# Analysis of Puerto Rico Fee-For-Service Medicare Experience:

## Implications for Setting Medicare Advantage Benchmarks

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THE MORAN COMPANY

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## Executive Summary

The Puerto Rico Health Plans asked The Moran Company (TMC) to request, obtain, manage and analyze PR Medicare fee-for-service (FFS) claims data from the Centers for Medicare and Medicaid Services (CMS). TMC had conducted a study of similar data provided by CMS in 2015 and 2016. This study updates prior studies and, in the face of the recent catastrophe in Puerto Rico due to 2017 hurricanes, questions the validity of using historic FFS data as the basis for setting benchmarks for Puerto Rico going forward.

The 2015 and 2016 TMC studies found that PR FFS beneficiaries had a significantly higher rate of "zero claims" compared to the US states and the District of Columbia (US), indicating that PR FFS beneficiaries were more likely to not use any Medicare services for prolonged periods of time than were other Medicare FFS beneficiaries. While the data did not reveal any reason for this difference in utilization, CMS was able to confirm that the difference was real and significant. The Department of Health and Human Services (HHS) determined that this difference warranted an adjustment of PR FFS estimation methods in setting the Medicare Advantage benchmarks. CMS made such an adjustment to the 2017 and 2018 PR benchmarks.

The PR Health Plans have a number of other concerns about the use of PR FFS data in setting the MA benchmarks, including the credibility of the FFS data and the ability to accurately risk adjust FFS data. In the US excluding PR, MA enrollment generally falls well below 50% of the Medicare eligible population. PR has the exceptional circumstance that MA enrollment exceeds 85% of the Medicare eligible population and has been increasing every year, resulting in a smaller and smaller FFS population. When only beneficiaries with both Part A and Part B are considered (as used in setting PR MA benchmarks), that population is even smaller. We have also been told by CMS that many PR beneficiaries are excluded from MA benchmark calculations for a wide variety of CMS trimming methods further reducing an already very small FFS population.

This study explores the assumption that FFS data accurately represents the costs for all PR resident FFS beneficiaries, and therefore provides a valid basis for estimating MA benchmarks, and tests the hypothesis that: The dwindling PR FFS population is sufficiently different from the MA enrolled population, that it does not provide a valid basis for estimating MA benchmarks. Study results confirm this hypothesis and are elaborated in detail in the full report.

## Key Findings

- PR FFS months have decreased 27 percent over five years.
- PR FFS months have decreased from 16.4 percent of all Medicare beneficiary months with continuous Part A and B enrollment in 2011 to 10.6 percent in 2015. The year to year decrease is steady and will likely continue, further reducing the FFS population utilization data used for setting Benchmarks in 2019 and future years.
- More than 30 percent of PR FFS enrollees switch to MA each year, compared to 3-5 percent in the US, and less than 1 percent switch from MA to FFS in PR, while 3-5 percent switch from MA to FFS in the US.
- More than 50 percent of MA enrollees are dually eligible for Medicaid and Medicare (duals) while the proportion of duals in the FFS population dropped from 11 percent to 10 percent from 2011 to 2015. A significant portion of the dual population is disabled and under age 65, making the mix of MA and FFS beneficiaries very different with respect to age, and socio-economics where dual status is a proxy for very low socio-economic status. Risk adjustment does not adequately take socio-economic differences into account as the data used for this adjustment is different in PR from that used for the mainland US population.
- Annual out-migration from PR in the Medicare population increased 38% from 2012-2015
- FFS patients in 2015 differed in utilization of services of several types compared to 2014
    - Emergency room encounters declined by 9%
    - Inpatient admissions declined by 8%
    - Hospice utilization increased 6%
    - Clinic visits increased 6%
    - Use of physician extenders increased 23%
- FFS beneficiaries in PR continue to have significantly higher rates of zero-claims (no utilization of Medicare services) over a time span from 1-3 years of Part A and B enrollment compared to the comparable US population. This fact artificially increases the denominator in all PMPM calculations reducing PMPM amounts of historic payment.

## Study Conclusions

Evidence exists to argue that the eroding size of the FFS population, its characteristics, and utilization patterns are not representative of the much larger MA population and therefore do not provide a valid basis for MA benchmarks, which are intended to represent the average cost to Medicare of the FFS population in the area. Use of FFS experience as the basis for MA benchmarks assumes that MA enrollees are similar to FFS beneficiaires, or at least that there is no significant selection bias. This assumption is based on MA penetration that has historically been well below 70% nationwide. Puerto Rico's extremely high MA penetration may eventually be matched elsewhere in the US. Selection bias is increasingly differentiating these two

populations in PR. Furthermore, the price basis for FFS services and historical differences in services covered in PR compared to the mainland US (e.g., Part D low income subsidies not available in PR) have depressed historical FFS PMPM payments. While CMS has made some adjustments to correct for historically depressed payments to hospitals and physicians, other payments may remain depressed. The net effect of differences in utilization and demographics for the two populations, and historically depressed Medicare cost, leads to the conclusion that the FFS utilization under-estimates appropriate benchmarks for MA.

Given the catastrophic impact of hurricanes in 2017, disruption of all health services, and challenges to maintenance of basic health and quality of life, outmigration is increasing and may represent a dramatic change in the PR Medicare population for years to come. We note increased outmigration rates in 2015 even before the hurricanes. Under such circumstances, the historic basis for setting MA benchmarks cannot be considered relevant to current 2017 and future conditions. We recommend that CMS suspend its approach to setting benchmarks for PR, and consider an alternative basis for funding the MA program in PR beginning as soon as possible, but certainly for 2018.

PR is an example of what may become a wider problem associated with the success of the MA program as penetration rates increase in some parts of the US. TMC suggests criteria are needed to evaluate statistical representativeness when the accuracy of using one population's utilization to set MA benchmarks can be seriously questioned. We do not believe that CMS's actuarial credibility standard is a sufficient criteria, as it assumes representativeness and stability over time in the underlying data and relies on an absolute minimum number regardless of the proportion of the population that number represents or the probability that significant selection bias is present. It is also the case that risk adjustment cannot correct for the level of difference observed in this study. The HCC risk adjustment model applied historically only explains about 11-12 percent of cost variation. It was not intended and is not capable of correcting for the degree of selection bias and non-representativeness observed between these two populations.

We recommend that CMS articulate criteria for determining the representativeness of one population to estimate MA benchmarks for another population with demonstrably different characteristics, and demonstrate that its on-going use of FFS data to estimate MA benchmarks is valid. We would suggest that the probability that selection bias skews any comparisons between two populations, increases as MA penetration exceeds some level in the range of 70 percent, at which point, CMS should be able to affirmatively demonstrate that the FFS population continues to be representative of the MA enrolled population. If CMS cannot demonstrate representativeness, it should measure the type and extent of non-representativeness to determine what kind of adjustments may be warranted. We suggest that this problem, and any criteria that CMS sets forth, be subject to comment through the Advanced Notice or other form of rulemaking.

# Analysis of Puerto Rico Fee-For-Service Medicare Experience:
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## Introduction

The Puerto Rico (PR) Health Plans asked The Moran Company (TMC) to request, obtain, manage and analyze PR Medicare fee-for-service (FFS) claims data from the Centers for Medicare and Medicaid Services (CMS). TMC had conducted a study of similar data provided by CMS in 2015, after which CMS indicated that it had not provided the most complete data for the study. The study was repeated in 2016 with data that CMS believed corrected for the incomplete data provided for the 2015 study. This spring, TMC requested CMS provide 2015 claims data, and that data was received at the end of July. This report presents the findings from a series of analyses of the data provided by CMS combined with data from the 2011 through 2015 Medicare Standard Analytic Files (SAFs)[1], utilizing both 100 percent and 5 percent sample data for all Medicare services. In the 2016 study, TMC collected data from the health plans with Medicare Advantage (MA) contracts for PR Medicare beneficiaries for 2014, to make comparisons between the MA and FFS Medicare populations. Due to the catastrophe in PR this year, the plans were unable to provide updated data.

The 2015 and 2016 TMC studies found that PR FFS beneficiaries had a significantly higher rate of "zero claims" compared to the US states and the District of Columbia (US), indicating that PR FFS beneficiaries were more likely to not use any Medicare services for prolonged periods of time than were other Medicare FFS beneficiaries. While the data did not reveal any reason for this difference in utilization, CMS was able to confirm that the difference was real and significant. The Department of Health and Human Services (HHS) determined that this difference warranted an adjustment of PR FFS estimation methods in setting the Medicare Advantage benchmarks. CMS made such an adjustment to the 2017 and 2018 PR benchmarks. The increase in the benchmarks resulted from removing zero claim beneficiaries and their enrollment months (for whom there were no payments in the total payments for each year) from the denominator of per-member-per month (PMPM) payments, to the same level as exists in the FFS data for the US.

[1] The Moran Company has a data use agreement with CMS for use of the Medicare Standard Analytic Files (SAFs) and purchases both the 100% and 5% sample files for Inpatient and Outpatient hospital, Skilled Nursing Facility, Home Health and Hospice. Only a 5% sample file is available for Carrier processed files (physician services) and only a 5% sample DME file is purchased. A 100% "denominator" file is purchased which contains demographic and Medicare eligibility data for all Medicare beneficiaries. The claims files are only available for fee-for-service (FFS) beneficiaries, and they are all linked by an encrypted beneficiary identifier. Medicare FFS experience can be tracked by beneficiary across all claims for all covered services across different providers, and across different years. The CMS data provided a 100% file for Carrier processed claims for Puerto Rico residents in SAF format that TMC linked to all other claims for those residents in the US SAFs to make up for the fact that only a 5% Carrier file is publicly available as an SAF. Risk scores and dual eligibility flags were provided by CMS—these data are not available in the SAFs purchased by TMC. The SAF data have at least a 6 month run-out for claims, meaning that after the close of a calendar year, any claims processed and paid by June 30 of the following year are included. The SAFs are the most complete source of Medicare FFS claims available, and represent the data used for most research and modeling of the Medicare FFS program.

The PR Health Plans have a number of other concerns about the use of PR FFS data in setting the MA benchmarks, including appropriate credibility standards and accurate risk adjustment. By statute, MA benchmarks are set based on FFS claims for a five year period. In the US excluding PR, MA enrollment generally falls well below 50% of the Medicare eligible population. PR has the exceptional circumstance that MA enrollment exceeds 85% of the Medicare eligible population and has been increasing every year, resulting in a smaller and smaller FFS population. When only beneficiaries with both Part A and Part B are considered (as used in setting PR MA benchmarks), that population is even smaller. The assumption underlying statute, is that the FFS population utilization of covered services provides a statistically representative and valid basis for comparison for setting MA benchmarks. While this assumption is probably valid for the US as a whole, it is less clear that it is valid for PR. **This study explores the assumption that FFS data provides a valid basis for estimating MA benchmarks, and tests the hypothesis that: The dwindling PR FFS population is sufficiently different from the MA enrolled population, that it does not provide a valid basis for estimating MA benchmarks**. Study results continue to confirm this hypothesis.

CMS has the authority to make modifications to its methodologies to correct for statistical and other forms of error, and to improve accuracy. It has done so in a number of instances in setting MA benchmarks. For example, it recognizes the difference in Part A enrollment in PR from that in the US, and uses only FFS beneficiaries with both Part A and Part B to set PR benchmarks, instead of combining separate Part A and Part B benchmarks as it does in the US. Another example is its combination of adjacent geography to address low Medicare enrollment that falls below actuarial credibility thresholds. It combines all of PR into a single entity for setting benchmarks because very few PR counties would meet minimum credibility thresholds as set by the CMS Office of the Actuary (OACT). While the remaining FFS population for the island exceeds the flat number of beneficiary years set by OACT, that standard does not take into account the proportion of the population represented, anomalies in the data, or lack of representativeness, all factors that are assumed in the use of a single credibility standard. As authorized by the Secretary of HHS, CMS made an adjustment for the zero claims difference between PR and the US. CMS also makes adjustments to PR payment rates retrospectively to reflect current policy, as it did in re-pricing hospital services in 2017 benchmarks, and as it did in 2017 for the PR GPCI that was finalized in the Medicare Physician Fee Schedule Rule in November 2016.

After a discussion of the analytic methods used, the report provides an overview of the PR FFS population over the five year period 2011-2015. It then addresses a series of comparisons that include:

- Enrollment characteristics
- Demographics
- Analysis of why the FFS population is dwindling
- Migration out of PR
- Utilization of services

The report also provides a zero claims analysis, and an analysis of PMPM payments for the five year period.

The report results are complicated by a finding that a large number of beneficiaries in the files CMS provided are missing risk scores and monthly dual eligibility flags.

The results within this report were given to CMS and discussed with them at that time. CMS requested no further information and did not provide any additional insight requiring further investigation or interpretation of these findings.

## Key Findings

- PR FFS months have decreased 27 percent over five years.
- PR FFS months have decreased from 16.4 percent of all Medicare beneficiary months with continuous Part A and B enrollment in 2011 to 10.6 percent in 2015. The year to year decrease is steady and will likely continue, further reducing the FFS population utilization data used for setting Benchmarks in 2018 and future years.
- More than 30 percent of PR FFS enrollees switch to MA each year, compared to 3-5 percent in the US, and less than 1 percent switching from MA to FFS in PR, or 3-5 percent switching from MA to FFS in the US.
- More than 50 percent of MA enrollees are dually eligible for Medicaid and Medicare (duals) while the proportion of duals in the FFS population dropped from 11 percent to 10 percent from 2011 to 2015. A significant portion of the dual population is disabled and under age 65, making the mix of MA and FFS beneficiaries very different with respect to age, and socio-economics where dual status is a proxy for very low socio-economic status. Risk adjustment does not adequately take socio-economic differences into account as the data used for this adjustment is different in PR and the mainland US population.
- Annual out-migration from PR in the Medicare population increased 38% from 2012-2015
- FFS patients in 2015 differed in utilization of services of several types compared to 2014
    - Emergency room encounters declined by 9%
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## Study Conclusions

Evidence exists to argue that the eroding size of the FFS population, its characteristics, and utilization patterns are not representative of the much larger MA population and therefore do not provide a valid basis for MA benchmarks, which are intended to represent the average cost to Medicare of the FFS population in the area. Use of FFS experience as the basis for MA benchmarks assumes that MA enrollees are similar to FFS beneficiaires, or at least that there is no significant selection bias. This assumption is based on MA penetration that has historically been well below 70% nationwide. Puerto Rico's extremely high MA penetration may eventually be matched elsewhere in the US. Selection bias is increasingly differentiating these two populations in PR. Furthermore, the price basis for FFS services and historical differences in services covered in PR compared to the mainland US (e.g., Part D low income subsidies not available in PR) have depressed historical FFS PMPM payments. While CMS has made some adjustments to correct for historically depressed payments to hospitals and physicians, other payments may remain depressed. The net effect of differences in utilization and demographics for the two populations, and historically depressed Medicare cost, leads to the conclusion that the FFS utilization under-estimates appropriate benchmarks for MA.

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representativeness, it should measure the type and extent of non-representativeness to determine what kind of adjustments may be warranted. We suggest that this problem, and any criteria that CMS sets forth, be subject to comment through the Advanced Notice or other form of rulemaking.

## Methods & Data

Consistent with our 2016 report, TMC requested and CMS provided the 100% Carrier processed claims (for physician, DME and other non-institutional services) in an SAF format, the risk scores and monthly dual eligibility flags, and a "denominator file" containing the demographic and Medicare eligibility data for all PR residents under an updated data use agreement with TMC. TMC linked this CMS PR file with its SAF files for the US and for all Medicare covered FFS services. The denominator files from CMS for PR and the TMC US denominator files for PR residents substantially matched.

TMC made a number of comparisons to test the completeness of the CMS PR data. A representation of the beneficiary months and of beneficiaries in different categories is presented in Tables 1-3 below.

- FFS months have decreased 27 percent over five years.
- FFS months have decreased from 16.4 percent of all Medicare beneficiary months with continuous Part A and B enrollment in 2011 to 10.6 percent in 2015.
- MA months have increased by 24 percent over the same period.
- Fifteen percent of all dually eligible PR residents may be dually eligible based on eligibility for Medicaid in another US state/District of Columbia, and are not identified as duals in the CMS PR files as well has not having risk scores[2]. We examine this population and its payments later in our analysis.
- Table 3 shows that the average months per beneficiary in any year is lower for FFS beneficiaries than for those in MA.

**Table 1. Count of Medicare Beneficiary Months in CMS PR Denominator File**

| | 2011 | | 2012 | | 2013 | | 2014 | | 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total |
| *Total Medicare beneficiary-months** | *6,642,663* | *100%* | *6,909,824* | *100%* | *7,186,828* | *100%* | *7,389,666* | *100%* | *7,485,232* | *100%* |
| MA | 5,553,850 | 83.6% | 5,907,420 | 85.5% | 6,253,083 | 87.0% | 6,506,114 | 88.0% | 6,692,303 | 89.4% |
| Medicare FFS Part A and B, no MA | 1,088,813 | 16.4% | 1,002,404 | 14.5% | 933,745 | 13.0% | 883,552 | 12.0% | 792,929 | 10.6% |

**Part A and B FFS/MA months only*

***Data Source: CMS 100% PR Denominator File***

[2] CMS does not use the state buy-in variable which is the only data available to TMC to evaluate the accuracy of the PR data file. Because CMS uses somewhat different data for PR compared to the mainland, TMC determined a need to check the completeness of the data used in setting the benchmarks. CMS asserts that its data is complete and that the PR residents with state buy-in status (state pays the Part B premium) is not accurate and that some states pay the Part B premium for people not eligible for Medicaid. TMC does not take a position on this explanation, as it cannot be validated by data available to TMC. Because TMC cannot validate a number of CMS assertions that its data are complete and correct despite inconsistencies identified in this study, we report the magnitude of inconsistencies along with CMS explanations.

**Table 2. Count of Medicare FFS Beneficiary Months in CMS PR Denominator File By Dual and Non-Dual Eligibility Status (For Beneficiaries with Dual/non-dual flags)**

| | 2011 | | 2012 | | 2013 | | 2014 | | 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total | Count of Beneficiary-months | % of total |
| *Medicare FFS Part A and B, no MA* | *1,088,813* | *100%* | *1,002,404* | *100%* | *933,745* | *100%* | *883,552* | *100%* | *792,929* | *100%* |
| Dual (monthly flag), no State buy-in | 101,562 | 9.3% | 84,044 | 8.4% | 76,200 | 8.2% | 70,402 | 8.0% | 64,404 | 8.1% |
| Dual (monthly flag), and State buy-in | 9,167 | 0.8% | 8,048 | 0.8% | 7,426 | 0.8% | 7,356 | 0.8% | 7,034 | 0.9% |
| State buy-in, no dual flag | 13,739 | 1.3% | 13,268 | 1.3% | 12,396 | 1.3% | 11,908 | 1.3% | 11,355 | 1.4% |

***Data Sources: CMS 100% PR Denominator File + CMS PR Monthly File***

**Table 3. Count of Medicare Beneficiaries in CMS PR Denominator File By Enrollment Status and Completeness of Data**

| Beneficiary Counts | Data Source | 2011 | 2012 | 2013 | 2014 | 2015 | Average Annual Change |
|---|---|---|---|---|---|---|---|
| Count of Beneficiaries with >0 MA month | CMS Denominator File | 489,903 | 522,678 | 549,537 | 568,507 | 581,548 | 4.4% |
| Count of Beneficiaries with >0 FFS month | CMS Denominator File | 114,579 | 108,136 | 99,489 | 94,237 | 84,337 | -7.4% |
| Count of Beneficiaries with >0 FFS month | CMS Monthly File | 83,000 | 75,272 | 69,658 | 65,729 | 60,345 | -7.7% |
| Count of Beneficiaries with >0 State Buy-in months only | CMS Denominator File | 3,422 | 3,313 | 3,142 | 3,089 | 2,911 | -3.9% |
| *Difference in FFS Beneficiaries in the CMS files* | *CMS 100% PR Denominator File -* | *31,579* | *32,864* | *29,831* | *28,508* | *23,992* | |
| *Months per MA Beneficiary* | CMS Denominator File | *11.3* | *11.3* | *11.4* | *11.4* | *11.5* | |
| *Months per FFS Beneficiary* | CMS Denominator File | *9.5* | *9.3* | *9.4* | *9.4* | *9.4* | |

TMC notes that CMS asserted last year that it excluded all of the data without risk scores or dual/non-dual indicators from the benchmark calculation.

For all analyses, TMC limited the population to PR residents with continuous eligibility for both Part A and Part B, consistent with CMS's assertion of using the same criterion. There is a significant population of PR FFS beneficiaries who only have Part A eligibility and CMS reports excluding these beneficiaries from calculation of the MA benchmarks for PR. TMC then linked all other claims from the US SAF files to the beneficiaries in the CMS PR files to be able to calculate total Medicare payments in each year and to study services and payments delivered outside PR. TMC used the US SAFs to track migration of PR residents to US states/District of Columbia, and to study the attrition of the FFS PR population over time.

## Comparing the FFS & MA Populations in Puerto Rico

In the method and data section of this report we show that the FFS population eligible for Medicare Part A and B has eroded each year to 12% of Medicare beneficiary months. The rate of erosion is about 5% each year. To better understand this erosion in FFS participation in PR, TMC used the Denominator Files to identify the status of each Medicare beneficiary from one year to the next. The results of this analysis are shown in Tables 4 and 5.

- Nearly one third of FFS enrollees switch to MA each year in PR.

- Only 2-2.5 percent of FFS enrollees switch to MA from FFS in the US.
- Less than 1 percent of MA enrollees switch to FFS each year in PR.
- Between 3-5 percent of MA enrollees switched to FFS, and similar rates of switching from FFS to MA occurred in the US.
- Rates of death each year are between 3-4 percent for each group except US FFS enrollees whose death rate is over 4 percent.

## Table 4. Analysis of Switching between FFS and MA, PR and US

| Medicare Status in the year following Enrollment in Medicare (2011-2015) | Beneficiaries Enrolled in Medicare 2011 | | Beneficiaries Enrolled in Medicare 2012 | | Beneficiaries Enrolled in Medicare 2013 | | Beneficiaries Enrolled in Medicare 2014 | |
|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % |
| | 114,579 | 100% | 108,136 | 100% | 99,489 | 100% | 94,237 | 100% |
| Beneficiaries Residing in Puerto Rico who remained on Medicare FFS Part A&B | 72,362 | 63.2% | 68,005 | 62.9% | 64,602 | 64.9% | 57,406 | 60.9% |
| Beneficiaries Residing in Puerto Rico who remained Medicare Advantage | 439,962 | 94.1% | 470,862 | 94.5% | 498,294 | 94.3% | 515,159 | 93.9% |
| Beneficiaries Residing in 50 US States who remained on Medicare FFS Part A&B | 30,871,249 | 91.7% | 31,108,260 | 91.5% | 30,927,854 | 90.5% | 30,953,410 | 91.0% |
| Beneficiaries Residing in 50 US States who remained on Medicare Advantage | 11,135,386 | 93.1% | 12,182,953 | 92.9% | 13,237,786 | 92.7% | 14,335,114 | 92.7% |

## Table 5a. Changes in Medicare Status Year-to-Year for FFS & MA in Puerto Rico

| Medicare Status in the year following Enrollment in Medicare FFS Part A&B (2011-2015) in Puerto Rico | FFS in 2011, Medicare Status in 2012 | | FFS in 2012, Medicare Status in 2013 | | FFS in 2013, Medicare Status in 2014 | | FFS in 2014, Medicare Status in 2015 | |
|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % |
| | 114,579 | 100% | 108,136 | 100% | 99,489 | 100% | 94,237 | 100% |
| ***Remained on Medicare FFS*** | ***72,362*** | ***63.2%*** | ***68,005*** | ***62.9%*** | ***64,602*** | ***64.9%*** | ***57,406*** | ***60.9%*** |
| Switched to Medicare Advantage | 27,774 | 24.2% | 28,236 | 26.1% | 23,502 | 23.6% | 24,891 | 26.4% |
| Switched to MA Midyear | 7,893 | 6.9% | 5,721 | 5.3% | 5,453 | 5.5% | 4,435 | 4.7% |
| Dropped Part B | 894 | 0.8% | 682 | 0.6% | 730 | 0.7% | 2,010 | 2.1% |
| Died | 3,560 | 3.1% | 3,393 | 3.1% | 2,993 | 3.0% | 2,992 | 3.2% |
| Presumed Migrated to Mainland | 2,096 | 1.8% | 2,099 | 1.9% | 2,209 | 2.2% | 2,503 | 2.7% |
| **Medicare Status in the year following Enrollment in Medicare Advantage (2011-2015) in Puerto Rico** | **MA in 2011, Medicare Status in 2012** | | **MA in 2012, Medicare Status in 2013** | | **MA in 2013, Medicare Status in 2014** | | **MA in 2014, Medicare Status in 2015** | |
| | N | % | N | % | N | % | N | % |
| | 467,414 | 100% | 498,434 | 100% | 528,604 | 100% | 548,413 | 100% |
| ***Remained on Medicare Advantage*** | ***439,962*** | ***94.1%*** | ***470,862*** | ***94.5%*** | ***498,294*** | ***94.3%*** | ***515,159*** | ***93.9%*** |
| Switched to Medicare FFS Part A & B | 736 | 0.2% | 586 | 0.1% | 711 | 0.1% | 1,558 | 0.3% |
| Switched to Medicare FFS Part A | 373 | 0.1% | 334 | 0.1% | 413 | 0.1% | 772 | 0.1% |
| Switched to Medicare FFS Midyear | 5,930 | 1.3% | 5,050 | 1.0% | 6,301 | 1.2% | 5,403 | 1.0% |
| Died | 14,923 | 3.2% | 15,606 | 3.1% | 15,827 | 3.0% | 16,852 | 3.1% |
| Presumed Migrated to Mainland | 5,490 | 1.2% | 5,996 | 1.2% | 7,058 | 1.3% | 8,669 | 1.6% |

## Table 5b. Changes in Medicare Status Year-to-Year for FFS & MA in the United States

| Medicare Status in the year following Enrollment in Medicare FFS Part A&B (2011-2015) in the 50 United States | FFS in 2011, Medicare Status in 2012 | | FFS in 2012, Medicare Status in 2013 | | FFS in 2013, Medicare Status in 2014 | | FFS in 2014, Medicare Status in 2015 | |
|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % |
| | 33,677,878 | 100% | 34,004,269 | 100% | 34,165,374 | 100% | 34,022,866 | 100% |
| ***Remained on Medicare FFS*** | ***30,871,249*** | ***91.7%*** | ***31,108,260*** | ***91.5%*** | ***30,927,854*** | ***90.5%*** | ***30,953,410*** | ***91.0%*** |
| Switched to Medicare Advantage | 750,220 | 2.2% | 792,802 | 2.3% | 803,551 | 2.4% | 815,252 | 2.4% |
| Switched to MA Midyear | 468,807 | 1.4% | 524,849 | 1.5% | 845,196 | 2.5% | 690,779 | 2.0% |
| Dropped Part B | 115,306 | 0.3% | 106,878 | 0.3% | 106,412 | 0.3% | 105,499 | 0.3% |
| Died | 1,472,296 | 4.4% | 1,471,480 | 4.3% | 1,482,361 | 4.3% | 1,457,926 | 4.3% |
| **Medicare Status in the year following Enrollment in Medicare Advantage (2011-2015) in the 50 United States** | **MA in 2011, Medicare Status in 2012** | | **MA in 2012, Medicare Status in 2013** | | **MA in 2013, Medicare Status in 2014** | | **MA in 2014, Medicare Status in 2015** | |
| | N | % | N | % | N | % | N | % |
| | 11,955,452 | 100% | 13,116,636 | 100% | 14,282,402 | 100% | 15,458,380 | 100% |
| ***Remained on Medicare Advantage*** | ***11,135,386*** | ***93.1%*** | ***12,182,953*** | ***92.9%*** | ***13,237,786*** | ***92.7%*** | ***14,335,114*** | ***92.7%*** |
| Switched to Medicare FFS Part A & B | 193,935 | 1.6% | 204,391 | 1.6% | 227,514 | 1.6% | 266,073 | 1.7% |
| Switched to Medicare FFS Part A | 7,284 | 0.1% | 6,981 | 0.1% | 8,063 | 0.1% | 8,775 | 0.1% |
| Switched to Medicare FFS Midyear | 195,653 | 1.6% | 262,295 | 2.0% | 306,793 | 2.1% | 310,424 | 2.0% |
| Died | 423,194 | 3.5% | 460,016 | 3.5% | 502,246 | 3.5% | 537,994 | 3.5% |

The demographics of the PR FFS and MA populations are shown in Tables 6-7. The mean age of sub-populations differ. The dual FFS population is much younger than the non-dual population, likely due to inclusion of a high proportion of disabled beneficiaries

The sub-population of FFS PR beneficiaries without risk scores or dual flags (reportedly excluded from setting benchmarks) is shown in Table 7. The beneficiaries without risk scores and dual flags are made up partly of those newly enrolled in Medicare, but do include thousands of beneficiaries that were enrolled in a prior year. This population is much younger and much more likely to be male. It includes a significant number of disabled and most of the ESRD beneficiaries. Given an explanation by CMS responding to our 2016 report regarding the trims it would apply to exclude these beneficiaries from the benchmark calculation, we can partially, but not entirely reconcile our data.

## Table 6. Demographics of Puerto Rico FFS and MA Medicare Beneficiaries

| *Medicare Advantage (MA) Months only* | | | | | |
|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2015** |
| Mean age | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 |
| Age group (%) | | | | | |
| <65 | 26.7% | 27.1% | 27.2% | 27.0% | 26.2% |
| 65-74 | 43.6% | 43.4% | 43.4% | 43.4% | 43.4% |
| *75-84* | 22.1% | 22.1% | 22.0% | 22.2% | 23.0% |
| >=85 | 7.6% | 7.5% | 7.4% | 7.4% | 7.4% |
| | | | | | |
| % Female | 54.3% | 54.2% | 54.1% | 54.1% | 54.2% |

***Data Source: CMS 100% PR Denominator File***

| *FFS PR Dual Months* | | | | | |
|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2015** |
| Mean age | 65.0 | 65.0 | 64.0 | 64.0 | 65.0 |
| Age group (%) | | | | | |
| <65 | 40.4% | 41.4% | 42.3% | 42.3% | 41.9% |
| 65-74 | 33.9% | 32.4% | 31.6% | 32.1% | 32.2% |
| *75-84* | 18.1% | 18.8% | 18.6% | 18.2% | 18.6% |
| >=85 | 7.6% | 7.5% | 7.5% | 7.3% | 7.3% |
| | | | | | |
| % Female | 53.2% | 53.1% | 52.7% | 52.8% | 52.8% |

***Data Sources: CMS 100% PR Denominator File + CMS PR Monthly File***

| *FFS Buy-in Months (Excluding PR Dual Months)* | | | | | |
|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2015** |
| Mean age | 61.0 | 61.0 | 61.0 | 62.0 | 62.0 |
| Age group (%) | | | | | |
| <65 | 51.0% | 51.1% | 52.3% | 51.6% | 50.5% |
| 65-74 | 32.4% | 31.9% | 30.6% | 31.6% | 30.4% |
| *75-84* | 12.9% | 13.0% | 13.4% | 12.8% | 15.3% |
| >=85 | 3.6% | 4.0% | 3.7% | 3.9% | 3.8% |
| | | | | | |
| % Female | 52.4% | 54.5% | 55.8% | 55.6% | 52.2% |

***Data Source: CMS 100% PR Denominator File***

| *FFS PR Non-Dual Months** | | | | | |
|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2015** |
| Mean age | 71.0 | 71.0 | 71.0 | 71.0 | 71.0 |
| Age group (%) | | | | | |
| <65 | 21.8% | 21.9% | 21.7% | 20.9% | 20.6% |
| 65-74 | 39.7% | 38.8% | 38.5% | 38.5% | 38.7% |
| *75-84* | 28.2% | 28.6% | 28.8% | 28.9% | 28.8% |
| >=85 | 10.2% | 10.7% | 11.0% | 11.7% | 11.9% |
| | | | | | |
| % Female | 54.5% | 54.5% | 54.1% | 54.0% | 53.6% |

***Data Sources: CMS 100% PR Denominator File + CMS PR Monthly File***

**Non-dual months are defined as months without the dual flag*

**Table 7. Comparison of FFS Demographics in Files with and without Risk Scores and Dual Flags**

| | Beneficiaries Eligible for FFS in 2015 ***with no*** Risk Scores or Dual Eligibility Flags | | Beneficiaries Eligible for FFS in 2015 ***with*** Risk Scores and Dual Eligibility Flags | |
|---|---|---|---|---|
| | **Frequency** | **Percent** | **Frequency** | **Percent** |
| **Total** | **23,992** | **100.0%** | **60,347** | **100.0%** |
| Eligible for FFS in 2014 | 7,366 | 30.7% | 5,869 | 9.7% |
| Not Eligible for FFS in 2014 | 16,626 | 69.3% | 54,478 | 90.3% |
| Age Mean (sd) | 62.9 (13.2) | | 71.9 (11.5) | |
| **Age Group** | | | | |
| Less than 65 | 12,844 | 53.5% | 12,290 | 20.4% |
| 65 to 74 | 7,214 | 30.1% | 22,684 | 37.6% |
| 75 to 84 | 2,834 | 11.8% | 17,753 | 29.4% |
| 85 and over | 1,100 | 4.6% | 7,620 | 12.6% |
| **Female** | 11,477 | 47.8% | 33,021 | 54.7% |
| **Male** | 12,515 | 52.2% | 27,326 | 45.3% |
| **Beneficiaries with ESRD Flag on Denominator File** | 2,958 | 12.3% | * | * |

**TMC DUA with CMS prevents us from reporting numbers less than 11*

TMC compared utilization rates in FFS for 2014 and 2015, as shown in Tables 8-9. Utilization rates are shown in terms of member months. Given the high rate at which FFS beneficiaries have zero claims; if FFS months were adjusted either to US national levels or to MA levels, FFS utilization rates would be higher. Note that while duals are a much smaller proportion of the FFS population than they are in the MA population, their differential utilization rates distort comparisons of rates for the total population in each group. Prior analysis of 2014 MA data in our 2016 report showed that MA patients were much more likely to access inpatient and ER services than FFS patients, even at the higher 2014 utilization rate of those services. Table 9 shows a dramatic increase in Part B drug spending per month for FFS beneficiaries, increasing 32% from 2014 to 2015 to $16.18 per month. In particular, duals saw their Part B drug spending increase by 53% from 2014 to 2015. We have not yet investigated the cause(s) of this dramatic change. If FFS data were credible, we would have reason to expect stability in utilization rates from year to year. It is possible that volatility in utilization is due to the erosion in the size of the FFS population as well as some of its demographic and zero claims characteristics.

## Table 8. Comparison of 2014 and 2015 FFS Utilization Rates

| | Rate (per 1000 FFS Beneficiary Months) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014 | | | 2015 | | | % Change | | |
| **Utilization Metrics** | **Total** | **Dual** | **Non-Dual** | **Total** | **Dual** | **Non-Dual** | **Total** | **Dual** | **Non-Dual** |
| Inpatient Hospital Admissions | 18.9 | 25.2 | 18.1 | 17.4 | 23.1 | 16.7 | -8% | -8% | -8% |
| Emergency Room Encounters (Inpatient) | 12.6 | 17.3 | 12.0 | 11.8 | 16.6 | 11.2 | -7% | -4% | -7% |
| Emergency Room Encounters (Outpatient) | 30.5 | 40.2 | 29.3 | 27.5 | 39.5 | 26.0 | -10% | -2% | -11% |
| Emergency Room Encounters (Total) | 43.0 | 57.6 | 41.3 | 39.2 | 56.1 | 37.2 | -9% | -3% | -10% |
| **Office Visits** | | | | | | | | | |
| Primary Care Physicians | 424.7 | 473.7 | 418.8 | 402.1 | 455.9 | 395.6 | -5% | -4% | -6% |
| Non-Primary Care Physicians | 1,201.2 | 906.6 | 1,236.8 | 1,195.8 | 915.3 | 1,229.4 | 0% | 1% | -1% |
| Physician Extenders | 4.4 | 13.3 | 3.3 | 5.4 | 16.1 | 4.1 | 23% | 21% | 24% |
| **Outpatient Hospital Visits (not ER)** | | | | | | | | | |
| Any visit not ER | 156.6 | 211.2 | 150.0 | 157.6 | 221.5 | 149.9 | 1% | 5% | 0% |
| **Clinic Visits** | 1.6 | 3.2 | 1.4 | 1.7 | 3.2 | 1.5 | 6% | 1% | 7% |
| **Hospice Enrollment** (hospice months per 1000 beneficiary-months) | 3.1 | 4.7 | 2.9 | 3.3 | 5.1 | 3.0 | 6% | 9% | 6% |

- Emergency room encounters declined by 9%
- Inpatient admissions declined by 8%
- Hospice utilization increased 6%
- Clinic visits increased 6%
- Use of physician extenders increased 23%

## Table 9. Utilization of Part B Drugs FFS 2014-2015

| | Medicare FFS | | |
|---|---|---|---|
| | **2014** | **2015** | **% Change** |
| **Total Members** | $ 12.25 | $ 16.18 | 32% |
| **Coverage** | | | |
| Duals | $ 12.74 | $ 19.45 | 53% |
| Non-Duals | $ 13.88 | $ 17.49 | 26% |
| **Age Group** | | | |
| Less than 65 | $ 9.44 | $ 12.69 | 34% |
| 65 to 74 | $ 13.92 | $ 17.17 | 23% |
| 75 to 84 | $ 14.04 | $ 19.81 | 41% |
| 85 and over | $ 7.98 | $ 11.07 | 39% |
| **Gender** | | | |
| Male | $ 11.04 | $ 14.87 | 35% |
| Female | $ 13.28 | $ 17.32 | 30% |

## Zero Claims Analysis

The issue raised in the TMC 2015 and 2016 reports on zero claims can be framed as follows: The PR rate of FFS beneficiaries having a much higher rate of zero claims compared to the US means that a large part of the denominator in the benchmark calculations is not associated with any payments, thereby artificially lowering the PMPM payment used in the benchmarks. While we have no explanation for the reasons FFS beneficiaries have such high rates of zero claims, the rates are real and they support an argument that the FFS population is substantially different from the US FFS population as well as being different from the PR MA population. Consistent with the prior report, PR FFS beneficiaries have much higher rates of zero claims over one, two, and three year continuous enrollment periods[3] (in Parts A and B) compared to the US FFS population. These rates are shown in Table 10.

### Table 10. Zero Claims Beneficiaries in PR and US

| | Number of beneficiaries/ members in 2015 | Number of beneficiaries/ members with no claims in 2015 | % with no claims in 2015 | Number of beneficiaries/ members in 2014-2015 | Number of beneficiaries/ members with no claims in 2014- 2015 | % with no claims in 2014- 2015 | Number of beneficiaries/ members in 2013-2015 | Number of beneficiaries/ members with no claims in 2013- 2015 | % with no claims in 2013- 2015 |
|---|---|---|---|---|---|---|---|---|---|
| Puerto Rico Beneficiaries enrolled in FFS Part A&B* (Data Source: CMS PR Denominator file) (with and without risk scores) | 85,520 | 18,700 | 21.9% | 63,360 | 5,240 | 8.3% | 55,620 | 3,340 | 6.0% |
| US 50 States Beneficiaries enrolled in FFS Part A&B* (Data Source: CMS 5% SAF projected to Nation) | 35,645,200 | 2,182,780 | 6.1% | 32,066,420 | 1,068,980 | 3.3% | 29,184,240 | 831,940 | 2.9% |

**Not limited to beneficiaries who were continuously enrolled in Medicare FFS Part A&B.*

The critical issue underlying the PR health plans' concerns about adjusting the PR benchmarks to the level observed in the US, is based on the likelihood that this difference between PR FFS beneficiaries and all other comparison groups represents a form of selection bias, and that bias distorts benchmarks and other comparisons. PR FFS zero claims beneficiaries are enrolled in Part A and Part B but are not seeing physicians or hospitals that participate in the Medicare program. The choices that drive the patterns of care for this group may be part of their considerations in not enrolling in MA, and, therefore, result in significant differences from the MA population. As the use of FFS utilization is assumed by statute to represent the basis for MA benchmarks, the absence of any utilization in a significant portion of a population that erodes in size into a smaller and smaller group, supports the argument that the FFS population is biased and not suitable as the basis for estimating MA benchmarks. The zero-claims adjustment represented one way to correct for this specific source of bias to increase the accuracy of the benchmarks.

## Analysis of FFS Payment & PMPM Estimates Used in Benchmarks

TMC analyzed the payment experience of the FFS population by type of service and by subgroups of duals and non-duals, beneficiaries with and without risk score data, and duals based on a state buy-in variable outside PR not identified in CMS data for PR. TMC did not re-price

[3] Excluding beneficiaries with any MA enrollment in these periods.

hospital claims as needed to comply with current regulation, nor did we re-price physician claims to take account of the new GPCI implemented for 2018 MA benchmarks based on release of the final Medicare Physician Fee Schedule Rule. So the analysis here describes payment experience that pre-dates some changes in policy and will understate the actual PMPMs that should be observed in the CMS benchmarks for PR. What is important in this analysis are the relativities, and observation of change over time.

The benchmark methodology used by OACT does not adjust or account in any way for the erosion of the FFS population relative to the MA population. Such evaluation has not been necessary in most of the US where FFS enrollment remains dominant compared to MA. However, there is substantial change in a number of characteristics of the PR FFS population over time, and in the experience represented in PR FFS sub-populations that, we would argue, CMS should take into consideration in evaluating whether its current methodology accurately or fairly estimates MA benchmarks. TMC does not question the accuracy of the calculations, but asks that an independent examination of the issue of using one population to estimate benchmarks for another population be undertaken in the case of PR. While a historical five year period is used to calculate benchmarks along with simple rather than weighted averages, such methodology assumes no material change in the population over time. In observing the trends in FFS utilization and even risk scores for non-duals, there are patterns of change that are uni-directional, suggesting continued change into the years for which benchmarks are estimated. We suggest these consistent patterns of change need to be taken into account in making adjustments to the benchmarks.

Tables 11-14 describe the five year payment PMPM for the sub-populations that comprise FFS beneficiaries eligible for both Part A and Part B. Table 11 describes the dual and non-dual populations with risk scores in the CMS files provided for this study. Note that, as the FFS population erodes as a proportion of all Medicare beneficiaries relative to MA, the risk scores for the non-dual population increase each year. The unadjusted and adjusted PMPMs are also somewhat volatile over the five year period. We would expect these PMPMs to be similar or increasing as updates in payment system inputs generally increase each year to account for increasing costs built into market baskets and other measures of inflation used in rate setting. We believe this volatility is likely to result from the declining population and high variation in utilization, including distortions created by the high rate of zero claims experience incorporated into these values.

To illustrate the impact of including or excluding different sub-populations for which we have no risk scores, we simulated the same PMPM five year average analysis with and without each separate group. Table 12 (Simulation #1) compares the PMPM five year series and average to that same population plus the non-ESRD population with no risk-scores or dual flags, imputing the average overall risk score from the Table 16 population to the combined population. The result is a significant decrease in the value of the PMPM five year series and average values.[4] This decrease is due to two factors: the imputation of average Table 11 overall risk score will

[4] CMS asserts that the population without risk-scores are not used in the benchmark calculations, however when TMC tries to match CMS trims as explained in response to questions, we cannot fully replicate these trims and are left with beneficiaries with no risk scores or dual flags with the requisite Part A and B eligibility and no MA utilization. Any such volume included in benchmarks has the effect of reducing PMPMs.

misrepresent the mix of duals and non-duals in the new population, and the new population has more than twice the rate of zero claims compared to the Table 11 population. To get a more accurate representation of comparable PMPM for the population without risk scores or dual flags, the payment experience would need to be adjusted for the substantial difference in zero claims experience between the two populations. Such an adjustment would substantially increase the PMPM for the population with missing risk scores and dual flags, and reverse the comparison shown below: a zero-claim adjusted PMPM would increase the PMPM for the combined population to the same or higher level than the population for which risk scores are available. The same type of volatility from year to year is evident in this simulation.

**Table 11. 5-Year Trend and Average PMPM for Dual and Non-Dual FFS PR Beneficiaries with Risk Scores and Dual Flags**

| | 2011 | 2012 | 2013 | 2014 | 2015 | 5-Year Simple Average | 5-Year Weighted Average |
|---|---|---|---|---|---|---|---|
| | **HCC Risk Score** | | | | | | |
| *TOTAL* | *0.972* | *0.978* | *0.980* | *0.991* | *0.990* | *0.982* | *0.981* |
| Dual | 1.249 | 1.234 | 1.220 | 1.248 | 1.228 | 1.236 | 1.236 |
| Non-Dual | 0.936 | 0.947 | 0.952 | 0.961 | 0.963 | 0.952 | 0.951 |
| | **Beneficiary Months** | | | | | | |
| *TOTAL* | *945,909* | *855,642* | *794,806* | *750,522* | *690,487* | *807,473* | *N/A* |
| Dual | 110,903 | 92,126 | 83,596 | 77,834 | 71,405 | 87,173 | N/A |
| Non-Dual | 835,006 | 763,516 | 711,210 | 672,688 | 619,082 | 720,300 | N/A |
| | **Part A+B Payments Per Beneficiary Month (Unadjusted)** | | | | | | |
| *TOTAL* | *$ 252.81* | *$ 243.74* | *$ 251.18* | *$ 272.41* | *$ 276.51* | *$ 259.33* | *$ 252.79* |
| Dual | $ 312.36 | $ 316.69 | $ 326.67 | $ 346.59 | $ 351.11 | $ 330.68 | $ 318.62 |
| Non-Dual | $ 244.90 | $ 234.94 | $ 242.31 | $ 263.83 | $ 267.90 | $ 250.78 | $ 244.40 |
| *Ratio of Dual to Non-Dual* | *1.28* | *1.35* | *1.35* | *1.31* | *1.31* | *1.32* | *1.30* |
| | **Part A+B Payments Per Beneficiary Month (Adjusted)** | | | | | | |
| *TOTAL* | *$ 259.97* | *$ 249.21* | *$ 256.33* | *$ 274.99* | *$ 279.28* | *$ 264.02* | *$ 257.56* |
| Dual | $ 250.01 | $ 256.71 | $ 267.85 | $ 277.78 | $ 286.00 | $ 267.63 | $ 257.68 |
| Non-Dual | $ 261.74 | $ 248.03 | $ 254.60 | $ 274.57 | $ 278.29 | $ 263.52 | $ 257.09 |
| *Ratio of Dual to Non-Dual* | *0.96* | *1.04* | *1.05* | *1.01* | *1.03* | *1.02* | *0.99* |

**Footnotes:**

1. Payments include Total Part A and B payments
2. Months with ESRD coverage are excluded

**Table 12. Simulation #1 of Inclusion of PR FFS Population with no Risk Scores or Dual Flags in Average PMPM Series and 6-Year Averages**

| | 2011 | 2012 | 2013 | 2014 | 2015 | 5-Year Simple Average | 5-Year Weighted Average |
|---|---|---|---|---|---|---|---|
| HCC Risk Score (For all PR beneficiaries with available risk scores) | 0.972 | 0.978 | 0.980 | 0.991 | 0.990 | 0.982 | 0.981 |
| Beneficiary Months (For all PR beneficiaries with available risk scores) | 838,825 | 756,401 | 701,705 | 661,384 | 604,942 | 712,651 | N/A |
| | **Including Months with Missing Risk Scores** | | | | | | |
| Payments per Month (unadjusted) | $246.23 | $227.53 | $235.77 | $254.92 | $250.63 | $ 243.02 | $ 242.53 |
| Payments per Month (adjusted) | $253.21 | $232.64 | $240.61 | $257.33 | $253.15 | $ 247.42 | $ 247.11 |
| | **Excluding Months with Missing Risk Scores** | | | | | | |
| Payments per Month (unadjusted) | $271.72 | $261.07 | $267.61 | $287.23 | $278.82 | $ 273.29 | $ 272.73 |
| Payments per Month (adjusted) | $279.42 | $266.93 | $273.10 | $289.95 | $281.62 | $ 278.24 | $ 277.88 |

**Footnotes:**

1. Payments include Total Part A and B payments
2. Months with ESRD coverage are excluded

TMC was concerned that, in the dual FFS population, a significant number of duals based on a US state buy-in variable, were excluded from the CMS data with dual flags or treated as non-duals which would result in different risk scores. The PMPM experience is significantly different for this group. CMS indicates it does not use this variable to identify duals, and uses other sources of data which are reflected in the dual flags in the data set provided. Without more investigation of these data, we cannot definitively determine whether or not their experience is appropriately used in the benchmark calculations. We performed a second simulation (Simulation #2) to illustrate the difference between the PMPM experience for this population and the rest of the PR dual FFS population and the results are shown in Table 13. In this simulation, lacking any risk scores, we imputed the average Table 11 dual risk score to the state buy-in only population. Clearly the unadjusted PMPM for the population with the State buy-in beneficiaries is substantially increased over the dual population identified in the CMS data. That difference results in higher adjusted PMPM. These data have not been adjusted to make the zero-claim experience comparable. The significantly higher PMPM for this population, however would likely impact the overall benchmarks, if included in the benchmark calculation. Note that, in this simulation, the unadjusted and adjusted PMPMs increase steadily from year to year, reflecting the expected increase in payments for Medicare services over time, but also potentially showing increased utilization in the most recent year.

**Table 13. Simulation #2 Comparing PR Dual FFS PMPM Series & 5-Year Average with and without State Buy-In Only Duals**

| | 2011 | 2012 | 2013 | 2014 | 2015 | 5-Year Simple Average | 5-Year Weighted Average |
|---|---|---|---|---|---|---|---|
| HCC Risk Score (For all PR Dual beneficiaries with available risk scores) | 1.249 | 1.234 | 1.220 | 1.248 | 1.228 | 1.236 | 1.236 |
| Beneficiary Months (For all PR Dual beneficiaries with available risk scores) | 98,297 | 81,529 | 73,920 | 68,727 | 62,736 | 77,042 | NA |
| | **Dual Months + Months of State Buy-in Only** | | | | | | |
| Payments per Month (unadjusted) | $341.35 | $359.83 | $371.38 | $410.85 | $396.59 | $ 376.00 | $ 372.70 |
| Payments per Month (adjusted) | $273.22 | $291.69 | $304.51 | $329.29 | $323.05 | $ 304.31 | $ 301.42 |
| | **Dual Months (Not Including Months of State Buy-in Only)** | | | | | | |
| Payments per Month (unadjusted) | $312.36 | $316.69 | $326.67 | $346.59 | $351.11 | $ 330.68 | $ 318.62 |
| Payments per Month (adjusted) | $250.01 | $256.71 | $267.85 | $277.78 | $286.00 | $ 267.63 | $ 257.68 |

**Footnotes:**

1. Payments include Total Part A and B payments
2. Months with ESRD coverage are excluded

We also investigated the impact of restricting analysis only to those beneficiaries with risk scores for the month of July, because CMS indicated after review of our 2016 report that it did not use risk scores for each month of enrollment. Utilizing a single month risk score to define a population includes the implicit assumption that risk scores are stable across months and that beneficiaries not present in July should have no weight in an analysis. Both assumptions are problematic given that many FFS patients in PR have less than a full year of FFS months in the data, and that monthly risk scores are not stable in this population. Table 14 presents a model (Simulation #3) of the difference restricting to this population makes on the calculation of risk scores and PMPMs.

**Table 14. Simulation #3 Comparing PR FFS PMPM Series & 5-Year Average with and without July Risk Scores**

| | 2011 | 2012 | 2013 | 2014 | 2015 | 5-Year Simple Average | 5-Year Weighted Average |
|---|---|---|---|---|---|---|---|
| HCC Risk Score (For all PR beneficiaries with available risk scores in | 0.968 | 0.973 | 0.976 | 0.987 | 0.989 | 0.979 | 0.978 |
| Beneficiary Months (For all PR beneficiaries with available risk scores in | 958,212 | 870,072 | 809,868 | 764,616 | 695,364 | 819,626 | NA |
| | **Including Months with Available July Risk Scores** | | | | | | |
| Payments per Month (unadjusted) | $259.56 | $248.80 | $255.28 | $274.60 | $280.67 | $ 263.78 | $ 262.83 |
| Payments per Month (adjusted) | $268.14 | $255.70 | $261.56 | $278.21 | $283.79 | $ 269.55 | $ 268.81 |
| | **Total (No Restriction Based on July Risk Score Availability)** | | | | | | |
| Payments per Month (unadjusted) | $252.81 | $243.74 | $251.18 | $272.41 | $276.51 | $ 259.33 | $ 252.79 |
| Payments per Month (adjusted) | $259.97 | $249.21 | $256.33 | $274.99 | $279.28 | $ 264.02 | $ 257.56 |

**Footnotes:**

1. Payments include Total Part A and B payments
2. Months with ESRD coverage are excluded

## Migration

To further understanding of the erosion of the FFS population in PR, TMC performed an analysis of migration based on tracking Medicare FFS and MA residents of PR in one year through the US denominator file to identify both residence in the US (excluding PR) and participation in MA vs FFS in that state. The results of this analysis are shown in a series of tables in Appendix A to this report. Migration has increased from 2011-2012 when it was about 7500 Medicare beneficiaries, to 2015 when it was over 10,000 beneficiaries. That migration has increased its choice of MA plan enrollment in the mainland US gradually, but just under half of the migrating population opts for FFS enrolment in contrast to the proportions of its enrollment in MA in PR in the previous year. (Enrollment in MA or FFS is reported for December the year after PR enrollment).

Out-migration has been accelerating over time, as shown in table 15. The annual migration population increased 38% from 2012 to 2015, with double digit increases each of the last two years.This out migration contributes to the unreliability of using historical FFS utilization to set benchmarks for MA Plans.

Just over a quarter of the 2011-2012 migrating PR Medicare beneficiaries were FFS in PR before moving, and over time to 2015, this proportion declines as MA migration increases as a proportion of all migration. About two thirds of FFS migration continues to enroll in FFS in their new homes. While MA migration is more likely to choose MA plans in their new homes in rates that increase over time, but do not approach their enrollment rates in MA in PR. Florida and New York account for about half of Medicare migration out of PR, with significant migration to other northeast and Mid-Atlantic states and widely dispersed migration throughout the US in much smaller numbers. In 2015, dual eligible beneficiaries and non-duals have the same rate of migration, suggesting a stabilization of the previous observed divergence.

**Table 15. Migration Trend 2012-2015**

| | Migrated Out in 2012 | Migrated Out in 2013 | % Change | Migrated Out in 2014 | % Change | Migrated Out in 2015 | % Change |
|---|---|---|---|---|---|---|---|
| **Total Out Migration** | **7,583** | **8,080** | **7%** | **9,326** | **15%** | **10,496** | **13%** |
| FFS Out Migration | 3,569 | 3,633 | 2% | 3,981 | 10% | 4,453 | 12% |
| MA Out Migration | 4,014 | 4,447 | 11% | 5,345 | 20% | 6,043 | 13% |

Due to the catastrophic conditions created by hurricanes in 2017, mass migrations are expected from PR to the mainland, and it is not possible to predict the eventual size of this migration, or the rate of return to PR in the future. Given the small size of the FFS population shown in the 2015 data, we expect current and future migration to distort the validity of any historical FFS data for setting MA benchmarks for PR beginning in 2018.

## Conclusion

Evidence exists to argue that the eroding size of the FFS population, its characteristics, and utilization patterns are not representative of the much larger MA population and therefore do not provide a valid basis for MA benchmarks, which are intended to represent the average cost to Medicare of the FFS population in the area. Use of FFS experience as the basis for MA benchmarks assumes that MA enrollees are similar to FFS beneficiaires, or at least that there is no significant selection bias. This assumption is based on MA penetration that has historically been well below 70% nationwide. Puerto Rico's extremely high MA penetration may eventually be matched elsewhere in the US. Selection bias is increasingly differentiating these two populations in PR. Furthermore, the price basis for FFS services and historical differences in services covered in PR compared to the mainland US (e.g., Part D low income subsidies not available in PR) have depressed historical FFS PMPM payments. While CMS has made some adjustments to correct for historically depressed payments to hospitals and physicians, other payments may remain depressed. The net effect of differences in utilization and demographics for the two populations, and historically depressed Medicare cost, leads to the conclusion that the FFS utilization under-estimates appropriate benchmarks for MA.

Given the catastrophic impact of hurricanes in 2017, disruption of all health services, and challenges to maintenance of basic health and quality of life, outmigration is increasing and may represent a dramatic change in the PR Medicare population for years to come. We note increased outmigration rates in 2015 even before the hurricanes. Under such circumstances, the historic basis for setting MA benchmarks cannot be considered relevant to current 2017 and future conditions. We recommend that CMS suspend its approach to setting benchmarks for PR, and consider an alternative basis for funding the MA program in PR beginning as soon as possible, but certainly for 2018.

PR is an example of what may become a wider problem associated with the success of the MA program as penetration rates increase in some parts of the US. TMC suggests criteria are needed to evaluate statistical representativeness when the accuracy of using one population's utilization to set MA benchmarks can be seriously questioned. We do not believe that CMS's actuarial

credibility standard is a sufficient criteria, as it assumes representativeness and stability over time in the underlying data and relies on an absolute minimum number regardless of the proportion of the population that number represents or the probability that significant selection bias is present. It is also the case that risk adjustment cannot correct for the level of difference observed in this study. The HCC risk adjustment model applied historically only explains about 11-12 percent of cost variation. It was not intended and is not capable of correcting for the degree of selection bias and non-representativeness observed between these two populations.

We recommend that CMS articulate criteria for determining the representativeness of one population to estimate MA benchmarks for another population with demonstrably different characteristics, and demonstrate that its on-going use of FFS data to estimate MA benchmarks is valid. We would suggest that the probability that selection bias skews any comparisons between two populations, increases as MA penetration exceeds some level in the range of 70 percent, at which point, CMS should be able to affirmatively demonstrate that the FFS population continues to be representative of the MA enrolled population. If CMS cannot demonstrate representativeness, it should measure the type and extent of non-representativeness to determine what kind of adjustments may be warranted. We suggest that this problem, and any criteria that CMS sets forth, be subject to comment through the Advanced Notice or other form of rulemaking.

# APPENDIX A

## Migration by all Medicare Beneficiaries Enrolled in Part A and B (FFS or MA) From Puerto Rico to the 50 United States 2010 - 2015

## Reported by the Type of Medicare in which the Beneficiary Enrolled in the Mainland (FFS or MA) in the Destination State

**Table A: Migration of All Medicare Beneficiary Puerto Rico Residents (FFS & MA)**

| | Beneficiaries from 2010 who Survive to December 2011 Reported by State of Residence in 2011 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | **7,086** | **100%** | **3,743** | **53%** | **3,343** | **47%** |
| Florida | 2,422 | 34% | 994 | 41% | 1,428 | 59% |
| New York | 962 | 14% | 461 | 48% | 501 | 52% |
| Pennsylvania | 562 | 8% | 308 | 55% | 254 | 45% |
| Massachusetts | 532 | 8% | 376 | 71% | 156 | 29% |
| New Jersey | 495 | 7% | 296 | 60% | 199 | 40% |
| Connecticut | 411 | 6% | 275 | 67% | 136 | 33% |
| Texas | 263 | 4% | 141 | 54% | 122 | 46% |
| Illinois | 226 | 3% | 145 | 64% | 81 | 36% |
| Ohio | 139 | 2% | 88 | 63% | 51 | 37% |
| Georgia | 129 | 2% | 73 | 57% | 56 | 43% |
| California | 100 | 1% | 59 | 59% | 41 | 41% |
| North Carolina | 99 | 1% | 66 | 67% | 33 | 33% |
| All Remaining US States | 746 | 11% | 461 | 62% | 285 | 38% |

| | Beneficiaries from 2011 who Survive to December 2012 Reported by State of Residence in 2012 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | **7,583** | **100%** | **3,569** | **47%** | **4,014** | **53%** |
| Florida | 2,788 | 37% | 938 | 34% | 1,850 | 66% |
| New York | 964 | 13% | 436 | 45% | 528 | 55% |
| Pennsylvania | 520 | 7% | 266 | 51% | 254 | 49% |
| Massachusetts | 553 | 7% | 365 | 66% | 188 | 34% |
| New Jersey | 545 | 7% | 308 | 57% | 237 | 43% |
| Connecticut | 441 | 6% | 257 | 58% | 184 | 42% |
| Texas | 313 | 4% | 159 | 51% | 154 | 49% |
| Illinois | 208 | 3% | 134 | 64% | 74 | 36% |
| Ohio | 154 | 2% | 95 | 62% | 59 | 38% |
| Georgia | 127 | 2% | 60 | 47% | 67 | 53% |
| California | 119 | 2% | 57 | 48% | 62 | 52% |
| North Carolina | 119 | 2% | 72 | 61% | 47 | 39% |
| All Remaining US States | 732 | 10% | 422 | 58% | 310 | 42% |

| | Beneficiaries from 2012 who Survive to December 2013 Reported by State of Residence in 2013 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | **8,080** | **100%** | **3,633** | **45%** | **4,447** | **55%** |
| Florida | 3,130 | 39% | 961 | 31% | 2,169 | 69% |
| New York | 1,014 | 13% | 460 | 45% | 554 | 55% |
| Pennsylvania | 594 | 7% | 296 | 50% | 298 | 50% |
| Massachusetts | 521 | 6% | 352 | 68% | 169 | 32% |
| New Jersey | 474 | 6% | 249 | 53% | 225 | 47% |
| Connecticut | 442 | 5% | 245 | 55% | 197 | 45% |
| Texas | 333 | 4% | 164 | 49% | 169 | 51% |
| Illinois | 223 | 3% | 140 | 63% | 83 | 37% |
| Ohio | 144 | 2% | 89 | 62% | 55 | 38% |
| Georgia | 122 | 2% | 64 | 52% | 58 | 48% |
| California | 134 | 2% | 73 | 54% | 61 | 46% |
| North Carolina | 132 | 2% | 79 | 60% | 53 | 40% |
| All Remaining US States | 817 | 10% | 461 | 56% | 356 | 44% |

| | Beneficiaries from 2013 who Survive to December 2014 Reported by State of Residence in 2014 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | **9,326** | **100%** | **3,981** | **43%** | **5,345** | **57%** |
| Florida | 3,825 | 41% | 1,116 | 29% | 2,709 | 71% |
| New York | 1,035 | 11% | 446 | 43% | 589 | 57% |
| Pennsylvania | 663 | 7% | 325 | 49% | 338 | 51% |
| Massachusetts | 607 | 7% | 398 | 66% | 209 | 34% |
| New Jersey | 550 | 6% | 320 | 58% | 230 | 42% |
| Connecticut | 478 | 5% | 258 | 54% | 220 | 46% |
| Texas | 363 | 4% | 160 | 44% | 203 | 56% |
| Illinois | 218 | 2% | 104 | 48% | 114 | 52% |
| Ohio | 178 | 2% | 90 | 51% | 88 | 49% |
| Georgia | 151 | 2% | 68 | 45% | 83 | 55% |
| California | 117 | 1% | 60 | 51% | 57 | 49% |
| North Carolina | 153 | 2% | 75 | 49% | 78 | 51% |
| All Remaining US States | 988 | 11% | 561 | 57% | 427 | 43% |
| | **Beneficiaries from 2014 who Survive to December 2015 Reported by State of Residence in 2015** | | | | | |
| | **All Beneficiaries** | | **Beneficiaries Enrolled in FFS*** | | **Beneficiaries Enrolled in MA** | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | **10,496** | **100%** | **4,453** | **42%** | **6,043** | **58%** |
| Florida | 4,308 | 41% | 1,230 | 29% | 3,078 | 71% |
| New York | 1,033 | 10% | 415 | 40% | 618 | 60% |
| Pennsylvania | 794 | 8% | 378 | 48% | 416 | 52% |
| Massachusetts | 712 | 7% | 478 | 67% | 234 | 33% |
| New Jersey | 580 | 6% | 317 | 55% | 263 | 45% |
| Connecticut | 543 | 5% | 320 | 59% | 223 | 41% |
| Texas | 481 | 5% | 221 | 46% | 260 | 54% |
| Illinois | 240 | 2% | 116 | 48% | 124 | 52% |
| Ohio | 214 | 2% | 113 | 53% | 101 | 47% |
| Georgia | 175 | 2% | 89 | 51% | 86 | 49% |
| California | 128 | 1% | 68 | 53% | 60 | 47% |
| North Carolina | 188 | 2% | 87 | 46% | 101 | 54% |
| All Remaining US States | 1,100 | 10% | 621 | 56% | 479 | 44% |

**Fee for Service in the 50 State is defined as any Fee For Service, not just Part A and B*

**Table B: Migration of All Medicare Beneficiary Puerto Rico Residents (FFS Only)**

| | Beneficiaries from 2010 who Survive to December 2011 Reported by State of Residence in 2011 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 1,941 | 100% | 1,374 | 71% | 567 | 29% |
| Florida | 641 | 33% | 407 | 63% | 234 | 37% |
| New York | 250 | 13% | 157 | 63% | 93 | 37% |
| Pennsylvania | 129 | 7% | 89 | 69% | 40 | 31% |
| Massachusetts | 147 | 8% | 112 | 76% | 35 | 24% |
| New Jersey | 152 | 8% | 113 | 74% | 39 | 26% |
| Connecticut | 96 | 5% | 73 | 76% | 23 | 24% |
| Texas | 81 | 4% | 64 | 79% | 17 | 21% |
| Illinois | 73 | 4% | 60 | 82% | 13 | 18% |
| Ohio | 38 | 2% | * | * | * | * |
| Georgia | 43 | 2% | * | * | * | * |
| California | 34 | 2% | * | * | * | * |
| North Carolina | 29 | 1% | * | * | * | * |
| All Remaining US States | 228 | 12% | 179 | 79% | 49 | 21% |
| | Beneficiaries from 2011 who Survive to December 2012 Reported by State of Residence in 2012 | | | | | |
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 1,822 | 100% | 1,217 | 67% | 605 | 33% |
| Florida | 670 | 37% | 416 | 62% | 254 | 38% |
| New York | 226 | 12% | 140 | 62% | 86 | 38% |
| Pennsylvania | 118 | 6% | 74 | 63% | 44 | 37% |
| Massachusetts | 139 | 8% | 103 | 74% | 36 | 26% |
| New Jersey | 154 | 8% | 107 | 69% | 47 | 31% |
| Connecticut | 85 | 5% | 61 | 72% | 24 | 28% |
| Texas | 70 | 4% | 50 | 71% | 20 | 29% |
| Illinois | 51 | 3% | 37 | 73% | 14 | 27% |
| Ohio | 40 | 2% | * | * | * | * |
| Georgia | 32 | 2% | * | * | * | * |
| California | 23 | 1% | * | * | * | * |
| North Carolina | 27 | 1% | * | * | * | * |
| All Remaining US States | 187 | 10% | 137 | 73% | 50 | 27% |

| | Beneficiaries from 2012 who Survive to December 2013 Reported by State of Residence in 2013 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 1,816 | 100% | 1,220 | 67% | 596 | 33% |
| Florida | 637 | 35% | 386 | 61% | 251 | 39% |
| New York | 243 | 13% | 160 | 66% | 83 | 34% |
| Pennsylvania | 123 | 7% | 70 | 57% | 53 | 43% |
| Massachusetts | 126 | 7% | 95 | 75% | 31 | 25% |
| New Jersey | 107 | 6% | 70 | 65% | 37 | 35% |
| Connecticut | 90 | 5% | 66 | 73% | 24 | 27% |
| Texas | 91 | 5% | 69 | 76% | 22 | 24% |
| Illinois | 51 | 3% | 38 | 75% | 13 | 25% |
| Ohio | 35 | 2% | * | * | * | * |
| Georgia | 34 | 2% | * | * | * | * |
| California | 30 | 2% | * | * | * | * |
| North Carolina | 35 | 2% | * | * | * | * |
| All Remaining US States | 214 | 12% | 162 | 76% | 52 | 24% |

| | Beneficiaries from 2013 who Survive to December 2014 Reported by State of Residence in 2014 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 1,946 | 100% | 1,277 | 66% | 669 | 34% |
| Florida | 756 | 39% | 449 | 59% | 307 | 41% |
| New York | 224 | 12% | 133 | 59% | 91 | 41% |
| Pennsylvania | 127 | 7% | 79 | 62% | 48 | 38% |
| Massachusetts | 126 | 6% | 85 | 67% | 41 | 33% |
| New Jersey | 117 | 6% | 85 | 73% | 32 | 27% |
| Connecticut | 79 | 4% | 51 | 65% | 28 | 35% |
| Texas | 87 | 4% | 66 | 76% | 21 | 24% |
| Illinois | 44 | 2% | 32 | 73% | 12 | 27% |
| Ohio | 36 | 2% | * | * | * | * |
| Georgia | 45 | 2% | * | * | * | * |
| California | 31 | 2% | * | * | * | * |
| North Carolina | 32 | 2% | * | * | * | * |
| All Remaining US States | 242 | 12% | 183 | 76% | 59 | 24% |

| | Beneficiaries from 2014 who Survive to December 2015 Reported by State of Residence in 2015 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 2,097 | 100% | 1,359 | 65% | 738 | 35% |
| Florida | 814 | 39% | 470 | 58% | 344 | 42% |
| New York | 201 | 10% | 126 | 63% | 75 | 37% |
| Pennsylvania | 147 | 7% | 90 | 61% | 57 | 39% |
| Massachusetts | 139 | 7% | 100 | 72% | 39 | 28% |
| New Jersey | 109 | 5% | 70 | 64% | 39 | 36% |
| Connecticut | 101 | 5% | 79 | 78% | 22 | 22% |
| Texas | 108 | 5% | 77 | 71% | 31 | 29% |
| Illinois | 51 | 2% | 33 | 65% | 18 | 35% |
| Ohio | 48 | 2% | 33 | 69% | 15 | 31% |
| Georgia | 46 | 2% | 31 | 67% | 15 | 33% |
| California | 38 | 2% | * | * | * | * |
| North Carolina | 34 | 2% | * | * | * | * |
| All Remaining US States | 261 | 12% | 195 | 75% | 66 | 25% |

**Fee for Service in the 50 State is defined as any Fee For Service, not just Part A and B*

## Table C: Migration of All Medicare Beneficiary Puerto Rico Residents (MA Only)

| | Beneficiaries from 2010 who Survive to December 2011 Reported by State of Residence in 2011 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 5,145 | 100% | 2,369 | 46% | 2,776 | 54% |
| Florida | 1,781 | 35% | 587 | 33% | 1,194 | 67% |
| New York | 712 | 14% | 304 | 43% | 408 | 57% |
| Pennsylvania | 433 | 8% | 219 | 51% | 214 | 49% |
| Massachusetts | 385 | 7% | 264 | 69% | 121 | 31% |
| New Jersey | 343 | 7% | 183 | 53% | 160 | 47% |
| Connecticut | 315 | 6% | 202 | 64% | 113 | 36% |
| Texas | 182 | 4% | 77 | 42% | 105 | 58% |
| Illinois | 153 | 3% | 85 | 56% | 68 | 44% |
| Ohio | 101 | 2% | * | * | * | * |
| Georgia | 86 | 2% | * | * | * | * |
| California | 66 | 1% | * | * | * | * |
| North Carolina | 70 | 1% | * | * | * | * |
| All Remaining US States | 518 | 10% | 282 | 54% | 236 | 46% |

| | Beneficiaries from 2011 who Survive to December 2012 Reported by State of Residence in 2012 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 5,761 | 100% | 2,352 | 41% | 3,409 | 59% |
| Florida | 2,118 | 37% | 522 | 25% | 1,596 | 75% |
| New York | 738 | 13% | 296 | 40% | 442 | 60% |
| Pennsylvania | 402 | 7% | 192 | 48% | 210 | 52% |
| Massachusetts | 414 | 7% | 262 | 63% | 152 | 37% |
| New Jersey | 391 | 7% | 201 | 51% | 190 | 49% |
| Connecticut | 356 | 6% | 196 | 55% | 160 | 45% |
| Texas | 243 | 4% | 109 | 45% | 134 | 55% |
| Illinois | 157 | 3% | 97 | 62% | 60 | 38% |
| Ohio | 114 | 2% | * | * | * | * |
| Georgia | 95 | 2% | * | * | * | * |
| California | 96 | 2% | * | * | * | * |
| North Carolina | 92 | 2% | * | * | * | * |
| All Remaining US States | 545 | 9% | 285 | 52% | 260 | 48% |

| | Beneficiaries from 2012 who Survive to December 2013 Reported by State of Residence in 2013 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 6,264 | 100% | 2,413 | 39% | 3,851 | 61% |
| Florida | 2,493 | 40% | 575 | 23% | 1,918 | 77% |
| New York | 771 | 12% | 300 | 39% | 471 | 61% |
| Pennsylvania | 471 | 8% | 226 | 48% | 245 | 52% |
| Massachusetts | 395 | 6% | 257 | 65% | 138 | 35% |
| New Jersey | 367 | 6% | 179 | 49% | 188 | 51% |
| Connecticut | 352 | 6% | 179 | 51% | 173 | 49% |
| Texas | 242 | 4% | 95 | 39% | 147 | 61% |
| Illinois | 172 | 3% | 102 | 59% | 70 | 41% |
| Ohio | 109 | 2% | * | * | * | * |
| Georgia | 88 | 1% | * | * | * | * |
| California | 104 | 2% | * | * | * | * |
| North Carolina | 97 | 2% | * | * | * | * |
| All Remaining US States | 603 | 10% | 299 | 50% | 304 | 50% |

| | Beneficiaries from 2013 who Survive to December 2014 Reported by State of Residence in 2014 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 7,380 | 100% | 2704 | 37% | 4,676 | 63% |
| Florida | 3,069 | 41% | 667 | 22% | 2,402 | 78% |
| New York | 811 | 11% | 313 | 39% | 498 | 61% |
| Pennsylvania | 536 | 7% | 246 | 46% | 290 | 54% |
| Massachusetts | 481 | 7% | 313 | 65% | 168 | 35% |
| New Jersey | 433 | 6% | 235 | 54% | 198 | 46% |
| Connecticut | 399 | 5% | 207 | 52% | 192 | 48% |
| Texas | 276 | 4% | 94 | 34% | 182 | 66% |
| Illinois | 174 | 2% | 72 | 41% | 102 | 59% |
| Ohio | 142 | 2% | * | * | * | * |
| Georgia | 106 | 2% | * | * | * | * |
| California | 86 | 1% | * | * | * | * |
| North Carolina | 121 | 2% | * | * | * | * |
| All Remaining US States | 746 | 11% | 378 | 51% | 368 | 49% |

| | Beneficiaries from 2014 who Survive to December 2015 Reported by State of Residence in 2015 | | | | | |
|---|---|---|---|---|---|---|
| | All Beneficiaries | | Beneficiaries Enrolled in FFS* | | Beneficiaries Enrolled in MA | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| **Total Out Migration** | 8,399 | 100% | 3,094 | 37% | 5,305 | 63% |
| Florida | 3,494 | 42% | 760 | 22% | 2,734 | 78% |
| New York | 832 | 10% | 289 | 35% | 543 | 65% |
| Pennsylvania | 647 | 8% | 288 | 45% | 359 | 55% |
| Massachusetts | 573 | 7% | 378 | 66% | 195 | 34% |
| New Jersey | 471 | 6% | 247 | 52% | 224 | 48% |
| Connecticut | 442 | 5% | 241 | 55% | 201 | 45% |
| Texas | 373 | 4% | 144 | 39% | 229 | 61% |
| Illinois | 189 | 2% | 83 | 44% | 106 | 56% |
| Ohio | 166 | 2% | 80 | 48% | 86 | 52% |
| Georgia | 129 | 2% | 58 | 45% | 71 | 55% |
| California | 90 | 1% | * | * | * | * |
| North Carolina | 154 | 2% | * | * | * | * |
| All Remaining US States | 839 | 10% | 426 | 51% | 413 | 49% |

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