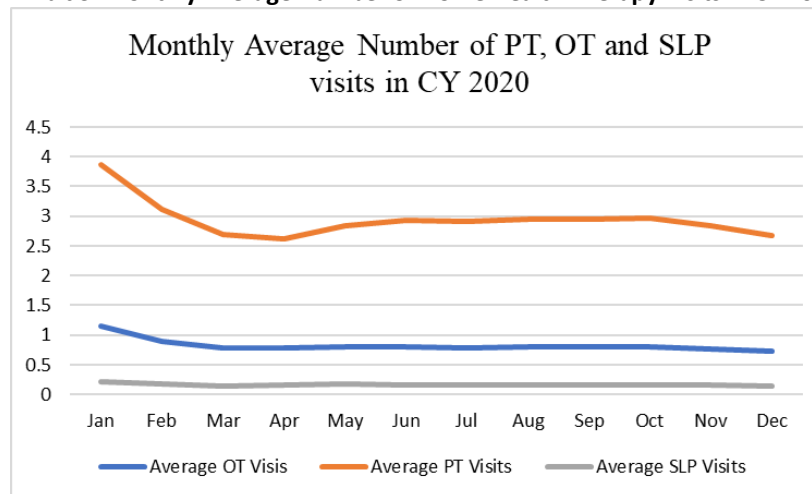
Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

Given the observed shifts in therapy utilization in CY 2020, it is inevitable that repricing of CY 2020 payments under the 60-day payment system using CY 2020 data resulted in a lower case-mix resulting in lower counterfactual aggregate payments. The lower aggregate payments to HHAs under the 60-day payment system relative to payments under the CY 2020 PDGM case as determined by CMS are largely driven by the reduction in therapy visits in CY 2020 as payments under the 60-day payment system are largely driven by therapy utilization. This renders the CMS methodology critically flawed because the CY 2020 data is "critically" affected by a behavioral process as a result of the payment-incentive shift away from therapy-driven payments and therapy visit reductions due to the COVID-19 PHE.

While we recognize that the intention of PDGM was to remove any financial incentives to "over-provide" therapy services and help shift the focus toward a payment system based on patient clinical characteristics, the resulting changes in utilization in CY 2020 data lead to a potentially inaccurate assessment of budget neutrality using CMS' methodology detailed in the CY 2022 HH PPS Proposed Rule. In summary, the counterfactual—payments that would have been made under the 60-day system—cannot be accurately modeled using CY 2020 data or data from future years.

CASE-MIX ACROSS CY 2019 HH PPS AND PDGM PAYMENT SYSTEMS INCOMPARABLE

Case-mix systems are intended to describe cases in terms of clinical characteristics and/or resource utilization so as to account for case complexity. Case-mix systems are therefore unique to each payment system as they are dependent on the underlying variables used to describe clinical characteristics or resource use. We note that case-mix under the 2019 HH PPS and PDGM are driven by different factors measuring different aspects of case-mix as described below:

- Under the CY 2019 HH PPS, case-mix adjustment for payments was made using one of the 153 possible HHRGs derived from three categories: Clinical Domains, Functional Domains, and Service Utilization computed from responses to selected data elements in the OASIS (Outcome and Assessment Information Set) assessment instrument and patient utilization of therapy visits. Case-mix weights for each of the different 2019 HH PPS payment groups were determined using each of the three categories. The 153 HHRGs were then split into 5 categories based on the amount of therapy provided and the episode's timing in a sequence of episodes—this means that HHAs could receive higher payments for later episodes in a sequence of consecutive episodes and higher payments as therapy visits increase.[12]

- In contrast, under the PDGM payment model, a case-mix adjusted payment for a 30-day period of care is made using one of 432 HHRGs and is based on the following five categories: Admission Source (Institutional or Community), Timing (early/late), Clinical Grouping (principal diagnosis on the claim), Functional Impairment Level (OASIS items), and Comorbidity Adjustment (secondary diagnoses on the claim). Case-mix weights for each of the different PDGM payment groups are determined by regressing resource use on each of the five categories.

Fundamentally, this means that a case mix of 1.0 is not the same across the two systems as they do not use the same variables or underlying regression analyses to determine resource utilization. As noted above, the case-mix weights assigned to each HHRG grouping under the 60-day unit of payment in the 2019 HH PPS are based on empirical findings from a model that includes the number of therapy visits as a variable. Given that the distribution and volume of the therapy visits are significantly different under PDGM compared to the 2019 HH PPS as shown previously in **Exhibit 2** and **Exhibit 3**, the case-mix weights derived using CY 2020 PDGM data repriced under the 60-day system are not a valid comparison to case-mix weights observed in CY 2020 under PDGM.

CMS asserts that the CY 2020 30-day base payment rate was approximately 6% higher than it should have been—claiming that this difference is primarily determined by the shift in case-mix from 0.96 under the 60-day payment system to 1.03 under PDGM's 30-day payment system. This comparison is flawed because these two case mixes are not comparable. Additionally, the cited case-mix of 0.96 does not (nor can it given the data) appropriately measure the desired counterfactual of what the case-mix could have been without the implementation of a 30-day unit of payment under PDGM. This indicates that the CY 2020 30-day base payments rate repriced under the 60-day system based on CY 2020 data has little bearing on the degree to which cases under PDGM were overpaid or deemed to not be budget neutral.

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[12] MEDPAC Home Health Care Services Payment System, October 2016. Available at: http://www.medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_16_hha_final.pdf.

ANALYTIC BIAS

Additionally, there are methodological issues with how CMS combines the CY 2020 30-day periods to simulate a 60-day period that may have led to analytic bias in the agency's case-mix and aggregate payment comparisons.

CLINICAL GROUPING

Under PDGM, roughly 40% of the diagnoses previously allowed for under the 60-day payment system are not accepted as primary diagnoses.[13] This systematic change likely impacted the coding behavior of providers under the new system ultimately leading to an inaccurate simulation of the clinical domain under the 60-day payment system using CY 2020 data.

Further, for two 30-day periods with different principal diagnoses, CMS had to make assumptions in their assignment of one clinical domain in their simulation of the 60-day system, potentially resulting in inaccurate clinical domain assignments.

TIMING (EARLY/LATE DESIGNATION)

Under PDGM, the first 30-day period of care in a sequence is assigned early timing while the second or any other subsequent 30-day periods are assigned late timing. In contrast, under the prior 60-day payment system, the first two 60-day episodes in a sequence of adjacent-covered episodes were assigned early timing, while the third and any other subsequent episodes were assigned late timing.

Given the asymmetry of timing assignments under PDGM compared to the 60-day payment system, and the shortened lengths of stay under PDGM, it is likely that timing assignments from the CMS simulation using CY 2020 data overrepresent early visits in a 60-day system, possibly leading to lower aggregate payments for CY 2020 payments repriced under the 60-day system.

IMPACT OF COVID-19 PHE ON CY 2020 UTILIZATION PATTERNS

The COVID-19 PHE may have had an impact on the observed pattern of utilization. Pandemic-related CMS waivers granted the use of telehealth during CY 2020, and this may have led to the appearance of fewer visits per 30-day period as home health telehealth visits are not adequately reimbursable or accurately captured on home health claims. In the CY 2022 HH PPS proposed rule, CMS notes that the average number of visits in a 30-day period was 9.3 visits—a decrease of approximately 12% relative to 10.5 average visits estimated using CY 2017 simulated 30-day periods.[14]

EXCLUDED CASES

CMS notes that as they converted CY 2020 30-day periods to 60-day episodes, they excluded 724,206 cases for several reasons including OASIS assessment dates occurring on or before October 31 or no OASIS data at all—potentially introducing bias.[15] Exclusion of these 724,206 (8.9%) cases potentially introduces some

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[13] Bryant, B. (2019, March 19). Primary diagnosis changes among pdgm's most overlooked aspects. Home Health Care News. https://homehealthcarenews.com/2019/03/primary-diagnosis-changes-among-pdgms-most-overlooked-aspects/.

[14] 86 FR 86 FR 25070, Page 35884. Available at: https://www.federalregister.gov/d/2021-13763/p-117.

[15] From 8,165,808 CY 2020 30-day periods, CMS' final dataset included 7,441,602 actual 30-day periods of care and 4,378,823 simulated 60-day episodes of care for CY 2020.

level of bias in the case-mix and subsequent repriced payment for the derived 60-day periods, which we cannot directionally assess.

Proposed Methodology for Budget Neutrality Assessment

As CMS cannot plausibly use CY 2020 data to determine case-mix weights and aggregate payments under the prior 60-day payment system to determine payments that would have been made in the absence of PDGM, we propose that a less biased approach would be to use the projected payments used by CMS to set CY 2020 payment rates based on data from CY 2018 60-day episodes converted to 30-day episodes. The use of CY 2018 60-day episode data converted to 30-day episodes eliminates the need to model other behavioral shifts that occurred due to the implementation of PDGM and avoids the impact of the COVID-19 PHE on therapy utilization.

To assess budget neutrality, we compare average CY 2020 30-day episode payments to projected average CY 2020 payments with behavioral assumptions used by CMS to set CY 2020 payment rates (based on data from CY 2018 60-day episodes converted to 30-day episodes). This methodology better aligns with the notion that budget neutrality analyses should be conducted under the assumption that all else remains the same except the specific policy modeled. Note that we discuss budget neutrality in terms of average payment which is not influenced by changes in case volume.

In addition, we examined the actual changes in provider coding behavior under PDGM in comparison to CMS projections using data from CY 2020 claims files and the CY 2020 CMS OASIS-LDS PDGM rate-setting file (containing historical projections of PDGM using 2018 data).

The data sets we used to determine the impact of differences between assumed behavior changes and actual behavior changes on estimated aggregate expenditures in CY 2020 are described below:

- Preliminary 2020 claims are available to Dobson | DaVanzo under CMS Research Identifiable File (RIF) Data Use Agreement (DUA) 54757. Data included in this report goes through July 2021, the most recent available month with sufficient claims run out as of writing. Should subsequent data updates be made available during the comment period, we will include these in a brief update.

- Historical projections of PDGM using 2018 data and including both a regrouping of HH PPS cases to PDGM as well as the behavioral assumptions are available in the CY2020 OASIS-LDS file, Data Use Agreement 53367.[16] This dataset was issued as a companion to the CY2020 Final Rule.

BUDGET NEUTRALITY ASSESSMENT

We find that PDGM does not appear to be budget neutral at its currently implemented payment levels, indicating higher base payments may be required to achieve budget neutrality. In CY 2020, average case payments were 1.4% lower than predicted average payments with behavioral assumptions. ($1,780.71 in CY 2020 compared to $1,805.41 projected payments with behavioral adjustments). In **Exhibit 4**, we show the

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[16] Note that as CMS converted 60-day episodes to 30-day episodes, 9.5% of claims were excluded because they could not be linked to an OASIS assessment, or were RAPs without a final claim, or they were claims with zero payment amounts. After these and other exclusions, the resulting 2018 analytic file represented 5,471,454 60-day episodes and $16.6 billion in total expenditures.

rate-setting file outputs with CMS behavioral adjustments (full behavioral adjustment) compared to observed rates from preliminary 2020 RIF claims. Here, full behavioral adjustment (BA) represents projected impact file payments made at 2020 HH PPS rates (set 4.36% below budget neutrality but the difference presumably made up for by provider behavior change).

Average case payments were partially "inflated" in January due to the transition to PDGM (there were more higher paying "early admission timing" cases because "late admission timing" cases could not occur, increasing average payment) which declined in subsequent months. Per-case payment rates declined subsequently and have yet to recover fully but are trending closer to projected average payments with behavioral assumptions.

Exhibit 4: Actual CY 2020 Claims Average Case Payments vs. Projected Case Payments with Behavioral Adjustments
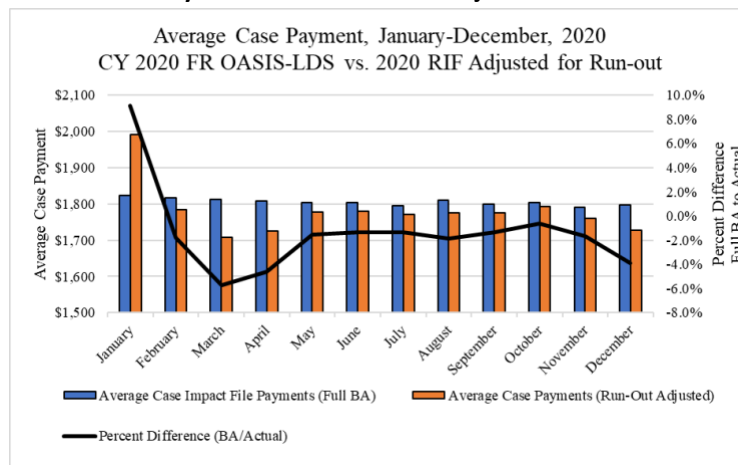
Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 53367 and RIF 54757

Average payments had major declines during the initial PHE and state lockdowns in March and April of CY 2020. Although payment levels appeared to recover during the summer months, they subsequently declined in November, and December, perhaps coinciding with the second major wave of outbreaks but also intersecting with traditional home health and other health system seasonality patterns, and pent-up demand.

Note that we adjusted observed CY 2020 payments and case counts to account for PDGM transition effects and claims run out. Transition effects are the 60-day cases in the historic payment system that were completed in 2020 (we make an adjustment to impute these into PDGM cases). We developed claims run-out factors by making repeated measures of static time periods as data matured and new data became available.[17]

Monitoring Behavioral Assumptions under PDGM

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[17] Claims data here are from the July 2021 update and results are adjusted with completion factors. After comparing multiple files with varying run-out, we concluded that January through September 2020 is adequately complete for the purposes of this report. Completion factors were 0.53, 0.46, and 0.80 to adjust observed payments October, November, and December (respectively), based on investigation of claims run out. Completion factors were 1.53%, 1.63%, and 2.27% to adjust observed cases October- December (respectively), based on investigation of claims run-out.

To achieve budget neutrality, the law required CMS to make assumptions about behavior changes that could occur because of the implementation of the 30-day unit of payment under PDGM. CMS finalized three behavioral assumptions (clinical group coding, comorbidity coding, and a low utilization payment amount (LUPA) threshold) resulting in a 4.36 percent reduction to the CY 2020 national, standardized 30-day payment rate. The three underlying behavioral assumptions are summarized below:

Combined, CMS indicated in the CY2020 HH PPS proposed rule that these three assumptions (which are interactive) would lead to 8.01% increase in payments, relative to "true" Budget Neutrality; but subsequently in the CY 2020 final rule, CMS reduced this to 4.36% on the assumption that only half of the behavioral assumptions could be immediately achieved. As described above, we find that the HH PPS is underpaying relative to projected payment levels with behavioral assumptions and below we address each behavioral assumption in greater detail. Ultimately, we find the behavioral assumptions have not entirely been met as summarized below:

- Observed LUPA rates remain higher than predicted rates.

- Payment optimization of primary diagnostic coding has largely not occurred (clinical case-mix groups represent historical rather than optimized groupings).

- High comorbidity and functional need groups are larger than expected, but this is tempered by increased relative case-mix in part influenced by the impact of the COVID-19 PHE.

LUPA RATES

During CY 2020, LUPA rates were much higher than historical levels or levels in the rate-setting file (with or without behavioral adjustment). LUPAs are cases that do not meet the full payment visit threshold and are paid on a per-visit basis; the large portion of LUPA cases serves to reduce average case payments. Between January and December 2020, we observed an 8.17% LUPA rate compared to the predicted 5.3% (with behavioral assumptions) or 7.5% (historical trend without behavioral assumptions). Observed PDGM LUPA rates were higher than CMS projected LUPA rates with behavioral assumptions in January and February, prior to widespread state responses to the COVID-19 PHE, as shown in **Exhibit 5**—suggesting that providers were struggling with the new PDGM LUPA rules even before the onset of the pandemic. LUPA rates further increased with the onset of the COVID-19 PHE in March, and while they began trending back down in April, they have remained consistently higher and almost twice the rate CMS predicted with behavioral assumptions.

**Exhibit 5: Actual CY2020 LUPA Rate vs. Projected LUPA Rate (with and without Behavioral Assumptions)**

LUPA Rate (CY 2020 FR OASIS-LDS vs. 2020 RIF, Included on PDGM codes)
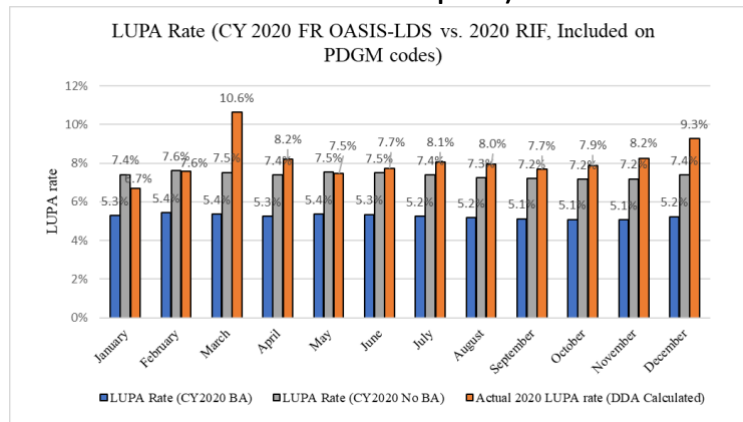
Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 53367 and RIF 54757

CLINICAL GROUP CODING

We find that case-mix groups are more similar to historical trends of primary diagnoses rather than payment-optimized groupings as projected by CMS in the behavioral assumptions, as shown in **Exhibit 6**. The Agency assumed home health agencies would change their documentation and coding practices to assign the highest-paying diagnosis code as the principal code for the 30-day period of care, which has largely not occurred. Certain groups stand out for their departure in the behavioral assumption group from historical trend—especially clinical groups MMTA-Endocrine and Neuro groups—where actual 2020 case-mix results hewed close to historical levels. This behavioral assumption would require agencies to substantially disregard international agreed coding schemas, so it is unsurprising shifts did not occur to the extent predicted in the behavioral assumption.

Exhibit 6: Observed Clinical Groups January-December 2020 Compared to Projected Clinical Groups (with and without Behavioral Adjustments)
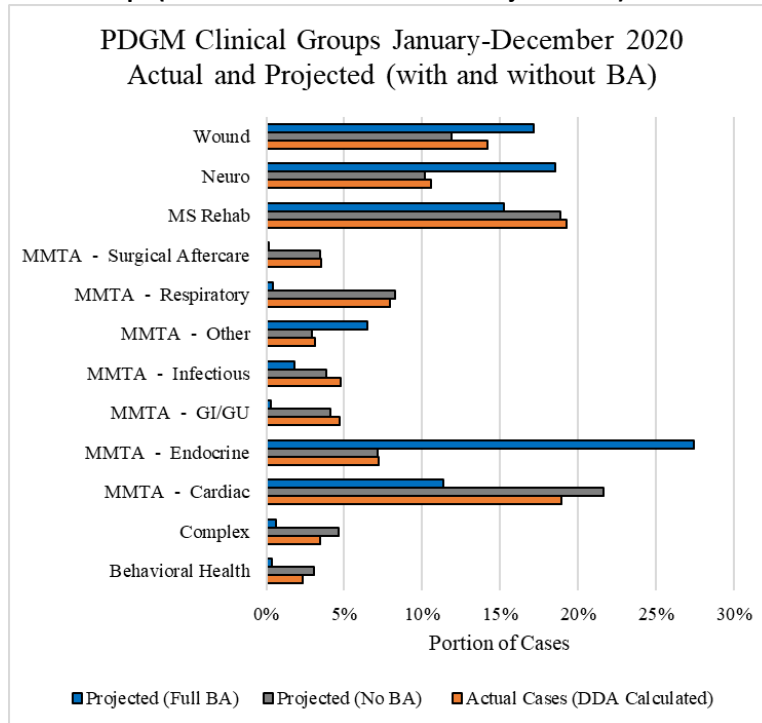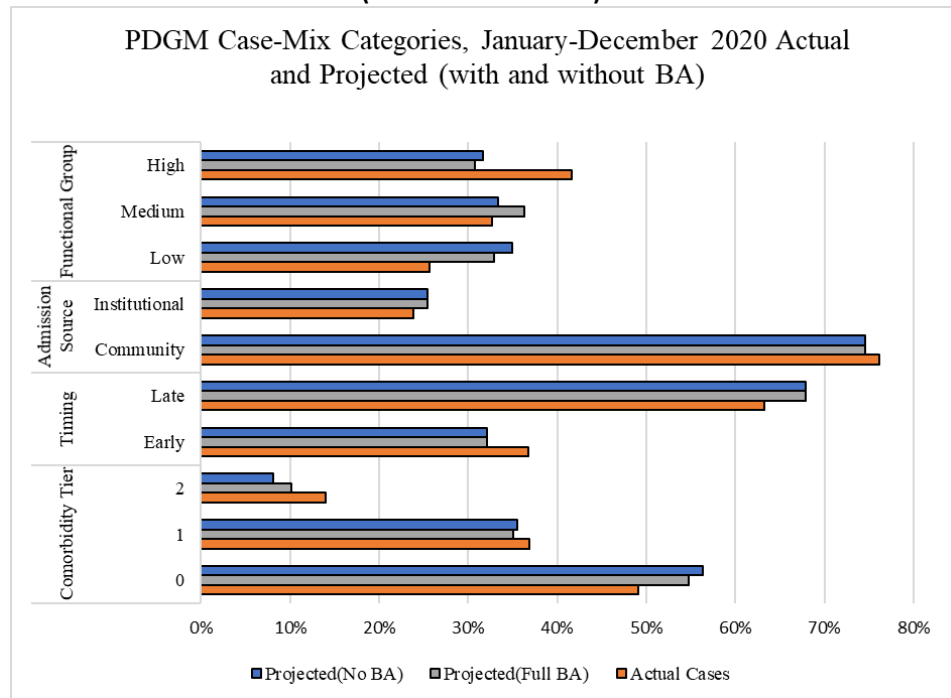

Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 53367 and RIF 54757

IMPACT ON COMORBIDITY, FUNCTIONAL STATUS, ADMISSION SOURCE, AND TIMING

Home health agencies reported higher comorbidity and functional group scores in 2020, even much higher than scores projected from the rate-setting files with behavioral adjustment as shown in **Exhibit 7**. The increases in scores could be partially explained by the change in coding behavior as anticipated by CMS but also by the relative increase in case-mix severity due the ongoing coronavirus pandemic that has likely resulted in substitution of home health for SNF care and increasing severity of Short-Term Acute Care Hospital (STACH) referrals. CMS could consider examining changes in home health comorbidity and functional case-mix groupings within the context of changing SNF volume and case-mix to address how unanticipated leakage across systems may be impacting HHA case-mix groupings (comorbidity scores, functional scores, admission source, and timing).

Exhibit 7: PDGM Case-Mix Categories January-December 2020, Actual and Projected (with and without BA)

PDGM Case-Mix Categories, January-December 2020 Actual and Projected (with and without BA)

Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 53367 and RIF 54757

While functional status and comorbidity level are potentially sensitive to coding, admission source, and episode timing are not because these aspects of case-mix are obtained from the home health claim rather than agency reporting. Observed changes in admission source and timing inherently represent real changes in referral sources and new patient home health admissions.

We find a greater portion of cases were Early (+5 percentage points) while fewer cases were Institutional (-2 percentage points) compared to the behaviorally adjusted CMS impact file estimate. These changes are subtle but impactful and represent real changes in case-mix. These changes likely represent changing business models to adapt to PDGM and/or a changing mix of referral sources due to the COVID-19 PHE. While institutional cases are highly incentivized in PDGM, the pandemic-related cancellation of elective procedures, decreased utilization of institutional settings and exceedingly poor SNF pandemic performance likely led to a reduction in these case types.

Aggregate Impact of -4.36% Behavioral Adjustment Payment Reduction, 2020-2022

In aggregate, we estimate that the payment reductions due to behavioral assumptions could lead to an approximate reduction of $2.43 billion for home health-related payments from 2020 through 2022.

METHODOLOGY

The methodology we use to estimate the overall payment reductions is outlined below:

Step 1: Estimate projected HH payments with behavioral adjustments for CY 2021 and CY 2022

We determined from CY 2020 claims data that CY 2020 home health payments with behavioral adjustments were approximately $16.86 billion. Based on the Congressional Budget Office's (CBO) baseline of March 2020, home health payments are projected to increase by 5.6% in CY 2021 and 5.3% in CY 2020.[18],[19]

We then calculated the projected home health payments with behavioral adjustments for CY 2021 and CY 2022 by applying CBO's projected percent increase in aggregate payments for CY 2021 and CY 2022 to the actual CY 2020 aggregate home health payments.

As shown in **Exhibit 8** below, we determined projected home health payments with behavioral adjustments of $17.80 billion in CY 2021 and $18.73 in CY 2022.

Exhibit 8: Actual Home Health Payments in CY 2020 and Projected Home Health Payments in CY 2021 and CY 2022 (with behavioral adjustments)

Year	Projected Percent Increase	Total HH Payments (with behavioral adjustments)
2020	ACTUAL	$16,859,300,947
2021	5.6%	$17,795,928,777
2022	5.3%	$18,732,556,608

Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

Step 2: Determine aggregate payments without behavioral adjustments for CY 2020 through CY 2022

We estimated the aggregate payments without behavioral adjustments for CY 2020 through CY 2022 by increasing the total payments with behavioral adjustments by 4.36%. Note that reverse percentage derivation of payments without behavioral adjustments requires further adjustments to the 4.36% increase. We further adjusted the payments without behavioral adjustments by 0.2% to account for this.

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[18] Baseline budget projections as of March 6, 2020. Congressional Budget Office. (2020, March 19). https://www.cbo.gov/publication/56268.

[19] Note that these growth rates are reflective of both price and quantity. Additionally, as noted in the document the budget projections provided in the March 2020 update do not account for changes to the nation's economic outlook and fiscal situation arising from the COVID-19 PHE. As such, projected payments in CY 2021 and CY 2022 may increase at a much higher rate due to deferred care during the PHE and the increased severity of cases for those diagnosed with COVID-19.

We then estimated the aggregate impact of the -4.36% behavioral assumptions reduction on home health payments from the difference in payments with and without behavioral adjustments for the respective years. As shown in **Exhibit 9** below, we estimate that payment reductions due to behavioral adjustments could lead to approximately $2.43 billion reduction in home health payments between 2020 and 2022.[20]

Exhibit 9: Actual Home Health Payments in CY 2020 and Estimated Home Health Payments in CY 2021 and CY 2022 with and without Behavioral Adjustments

Year	Total HH Payments (with behavioral adjustments)	Total HH Payments (without behavioral adjustments)	Difference between total payments with and without behavioral adjustments
2020	$16,859,300,947	$17,628,085,070	($768,784,123)
2021	$17,795,928,777	$18,607,423,129	($811,494,352)
2022	$18,732,556,608	$19,586,761,189	($854,204,581)
Aggregate Impact of behavioral adjustments 2020-2022			($2,434,483,057)

Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

Overall Impact of the COVID-19 PHE on Home Health Case-Mix and Payments

As noted throughout the report, the COVID-19 PHE has had significant effects on home health utilization thereby influencing types of patients receiving home health services and payments for those services in CY 2020. In addition, HHAs experienced an increase in input prices that may not have been accounted by CMS as they update payment rates using the HH PPS market basket. Key areas of concern include:

- The market basket indices used to update payments for CY 2020 – CY 2022 do not capture observed price increases experienced by HHAs due to pandemic-related shifts in the supply and demand.

- Observed atypical home health utilization trends in CY 2020 indicate that CY 2020 data may not be representative of future utilization in CY 2022. As such, CY 2020 data should not be used for CY 2022 rate-setting or case-mix recalibration. Observed CY 2020 trends include:

  o While in CY 2019, SNFs typically took on more STACH discharges compared to HHAs, these trends reversed in CY 2020 amid the pandemic—HHAs appeared to take on more STACH discharges compared to SNFs. These trends have only begun to reverse in 2021. This indicates that HHAs likely substituted for SNF care during the pandemic in CY 2020.

  o HHAs experienced a reduction in STACH referrals, although patients referred to HHAs from STACHs appeared to be of higher and increasing severity compared to prior years.

  o Further, there was a general increase in respiratory and infectious cases while cardiac cases decreased—signifying that HHAs took on COVID-19 cases that differed in severity from cases in prior years.

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[20] We conducted a series of sensitivity analyses and found comparable results.

- o Finally, overall, there were significant in average visits across PT, OT, and SLP visits in addition to an overall decline in total number of visits across all disciplines and average visits per unique beneficiary. This suggests that HHAs likely experienced declines in beneficiaries seeking home health services as volumes from referral sources declined and patients avoided care in fear of contracting the virus. Further, the provision of services through telehealth visits that are not captured in-home health claims may have contributed to the observed reduction in visits.

Below we describe the key areas of concern in detail and provide data (where available) to describe the impact of COVID-19 PHE on home health utilization and payments with regard to PDGM and subsequent final and proposed rules for CY 2021 and CY 2022.

CMS' MARKET BASKET UPDATE FACTORS

Section 1895(b)(3)(B) of the Act[21] required that the standard prospective payment amounts for home health be increased by the applicable home health market basket update[22] for those HHAs that submit quality data as required by the Secretary.

The HH PPS market basket is a "Laspeyres fixed-weight index that is used to determine how much more or less it would cost, at a later time, to purchase the same mix of goods and services that was purchased in a base period."[23] As such, it measures "pure" price changes only and not changes in volume of services. The market basket is constructed in three steps outlined below:

i. First, total expenditures for identified spending categories during a selected base period expenditures are estimated (CMS determines total expenditures for the HH PPS market basket from Medicare Cost Report data). The proportion of total costs for each spending category is computed and these represent the cost weights. There are six cost weight categories for the HH PPS market basket: compensation (76.1%, of which 65.1% is associated with wages and salaries and 10.9% is associated with benefits), operations and maintenance (1.5%) professional liability insurance (0.3%), administrative and general and other expenses (17.4%), transportation (2.6%), capital-related costs (2.1%).24

ii. In the second step, CMS identifies a price proxy index that measures the changes in price for each of the cost categories. For example, CMS uses the CPI-U for transportation published by Bureau of Labor and Statistics as a price proxy for transportation cost increases.

iii. Finally, the price proxy index for each cost category is multiplied by the respective cost weights and summed to compute a composite index in the market basket in a given year. The market basket update factor is then derived from percent changes in the composite index level from quarter to quarter.

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[21] https://www.ssa.gov/OP_Home/ssact/title18/1895.htm.

[22] The HH market basket is further adjusted by changes in economy-wide productivity and used to update the standard prospective payments.

[23] https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/medicareprogramratesstats/downloads/info.pdf.

[24] In CY 2019, CMS rebased and revised the home health market basket weights using the 2016 Medicare cost. Weights reported are those determined in CY 2019.

Exhibit 10 below shows the HH PPS regulation market basket update factors from CY 2015 – CY 2022. Actual final regulation market basket update factors typically lag in comparison to the market basket index derivation year. For example, the proposed home health market basket update percentage for CY 2022 was based on IHS Global Inc.'s first-quarter 2021 forecast with historical data through fourth-quarter 2020. However, in the final rule, CMS may update this, if more recent data become available.[25]

Exhibit 10: Actual HH PPS Regulation Market Basket Update Factors, CY 2015 – CY 2022

Home Health Agency PPS[1,4]	CY 15	CY 16	CY 17	CY 18	CY 19	CY 20	CY 21	CY22
Market Basket Update	2.6	2.3	2.8	2.5	3.0	2.9	2.3	2.4
Productivity Adjustment	0.5	0.4	0.3	0.6	0.8	0.3	0.3	0.6
Market Basket Update less Productivity	2.1	1.9	2.5	1.9	2.2	2.6	2.0	1.8

Source: CMS Market Basket Data[26]

As shown in **Exhibit 10** above, it appears that the market basket update factor has recently declined from 3.0 in CY 2019 to 2.4 in CY 2022. Further analysis of the trends in the price proxies showed that labor costs (weighted at 76.1%) and administrative, general, and other expenses costs (weighted at 17.4%) do not seem to show an increased rate of growth from CY 2020 through CY 2022 possibly explaining the declines in the market basket update factors.

We note that the COVID-19 pandemic in CY 2020, along with the associated lockdowns, mobility, restrictions, and physical distancing rules, altered the spending patterns of consumers and affected the supply of and demand for certain home health inputs and, hence their prices. CMS market basket price indices, however, do not reflect the pandemic-related inflation, in large part because the market basket composite index is determined on a 4-quarter rolling average basis. Further, the price proxies used by CMS to determine price growth for the cost categories reflect general cost changes within the broader healthcare industry. This approach fails to account for home health specific cost trends that may differ from the general industry as a result of the pandemic.

For example, the pandemic intensified staffing shortages for HHAs as home health workers left their jobs due to fear of exposure to the virus. As such, HHAs had to raise wages to attract adequate staff. Additionally, the CMS HH PPS market basket price indexes and cost weight categories may not capture increased telehealth and personal protective equipment (PPE) costs that HHAs faced as a result of the pandemic. Data from a PQHH member HHA for example, suggests that in March and April of CY 2020, average pricing for masks and gowns approximately increased 8 and 6 times, respectively.[27]

We also note that in CY 2020, some portion of home health visits were shifted to telehealth during the COVID-19 PHE, however, this is not captured in the claims data, per CMS pandemic flexibilities guidance.[28] HHAs can report costs of telehealth on the HHA cost report, but incompletely. This implies that cost weights and price proxies in CY 2020 and future years fail to accurately account for telehealth use.

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[25] While CMS' CY 2022 market update percentage is based on IHS Global Inc.'s first-quarter 2021 forecast with historical data through fourth-quarter 2020, CMS notes that in the final rule, "if more recent data becomes available after the publication of this proposed rule and before the publication of the final rule (for example, more recent estimates of the home health market basket update and productivity adjustment), they would use such data, if appropriate, to determine the home health payment update percentage for CY 2022 in the final rule."

[26] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/MarketBasketData

[27] Data obtained from PQHH member HHA.

[28] https://www.cms.gov/files/document/covid-home-health-agencies.pdf.

To better understand the impact of the COVID-19 pandemic on home health labor (wages and benefits), administrative and general costs, PQHH commissioned a survey to provide more real-time and trending data from the PQHH membership about the increase in expenses from 2019 through 2021. Responses were weighted by market share and percent of patient population in rural and urban areas to derive the aggregate percent increases by cost category for each year.

Results from the 2021 PQHH Labor Cost Survey showed that home health labor (wages and benefits) costs as well as costs associated with administrative, general, and other services increased at a higher rate in 2020 than they did in 2019. HHA wages increased at a rate that was 0.2 percentage points higher in 2020 compared to 2019, benefits costs increased at rate that was 3.7 percentage points higher in 2020 compared to 2019, while administrative, general, and other costs increased at rate that was 3.2 percentage points higher in 2020 compared to 2021.

Although benefits costs are anticipated to increase at a higher rate in 2021 than in 2020, costs for wages and administrative, general, and other are anticipated to grow at the same rate or at a slower rate in 2021. Specifically, HHA wages are anticipated to grow at the same rate in 2021 as they did in 2020, benefits costs are expected to grow at a rate that is 15.3 percentage points higher in 2021 than in 2020, while administrative, general, and other costs are expected to grow at a rate that is 3.0 percentage points lower in 2021 than in 2020. These results are shown in **Exhibit 11** below.

Exhibit 11: Percent Change in Wages, Benefits, and Administrative and General Expenses for HHAs reported in the 2021 PQHH HH Labor Market Survey
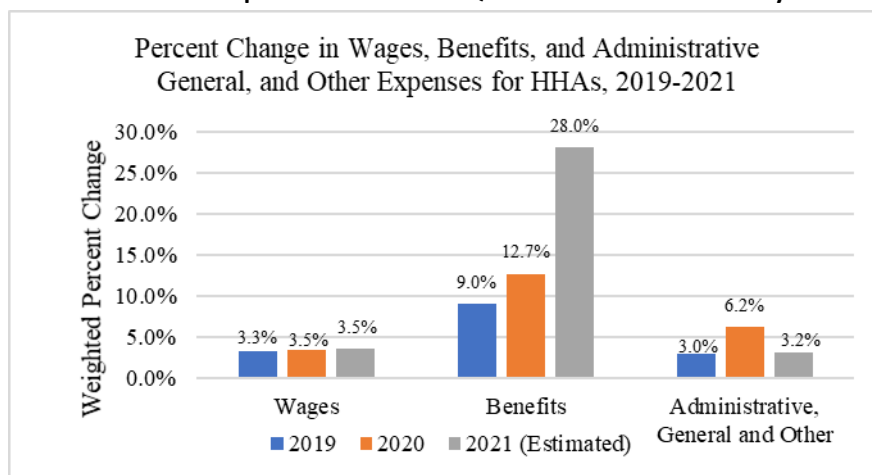
Source: Dobson | DaVanzo Analysis of CY 2021 PQHH Labor Cost Survey Data

Based on our construction of an estimated market basket index using results from the survey related to the three largest components of the index (wages and salaries, benefits, and administrative, general, and other expenses), the home health specific market basket update factor should have increased by approximately 1.1 percentage points between CY 2019 and CY 2020 and 1.2 percentage points between CY 2020 and CY 2021. In contrast, CMS HH PPS market basket update factors decreased by 0.1 percentage points between CY 2019 and CY 2020, and further decreased by 0.6 percentage points between CY 2020 to CY 2021. These results are shown in **Exhibit 12** below.

Exhibit 12: Actual Regulation Market Basket Update Factors Compared to Counterfactual Market Basket Update Factors Determined from the 2021 PQHH HH Labor Cost Survey
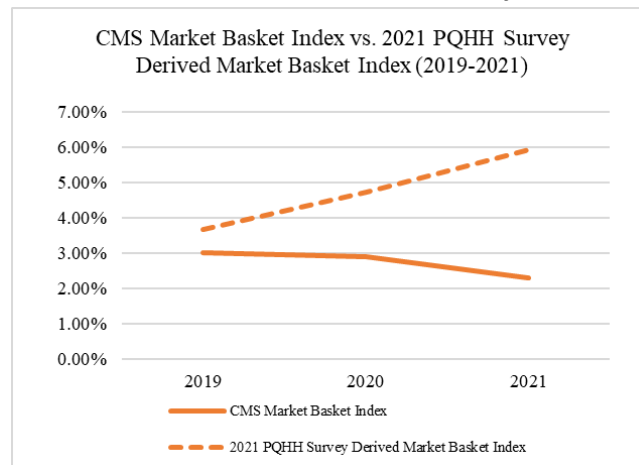
Source: Dobson | DaVanzo Analysis of CY 2021 PQHH Labor Market Survey Data

While results from the 2021 PQHH Labor Cost Survey provided us with the data to derive a counterfactual market basket based on only the three top cost categories (representing 93.4% of the market basket), the observed upward trends across cost categories, and the overall market basket indicate that the market basket should have remained flat or risen between CY 2019 to CY 2021 instead of the observed decline. As noted above, CMS' methodology for deriving the market basket update factors is unable to accurately take into account sudden upward shift in market prices as shown by the PQHH survey data where we observed spikes in wages, benefits, and administrative and general expenses between 2019 and 2021.

Note that CMS' indicated in the CY 2021 final rule that the lower update (2.3 percent) for CY 2021 was "primarily driven by slower anticipated compensation growth for both health-related and other occupations as labor markets were expected to be significantly impacted during the recession that started in February 2020 and throughout the anticipated recovery."[29] In contrast, our results show that HHA wages grew at a slightly higher rate between 2019 and 2021, although underlying data shows that therapy professions primarily those in urban areas experienced a decline in wage growth in 2020.[30] In addition, the significant increase in benefits costs and administrative, general, and other costs seem to influence a large part of the increase in the estimated market basket constructed from the survey data. These results reflect that the COVID-19 pandemic in 2020 likely resulted in price inflation for most HHA inputs as opposed to a recession and highlight the need for CMS to consider using price proxies that accurately reflect trends in the home health industry.

COVID-19 PHE-RELATED SHIFTS IN HOME HEALTH UTILIZATION

The utilization of home health care services underwent "dramatic" shifts as a result of the COVID-19 PHE. With fewer inpatient hospitalizations and much lower patient interest in SNFs, home health likely

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[29] 85 FR 70298, Page 70312. Available at: https://www.federalregister.gov/d/2020-24146/p-89.

[30] The observed decline in wage growth for therapy professions in 2020 is likely due to PDGM implementation, as the new payment system eliminated therapy thresholds and resulted in a reduction in therapy utilization. Wage deceleration in this discipline has a downward impact on our wage growth estimates for the broader category of wages and salaries in our approximated market basket. For reference, therapy professions in urban areas experienced a 2% reduction in wages in 2020.

substituted for SNF care. CY 2020 data shows that the relative volume of STACH discharges to HHA remained higher than STACH discharges to SNF in 2020, and the STACH referrals to HHAs appeared to be of higher and increasing severity compared to prior years. In addition, HHAs experienced a reduction in STACH referrals as a total of HHA cases. Further, there was a general increase in respiratory and infectious cases while cardiac cases decreased—signifying that HHAs took on COVID-19 cases that differed in severity from cases in prior years. Finally, overall, there were significant reductions in average visits across PT, OT, and SLP visits in addition to an overall decline in total number of visits across all disciplines and average visits per unique beneficiary—indicating that HHAs likely experienced declines in beneficiaries seeking home health services as volumes from referral sources declined and patients avoided care in fear of contracting the virus.

Overall, these trends indicate that the observed shifts in utilization observed in CY 2020 data are atypical and CY 2020 data should not be used, or very carefully used in CY 2022 rate setting or case-mix recalibration.

HIGHER RELATIVE VOLUME OF HOSPITAL DISCHARGES TO HHA COMPARED TO SNF

As shown in **Exhibit 13**, in the early months of the COVID-19 PHE starting in March 2020, both HHAs and SNFs experienced substantial declines in the volume of patients from STACH settings likely as a result of surgery cancellations and declining STACH volumes as patients deferred care.

However, beginning in July 2020, the volume of patients discharged to HHAs was much higher than the volume of patients discharged to SNF. These trends are likely a result of increased patient and provider preference for discharge to home health following a STACH stay, as institutional settings such as SNFs became a less desirable setting. This indicates that HHAs likely substituted for SNF care. These trends have only begun to reverse in early 2021, where a relatively higher volume of STACH discharges appear to go to SNF compared to HHAs—which appears to be more similar to the pre-pandemic trends in 2019.

**Exhibit 13: Average Monthly DRG Weights of STACH Referrals to SNF and HHA, CY 2019 - CY 2021**
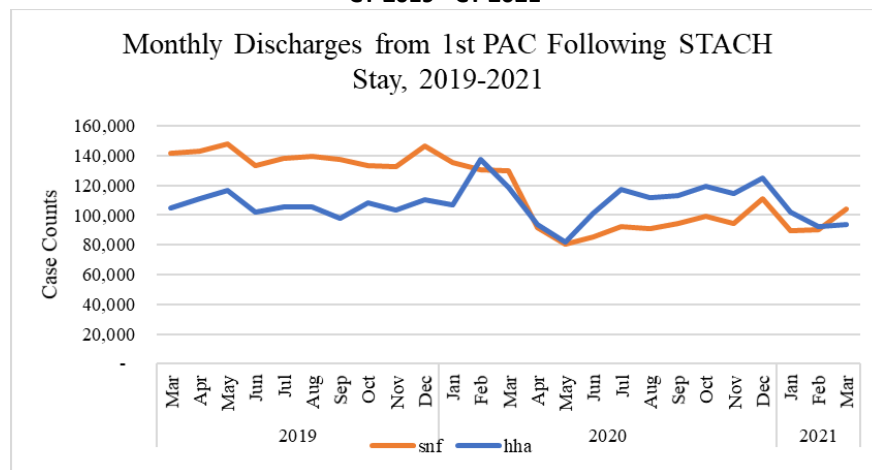
Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

DECLINES IN STACH REFERRALS TO HHAS COUPLED WITH INCREASES IN PHYSICIAN REFERRALS

Our analysis of CY 2020 claims data on reported referral sources showed that SNF and Short-Term Acute Care Hospital (STACH) referrals as a proportion of total HHA cases experienced reductions with the onset of the pandemic in March and April of 2020 while Physician referrals increased. Those proportions remained relatively stable throughout the rest of the year. Particularly, SNF and STACH referrals as a proportion of total cases have not returned to pre-pandemic levels. During the same time period, clinic referrals remained relatively stable. This data is shown in **Exhibit 14** below. These findings indicate that referral sources may have been impacted by the pandemic, especially due to the cancellation of elective surgeries and volume reduction in STACH settings—possibly driving the decrease in STACH referrals to HHAs.

**Exhibit 14: Monthly Proportion of Patients by Referral Source, CY 2020[31]**
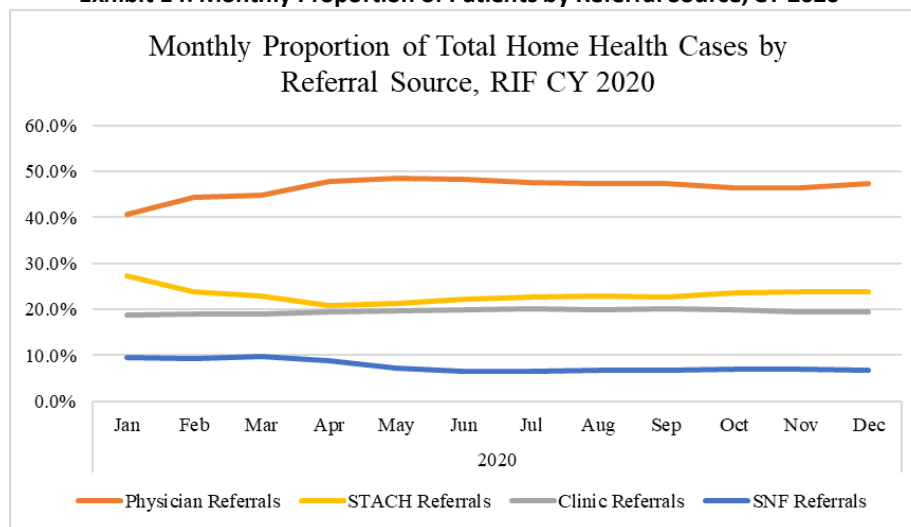
Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

INCREASE IN DRG WEIGHTS FOR STACH DISCHARGES TO HHA

As shown in **Exhibit 15**, we also observed that average DRG weights for STACH discharges to HHAs were higher and rose faster (see linear trend line in Exhibit 12) than DRG weights for STACH patients discharged to SNF during CY 2020. We note that in February and March 2020, DRG weights for STACH discharges to HHAs were comparable to STACH discharges to SNFs. However, starting in April of 2020, we observed an increase in DRG weights for STACH discharges to HHAs rising at a higher rate than DRG weights for STACH discharges to SNF. These findings likely represent the diversion to home health that occurred during the PHE where home health agencies took on patients discharged from STACH settings who might traditionally have gone to a SNF or other post-acute care (PAC) institutional setting, thereby redirecting them from institutional settings where COVID-19 infection rates were high. As a result, HHAs received higher severity patients from STACHs throughout 2020. This may explain the observed increases in comorbidity and functional scores observed in CY 2020 compared to projected cases with behavioral adjustments.

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[31] Physician referrals indicate that the patient was admitted upon the recommendation of a personal physician, while clinic referrals indicate that the patient was admitted upon the recommendation of this facility's clinic physician.

Exhibit 15: Average Monthly DRG Weights of STACH Referrals to SNF and HHA, CY 2020
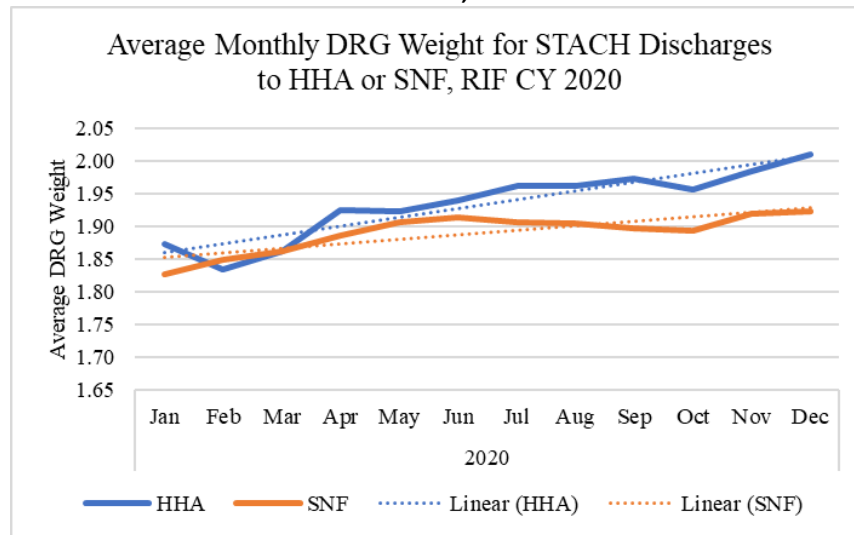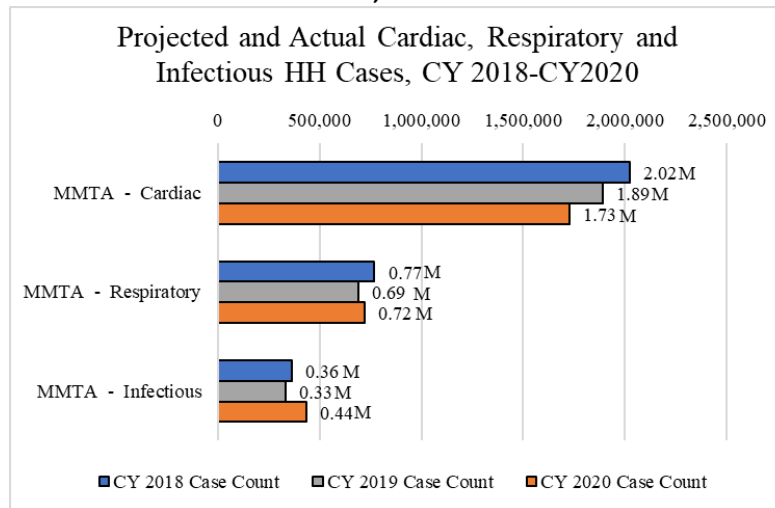

Source: Dobson | DaVanzo Analysis of HH Claims in DUA RIF 54757

INCREASE IN RESPIRATORY AND INFECTIOUS DISEASE CASES COUPLED WITH DECREASES IN CARDIAC CASES

We note that respiratory and infectious disease home health cases increased in CY 2020. As shown in **Exhibit 16**, respiratory cases declined from 0.77 million cases in CY 2018 to 0.69 million in CY 2019 and then increased to 0.72 million cases in 2020. This represents an increase of 4.7% in respiratory cases between CY 2019 and CY 2020. Similarly, infectious disease cases declined from 0.36 million cases in CY 2018 to 0.33 million in CY 2019 and then increased to 0.44 million cases in 2020. This represents an increase of 30.6% in infectious disease cases between CY 2019 and CY 2020. These findings likely indicate that home health agencies absorbed some of the PAC and STACH COVID-19 cases with the onset of the PHE in 2020—signifying that HHAs likely took on different types of cases in CY 2020 than they did in prior years possibly again influencing the observed increase in comorbidity and functional case-mix groupings.

Further **Exhibit 16** shows that in CY 2020, there were fewer cardiac home health cases—declining from 2.02 million cases in CY 2018 to 1.83 million in CY 2019 and further to 1.73 million cases in 2020. This represents a decline of 8.7% between CY 2019 and CY 2020. These findings corroborate several reports by hospitals that suggest that the pandemic may have had an indirect toll on patients with cardiovascular disease, potentially due to the avoidance of hospitals out of fear of exposure to the virus patients likely delayed receiving care resulting in delays in cardiovascular disease diagnosis and treatment.

Exhibit 16: Projected and Actual Cardiac, Respiratory and Infectious Disease Home Health Cases, CY 2018 - CY 2020

Projected and Actual Cardiac, Respiratory and Infectious HH Cases, CY 2018-CY2020

Source: Dobson | DaVanzo Analysis of HH Claims in DUAs LDS 53367 LDS 57157 RIF 54757

REDUCTION IN AVERAGE VISITS ACROSS DISCIPLINES AND PER UNIQUE BENEFICIARY

We also observed significant changes in home health utilization; for instance, we note a reduction in average home health visits per episode and a reduction in average visits across all disciplines. While these changes can in part be explained by the shift from 60-day to 30-day episodes of care, they are also in part due to the onset of the COVID-19 PHE.

As shown in **Exhibit 17**, the average number of home health visits for 30-day periods under PDGM was much lower than average visits for estimated 30-day periods using CY 2018 and CY 2019 data across all disciplines. Similar to monthly trends shown in **Exhibit 3**, Physical Therapy, Occupational Therapy, and Speech Therapy disciplines experienced significant declines in average visits per 30-day episode. Across all disciplines, the total number of visits, reduced by 12% relative from 9.86 visits in CY 2018 simulated 30-day periods to 8.59 visits in CY 2020.

Exhibit 17: Average Visits per 30-Day Episode by Home Health Discipline, CY 2018 - CY 2020

Discipline	CY 2018 (Simulated)	CY 2019 (Simulated)	CY 2020
Skilled Nursing	4.53	4.49	4.35
Physical Therapy	3.30	3.33	2.71
Occupational Therapy	1.02	1.07	0.78
Speech Therapy	0.21	0.21	0.16
Home Health Aide	0.72	0.67	0.54
Social Worker	0.08	0.08	0.06
Total (all disciplines)	**9.86**	**9.85**	**8.59**

Source: CY 2022 HH PPS Proposed Rule (86 FR 35874)

It is also important to note that coupled with the decline in the average number of total visits per 30-day episode and across each discipline, we observed a decline in the total number of unique beneficiaries and a subsequent reduction in the average number of visits per unique HH beneficiary. This signifies that the observed reduction in average visits is likely because the pandemic resulted in an overall reduction in

beneficiaries seeking care. In addition, some home health providers conducted care through telehealth visits which are not captured in claims data—possibly explaining the reduction in the observed number of visits for CY 2020. These results are shown in **Exhibit 18**.

Exhibit 18: Overall Utilization of Home Health Services, CY 2018 - CY 2020

Discipline	CY 2018 (Simulated)	CY 2019 (Simulated)	CY 2020
30-Day Periods of Care	9,336,898	8,744,171	8,165,402
Unique HHA Users	2,980,385	2,802,560	2,786,662
Average Number of 30-Day Periods of Care per Unique HHA User	3.13	3.12	2.93

Source: CY 2022 HH PPS Proposed Rule (86 FR 35874)

The above trends underscore the significant shifts in home health utilization that occurred as a result of the pandemic. CMS should therefore exercise caution as they use CY 2020 for any purposes such as rate-setting or case-mix recalibration.

Implications for Using CY 2020 Data to Recalibrate CY 2022 Case-Mix Weights

In accordance with Section 1895(b)(3)(A)(i) of the Act, in the CY 2022 HH PPS proposed rule, CMS proposes a recalibration of PDGM case-weights using CY 2020 data. For reference, the Act requires that the standard prospective payment rate and other applicable amounts be standardized in a budget-neutral manner. In the CY 2022 HH PPS proposed rule, CMS indicates that they believe that recalibrating the case-mix weights using data from CY 2020 would be more reflective of PDGM utilization and patient resource use than case-mix weights that were set using simulated claims data of 60-day episodes.

CMS conducted regression analyses of resource use on the 30-day period's clinical group, admission source category, episode timing category, functional impairment level, and comorbidity adjustment category using CY 2020 home health claims data linked OASIS data to generate the recalibrated case-mix weights for the 432 HHRG groups. From these analyses based on CY 2020 data, CMS determined that total payments using the recalibrated case-mix weights were 3.4% lower than total payments using the CY 2021 PDGM weights. CMS then calculated a case-mix budget neutrality factor of 1.039 used to update the CY 2022 payment rates. The CY 2022 national standardized payment amounts and inputs for case-mix weight budget neutrality are shown in **Exhibit 19**.

Exhibit 19: CY 2022 National, Standardized Payment Amount

CY 2021 National Standardized 30-Day Period Payment	Case-Mix Weights Recalibration Neutrality Factor	Wage Index Budget Neutrality Factor	CY 2022 HH Payment Update	CY 2022 National, Standardized 30-Day Period Payment
$1,901.20	1.0390	1.0013	1.018	$2,013.40

Source: CY 2022 HH PPS Proposed Rule (86 FR 35874)

While the annual recalibration of case-mix weights is statutorily sound and is meant to ensure that case-mix weights are reflective of recent trends in resource use, it is important to note that the COVID-19 PHE has had significant effects on home health utilization and overall case-mix severity in CY 2020. Given these atypical trends, the use of CY 2020 data for rate-setting or case-mix recalibration may be inaccurate as CY 2020 data may not be representative of utilization in CY 2022. This is especially important at the HH agency level where case-mix recalibration will have varying impacts on distributional effects of total payments even

though. For example, CMS impact analyses indicate that small HHAs with less than 1,000 cases and HHAs in the pacific region will experience significant payment reductions due to the case-mix recalibration.[32]

Further, we note that CMS does not use CY 2020 data to recalibrate LUPA thresholds in the CY 2022 HH PPS proposed rule and they indicate that "visit patterns and some of the decrease in overall visits in CY 2020 may not be representative of visit patterns in CY 2022."[33] Using the same logic, it should follow that the observed atypical visit patterns and decrease in overall visits in the CY 2020 data present similar limitations for case-mix recalibration.

Given these atypical trends, we caution against the use of CY 2020 data for rate-setting or case-mix recalibration as CY 2020 data may not be representative of utilization in CY 2021 or CY 2022.

Conclusions

Implemented in CY 2020, PDGM was designed to be budget-neutral, meaning that Medicare payments under PDGM cannot exceed or come below what the payments would have been in absence of the conversion to the new system of payment. PDGM changed the unit of payment from 60-day periods to 30-periods and relies more heavily on patient characteristics. Most importantly, PDGM eliminated therapy service thresholds that primarily drove case-mix and payments under the 60-day system, in part, leading to a decline in therapy services furnished in CY 2020. In addition, the COVID-19 PHE disrupted operations for home health agencies that had only just begun adapting to the new Patient-Driven Groupings Model (PDGM). As such, there were significant reductions in average therapy visits with the onset of the pandemic likely as a result of patients turning away care in fear of contracting the virus. Further, with fewer inpatient hospitalizations and much lower patient interest in SNFs, home health likely substituted for SNF care and HHAs experienced an influx of respiratory and infectious cases. Overall, the COVID-19 PHE likely influenced case-mix severity observed in CY 2020 in complex ways.

The impacts of PDGM and the COVID-19 PHE on home health utilization have complex but separate implications for the assessment of budget neutrality in CY 2020 and the use of CY 2020 data for future rate-setting and case-mix recalibration.

First, the congressional statute requires that budget neutrality be maintained under PDGM, as such, CMS must compare actual CY 2020 payments under the PDGM to payments that otherwise would have been made had PDGM not been implemented. This necessitates the accurate identification of data that represents case-mix and payments of a counterfactual 60-day system that would have existed in the absence of PDGM.

However, in the CY 2022 HH PPS proposed rule, CMS uses CY 2020 data to compare payments under both PDGM and the prior 60-day payment system—which we find inaccurate because PDGM eliminated therapy thresholds which by design drove case-mix and payments under the 60-day system. The combination of the shift in payment incentives away from therapy and the COVID-19 PHE led to an observed 29.7% reduction in therapy visits, this likely led to CMS' inaccurate conclusion that payments under PDGM were 6% higher than they should have been.

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[32] Table 38 CY 2022 HH PPS, 86 FR 35874 Page 35992 https://www.federalregister.gov/d/2021-13763/p-1135
[33] CY 2022 HH PPS, 86 FR 35874 Page 36001, Available at https://www.federalregister.gov/d/2021-13763/p-1176.

Under an alternative approach that compares CY 2020 payments under PDGM to payments under a more accurate counterfactual based on CY 2018 payments for 60-day episodes converted to 30-day episodes, we find that CY 2020 payments were 1.4% below projected payments with behavioral adjustments. In addition, regardless of the root cause, two of the three anticipated behavioral changes that CMS used to justify prospective payment rate reductions of 4.36% have not occurred—LUPA rates remain higher than projected and clinical groupings continue to reflect historical trends without behavioral adjustments. The combination of unrealized behavioral changes under PDGM and the COVID-19 PHE likely impacted CY 2020 payments in complex ways leading to a total 5.76% shortfall in payments. In the near-term, CMS may consider taking corrective action to increase the base rate by 5.76% so the HH PPS will be more likely to achieve budget neutrality in CY2022.

Separately, the atypical utilization trends observed in CY 2020 data as a result of PDGM implementation and the COVID-19 pandemic will affect future HH PPS case-mix recalibration and rate-setting. Under PDGM, CMS finalized a rule that they would annually recalibrate case-mix using the most recently available claims data in a budget neutral manner, which for CY 2022 would be CY 2020 claims data. However, because the CY 2020 claims data includes services furnished during the COVID-19 public health emergency (PHE)—which altered utilization significantly—the redistributional effects of case-mix recalibration would be unjustifiable. Observed utilization trends in CY 2020 may not be representative of future utilization trends in CY 2022 and the effects of the pandemic on case-mix vary by market and provider. With the recalibrated case-mix weights, small HHAs with less than 1,000 cases annually and agencies in the pacific region could likely experience significant payment reductions.

Ultimately the COVID-19 PHE will affect future rate setting, rebasing, and payment system overhauls across all Medicare payment systems. The allowance of telehealth visits for home health services while reasonable, also impacts payment data accuracy because telehealth visits are currently not reimbursable or captured in claims data. The agency will therefore need to carefully consider how it addresses and corrects for these issues. The COVID-19 PHE is changing the shape of healthcare across the country—how CMS incorporates this into rate setting (future incentives) will help determine to what extent these changes are permanently ingrained in the payment systems.