



2016

Reporting Experience

Including Trends (2007-2016)

Physician Quality Reporting System

2018

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I. EXECUTIVE SUMMARY

In 2007, the Centers for Medicare & Medicaid Services (CMS) implemented the Physician Quality Reporting System (PQRS), a quality reporting program for eligible professionals (EPs)¹ that has grown substantially from its inception. PQRS gives participating EPs and group practices the opportunity to assess the quality of care they provide to their patients, helping to ensure that patients get the right care at the right time. The PQRS program entered its final year in 2016. In the first eight years of the program, PQRS encouraged EPs to report clinical quality data by providing an incentive payment for successful reporting.

The downward payment adjustment applied to 2015 payments was based on 2013 data that was reported during the first quarter of calendar year 2014. PQRS reporting for the 2014 program year formed the basis for the 2016 payment adjustment; PQRS reporting for 2015 formed the basis for the 2017 payment adjustment; and PQRS reporting for 2016 formed the basis of the 2018 payment adjustment. For more information on the PQRS payment adjustment, please refer to Section V of this report.

This report summarizes the historical reporting experience of EPs in the PQRS program through program year 2016. Unless otherwise noted, all tables and figures are based on data reported for calendar year 2016. Findings in this report summarized at the practice level include both EPs participating individually, as well as group practices that participated through the group practice reporting option (GPRO). Results for group reporting for PQRS also include EPs participating as part of a Medicare Accountable Care Organization (ACO) under the Medicare Shared Savings Program. EPs participating in PQRS as part of a Pioneer ACO Model, as part of a Next Generation ACO Model (NextGen), as part of a Comprehensive ESRD (End Stage Renal Disease) Care Model (called a CEC ACO), and the Comprehensive Primary Care (CPC) initiative are summarized as individual participants in this report.²

For brevity, the tables and figures in this report present the Shared Savings Program, Pioneer Model ACO, Next Generation ACO, CEC ACO programs and CPC as “participation options” under PQRS; however, they are alternative payment models and EPs must meet all requirements under those models. In addition, unless otherwise noted, participation information from EPs who were part of group practices participating under the GPRO or as part of a Medicare ACO participating under the Shared Savings Program were combined with data for individual participants to describe the total number of EPs that participated in the program.

¹ https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016_PQRS_List_of_EPs.pdf

² EPs within ACOs that meet specific PQRS requirements, as incorporated by the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model are able to avoid the PQRS payment adjustment under the Medicare Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model, respectively. In addition, EPs in the CPC initiative that elect a PQRS waiver and meet requirements under that program are able to avoid the PQRS payment adjustment.

Building on Existing Quality Programs

The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) streamlined three existing CMS programs with a single system where Medicare physicians and other eligible clinicians have a chance to be rewarded for better care. MACRA consolidated aspects of those programs (PQRS, Value-Based Payment Modifier (Value Modifier), and the Medicare Electronic Health Record (EHR) Incentive Program) into the Merit-based Incentive Payment System (MIPS) and incentive payments for participation in Advanced Alternative Payment Models (Advanced APMs), which we refer to collectively as the Quality Payment Program. This program, which is expected to affect Medicare payments for more than 600,000 clinicians across the country, is a major step in improving care across the entire health care delivery system. Clinicians have been able to choose how they want to participate in the Quality Payment Program based on their practice size, specialty, location, or patient population. At its core, the Quality Payment Program is about improving the quality of patient care and patient outcomes.

The PQRS program, along with the Medicare EHR Incentive Program for EPs and the Value Modifier program, sunset on December 31, 2018. Components of these programs are the foundation for the new Merit-based Incentive Payment System. There are four connected pillars on which payment adjustments are based under MIPS— quality, improvement activities, advancing care information information, and cost.

While the quality component of MIPS should look familiar to clinicians that participated in PQRS, there are key differences between the PQRS program and MIPS which preclude drawing definitive conclusions for MIPS based upon historical PQRS data. For example, fewer clinicians were eligible for MIPS than PQRS due to volume thresholds. Specifically, the PQRS program did not have an exemption for clinicians with a low volume of Medicare patients or allowed charges, clinicians newly enrolled in Medicare are exempt from MIPS, certain participants in Advanced APMs are exempt from MIPS, and MIPS eligible clinicians may differ from the types of EPs that were required to participate in PQRS.

Expansion of Participation Mechanisms and Program Eligibility

In program year 2016, CMS expanded the PQRS reporting mechanisms by adding the Qualified Clinical Data Registry (QCDR) for practices participating as part of the GPRO. In addition, practices could get credit for PQRS participation through participation in the Next Generation ACO Model or CEC ACO Model.

Table 1: Reporting Options, Mechanisms, and Alternative Programs (2007 to 2016)

Reporting Options and Mechanisms	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Individual Participation	--	--	--	--	--	--	--	--	--	--
Claims-based: Individual Measures	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Claims-based: Measures Groups	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Registry: Individual Measures	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Registry: Measures Groups	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Reporting Options and Mechanisms	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EHR: Individual Measures	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Qualified Clinical Data Registry (QCDR)	No	No	No	No	No	No	No	Yes	Yes	Yes
GPRO	--	--	--	--	--	--	--	--	--	--
GPRO I Web Interface	No	No	No	Yes	Yes	No	No	No	No	No
GPRO II Claims	No	No	No	No	Yes	No	No	No	No	No
GPRO II Registry	No	No	No	No	Yes	No	No	No	No	No
GPRO Web Interface (25 or more NPIs)	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
GPRO Registry	No	No	No	No	No	No	Yes	Yes	Yes	Yes
GPRO EHR	No	No	No	No	No	No	No	Yes	Yes	Yes
GPRO QCDR	No	No	No	No	No	No	No	No	No	Yes
Accountable Care Organizations (ACO)	--	--	--	--	--	--	--	--	--	--
Shared Savings Program ACO via Web Interface	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Pioneer ACO via GPRO Web Interface	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
CEC ACO	No	No	No	No	No	No	No	No	No	Yes
NextGen ACO	No	No	No	No	No	No	No	No	No	Yes
Comprehensive Primary Care Initiative (CPC)	No	No	No	No	No	No	Yes	Yes	Yes	Yes

Notes for Table 1: (1) In 2010, the Physician Quality Reporting System included a single option for group practices with 200 or more professionals (referred to as “GPRO I”). (2) In 2011, the GPRO II option was added for practices with 2 to 199 professionals. (3) In 2012, GPRO I and GPRO II were replaced with group practices reporting options for group practices with 25 or more NPIs.

- The number of PQRS quality measures from which EPs could choose to participate in the PQRS increased from 253 to 281 in program year 2016, and the number of non-PQRS measures increased from 739 to 848 (Table 2).

Table 1: Number of Quality Measures (2012 to 2016)

Mechanism or Option	2012	2013	2014	2015	2016
Total number of PQRS measures	266	258	284	253	281
Total number of non-PQRS measures	N/A	N/A	300	739	848
Number of measures groups [a]	22	22	25	22	25
Measures within measures groups [a]	117	119	127	108	114
Measures reportable via Claims	143	137	110	72	79
Measures reportable via Registry	208	203	201	175	198
Measures reportable via EHR	51	51	64	64	63
Measures reportable via QCDR [b]	N/A	N/A	584	992	1,129
Measures reportable via GPRO Web Interface	29	22	22	17	18
Measures reportable by ACOs via the GPRO Web Interface	22	22	22	17	18
Measures reportable via the CPC Initiative	N/A	14	11	13	13

[a] Measures groups were available to report via Claims or Registry until 2013, and only via Registry starting 2014.

[b] Any PQRS measure can be reported via QCDR. In addition, each QCDR registry could submit up to 20 custom, non-PQRS measures in 2014 and 30 non-PQRS measures in 2015 and 2016.

Note for Table 2: Total number of measures reflects all measures, including all possible reporting mechanisms and options.

- Many of the measures reportable by the largest number of EPs were preventive measures, which are not specific to a given diagnosis or condition and apply to a broad range of specialties and provider types (Table 12 and Table A16).
- CMS strives to include quality measures that are applicable to a wide range of specialties and provider types and has annually requested suggestions for measures to be included in PQRS. Appendix Table A1 presents a list of PQRS measures in program year 2016. Of note, half of these measures are related to effective clinical care.
- Over 1.39 million professionals were eligible to participate in the 2016 program year PQRS including those participating through the PQRS GPRO; those participating in Medicare ACOs under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model; and the CPC initiative—compared to 1.36 million EPs in 2015 (Figure 1).

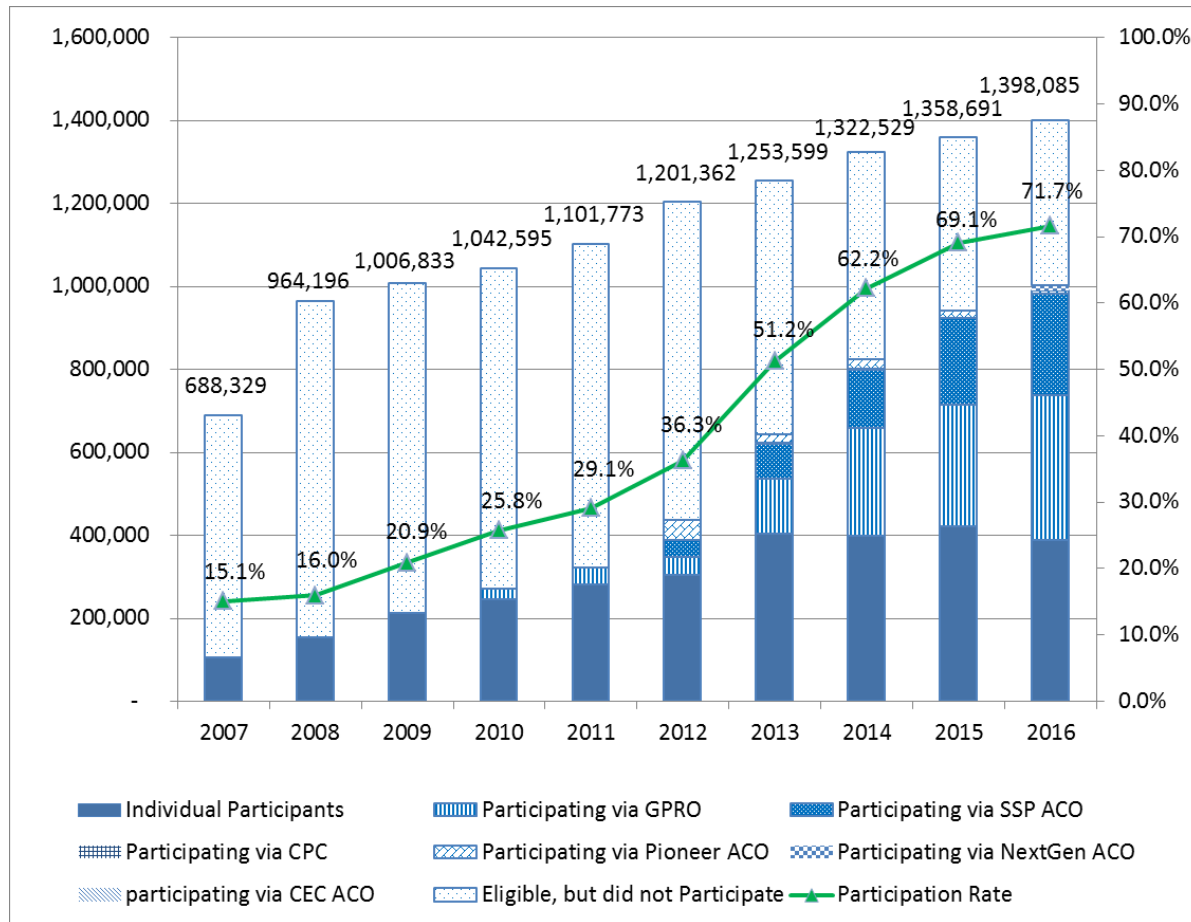
- Some specialties or provider types had more than 75,000 EPs who participated in PQRS during program year 2016 including internal medicine, family practice, and nurse practitioner (Table A7).
- There were 5,245 practices who self-nominated to participate via the GPRO in program year 2016, a significant increase from the 4,089 practices that self-nominated for the GPRO in 2015, the 2,985 practices that self-nominated for the GPRO in 2014, and the 677 practices that self-nominated to report under the GPRO in 2013 (data not shown). Refer to Table 3 for counts of participating practices. In total, there were 4,525 practices that participated via the GPRO (3,088 through registry, 952 through EHR, 262 through QCDR, and 296 through the web interface); note that 66 practices reported through more than one reporting mechanism via the GPRO.
- EPs belonging to practices or ACOs in the following programs were eligible for PQRS: Shared Savings Program (432 Medicare ACOs), Pioneer (8 ACOs), Next Generation (18 ACOs), CEC (13 ACOs), and 192 practices were eligible through the CPC initiative (data not shown). Refer to Table 3 for counts of participating practices.

Participation

- Participation in PQRS has increased every year, especially among EPs within practices participating via a group reporting option (Figure 1).
- The number of participating EPs increased by seven percent between 2015 and 2016 from 938,939 (69.1 percent of those eligible in 2015) to 1,001,731 (71.7 percent of those eligible in 2016).
- In 2016, 348,018 EPs participated in PQRS as part of practices electing to participate under the GPRO (Table 3).
- There were 432 ACOs participating in the Shared Savings Program and 429 of these reported data through the GPRO Web interface; these 429 ACOs included a total of 244,485 EPs who are considered participants in PQRS.
- There were 18 ACOs participating under the Next Generation ACO Model; these ACOs included a total of 16,517 EPs.
- A total of 13 ACOs participated under the CEC ACO Model; these ACOs included a total of 670 EPs.
- Eight ACOs participated under the Pioneer ACO Model; these ACOs included 8,086 EPs.
- 454 EPs from 85 different practices participated under the CPC initiative (that is, they accepted the PQRS waiver).
- The participation rate among all EPs using any method to participate in PQRS increased from 15 percent to almost 72 percent between 2007 and 2016 (Figure 1).
- Of the 5,245 practices that self-nominated to participate under the PQRS GPRO, 4,525 participated:
 - o 3,088 practices encompassing 155,674 EPs participated via registry,
 - o 952 practices encompassing 71,150 EPs participated via EHR,
 - o 262 practices encompassing 15,661 EPs participated via QCDR,
 - o 296 practices encompassing 110,001 EPs participated via the web interface.

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Figure 1 –Trends in Participation (2007 to 2016)

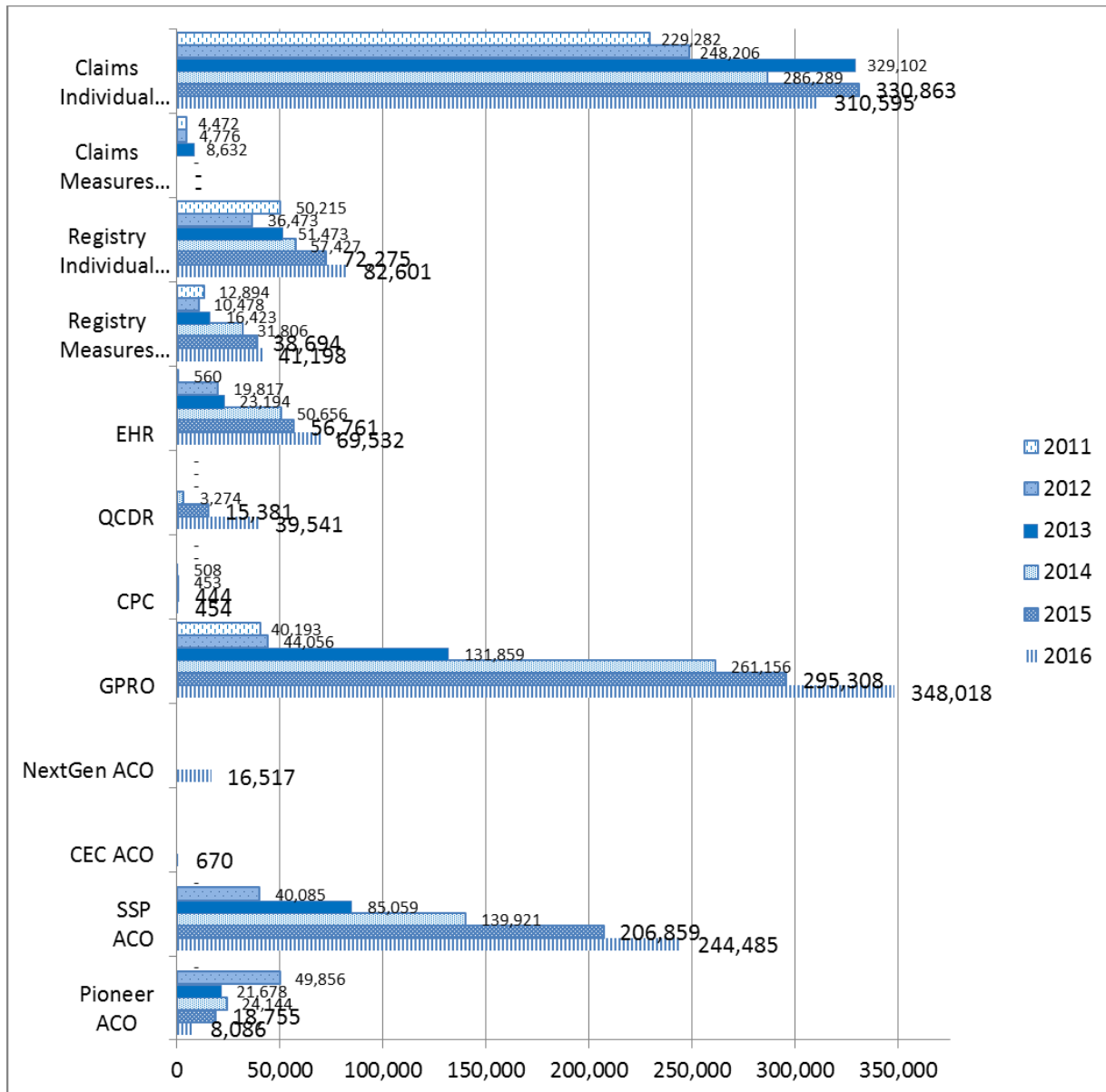


Notes for Figure 1: (1) Results include all reporting mechanisms and options.

- Claims continued to be the most popular reporting mechanism for individual participation but 2016 was the first time there were more EPs participating as part of a group under the GPRO than there were individual claims participants (Figure 2).
- Registry reporting increased in program year 2016, particularly the submission of registry individual measures; and the number of participants via the QCDR mechanism was over two and a half times that of 2015 (39,541 EPs, up from 15,381).
- EHR reporting also showed continued strong growth in 2016, with a 22.5% increase over 2015 participation.

2016 Physician Quality Reporting System Reporting Experience and Trends

Figure 2 – Participating Eligible Professionals by Reporting Mechanism (2011 to 2016)



Note for Figure 2: Results include individually participating EPs as well as EPs in group practices that participated under the GPRO, EPs in Medicare ACOs participating under the Shared Savings Program, Pioneer ACO, Next Generation ACO, and CEC ACO Models, and EPs participating through the CPC initiative. Some EPs participated in more than one reporting mechanism.

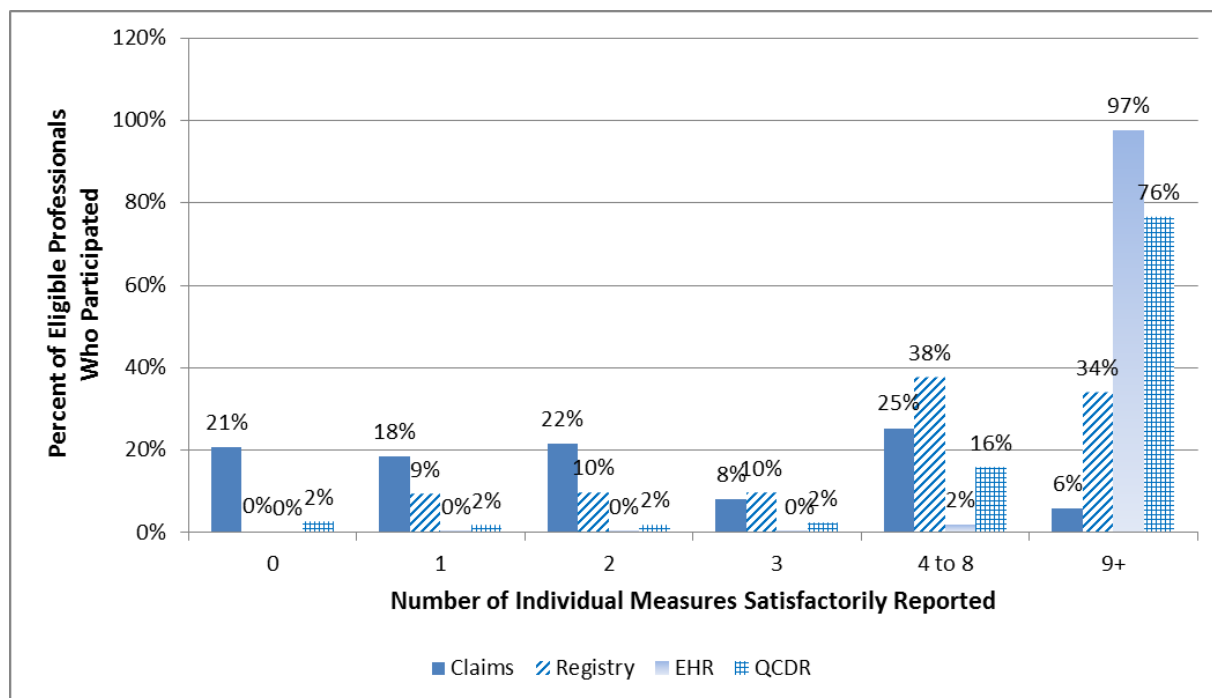
- Some EPs participated in greater numbers and/or at higher rates in the 2016 programs than others (Appendix Table A7).
- Nurse Practitioner, internal medicine, family practice, physician assistant, and emergency medicine had the largest numbers of overall participants.

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- Nurse anesthetist, pathology, and anesthesiology had the highest participation rates in 2016 (over 89 percent) (Appendix Table A7).
- The participation rate of EPs rises with increasing number of patients going from 52.3% for EPs with 25 or fewer patients to 85.1% for EPs with more than 200 patients (Table A13).
- The median participation rate by state was 72.2% in 2016, with Wisconsin having the highest participation rate of any state (85.0%) (Table A14).

Satisfactory Reporting and Challenges to Reporting

Figure 3 – Distribution of Satisfactorily Reported Individual Measures (2016)



- As in previous years, rates of satisfactory reporting of at least one measure in PQRS varied by participation method. For registry and EHR, 100% of EPs who participated were able to satisfactorily report at least one measure compared to 98% of QCDR participants and 79% of EPs who participated through claims were able to do so (Figure 3).
- The number of satisfactorily reported measures varied by submission mechanism as well: EPs reporting via EHR and QCDR were most likely to report 9 or more measures (97 percent of those using EHR and 76 percent for QCDR), compared to only 34 percent of those participating via registry and 6 percent of those reporting via claims (Figure 3).
- The most common reporting errors via registry were submitting data for an EP that had no Part B Physician Fee Schedule (PFS) allowed charges and submitting data

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where the calculated reporting or performance rate does not match the result calculated from numerators and denominators provided.

- The most common issue for QCDR was submissions for EPs who did not have PFS charges, reporting denominator not equal to the initial population minus exclusions, and reporting rate not being equal to the reporting numerator divided by the reporting denominator; CMS has reached out to entities reporting data under this mechanism to help improve future submissions.

Table 3 presents a summary of 2016 PQRS eligibility and participation, at the level of EP and group practices. There were 1,398,085 EPs with 1,001,731 participating using any method. The most commonly used individual participation mechanism was through claims.

Table 2: Reporting Results by Mechanism or Alternative Program (2016)

Outcome and Mechanism or Alternative Program	Eligible Professionals	Eligible Practices
Eligible	1,398,085	268,735
Participated via Any Method	1,001,731	111,393
Participated via Claims	310,595	66,005
Participated via Registry	123,324	32,911
Participated via EHR	69,532	14,061
Participated via QCDR	39,541	2,388
Participated via GPRO - Registry	155,674	3,088
Participated via GPRO - EHR	71,150	952
Participated via GPRO - QCDR	15,661	262
Participated via GPRO - Web Interface	110,001	296
Participated via Shared Savings Program ACO	244,485	429
Participated via Pioneer ACO	8,086	8
Participated via CEC ACO	670	13
Participated via NextGen ACO	16,517	18
Participated via CPC	454	85

Notes for Table 3: (1) Results include EPs who were part of a practice that participated under the PQRS GPRO, through the CPC initiative, or as part of a Medicare ACO participating under the Shared Savings Program, Pioneer ACO Model, NextGen ACO Model, or CEC ACO Model. (2) Some EPs participated in more than one reporting method.

2018 PQRS Payment Adjustment

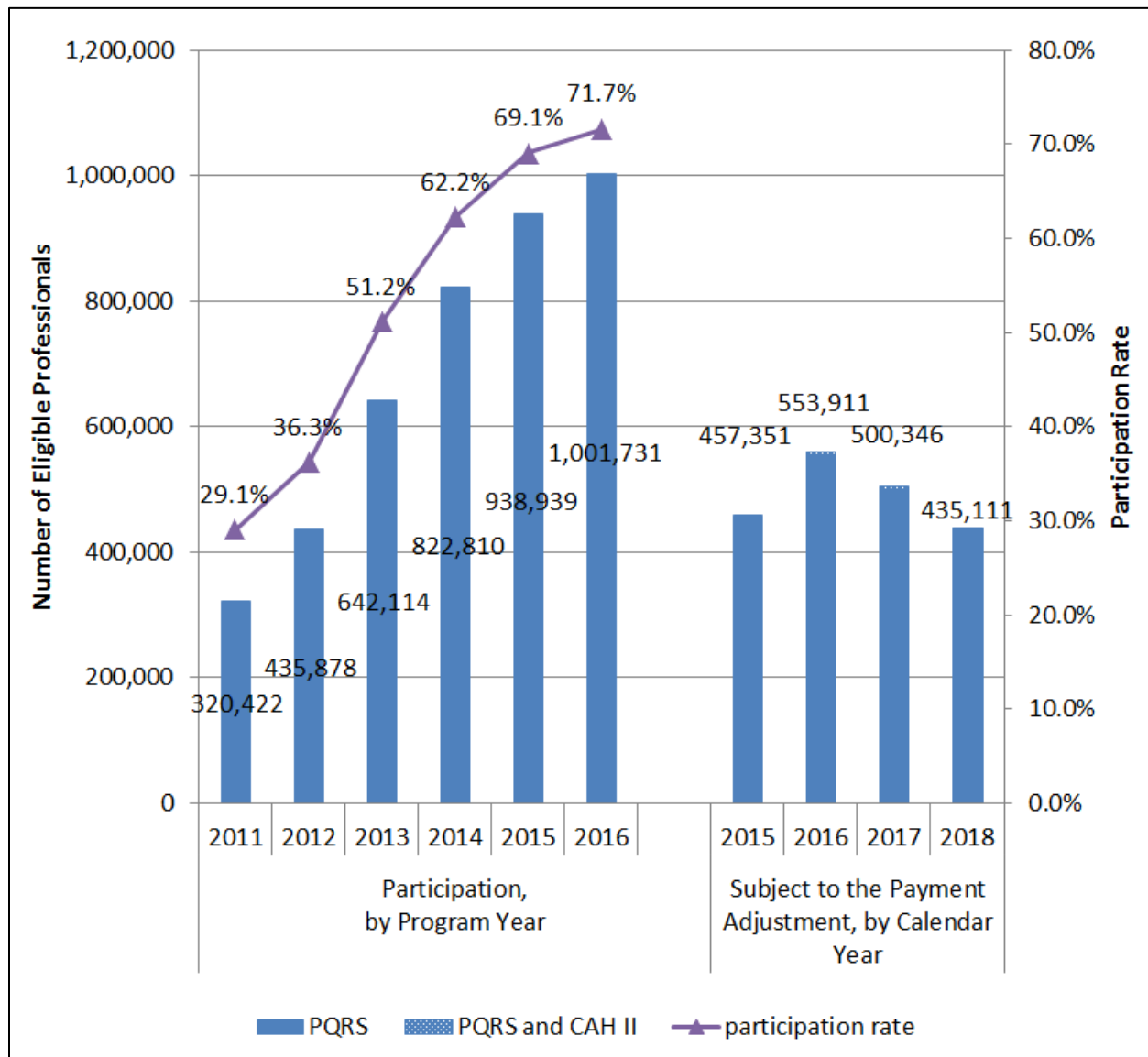
- Almost sixty-nine percent of all EPs avoided the 2.0 percent reduction of their 2018 Part B PFS charges, based on 2016 PQRS reporting; this left 435,111 EPs who were subject to the adjustment (Figure 4 and Table 16). Note that Table 16 is based on the EPs who meet the definition of an EP for the purposes of the payment adjustment (N=1,349,834).³
- Almost eighty-five percent of those subject to the adjustment did not attempt to participate in PQRS, and about 14% of those subject to the payment adjustment were participating as individual professionals. Only 0.8 percent of those receiving the payment adjustment were unsuccessful participants, meaning their only attempt at participation involved the submission of invalid Quality Data Codes (QDCs). (Table 15).⁴

³ 1,398,085 represents the number of EPs who had an eligible instance in claims or who participated through registry/QCER/EHR, were part of the CPC initiative, belonged to a practice that self-nominated for the GPRO, were in a TIN that was part of a Shared Savings Program ACO, or were part of an ACO in the Pioneer, Next Generation, or CEC ACO Model. When it comes to the payment adjustment, there are certain taxonomies that are automatically exempt. There are 48,251 such EPs who could never be subject for this reason so they are not part of the population of EPs who could be eligible. See https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016_PQRS_List_of_EPs.pdf and section III.C of this report for more information on the PQRS payment adjustment.

⁴ For more information on various types of QDC errors, please refer to the section on Challenges to Successful Reporting in Section IV.D of this report.

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Figure 4 – Trends in PQRS Participation (2011 to 2016) and the PQRS Payment Adjustment (2015 to 2018)



Note for Figure 4: As shown in this chart, the participation counts and rates have increased every year; the number of EPs subject to the payment adjustment increased from 2015 to 2016 but has decreased for 2017 and 2018. Table 18 provides more details on EPs who have avoided the payment adjustment as well as how they were able to do so.

- EPs who avoided the 2018 PQRS payment adjustment did so most often by reporting the required data (Table 18):
 - o For EPs who were eligible for individual participation, 95 percent (N=914,427) avoided the payment adjustment due to satisfactory reporting; 98 percent (N=347,391) of those eligible for GPRO participation avoided the payment adjustment based on satisfactory reporting; nearly 100 percent of those eligible

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for ACO participation avoided the payment adjustment due to successful reporting, and 96 percent (N=1,975) of those eligible for CPC avoided the payment adjustment based on successful participation.

- O Some participants in the PQRS program did not fit the specific definition of an EP for the purposes of the payment adjustment; these individuals can submit measures data but they would not be subjected to the payment adjustment since they don't have the autonomy to provide services without direct orders of another clinician; a couple of examples are recreational therapist assistant and prevention professional. These EPs made up five percent (N=48,251) of those who were eligible for individual participation and avoided the payment adjustment, three percent of those who were eligible for GPRO participation (N=10,769), four percent (N=340) of those eligible for Pioneer ACO participation, thirty-eight percent (N=254) of those who were eligible to participate as part of a practice in the CEC ACO Model, three percent (N=467) of those eligible for participation via Next Generation ACO, three percent (N=7,224) of those eligible for Shared Savings Program ACO participation, and less than one percent (N=9) of those eligible for CPC participation.
- O Finally, regardless of whether an EP was eligible for individual, GPRO, ACO, or CPC participation, 0.8 percent of EPs avoided the 2018 payment adjustment based on informal reviews processed through March 28, 2018.

II. INTRODUCTION

In 2007, the Centers for Medicare & Medicaid Services (CMS) implemented the Physician Quality Reporting System (PQRS), a pay-for-reporting program for EPs that has grown substantially from its inception.⁵ The program (formerly, Physician Quality Reporting Initiative or PQRI) was authorized under Section 101(b) of division B of the Tax Relief and Health Care Act (TRHCA) of 2006 (Public Law 109-423; 120 Stat. 2975), and entered its tenth year in 2016. The program rewarded EPs with a payment incentive—determined based on a percentage of the estimated Part B PFS allowed charges for covered professional services furnished by the EP during the applicable reporting period—and applies a payment adjustment based on whether EPs meet applicable requirements for reporting information on standardized clinical quality measures. The last year in which EPs could earn an incentive payment was 2014. Beginning in 2015, EPs who did not meet reporting requirements for program year 2013 or who did not have any other reason for avoiding the 2015 payment adjustment were subject to a 1.5 percent reduction in their Part B PFS charges. PQRS reporting in program year 2014 was used to determine which EPs would be subject to a two percent reduction in their 2016 Part B PFS charges. PQRS reporting in program year 2015 was used to determine which EPs would be subject to a two percent reduction in their 2017 Part B PFS charges and PQRS reporting in program year 2016 was used to determine which EPs would be subject to a two percent reduction in their 2018 Part B PFS charges.

This report summarizes the program year 2016 and historical reporting experience of EPs in PQRS. Section III of this report presents background on the evolution of the PQRS program and payment adjustment and describes data and methods used for this report. Sections IV - VI detail findings for PQRS participation, payment adjustment, and clinical performance rates. Sections VII and VIII describe information about feedback reports available under PQRS and the services available from the Help Desk. Section IX concludes. At the end of the report is a table of abbreviations used in this report. The Appendix is a separate Microsoft Excel document for interested readers, which contains detailed tables of results.

This report uses the term “EP” to describe physicians and other health care professionals who could participate in PQRS. The health care professionals who are eligible to participate in the program are precisely identified on the CMS website.⁶ In general, this includes professionals who furnish PFS covered services to Medicare Part B beneficiaries (including Railroad Retirement Board [RRB] and Medicare Secondary Payer [MSP]) for whom selected PQRS measure(s) are applicable.

The unit of analysis for describing EPs is a combination of a professional’s National Provider Identifier (NPI) number and the Taxpayer Identification Number (TIN) under which they billed for services; this is commonly referred to as a “TIN/NPI” (please see Section III for more details). Findings reported at the practice level include both EPs participating individually, summarized at the practice level, as well as practices that participated through the group practice reporting option (GPRO). The results include EPs

⁵ <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS>

⁶ https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016_PQRS_List_of_EPs.pdf

reporting (for the purposes of PQRS) through a Medicare Accountable Care Organization (ACO) under the Medicare Shared Savings Program (Shared Savings Program), EPs reporting through a Medicare ACO participating in the Pioneer ACO Model, the Next Generation ACO Model, the CEC ACO Model, and EPs participating in the Comprehensive Primary Care (CPC) Initiative. For brevity, the tables and figures in this report present the Shared Savings Program, Pioneer model, Next Generation Model, and CEC Model ACO programs and CPC as “participation options” under PQRS; however, we note that they are alternative programs and EPs must meet all requirements under those programs. EPs participating via the Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, or the CPC initiative are summarized in this report as individual participants. While reporting through the GPRO or through a Medicare ACO participating under the Shared Savings Program are not individual participation options, unless otherwise noted, the participation information from these options are combined with participation information from the individual participation options to describe the total number of EPs that participated in PQRS.

The information and data in this report generally address PQRS, but also include certain PQRS data related to EPs within Medicare ACOs under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, and the Comprehensive Primary Care (CPC) initiative, given that EPs within ACOs often report through the ACO for the purposes of avoiding the payment adjustment and CPC participants avoid the payment adjustment through successful participation in that program. However, such EPs participating in such initiatives outside the traditional PQRS are subject to the reporting, participation, and program requirements specific to that program. Unless otherwise indicated, the program requirements discussed below (e.g. reporting options, mechanisms, periods, criteria, measures, participation rules, etc.) pertain to PQRS.

III. BACKGROUND AND METHODS

A. Program Origins

The Physician Quality Reporting System is part of an overall effort to move toward a value-based purchasing (VBP) system that aims to reward the value of care provided, rather than the quantity of services. To this end, PQRS quality measures are intended to define, standardize and drive improvement in the quality of health care. A payment adjustment, applicable to professionals who do not satisfy the criteria for reporting quality data under PQRS, is intended to encourage professionals to adopt evidence-based, outcomes-driven healthcare delivery practices.

The authorizing legislation for the program is contained in Section 101(b) of Division B (Medicare Improvements and Extension Act of 2006 [MIEA]) of the TRHCA, which was enacted on December 20, 2006. Section 101(b) of the MIEA-TRHCA added subsection K to section 1848 of the Social Security Act and required the establishment of a quality reporting system. CMS initially referred to the Physician Quality Reporting System as the Physician Quality Reporting Initiative or PQRI.

Section 101(c) of MIEA-TRHCA established a financial incentive for professionals to participate in a voluntary quality reporting program, which has been amended by subsequent legislation. An EP who chose to participate in the 2007 program and satisfied the reporting criteria on a set of quality measures was eligible for an incentive, subject to a cap, equal to 1.5 percent of the total estimated Part B PFS charges for covered professional services furnished by the EP during the reporting period.

B. Program Evolution

Measures for the 2007 program were defined by the TRHCA as quality measures that were developed under the Physician Voluntary Reporting Program (PVRP) and published on the CMS website as of the date of enactment of the TRHCA. The statute also provided that measures could be changed by the Secretary through a consensus-based process if such changes were published on the CMS website by a specified date. A portion of the original 74 measures and their specifications were developed by the American Medical Association-Physician Consortium for Performance Improvement (AMA-PCPI), physician specialty organizations, and the National Committee for Quality Assurance (NCQA). The AMA-PCPI collaborated with CMS on defining reporting specifications for measures used in the 2007 program and developed instructions on how data would be captured through a claims-based reporting process using quality data codes (QDCs) based on either Current Procedural Terminology (CPT) II codes or G-codes. QDCs indicate performance of a quality action, non-performance of the action, or an exclusion from performing the action.

The Medicare, Medicaid, and SCHIP Extension Act of 2007 (MMSEA), enacted on December 29, 2007 (Pub. Law 110-173), extended the quality reporting system through 2008 and 2009. The MMSEA authorized incentive payments for 2008 and removed the cap on the total earned incentive amount previously mandated by TRHCA. Additionally, the MMSEA required that CMS establish alternative reporting periods, criteria for reporting groups of clinically-related measures, and collecting quality information through a clinical data registry. Registries do not require QDCs to accept clinical data. In 2008, MIPPA (Pub. Law 110-275, section 131(b)) made changes to the quality measure requirements as well as authorized incentives through 2010. In 2009 and 2010, the applicable quality percent for the incentive was set at two percent; it was decreased to one percent in the 2011 program year and to one-half percent for program years 2012 through 2014.

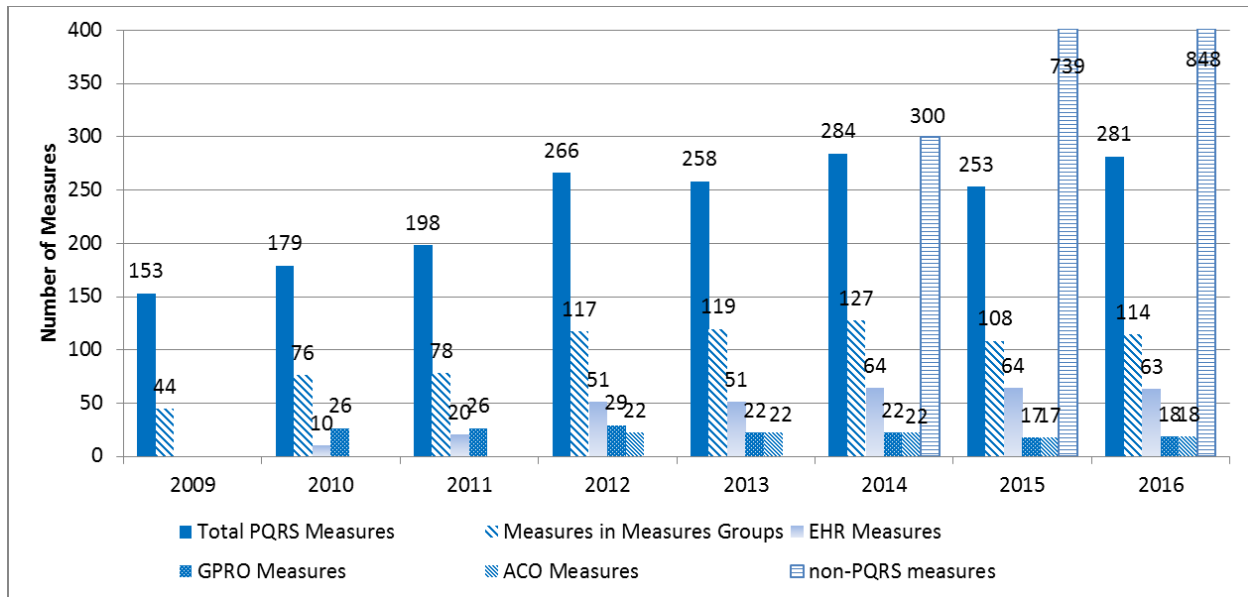
The Patient Protection and Affordable Care Act, Pub. Law 111-148, enacted on March 23, 2010, as amended by the Health Care and Education Reconciliation Act of 2010, Pub. Law 111-152, and collectively known as the Affordable Care Act, made a number of changes to the PQRS, including authorizing incentive payments through 2014 and requiring a payment adjustment (penalty), beginning in 2015, for EPs and group practices who do not meet reporting requirements, described in more detail below.

The Affordable Care Act also authorized an additional incentive (an additional one-half percent of PFS allowed charges) for 2011 through 2014 for EPs who satisfactorily report data on quality measures under PQRS and satisfy certain requirements related to participation in a Maintenance of Certification Program Incentive (MOCP). Finally, Section 601(b) of the American Taxpayer Relief Act of 2012 (Pub. Law 112-240, enacted January 2, 2013) included an amendment to Section 1848 (m) (3) of the Social Security Act which would expand quality reporting options to include qualified clinical data registries (QCDRs) for 2014 and subsequent years.

PQRS Measures

CMS strives to include quality measures that are applicable to a wide range of specialties and annually requests suggestions for measures to be included in PQRS. CMS has generally expanded the number of measures and reporting options and mechanisms for PQRS each year (Figure 5). For example, the total number of measures available was 153 in 2009, 179 in 2010, 198 in 2011, and 266 in 2012. The 2013 program has 258 total measures; 10 measures were added and 18 measures were retired. The 2014 program further expanded the number of PQRS measures to 284 and there were also 300 non-PQRS measures which were available to those who reported through QCDR. In 2015, the total number of PQRS measures declined to 253, although the number of non-PQRS measures increased to 739. In program year 2016 there were 281 PQRS measures and 848 non-PQRS measures available. Appendix Table A1 lists all individual PQRS measures that could be reported in the program during the 2016 program year and Appendix Table A2 lists the 2016 non-PQRS measures that were available.

As seen in Figure 5, the number of measures reportable via the EHR mechanism has expanded from 10 measures in 2010 when the reporting mechanism was first introduced to 20 measures in 2011, 51 measures in 2012 and 2013, 64 measures in 2014 and 2015, and 63 measures in 2016. The measures under the GPRO web interface grew modestly from 26 in 2010 and 2011 to 29 in 2012, were reduced to 22 measures in 2013 and 2014, decreased to 17 in 2015 and then rose to 18 in 2016, in alignment with the ACO GPRO web interface measures.

Figure 5 – Number of PQRS Measures by Reporting Mechanism/Option (2009 to 2016)

Notes for Figure 5: Categories are not mutually exclusive; for example, an individual measure can also be part of a measures group. GPRO counts for PQRS in 2011 do not include the GPRO II reporting option and GPRO counts in 2013- 2016 include web interface measures only. The number of measures also includes measures reported by EPs through Medicare ACOs participating in the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, and measures reported by EPs through the CPC Initiative.

Measures groups were introduced to PQRS in the 2008 program year and expanded each year thereafter.⁷ For program years from 2008 through 2014, measures groups are a subset of four or more clinically-related measures; in 2015 and 2016, measures groups contain six or more clinically-related measures. Measures groups were reportable by claims or registry when first introduced, and from 2014 on are reportable via registry only. The number of measures groups has increased steadily: four measures groups in 2008, seven in 2009, 13 in 2010, 14 in 2011, 22 in 2012 and 2013, and 25 groups in 2014, though was reduced to 22 in 2015. In 2016, the number of measures groups increased again to 25. Some measures groups are made up of measures reportable only via measures groups as noted below although beginning in 2014, EPs reporting via the QCDR mechanism could report these “measures groups only” measures as individual measures.

CMS has also revised measure group reporting requirements over the years to simplify measure group reporting. Beginning in 2009, CMS introduced a new QDC that allowed EPs reporting on measures groups via claims to use a single code to indicate if all recommended quality actions were performed for

⁷ Measures groups do not apply to reporting by ACOs participating in the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, or to the CPC Initiative.

each measure in the group. That is, EPs could report a single QDC— referred to as a composite G-code— for the entire measures group. Before this code existed, EPs reported one QDC for each measure within the measures group. Moreover, in an effort to simplify measures group reporting, the 2009 program year requirement to report on consecutive patients was removed. That is, beginning in the 2010 program year, EPs could report a measures group measure on 30 non-consecutive beneficiaries— appropriate for the measures group— during the reporting period. This change applied to reporting measures groups through both claims and a registry. The 2013 program lowered the required patient count from 30 to 20 patients. The 2014 program removed the claims-based measure group reporting option. The 2015 program deleted five measures groups (Back Pain, Cardiovascular Prevention, Hypertension, Ischemic Vascular Disease, and Perioperative Care) and added two (Acute Otitis Externa and General Surgery). The available measures groups in 2016 were:

- Acute Otitis Externa (AOE) (eight measures)
- Asthma (six measures)
- [New] Cardiovascular Prevention (six measures)
- Cataracts (eight measures)
- Chronic Kidney Disease (CKD) (six measures)
- Chronic Obstructive Pulmonary Disease (COPD) (seven measures)
- Coronary Artery Bypass Graft (CABG) surgery (seven measures)
- Coronary Artery Disease (CAD) (six measures)
- Dementia (ten measures)
- Diabetes Mellitus (six measures)
- [New] Diabetic Retinopathy (seven measures)
- General Surgery (seven measures)
- Heart Failure (six measures)
- Hepatitis C (eight measures)
- HIV/AIDS (eight measures)
- Inflammatory Bowel Disease (IBD) (seven measures)
- [New] Multiple Chronic Conditions (nine measures)
- Oncology (seven measures)
- Optimizing Patient Exposure to Ionizing Radiation (six measures) – measures group only
- Parkinson’s Disease (seven measures)
- Preventive Care (ten measures)
- Rheumatoid Arthritis (nine measures)
- Sinusitis (six measures)
- Sleep Apnea (seven measures)
- Total Knee Replacement (six measures)

Participation Options and Mechanisms

In addition to expanding the available measures, CMS has continued to refine the avenues for participation in the PQRS, as shown in Table 1. Individual reporting via a qualified EHR vendor directly was added to the program in 2010. In 2012, CMS added an EHR data submission vendor reporting mechanism, under which EPs could work with an approved data submission vendor to submit EHR data on their behalf, rather than directly submitting EHR data. In addition, a new qualified clinical data registry (QCDR) reporting method was available for individual participants in 2014.⁸ Beginning in 2014, the claims-based measures group reporting mechanism was no longer available.

The group reporting option was introduced in 2010 for practices with 200 or more EPs. GPRO reporting differs from reporting for individually participating EPs. To participate through the GPRO, a group practice self-nominates with CMS.⁹ Among practices that met requirements and were approved to participate through the GPRO, CMS provided a web interface containing a pre-selected sample of patients with select patient demographic and utilization characteristics.¹⁰ The practices were responsible for completing data fields to report specific quality actions for GPRO measures for the selected patients. The GPRO was expanded in 2011 to include “GPRO I” for practices with 200 or more EPs and “GPRO II” for practices with 2 to 199 EPs. In 2012, GPRO I and GPRO II were replaced with the GPRO for practices with 25 or more EPs. In 2013, the GPRO option was further refined to include: practices with 2 or more EPs; these groups have been maintained since the 2013 program year. Figure 6 provides a summary of GPRO options over time, based on the group’s size.

⁸ https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016PQRS_QCDR_MadeSimple.pdf

⁹ For more information see: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Self-Nomination-Registration.html>

¹⁰ In the 2011 program, GPRO I used the web interface for reporting; GPRO II practices used claims, registry, or EHR reporting. In both 2010 and 2012, group practices could report via one method, a database tool and an online web interface, respectively. In 2013, GPRO practices with two to 24 EPs could only report via registry, while those participating in the GPRO with 25 or more EPs could report via web interface or registry. Starting in 2014, all sizes of GPRO practices could also report via EHR. GPRO reporting was also possible through QCDRs starting in program year 2016.

Figure 6 – Group Practice Reporting Options (2010 - 2016)

GROUP SIZE	2010	2011	2012	2013 - 2016
2-24	N/A	GPRO II	N/A	GPRO
25-99	N/A		GPRO	
100-199	N/A			
200+	GPRO	GPRO I		

*Satisfactory Reporting and PQRS Payment Adjustments***Table 3: Summary of PQRS Payment Adjustment (2015 to 2018)**

Statistic	2015	2016	2017	2018
Applicable Payment Adjustment Percentage Amount [a]	1.5% of PFS allowed charges	2.0% of PFS allowed charges	2.0% of PFS allowed charges	2.0% of PFS allowed charges
Program Year Evaluated to Determine Applicability	2013	2014	2015	2016
Number of Measures and Measures Groups	· 258 Total PQRS measures · 22 Measures Groups	· 284 Total PQRS measures · 300 Total non-PQRS measures · 25 Measures Groups	· 253 Total PQRS measures · 739 Total non-PQRS measures · 22 Measures Groups	· 281 Total PQRS measures · 848 Total non-PQRS measures · 25 Measures Groups

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Statistic	2015	2016	2017	2018
How Individual Participants Can Avoid the Payment Adjustment	· Meet requirements to satisfactorily participate for incentive eligibility · Report at least one valid measure via claims, participating registry, or participating/qualified Electronic health Record (EHR, including Data submission Vendors and Direct EHR vendors) OR report at least one valid measures group via claims or participating registry. · Elect to participate in the CMS-calculated administrative claims-based reporting mechanism.	· Meet requirements to satisfactorily participate for incentive eligibility · Report at least 3 measures covering 1 NQS domain for at least 50 percent of the individual EP's Medicare Part B fee-for-service (FFS) patients via claims or qualified registry. Note that an individual EP that reported fewer than 3 measures covering at least 1 NQS domain via claims or qualified registry is subject to MAV. · Participate via a qualified clinical data registry (QCDR) that selects measures for the individual EP, including at least 3 measures covering a minimum of 1 NQS domain AND submitted measures for at least 50% of applicable patients seen during the participation period in which the measure applies.	· Claims and registry: Satisfactorily report at least 9 measures covering at least 3 NQS domains and satisfactorily report at least 1 cross-cutting measure when required; if the EP reported on fewer than 9 measures and/or fewer than 3 domains, then they must pass MAV. · Registry measures groups: Satisfactorily report all measures within a measures group, at least one measure in the measures group must be reported for at least 20 patients, and at least one measure in the measures group must be reported for at least 11 beneficiaries. · EHR: Report at least 9 measures across at least 3 domains and at least one of those measures must include Medicare patient data (if data do not contain at least 9 measures across at least 3 domains, then must report all of the measures for which there is Medicare patient data). · QCDR: Satisfactorily report on at least 9 measures across at least 3 domains AND at least 2 of the satisfactorily reported measures are Outcome measures OR at least 1 of the satisfactorily reported measures is an Outcome measure and at least one of the satisfactorily reported measures is from the Person and Caregiver Experience and outcomes, Efficiency and Cost reduction or Patient Safety NQS domains.	· Claims and registry: Satisfactorily report at least 6 measures; if the EP reported on fewer than 6 measures, then they must pass MAV. · Registry measures groups: Satisfactorily report all measures within a measures group, at least one measure in the measures group must be reported for at least 20 patients, and at least one measure in the measures group must be reported for at least 11 beneficiaries. · EHR: Report at least 6 measures and at least one of those measures must include Medicare patient data (if data do not contain at least 6 measures, then must report all of the measures for which there is Medicare patient data). · QCDR: Satisfactorily report on at least 6 measures.

2016 Physician Quality Reporting System Reporting Experience and Trends

Statistic	2015	2016	2017	2018
How Group Participants Can Avoid the Payment Adjustment	· Meet requirements to satisfactorily participate for incentive eligibility · Report at least one valid measure via web interface (only available to practices of 25 or more EPs) or participating registry (available to all PQRS GPRO sizes) · Elect to participate in the CMS-calculated administrative claims-based reporting mechanism.	· Meet requirements for satisfactorily reporting for incentive eligibility. · Report at least 3 measures covering 1 NQS domain for at least 50% of the group practice's Medicare Part B FFS patients via qualified registry. · Report 1-8 measures covering 1-3 NQS domains for which there is Medicare patient data (subjecting the group practice to the MAV process) AND report each measure for at least 50% of the group practice's Medicare Part B FFS patients seen during the reporting period in which the measure applies.	· Web interface: Submit all web interface measures for the required population (at least one measure must have data for a Medicare patient). · Registry: If the group is required or elected to report CAHPS, then they must satisfactorily report on at least 6 measures across 2 domains; if they reported on fewer than 6 measures or across only 1 domain then they must pass MAV. If the group is not reporting CAHPS data then they must satisfactorily report on 9 measures across 3 domains (or they can report on fewer than 9 measures and/or fewer than 3 domains, provided they pass MAV) · EHR: If the group has elected or is required to report CAHPS, then they must report at least 6 measures across at least 2 domains; of these data at least 1 measure must include Medicare patient data. If the group is not reporting CAHPS, they must report at least 9 measures across at least 3 domains	· Web interface: Submit all web interface measures for the required population (at least one measure must have data for a Medicare patient). · Registry: If the group elected to report CAHPS, then they must satisfactorily report on at least 3 measures; if they reported on fewer than 3 measures then they must pass MAV. If the group is not reporting CAHPS data then they must satisfactorily report on 6 measures (or they can report on fewer than 6 measures, provided they pass MAV) · EHR: If the group elected to report CAHPS, then they must report at least 3 measures; of these data at least 1 measure must include Medicare patient data. If the group is not reporting CAHPS, they must report at least 6 measures (if data do not contain at least 6 measures, then must report all of the measures for which there is Medicare patient data). · QCDR: If the group elected to report CAHPS, then they must satisfactorily report on at least 3 measures; otherwise the TIN must report at least 6 measures (PQRS measures and/or non-PQRS measures).

[a] Applicable Quality Percent is applied to estimated allowed charges for covered professional services furnished by the EP in the applicable reporting period.

Notes for Table 4: Information in this table does not apply to EPs participating in Medicare ACOs under the Shared Savings Program, the Pioneer ACO Model, the Next Generation ACO Model, the CEC ACO Model, nor does it apply to those participating under the CPC Initiative.

C. PQRS Payment Adjustment

As mandated by Section 1848(a)(8) of the Social Security Act, a payment adjustment for the PQRS program was implemented in 2015, based on 2013 reporting. EPs and groups who did not meet reporting requirements in 2013 were subject to a 1.5 percent reduction in their PFS allowed charges in 2015; the adjustment increased to 2.0 percent reduction in PFS allowed charges for 2016, 2017, and 2018 based on reporting years 2014, 2015, and 2016 respectively (Table 4).

CMS implemented changes to requirements for avoiding the payment adjustment for 2016. The administrative claims method was eliminated as a method to avoid the 2016 PQRS payment adjustment; to avoid an adjustment of two percent of PFS allowed charges in 2016, EPs and groups had to meet more stringent criteria compared to prior program years (Table 4). For program year 2014, EPs that assigned their reimbursement and billing to a critical access hospital under Method II (CAHs) also had to meet reporting requirements, or be subject to a two percent reduction in their 2016 CAH II charges.

The Measures Applicability Validation (MAV) process continued in 2016 for the claims and registry reporting mechanisms. MAV determines if EPs reporting individual measures (via claims and registry) or groups reporting individual measures under the GPRO (via registry) satisfactorily reported despite reporting fewer measures than required under the satisfactory reporting requirements for avoiding the 2018 PQRS payment adjustment. For more details on MAV, please refer to the CMS website.¹¹

There were several ways that individual EPs could avoid the PQRS payment adjustment for 2018:

- For claims and registry individual measures: Satisfactorily report at least six measures; if the EP reported on fewer than six measures, then they must pass MAV.
- For registry measures groups: Report all measures within a measures group on a 20 patient sample; at least 11 of the 20 patients must be Medicare Part B FFS patients.
- For EHR: Report at least six measures and at least one of those measures must include Medicare patient data (if data do not contain at least six measures, then must report all of the measures for which there is Medicare patient data).
- For QCDR: Satisfactorily report on at least six measures.

Group practices could avoid the 2018 payment adjustment if they:

- For Web interface: Submit all web interface measures for the first 248 consecutively ranked beneficiaries. If the pool of eligible beneficiaries is less than 248, then report on 100 percent of assigned beneficiaries. Practices with 25 or more EPs can elect to report CAHPS summary survey modules as well.

¹¹ For details on the MAV process in 2016, please refer to the claims and registry MAV documents found under the Analysis and Payment section in following link: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/2016_Physician_Quality_Reporting_System.html

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- For Registry: If the group has elected to report CAHPS, then in addition to the CAHPS data they must report at least three measures; if fewer than three measures apply, then they are subject to MAV. If the group is not reporting CAHPS, they must report at least six measures; if they report on fewer than six measures then they are subject to MAV.
- For EHR: If the group has elected to report CAHPS, then they must report at least three measures; of these data at least 1 measure must include Medicare patient data. If the group is not reporting CAHPS, they must report at least six measures (if data do not contain at least six measures, then must report all of the measures for which there is Medicare patient data).
- For QCDR: If the group has elected to report CAHPS, then in addition to the CAHPS data they must report at least three measures. If the group is not reporting CAHPS, they must report at least six measures.

Other reasons for avoiding the payment adjustment include:

- Not having at least one eligible denominator claim; or
- Not meeting the definition of an EP for the PQRS payment adjustment; or
- Not having any PFS charges in 2016; or
- Being a member of an independent lab or diagnostic testing facility in 2016.

In addition, individual EPs or groups participating via GPRO, ACO, or CPC were able to request an informal review of their downward payment determination between September 18, 2017 and December 1, 2017, for the 2016 PQRS program year.

D. Data and Methods

Data

This report draws on multiple sources of data: (1) Medicare Part B claims data; (2) data submitted by qualified registries and QCDRs; (3) data submitted by qualified EHR vendors; (4) PQRS measure data submitted through an online web interface by practices that were approved to participate in the GPRO and by EPs participating via the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model; and (5) Consumer Assessment of Healthcare Providers and Systems (CAHPS) for PQRS data submitted by practices participating under the GPRO. Data on the 2018 PQRS payment adjustment were from the PQRS Payment Adjustment file dated March 28, 2018.

Claims data encompassed services within the respective program years and must have been processed by the last Friday in February of the following year to be included in analyses. For example, the analysis of the 2016 program year encompassed claims with service dates from January 1, 2016 through December 31, 2016 and processed by February 24, 2017. Similar to claims data, data collected from the registry, QCDR, and EHR mechanisms as well as the GPRO web interface aligns with the program year and must have been received by CMS by the established deadline for the reporting option.

Information on physician specialty/provider type and location was obtained from the National Plan and Provider Enumeration System (NPPES), which is publicly available data and downloadable from the NPPES website.¹²

Unit of Analysis

The most common unit of analysis in the report is the individual EP. The National Provider Identifier number (NPI) within a billing unit (i.e., the Taxpayer Identification Number [TIN]) defined an EP; the NPI was the *performing* NPI.¹³ All analyses regarding individual eligibility and participation were performed at the NPI level within a TIN (referred to as TIN/NPI). Consequently, a single EP could be counted more than once if he/she worked for multiple practices (i.e., single NPI and more than one TIN).

An additional unit of analysis presented in the report is the group practice level, which was defined by a TIN. Practices that participated under the GPRO and Shared Savings Program ACO were analyzed at the practice (i.e., TIN) level. In addition to summarizing group reporting information at the TIN level, this report also aggregates information from individual EPs to the practice (TIN) level for descriptive purposes. For these descriptions, a practice was defined as eligible or participating if at least one EP associated with that practice was eligible or participating.

This report also describes counts of individual EPs who belong to a practice that participated under group reporting options (including those in practices participating under the GPRO and EPs within

¹² http://download.cms.gov/nppes/NPI_Files.html

¹³ There are multiple NPIs associated with a service (performing, referring, and ordering); the performing NPI identifies the EP who actually performed the service.

Shared Savings Program ACOs reporting PQRS data). ¹⁴ Unless otherwise noted, tables and figures that present counts of total EPs also include the number of EPs within practices participating under group reporting options. For the purposes of summarizing participation, all EPs that are part of a practice that participates are considered to have participated. EPs that participated in PQRS as part of the Pioneer ACO model, Next Generation ACO Model, CEC ACO Model, or by accepting the PQRS waiver as part of a CPC practice are reported as individual participants in this report.

The specialty and provider type and state for EPs were obtained from NPPES; we also used the specialty from claims data to identify providers who provided hospice or palliative care services; a separate specialty category has been created to capture these providers. Region was based on CMS carrier regions on claims. In tables that provide regional breakouts, information on the Railroad Retirement Board (RRB) carrier is not provided. This is due to the RRB not being based on geographical location of the EP.

¹⁴ As part of their quality reporting requirements, practices within Medicare ACOs reporting PQRS data under the Medicare Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model submitted data on 18 measures via the GPRO web interface on behalf of their participants for the purposes of PQRS reporting.

IV. PARTICIPATION

A. How to Participate

CMS provided multiple resources on the PQRS website (<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/index.html>) to assist EPs who chose to participate in the program. The *2016 PQRS Measure List* and *2016 PQRS Implementation Guide* gave guidance on how to determine which measures to report, the reporting method, and claims-based reporting principles. CMS also provided Frequently Asked Questions (FAQ's) covering a wide range of topics regarding the program.

In 2016, there were six individual participation options and six group participation options (plus additional requirements for groups that elected to submit CAHPS data; see that section below for more details) for submitting measure data to PQRS. Unless otherwise noted, each mechanism applied to a 12-month period from January 1 to December 31, 2016:

1. Claims-Based Individual Measures. EPs could report QDCs for measures via claims. To avoid the 2018 payment adjustment, EPs had to report on at least six measures (or fewer than six measures, subject to a MAV review) for at least 50 percent of reporting opportunities.
2. Registry-Based Reporting Individual Measures. EPs could submit measures through a qualified registry. To avoid the 2018 payment adjustment, EPs had to report on at least six measures (or fewer than six measures, subject to a MAV review) for at least 50 percent of reporting opportunities.
3. Registry-Based Reporting Measures Groups. EPs could submit data through a qualified registry. To avoid the 2018 payment adjustment, EPs had to report all applicable measures for at least 1 measures group on at least 20 patients (11 out of 20 patients had to be Medicare Part B FFS patients).
4. Qualified Clinical Data Registry (QCDR). EPs could submit measures through a CMS-approved entity that collects medical and/or clinical data for the purpose of patient and disease tracking to foster improvement in the quality of care furnished to patients. To avoid the 2018 payment adjustment, EPs had to report at least six measures for at least 50 percent of reporting opportunities; QCDRs are not limited to PQRS measures or Medicare beneficiaries and can report on up to 30 non-PQRS measures.
5. EHR – Direct Submission. EPs could submit data directly through a qualified EHR product. To avoid the 2018 payment adjustment, EPs had to report on at least six EHR measures for at least 50 percent of reporting opportunities via a direct EHR-based product that is Certified EHR Technology (CEHRT); if an EP's CEHRT does not contain patient data for at least six measures, he or she must report the measures for which there is Medicare patient data.
6. EHR – Data Submission Vendor (DSV). EPs could submit data through a qualified data submission vendor. To avoid the 2018 payment adjustment, EPs had to meet the same requirements as described for EHR Direct Submission except submitted via an approved data submission vendor that is CEHRT.
7. GPRO – Registry Reporting. Practices with two or more NPIs that self-nominated and were selected for Small, Medium, or Large GPRO could report via a qualified registry. To avoid the 2018 payment adjustment, practices had to report on at least six measures (or fewer than six

measures, subject to a MAV review) for at least 50 percent of the practice's eligible Medicare Part B FFS patients. (Note: GPRO practices had the option to report CAHPS data in addition to registry measures. The measure criteria for when practices report CAHPS data is described under that mechanism below.)

8. GPRO – EHR Direct Submission. Practices with two or more NPIs that self-nominated and were selected for Small, Medium, or Large GPRO could report through a qualified EHR product. Practices had to report on at least six EHR measures for at least 50 percent of reporting opportunities via a direct EHR-based product that is CEHRT. If a practice's CEHRT does not contain patient data for at least six measures, it must report all measures for which there is Medicare patient data; it must report at least one measure with at least one Medicare beneficiary. (Note: GPRO practices had the option to report CAHPS data in addition to EHR. The measure criteria for when practices report CAHPS data is described under that mechanism below.)
9. GPRO – EHR Data Submission Vendor (DSV). Same as GPRO EHR – Direct Submission except submitted via an approved data submission vendor that is CEHRT.
10. GPRO – QCDR. [New] Practices with two or more NPIs that self-nominated and were selected for Small, Medium, or Large GPRO could report via a qualified QCDR. To avoid the 2018 payment adjustment, eligible practices had to report at least six measures for at least 50 percent of reporting opportunities; QCDRs are not limited to PQRS measures or Medicare beneficiaries and can report on up to 30 non-PQRS measures. (Note: GPRO practices had the option to report CAHPS data. The measure criteria for when practices report CAHPS data is described under that mechanism below.)
11. GPRO – Web Interface. Practices with 25 or more NPIs that self-nominated and were selected for Medium or Large GPRO could report the GPRO web interface for a pre-populated patient sample of 248 consecutively ranked and assigned beneficiaries. If the pool of eligible assigned beneficiaries is less than 248, they had to report on 100 percent of assigned beneficiaries.
12. GPRO – CAHPS Certified Survey Vendor. Practices with 25 or more EPs had the option to supplement their reporting with CAHPS data. GPRO practices who reported via registry, EHR, or QCDR had the option of reporting CAHPS data; if they reported CAHPS data, they were required to report at least three measures for at least 50% of reporting opportunities.

In addition to the participation options for the traditional PQRS described above, Medicare ACOs participating in the Shared Savings Program, Pioneer ACO Model, or Next Generation ACO Model were required to submit the same 18 quality measures via the GPRO web interface. EPs participating in these ACOs could avoid the 2018 payment adjustment if the ACO met the same requirements as applicable to the GPRO, in addition to meeting the requirements for successful participation in the ACO program. The CEC ACOs had their own set of quality measures to report which are designed to focus more on the specific needs of beneficiaries with end stage renal disease; these measures were reported through the Quality Measurement Assessment Tool. For further information on how EPs participating in a Medicare ACO under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model, CMS provides multiple resources on its website. Practices that were part of the CPC and electing

a PQRS waiver were required to meet the eCQM reporting requirements under that program to avoid the 2018 payment adjustment. The CMS website includes further information on these programs and initiatives.¹⁵

To participate through the claims reporting mechanism, EPs submitted the specified Quality Data Code(s) (QDC) for a given measure on a Medicare Part B professional services claim that met the denominator criteria for that measure. QDCs indicate that a specific quality action or outcome was or was not met, or that exclusion criteria for the measure were met. QDCs are entered on a line item on the claim, similar to procedure codes. A QDC for a given quality measure must be entered on a claim that also has all the required denominator criteria for that measure. For example, a measure could require a specific combination of diagnosis, procedure codes, and beneficiary age to be an ‘eligible instance’; to report the measure validly, the EP had to submit the required QDC(s) on line items for that claim.

To report measures through the registry, EHR, and QCDR mechanisms, EPs submitted performance data via an approved vendor (for registry, QCDR, and EHR data submission vendor), or via an approved EHR product for each measure—such as number of eligible instances (denominator), instances of quality service performed (numerator), number of performance exclusions, reporting rates, and performance rates—in a file format specified by CMS.

B. Overall Participation Results

Eligibility

A professional was defined as eligible to participate individually in PQRS if he/she had at least one PFS professional services claim that contained the denominator criteria of the applicable quality measure for any PQRS measure, respectively, and was not participating under the CPC initiative. Eligible practices (TINs) that chose to report under the GPRO applied and met requirements for participation.¹⁶ All EPs that were part of a Shared Savings Program ACO were considered eligible through their participation in the Shared Savings ACO Program. EPs were considered eligible via the Pioneer ACO, Next Generation ACO Model, CEC ACO Model, or CPC mechanism if they elected to participate via these programs.

¹⁵ Information on the Shared Savings Program can be found at <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/index.html>; information on the Pioneer ACO Model can be found at <https://innovation.cms.gov/initiatives/Pioneer-aco-model/>; information on the Next Generation ACO Model can be found at <https://innovation.cms.gov/initiatives/Next-Generation-ACO-Model/>; information on the CEC ACO Model can be found at <https://innovation.cms.gov/initiatives/comprehensive-esrd-care/> and information on the CPC Initiative can be found at <http://innovation.cms.gov/initiatives/comprehensive-primary-care-initiative/>.

¹⁶ GPRO eligibility criteria varied by program year. In 2010, practices with at least 200 NPIs could participate in the GPRO option; in 2011, practices with 200+ NPIs could participate in “GPRO I” and those with 2-199 NPIs could participate in the GPRO II option; in 2012, practices with 25-99 NPIs could participate in the “Small GPRO” option, while practices with 100+ NPIs could participate in the “Large GPRO” option; and in 2013-2016, Small GPRO (2-24 NPIs), Medium GPRO (25-99 NPIs), and Large GPRO (100+ NPIs) were available.

In 2016, there were 1,001,731 EPs who participated in PQRS, including 348,018 EPs who were part of a group practice that submitted data through GPRO and 244,485 EPs who were part of a Medicare ACO participating under the Shared Savings Program (Appendix Table A3). There were 487,451 EPs who participated individually via claims, through registry, EHR, or QCDR, 8,086 participated under the Pioneer ACO Model, 16,517 participated under the Next Generation ACO Model, 670 participated under the CEC ACO Model, and 454 participated as part of a CPC practice.

Appendix Table A4 presents characteristics of EPs that were eligible to participate in the 2016 PQRS. Over 30 percent of all EPs eligible for individual participation were in solo practices or practices with 10 or fewer EPs. The majority (over 70%) of EPs eligible for group reporting (because their practice self-nominated) were in large practices (100 or more EPs). More than half of EPs were eligible to report sixteen or more measures; however, 22 percent were eligible to report from one to five measures.

A broad range of specialties and provider types were eligible to report PQRS measures. Appendix Table A5 presents the number of EPs who could have participated in PQRS through any reporting option by specialty for the 2012 to 2016 program years. For the first time, Nurse practitioner was the provider type with the most EPs (N=134,464); the top 4 specialties or provider types also included internal medicine (N=121,838), family practice (N=115,797), and Physician Assistant (N=93,527). Most specialties or provider types had increases in the number of EPs, with the largest increases seen in the hospice and palliative care – MD/DO, interventional radiology, and nurse practitioner specialties/provider types (22.1%, 21.1%, and 18.5%, respectively).

Participation

EPs were defined as participating in PQRS if they had a complete and valid submission of data on quality measures through claims or a valid submission from a qualified registry, EHR (via direct submission or the data submission vendor mechanism), or QCDR. A practice was defined as participating in the PQRS GPRO or Shared Savings Program ACO if the practice (GPRO submissions) or ACO submitted data for an assigned sample of patients through a web interface provided by CMS (or submitted data through a registry, EHR, or QCDR for PQRS GPRO); practices within an ACO worked with the ACO who submitted data on their behalf; all EPs within a practice that participates under the GPRO or as part of a Shared Savings Program ACO are considered to be participating. A practice was defined as participating in PQRS as a Pioneer ACO, Next Generation ACO, or CEC ACO if the TIN elected to participate in the Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model, respectively; note that some of these TINs are “split TINs” in which only some of the NPIs are participating in the Pioneer ACO model; in these cases, the non-ACO NPIs can only participate in PQRS through the usual individual participation mechanisms (i.e. claims, registry, EHR, or QCDR) unless the TIN was also participating under the GPRO. EPs were considered participating in PQRS via the CPC initiative if they were eligible to participate in this program and had submitted a PQRS waiver.¹⁷

¹⁷ TIN/NPI that were on the CPC finder file but did not submit a PQRS waiver and submitted PQRS data via the claims, registry, QCDR, or EHR submission mechanisms are counted as participating under those mechanisms.

As shown in Figure 2 in the Executive Summary, past years of program operation have seen growth in participation across most reporting options except for a decline in registry reporting from 2011 to 2012, a decline in Pioneer ACO participation from 2012 to 2013, and a decline in claims reporting from 2013 to 2014. For the 2015 program year, there was a decrease in Pioneer ACO and CPC. In program year 2016 there was a significant increase in the number of EPs participating under the GPRO and as part of an ACO participating under the Shared Savings Program; this could explain the slight drop in claims reporting in 2016. Overall, 508,487 EPs (36 percent of those eligible) participated individually in the 2016 PQRS (Appendix Table A3). In addition, 348,018 EPs within 4,525 practices participated under the GPRO; 244,485 EPs participated through 429 Medicare ACOs participating under the Shared Savings Program; 8,086 EPs participated in 8 ACOs under the Pioneer Model; 16,517 EPs were considered participating as part of 18 TINs participating under the Next Generation ACO Model; and 670 EPs were considered participating as part of 13 ACOs participating under the CEC ACO Model (Table 3). Including all reporting options and participation in other programs for the sake of avoiding the 2018 payment adjustment, the overall participation rate was 71.7 percent, and the total number participating in the 2016 PQRS increased seven percent from 2015.

EPs who chose to participate in the 2016 PQRS using the registry or QCDR-based reporting mechanisms contacted the CMS-qualified registries or QCDR vendors listed in the posted CMS qualified lists.¹⁸ In 2016, there were 115 qualified registries that could submit data on behalf of EPs, compared to 99 in 2015; 93 registries actually submitted quality measure information for program year 2016 compared to 80 for 2015. In 2016 there were also 69 qualified clinical data registries, up from 50 in 2015; for program year 2016, 44 of the QCDRs actually submitted data, compared to 29 for the previous program year. The Office of the National Coordinator for Health Information Technology (ONC) certification process has established standards and other criteria for structured data that EHRs must use. As seen in Appendix Table A3, within the individual reporting option:

- 61 percent of individual participants used the claims mechanism (N=310,595)
- 24 percent used registry reporting (N=123,324)
- 14 percent participated via EHR (N=69,532, unduplicated)
- Eight percent participated via QCDR (N=39,541)
- Three percent participated as part of a Next Generation ACO (N=16,517)
- Two percent participated as part of a Pioneer ACO (N=8,086)
- <1 percent participated as part of the CPC (N=454) or CEC ACO (N=670)

The number of participants reporting using specific mechanisms increased over 2015, for all reporting mechanisms except for individuals participating via claims or as part of a Pioneer ACO (Figure 2). In total, 11.6 percent of individual participants used more than one individual participation mechanism. For

¹⁸ Lists can be found at: Registries: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016QualifiedRegistries.pdf>; QCDRs: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2016QCDRPosting.pdf>

example, 6.3 percent of individuals used claims and registry, 2.2 percent used claims and EHR, and 1.3 percent used claims and QCDR; less than one percent used other combinations such as registry and QCDR (0.7 percent), registry and EHR (0.1 percent), claims/registry/QCDR (0.1 percent), or claims/registry/EHR (0.1%).

Within the GPRO, participation varied by reporting mechanism (Appendix Table A3). Of all EPs belonging to practices reporting under the GPRO, 45 percent belonged to TINs who reported via registry, 32 percent belonged to TINs who reported via the web interface, 20 percent belonged to TINs reporting via EHR, and five percent belonged to TINs reporting via QCDR. For all GPRO reporting mechanisms, most of the EPs belonged to TINs who reported CAHPS for PQRS measures, although within each reporting mechanism the percentage of EPs in practices reporting CAHPS for PQRS measures varied as follows: web interface (94 percent), EHR (74 percent), QCDR (58 percent), and registry (57 percent).

Appendix Table A4 presents information on the characteristics of EPs who were eligible and participating in the 2016 PQRS. As with the distribution of those eligible, the Atlanta, and Chicago regions had the most participating EPs; Chicago, Philadelphia, and Atlanta had the highest participation rates. Among individual participants, over half could report on 15 or fewer measures. For those who were eligible for individual participation, participation rates were higher among those in larger practices; the same can be said for those who were eligible for group participation. It is also true that participation rates were higher for EPs with higher beneficiary volumes and higher PFS charges.

C. Use of Measures Groups and Registries

Between 2015 and 2016, three measures groups were added. In 2016, one-third of EPs reporting via registry (N=41,198 out of 123,324) reported via registry measures groups (Appendix Table A3). The number of EPs participating using registry measures groups increased from 2015 to 2016 by about 6.5 percent (Figure 2). Use of registry measures group reporting was concentrated within family practice, internal medicine, cardiology, oncology/hematology, nurse practitioner, and nephrology (Table A10).

The number of registries submitting data on behalf of EPs has increased over time. In 2008, 31 qualified registries submitted PQRS data on behalf of EPs; this grew to 69 in 2014, 80 in 2015, and 93 in 2016 (data not shown).

Table 5 displays the registries that submitted data for the most EPs in 2016¹⁹. Some registries are more specific to a certain specialty or provider type and, therefore, might not have a high volume of EPs to report measures via their registry.

Table 4: Registries that Submitted Data on Behalf of the Most Participants (2016)

Rank	Registry Name	EPs Submitted	Practices Submitted
--	Individual Participants	--	--
1	CECity	18,113	N/A
2	WebPT Inc.	10,436	N/A
3	EClinicalWeb	8,445	N/A
4	MDinteractive	8,052	N/A
5	PQRS Solutions by Mingle Analytics	7,396	N/A
6	NetHealth	6,260	N/A
7	NextGen Registry	5,620	N/A
8	Central Utah Informatics	5,173	N/A
9	Covisint Corporation	4,397	N/A
10	Anesthesia Quality Institute National Anesthesia Clinical Outcomes Registry	3,908	N/A
--	Group Participants	--	--
1	PQRS Solutions by Mingle Analytics	27,436	525
2	CECity	21,827	492
3	National Healthcare Quality Institute, Inc.	12,162	132
4	MDinteractive	8,948	163

¹⁹ A complete listing of qualified registries available for the 2016 PQRS can be found at <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2015QualifiedRegistries.pdf>

Rank	Registry Name	EPs Submitted	Practices Submitted
5	EClinicalWeb	8,868	277
6	WellCentive	7,883	74
7	Covisint Corporation	6,857	74
8	ReportingMD	6,179	125
9	athenaHealth, Inc.	5,603	192
10	Central Utah Informatics	5,180	39

D. Challenges to Participation and Satisfactory Reporting

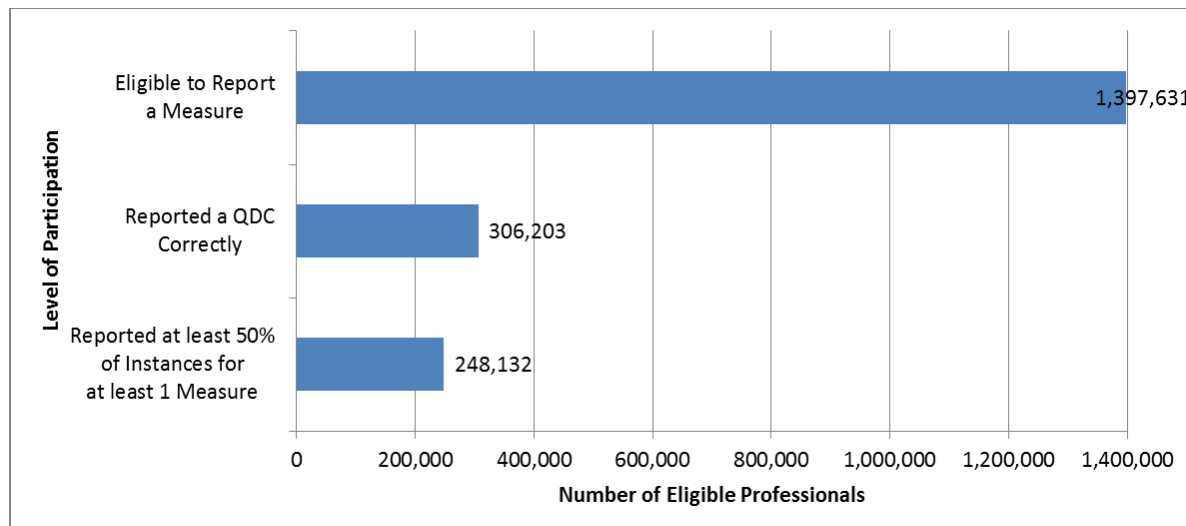
Different reporting methods had different challenges to reporting. For the claims reporting mechanism, the main challenges to satisfactory reporting in PQRS included: (1) failure to identify eligible patients or claims; (2) QDC submission errors; and (3) failure to submit QDCs for at least 50 percent of eligible instances. For example, QDC submission errors encompass submitting a QDC on a claim that did not have a qualifying diagnosis or the appropriate patient age, or submitting the QDC on an incorrect Healthcare Common Procedure Coding System (HCPCS) code. An invalid QDC could occur, for example, if an EP submits a QDC on a claim that lacks the necessary combination of diagnosis and procedure codes to identify the measure denominator. Because ineligible claims are not included in the measure's denominator, QDC errors do not adversely affect an EP's reporting rate.²⁰ An individual measure was satisfactorily reported when there were valid submissions for at least 50 percent of eligible instances. As was seen in Figure 3, 21 percent of EPs reporting via claims reported no (zero) measures satisfactorily, compared to two percent for QCDR and zero percent of those reporting via registry and EHR.

Figure 7 summarizes participation through the claims-based individual measure reporting mechanism in 2016: 1,397,631 EPs were eligible to participate individually via claims in PQRS in 2016, and 22% of these professionals participated by submitting at least one QDC without error via claims (N=306,203); note that the QDC counts for Figure 7 reflect the hierarchy used in our performance data, so EPs who submitted through both claims and EHR or QCDR would not be reflected here since EHR and QCDR are higher in our hierarchy (See section VI. Clinical Performance Rates for an explanation of the hierarchy). Among all EPs attempting to submit a QDC (N=314,336, regardless of the hierarchy), almost 99 percent of them had at least one valid QDC (data not shown). Over 81 percent of those submitting at least one correct QDC were able to report at least 50 percent of instances for at least one measure.

²⁰ The reporting rate is the number of instances an EP reported (e.g., a valid QDC) divided by the number of eligible instances.

2016 Physician Quality Reporting System Reporting Experience and Trends

Figure 7 – Summary of Individual Measures Reported through PQRS Claims Mechanism (2016)



Note for Figure 7: The counts for who reported a QDC correctly and who reported at least 50% of instances for at least 1 measure are derived after the application of our hierarchy in performance data.

Some PQRS participants who used a registry, QCDR, or EHR experienced submission problems. Eighty-six percent of registries submitted data for EPs who did not have Part B PFS charges; this affected 6,534 EPs. Of the EPs who submitted through QCDR, about eight percent of EPs had submissions even though they did not have Part B PFS charges. The most prevalent data issues for QCDR were having reporting denominators not equal to the initial population count minus exclusions (affecting about 45 percent of EPs submitting through a QCDR) and not having the reporting rate equal to the reporting numerator divided by the reporting denominator (affecting about 21 percent of the EPs submitting through a QCDR). CMS has communicated with the registries and QCDRs about these issues, so that they can improve on these submissions in future program years.

In addition, there were challenges for those who submitted data through the web interface (i.e. practices participating under the GPRO and EPs participating as part of a Medicare ACO under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, or CEC ACO Model). These included a lack of understanding about the assignment and/or sampling methodology, inexperience using the web interface, and challenges with the layers between those providing care and those abstracting the data for submission, which resulted in some users not inputting the data properly. CMS remediated data reporting where appropriate by not applying the PQRS penalty to groups and EPs who made an attempt to successfully report but were unable to do so due to submission issues.

E. Participation by Specialty or Provider Type

The measures in PQRS apply to a broad range of specialties and provider types, providing numerous opportunities for EPs in all specialties and provider types to report on their Medicare patients.²¹ Appendix Table A7 shows participation rates by specialty or provider type across all reporting options from 2013 to 2016. Participation rates by specialty/provider type and submission mechanism for 2013 through 2016 can be found in Appendix Tables A8 through A12.

As shown in Table 6, of EPs who participated through the claims-based reporting option, several hospital-based specialties or provider types were among the top ten specialties or provider types using this reporting mechanism. For example, emergency medicine had the largest representation among all specialties and also had a high rate of participation in this mechanism (50 percent), followed by physical therapy and radiology, which had participation rates of 53 and 50 percent respectively. Hospital-based practices may have processes in place to capture clinical data, facilitating quicker uptake of reporting quality measure data. EPs in the fields of internal medicine, family practice, nurse practitioner, physician assistant, chiropractor, optometry, and anesthesiology also had a relatively large number of professionals who participated in the 2016 program via claims; however, these specialties or provider types had participation rates of less than 40 percent. (Appendix Table A8 presents results for all specialties or provider types reporting via claims.)

Table 5: Top Specialties or Provider Types Participating via Claims (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
1	Emergency Medicine	69,357	34,771	50.1%
2	Physical Therapy	56,387	29,727	52.7%
3	Radiology	50,944	25,594	50.2%
4	Internal Medicine	121,753	25,575	21.0%
5	Family Practice	115,536	24,511	21.2%
6	Nurse Practitioner	134,404	19,809	14.7%
7	Physician Assistant	93,496	19,280	20.6%
8	Chiropractor	44,729	15,222	34.0%
9	Optometry	37,050	14,576	39.3%
10	Anesthesiology	42,714	11,058	25.9%

Notes for Table 6: Results exclude EPs participating through the CPC initiative.

²¹ In this section, “specialty” was determined based on the primary specialty or provider type that was listed for the NPI in the National Provider and Plan Enumeration System (NPES).

Physical therapy, nurse anesthetist, radiology, and internal medicine had the highest numbers of EPs participating via the registry individual measures mechanism in 2016 (Table 7). Within the registry measures group mechanism, the top specialties or provider types included internal medicine, family practice, and nurse practitioner (See Appendix Tables A9 and A10 for results for all specialties or provider types). Among the specialties or provider types with the most participants, dermatology had the highest rate of participation via registry individual measures (25 percent), and nephrology had the highest participation rate (22 percent) in registry measures groups.

Table 7: Top Specialties or Provider Types Participating via Registry (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
--	Registry Individual Measures	--	--	--
1	Physical Therapy	56,387	11,471	20.3%
2	Nurse Anesthetist	43,814	7,485	17.1%
3	Radiology	50,944	6,700	13.2%
4	Internal Medicine	121,753	5,972	4.9%
5	Anesthesiology	42,714	5,401	12.6%
6	Nurse Practitioner	134,404	5,231	3.9%
7	Physician Assistant	93,496	4,520	4.8%
8	Family Practice	115,536	4,223	3.7%
9	Dermatology	13,032	3,274	25.1%
10	Other Eligible Professional	44,995	2,953	6.6%
--	Registry Measures Groups	--	--	--
1	Internal Medicine	121,753	4,900	4.0%
2	Family Practice	115,536	4,521	3.9%
3	Nurse Practitioner	134,404	3,702	2.8%
4	Nephrology	11,434	2,503	21.9%
5	Cardiology	32,284	2,365	7.3%
6	Oncology/Hematology	14,987	2,073	13.8%
7	Ophthalmology	21,467	1,997	9.3%
8	Physician Assistant	93,496	1,952	2.1%
9	Other Eligible Professional	44,995	1,900	4.2%
10	Podiatry	18,859	1,805	9.6%

Note for Table 7: Results exclude EPs participating through the CPC initiative.

Table 8 presents the specialties or provider types with the most EPs reporting via EHR in 2016. Family practice and nurse practitioner topped the list for the specialties or provider types with the most EPs participating in PQRS via the EHR mechanism, followed by ophthalmology, internal medicine, and physician assistant. The rate of participation among these specialties or provider types using the EHR

mechanism was relatively low with the highest being 30.4 percent for ophthalmology. See Appendix Table A11 for more detail.

Table 6: Top Specialties or Provider Types Participating via EHR (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
1	Family Practice	115,536	8,005	6.9%
2	Nurse Practitioner	134,404	7,696	5.7%
3	Ophthalmology	21,467	6,519	30.4%
4	Internal Medicine	121,753	5,985	4.9%
5	Physician Assistant	93,496	4,728	5.1%
6	Optometry	37,050	3,863	10.4%
7	Obstetrics/Gynecology	37,022	3,444	9.3%
8	Other Eligible Professional	44,995	2,620	5.8%
9	Orthopaedic Surgery	26,140	2,535	9.7%
10	General Surgery	27,831	2,075	7.5%

Note for Table 8: Results exclude EPs participating through the CPC initiative.

Table 9 presents the specialties or provider types with the most EPs reporting via the QCDR mechanism in 2016. Nurse anesthetist had the most EPs reporting via this mechanism, followed by anesthesiology; the participation rate for these two specialties was considerably higher than the other top ten specialties or provider types (over 30 percent for each); it is also interesting to note that almost 75 percent of all QCDR participants come from these two specialties. Thoracic/cardiac surgery had a relatively high rate of participation in this mechanism (17 percent) compared to seven percent for gastroenterology, which had the fourth highest participation rates among the top 10 specialties or provider types based on participation counts (Table 9). See Appendix Table A12 for more detail on all specialties or provider types.

Table 7: Top Specialties or Provider Types Participating via QCDR (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
1	Nurse Anesthetist	43,814	15,877	36.2%
2	Anesthesiology	42,714	13,776	32.3%
3	Physician Assistant	93,496	1,219	1.3%
4	Gastroenterology	15,658	1,155	7.4%
5	Other Eligible Professional	44,995	970	2.2%
6	Cardiology	32,284	802	2.5%
7	Thoracic/Cardiac Surgery	4,668	798	17.1%
8	Emergency Medicine	69,357	646	0.9%

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
9	Nurse Practitioner	134,404	614	0.5%
10	Internal Medicine	121,753	514	0.4%

Note for Table 9: Results exclude EPs participating through the CPC initiative.

The specialties or provider types with the most EPs who were part of practices participating via the GPRO or as part of a Medicare ACO under the Shared Savings Program were concentrated among primary care (internal medicine, nurse practitioner, family practice, and physician assistant) (Table 10). For practices participating in the GPRO or as an ACO in the Shared Savings Program, all EPs in these entities are considered participating; there was a very high participation rate for GPRO and Shared Savings Program ACOs which translates into a very high participation rate for all of the specialties or provider types within these organizations.

Table 8: Top Specialties or Provider Types Participating via GPRO and Shared Savings Program ACO (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
--	GPRO	--	--	--
1	Nurse Practitioner	41,334	39,700	96.0%
2	Internal Medicine	36,426	35,140	96.5%
3	Family Practice	31,640	30,800	97.3%
4	Physician Assistant	30,741	29,917	97.3%
5	Emergency Medicine	21,689	21,157	97.5%
6	Radiology	16,875	16,170	95.8%
7	Nurse Anesthetist	14,721	14,009	95.2%
8	Anesthesiology	12,100	11,546	95.4%
9	Obstetrics/Gynecology	10,595	10,265	96.9%
10	Cardiology	10,325	10,019	97.0%
--	Shared Savings Program ACO	--	--	--
1	Internal Medicine	31,378	31,305	99.8%
2	Nurse Practitioner	29,648	29,625	99.9%
3	Family Practice	29,422	29,388	99.9%
4	Physician Assistant	19,855	19,832	99.9%
5	Cardiology	10,016	9,985	99.7%
6	Emergency Medicine	9,716	9,709	99.9%
7	Obstetrics/Gynecology	8,726	8,716	99.9%
8	Radiology	7,500	7,473	99.6%

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
9	Nurse Anesthetist	7,456	7,456	100.0%
10	Other Eligible Professional	6,903	6,887	99.8%

Finally, among EPs who were participating as part of a practice in a Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, or as part of practices participating in the CPC initiative the most common specialties or provider types were also internal medicine, family practice, nurse practitioner, and physician assistant (Table 11). Each of the ACOs in the Pioneer, CEC, and Next Generation ACO Models participated so all EPs who belong to these organizations are considered participating.

Table 9: Top Specialties or Provider Types Participating via a Pioneer ACO, CEC ACO, NextGen ACO, or the CPC Initiative (2016)

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
--	Pioneer ACO	--	--	--
1	Internal Medicine	1,848	1,848	100.0%
2	Family Practice	1,093	1,093	100.0%
3	Physician Assistant	609	609	100.0%
4	Nurse Practitioner	581	581	100.0%
5	Radiology	317	317	100.0%
6	Other Eligible Professional	299	299	100.0%
7	Cardiology	286	286	100.0%
8	Obstetrics/Gynecology	254	254	100.0%
9	Pediatrics	249	249	100.0%
10	Psychiatry	202	202	100.0%
--	CEC ACO	--	--	--
1	Nephrology	387	387	100.0%
2	Agencies/Hospitals/Nursing and Treatment Facilities	237	237	100.0%
3	Other Eligible Professional	17	17	100.0%
4	General Surgery	10	10	100.0%
5	Internal Medicine	7	7	100.0%
6	Vascular Surgery	5	5	100.0%
7	Radiology	4	4	100.0%
8	Other MD/DO	3	3	100.0%
--	NextGen ACO	--	--	--
1	Family Practice	2,244	2,244	100.0%

Rank	Specialty or Provider Type	(A) Eligible Professionals	(B) EPs who Participated	(C)=(B)/(A) Percent of EPs who Participated
2	Internal Medicine	2,012	2,012	100.0%
3	Nurse Practitioner	1,777	1,777	100.0%
4	Physician Assistant	1,024	1,024	100.0%
5	Cardiology	649	649	100.0%
6	Pediatrics	607	607	100.0%
7	Radiology	581	581	100.0%
8	Obstetrics/Gynecology	501	501	100.0%
9	Emergency Medicine	493	493	100.0%
10	General Surgery	434	434	100.0%
--	CPC	--	--	--
1	Family Practice	1,017	261	25.7%
2	Internal Medicine	560	85	15.2%
3	Nurse Practitioner	252	60	23.8%
4	Physician Assistant	225	31	13.8%
5	General Practice	9	7	77.8%
6	Geriatrics	17	3	17.6%
7	Emergency Medicine	2	1	50.0%
8	Gastroenterology	3	1	33.3%
9	Nephrology	2	1	50.0%
10	Pediatrics	9	1	11.1%

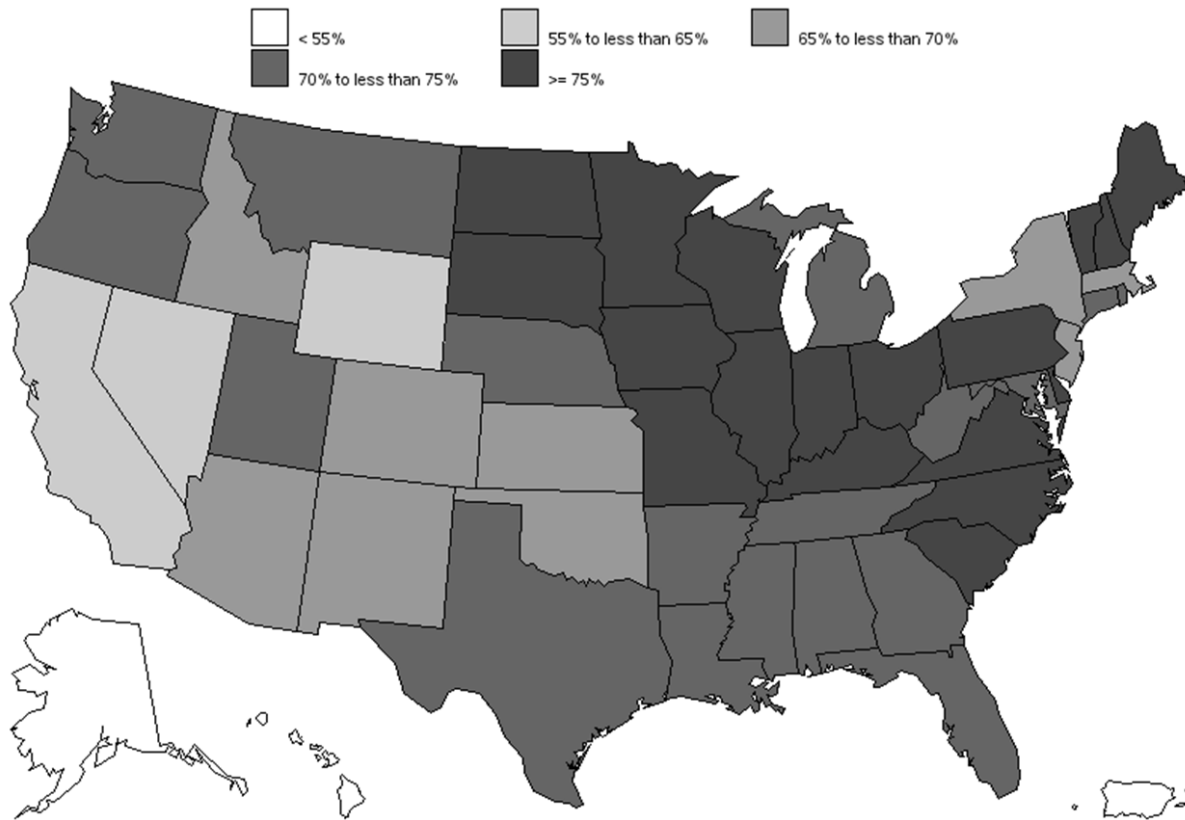
F. Participation by Beneficiary Volume and Specialty or Provider Type

Participation rates among EPs generally increased by beneficiary volume—defined as the number of beneficiaries who had an eligible claim for at least one PQRS measure—but patterns varied by specialty or provider type. Among all specialties or provider types, EPs with 25 or fewer patients had a participation rate of 52 percent, compared to 68 percent among those with 26 to 100 patients, 78 percent among those with 101 to 200 patients, and 85 percent among those with more than 200 patients (Appendix A13). This general pattern was present for almost all specialties or provider types, especially MD/DOs and those with larger numbers of participants overall. Within anesthesiology, emergency medicine, interventional radiology, oncology/hematology, pathology, radiation oncology, radiology, thoracic/cardiac surgery, and nurse anesthetist, EPs with larger beneficiary volume (over 200 patients) had a participation rate of 90 percent and above (Appendix Table A13). Some specialties or provider types had relatively high rates of participation among EPs with low beneficiary volume (fewer than 25 patients) including: nurse anesthetist (97 percent), pathology (82 percent), anesthesiology (82 percent), and certified nurse midwives (81 percent).

G. Geographic Variation in Participation

Figure 8 demonstrates the geographic variation in participation rates for the 2016 PQRS.²² Detailed state-by-state participation results are available in Appendix Table A14. Participation was generally highest in states in the Southeast, Midwest, and New England. Participation rates were highest in Wisconsin (85 percent), New Hampshire (83 percent), Vermont (81 percent), Maine (81 percent), North Carolina (81 percent) and Minnesota (80 percent). Participation was lowest (below 40 percent) in Puerto Rico and the Virgin Islands. New York and California had the largest number of EPs who participated, although the participation rate in California was less than 60%.

Figure 8 – Geographic Distribution of Eligible Professionals Participating in PQRS (2016)



Notes for Figure 8: Results include all individual participation PQRS mechanisms (i.e., claims, registry, EHR, and QCDR) as well as EPs who belong to a practice that participated under the PQRS GPRO, EPs participating as part of a Medicare ACO under the Shared Savings Plan, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, and EPs participating through the CPC initiative. The data used to populate this map can be found in Appendix Table A14.

²² State was identified by the EP in the National Plan and Provider Enumeration System (NPPES). Please see Appendix for details.

H. Participation by Measure

Many measures in PQRS were selected because they were applicable to a wide range of EPs and Medicare beneficiaries. The measures applicable to the largest number of EPs in 2016 were those related to documentation of current medications, preventive care for high blood pressure, pain assessment and follow-up, body mass index (BMI) screening, tobacco use, care plan, screening for clinical depression, elder maltreatment screen, falls: risk assessment, and influenza immunization (Table 12).

Table 10: Top Measures Reportable by the Largest Number of Eligible Professionals (2016)

Rank	Measure Number	Measure Description	Eligible Professionals
1	130	Documentation of Current Medications in the Medical Record	1,029,503
2	317	Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	986,558
3	131	Pain Assessment and Follow-Up	935,741
4	128	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	911,461
5	226	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	874,048
6	47	Care Plan	862,579
7	134	Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	848,626
8	181	Elder Maltreatment Screen and Follow-Up Plan	832,590
9	154	Falls: Risk Assessment	821,337
10	110	Preventive Care and Screening: Influenza Immunization	757,223

Note for Table 12: Results include the claims, registry, EHR, and QCDR mechanisms, exclude results for EPs participating through the CPC initiative.

Table 13 lists the ten measures reported by the largest number of EPs in 2016. The top reported measures include seven of the measures with the most EPs able to report: #130, #226, #128, #317, #110 and #154. They also include a number of other preventive measures, Controlling high blood pressure (#236), and Pneumonia vaccination status for older adults (#111) as well for Diabetes- Hemoglobin A1c Poor Control (#1).

Although a relatively large number of EPs reported these measures, several measures were submitted by 15 percent or fewer of those to which the measure was applicable: #317 (Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented), #131 (Pain Assessment and Follow-Up), #111 (Pneumonia Vaccination Status for Older Adults), #110 (Preventive Care and Screening: Influenza Immunization), #1 (Diabetes: Hemoglobin A1c Poor Control), and #154 (Falls: Risk Assessment). Appendix Table A15 displays the percentage of EPs who reported each measure and the average reporting rate (total instances reported for a measure divided by total eligible instances for the measure) for each measure reported through claims.

Table 11: Top Measures Reported by the Largest Numbers of Eligible Professionals (2016)

Rank	Measure Number	Measure Description	Participated	Percent of Eligible
1	130	Documentation of Current Medications in the Medical Record	230,720	22.4%
2	226	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	162,588	18.6%
3	128	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	149,243	16.4%
4	317	Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	106,976	10.8%
5	131	Pain Assessment and Follow-Up	92,951	9.9%
6	111	Pneumonia Vaccination Status for Older Adults	83,074	11.3%
7	110	Preventive Care and Screening: Influenza Immunization	81,827	10.8%
8	1	Diabetes: Hemoglobin A1c Poor Control	73,413	11.9%
9	154	Falls: Risk Assessment	71,189	8.7%
10	236	Controlling High Blood Pressure	65,585	16.0%

Note for Table 13: Results include the claims, registry, EHR, and QCDR mechanisms, exclude results for EPs participating through the CPC initiative.

Table 14 presents information on the top five measures submitted by each specialty or provider type, identified by measure number, in 2016. Overall, among EPs with an MD/DO, the top five measures reported in 2016 were: #130 (Documentation of Current Medications in the Medical Record), #226 (Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention), #128 (Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up), #317 (Preventive Care and Screening: Screening for High Blood Pressure), and #111 (Preventive Care and Screening: Pneumonia Vaccination for Patients 65 Years or Older). These measures were among the top five for most specialties or provider types and they were also the most commonly reported measures for program year 2016.

Table 12: Top Reported Individual Measures by Specialty or Provider Type (2016)

Specialty or Provider Type	#1 (Top)	#2	#3	#4	#5
MD/DO	130	226	128	317	111
Allergy/Immunology	130	226	128	110	111
Anesthesiology	426	76	424	430	427
Cardiology	226	130	128	204	236
Colon/Rectal Surgery	130	226	113	128	112
Critical Care	47	130	226	76	111
Dermatology	226	130	224	137	265
Emergency Medicine	317	54	415	326	76
Endocrinology	130	1	226	128	236
Family Practice	130	226	1	128	111
Gastroenterology	130	226	113	128	111
General Practice	1	130	226	128	317
General Surgery	130	226	128	112	113
Geriatrics	130	110	226	1	128
Hand Surgery	130	226	128	238	111
Hospice and Palliative Care - MD/DO	130	47	226	110	111
Infectious Disease	130	226	128	110	111
Internal Medicine	130	1	226	47	128
Interventional Radiology	145	436	195	76	405
Nephrology	130	226	128	236	110
Neurology	130	226	128	204	236
Neurosurgery	130	226	128	111	110
Nuclear Medicine	147	436	405	406	195
Obstetrics/Gynecology	130	226	112	128	113
Oncology/Hematology	130	226	110	128	111
Ophthalmology	130	117	226	12	19
Oral/Maxillofacial Surgery	226	130	128	238	317
Orthopaedic Surgery	130	226	128	238	110
Other MD/DO	130	47	226	128	1
Otolaryngology	130	226	128	111	110
Pathology	99	249	100	395	251
Pediatrics	130	110	128	226	65
Physical Medicine	130	128	226	131	154
Plastic Surgery	130	226	128	110	112
Psychiatry	130	226	128	134	110
Pulmonary Disease	130	226	111	128	110
Radiation Oncology	130	226	110	128	113

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Specialty or Provider Type	#1 (Top)	#2	#3	#4	#5
Radiology	436	195	145	406	405
Rheumatology	130	226	128	236	111
Thoracic/Cardiac Surgery	226	21	22	43	164
Urology	130	226	128	111	238
Vascular Surgery	130	226	128	204	111
Other Eligible Professionals	130	128	131	226	182
Agencies/Hospitals/Nursing and Treatment Facilities	130	128	131	154	182
Audiology	130	226	261	154	134
Certified Nurse Midwives	130	226	128	112	110
Chiropractor	131	182	128	130	226
Clinical Nurse Specialists	130	226	128	110	111
Counselor/Psychologist	130	134	226	128	181
Dentist	128	130	226	379	378
Dietitian/Nutritionist	128	130	1	181	226
Hospice and Palliative Care - other than MD/DO	47	130	226	111	110
Nurse Anesthetist	426	424	430	427	AQI 31
Nurse Practitioner	130	226	128	317	110
Occupational Therapy	131	130	182	128	154
Optometry	226	130	117	12	14
Other Eligible Professional	130	226	128	317	131
Physical Therapy	131	130	182	154	128
Physician Assistant	317	130	226	128	111
Podiatry	130	226	128	110	111
Registered Nurse	426	424	130	430	226
Social Worker	130	134	226	181	128
Unknown/Missing	130	128	226	131	317
Total	130	226	128	317	131

Notes for Table 14: (1) Results exclude data for EPs participating through the CPC initiative. (2) Results include the claims, registry, EHR, and QCDR mechanisms.

V. PQRS PAYMENT ADJUSTMENT

In 2018, professionals who are eligible for 2016 PQRS but who did not meet the 2016 reporting requirements will be subject to a 2.0 percent payment reduction on all of their Part B Medicare PFS charges. EPs who are part of a practice that participated via the GPRO will be evaluated at TIN level. EPs who bill under the CAHII method continue to be potentially subject to the payment adjustment.

To avoid the PQRS payment adjustment for 2018, participants had to meet the criteria described in Section III.C and Table 4. Other reasons for not being subject to the payment adjustment were related to not being eligible for PQRS: not having at least one eligible denominator claim, not meeting the definition of an EP for the 2018 PQRS payment adjustment, not having any PFS charges in 2016, or being part of an independent lab or diagnostic testing facility. Individual EPs or groups participating via GPRO, ACO, or CPC were also able to request an informal review of their downward payment determination between September 18, 2017 and December 1, 2017, for the 2016 PQRS program year as part of the PQRS informal review process. Through this informal review process, CMS investigated whether the individual clinician or group practice PQRS determination was appropriate. As seen in Table 15, 435,111 EPs in total will be subject to the 2018 PQRS payment adjustment based on their 2016 reporting experience, prior to the final results from informal reviews. This count includes EPs who participated in a Medicare ACO under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, as well as EPs who participated through the CPC Initiative. The majority (85 percent) of EPs who were subject to the adjustment did not submit any PQRS data in 2016. A limited number of EPs subject to the payment adjustment attempted participation but were not successful because they submitted only invalid QDCs, and 14 percent of those subject to the 2018 adjustment were individual participants (compared to 21 percent who were subject to the 2017 payment adjustment) (Table 15).²³ Of the participants who received the payment adjustment, the vast majority reported fewer than six measures and did not pass MAV (if applicable); otherwise, they did not report on at least 50 percent of eligible instances for at least six of the measures they reported. A total of 7,801 EPs who are subject to the 2018 payment adjustment were part of a practice eligible to report under the GPRO; 6,673 of these did not participate through any reporting mechanism.

The regional distribution of EPs subject to the 2018 PQRS payment adjustment was similar to the geographical distribution of participants in PQRS in 2016 (Table 15 and Appendix Table A4). As with the 2017 payment adjustment, EPs were more likely to be subject to the payment adjustment if they were part of smaller practices, had lower PFS allowed charges, or had lower beneficiary volume. For example, among EPs receiving the payment adjustment who were eligible for individual participation, 71 percent were in practices with fewer than 25 NPIs; in comparison, for all EPs who were eligible for individual participation in PQRS, only 41 percent were in practices with fewer than 25 NPIs (Appendix Table A4). In particular, solo practitioners represented 31 percent of those who were eligible to participate as individuals and were subject to the adjustment, but 13 percent of those who were eligible to participate in PQRS as individuals (Table 15).

²³ Individual participants include any EPs who submitted PQRS data from 1/1/2016 to 12/31/2016 and did not avoid the PQRS payment adjustment for any reason.

Table 13: 2015, 2016, 2017, and 2018 PQRS Payment Adjustment by Eligible Professional Characteristics

Eligible Professional Characteristics	EPs Subject to 2015 Payment Adjustment	Percent of Total EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of Total EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of Total EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of Total EPs Subject to 2018 Payment Adjustment
Participation Option [a]	--	--	--	--	--	--	--	--
Non-participants	449,228	98.2%	464,296	83.8%	394,257	78.8%	369,078	84.8%
Attempted participation, but were not successful	7,642	1.7%	5,759	1.0%	1,162	0.2%	3,527	0.8%
Individual Participants	359	0.1%	80,759	14.6%	102,824	20.6%	62,021	14.3%
GPRO Participants	122	0.0%	2,482	0.4%	2,189	0.4%	461	0.1%
Shared Savings Program ACO	0	0.0%	615	0.1%	191	0.0%	175	0.0%
Geography (Regions) [b]	--	--	--	--	--	--	--	--
1 - Boston	30,521	6.7%	36,770	6.6%	30,865	6.2%	26,666	6.1%
2 - New York	61,307	13.4%	69,332	12.5%	62,270	12.4%	56,027	12.9%
3 - Philadelphia	45,074	9.9%	54,896	9.9%	46,583	9.3%	39,040	9.0%
4 - Atlanta	79,843	17.5%	95,784	17.3%	85,742	17.1%	72,756	16.7%
5 - Chicago	71,863	15.7%	88,044	15.9%	80,071	16.0%	67,340	15.5%
6 - Dallas	47,434	10.4%	59,535	10.7%	56,493	11.3%	47,179	10.8%
7 - Kansas City	19,628	4.3%	28,263	5.1%	23,209	4.6%	19,433	4.5%
8 - Denver	15,471	3.4%	20,510	3.7%	19,476	3.9%	16,189	3.7%
9 - San Francisco	64,985	14.2%	74,500	13.4%	72,641	14.5%	69,944	16.1%
10 - Seattle	19,904	4.4%	26,342	4.8%	23,264	4.6%	20,526	4.7%
Unknown	5	0.0%	86	0.0%	41	0.0%	31	0.0%
Practice Size (# of NPIs)	--	--	--	--	--	--	--	--
Individual Participants	--	--	--	--	--	--	--	--

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Eligible Professional Characteristics	EPs Subject to 2015 Payment Adjustment	Percent of Total EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of Total EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of Total EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of Total EPs Subject to 2018 Payment Adjustment
1	145,747	31.9%	153,996	27.8%	144,708	28.9%	135,037	31.0%
2-4	74,492	16.3%	83,356	15.0%	80,458	16.1%	70,584	16.2%
5-10	57,317	12.5%	63,240	11.4%	60,899	12.2%	53,859	12.4%
11-24	55,683	12.2%	62,294	11.2%	61,676	12.3%	49,265	11.3%
25-50	41,774	9.1%	51,950	9.4%	48,941	9.8%	38,814	8.9%
51-99	30,162	6.6%	43,371	7.8%	39,418	7.9%	27,572	6.3%
100-199	18,728	4.1%	33,372	6.0%	23,999	4.8%	17,721	4.1%
200+	29,921	6.5%	42,522	7.7%	39,936	8.0%	42,259	9.7%
Group Participants	--	--	--	--	--	--	--	--
1-24	486	0.1%	4,444	0.8%	3,804	0.8%	2,836	0.7%
25-50	217	0.0%	2,348	0.4%	2,147	0.4%	1,517	0.3%
51-99	763	0.2%	2,569	0.5%	1,874	0.4%	1,311	0.3%
100-199	1,520	0.3%	3,622	0.7%	1,964	0.4%	834	0.2%
200+	541	0.1%	6,827	1.2%	1,215	0.2%	1,655	0.4%
Total MPFS charges per EP	--	--	--	--	--	--	--	--
Individual Participants	--	--	--	--	--	--	--	--
less than or equal to \$2,500	113,815	24.9%	139,598	25.2%	123,278	24.6%	112,699	25.9%
\$2,501 - \$10,000	99,694	21.8%	110,800	20.0%	106,255	21.2%	95,969	22.1%
\$10,001 - \$30,000	95,636	20.9%	111,327	20.1%	106,965	21.4%	93,707	21.5%
\$30,001 - \$50,000	38,961	8.5%	47,614	8.6%	46,680	9.3%	38,625	8.9%
\$50,001 - \$90,000	37,670	8.2%	46,692	8.4%	45,466	9.1%	36,973	8.5%
over \$90,000	68,048	14.9%	78,070	14.1%	71,391	14.3%	57,138	13.1%
Group Participants	--	--	--	--	--	--	--	--
less than or equal to \$2,500	689	0.2%	4,427	0.8%	2,327	0.5%	1,879	0.4%

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Eligible Professional Characteristics	EPs Subject to 2015 Payment Adjustment	Percent of Total EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of Total EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of Total EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of Total EPs Subject to 2018 Payment Adjustment
\$2,501 - \$10,000	684	0.1%	4,038	0.7%	2,259	0.5%	1,534	0.4%
\$10,001 - \$30,000	787	0.2%	4,211	0.8%	2,434	0.5%	1,653	0.4%
\$30,001 - \$50,000	410	0.1%	2,019	0.4%	1,127	0.2%	792	0.2%
\$50,001 - \$90,000	454	0.1%	2,217	0.4%	1,131	0.2%	937	0.2%
over \$90,000	503	0.1%	2,898	0.5%	1,726	0.3%	1,358	0.3%
Beneficiary Volume	--	--	--	--	--	--	--	--
Individual Participants	--	--	--	--	--	--	--	--
1-25	195,126	42.7%	222,864	40.2%	193,291	38.6%	181,525	41.7%
26-100	118,255	25.9%	139,231	25.1%	133,682	26.7%	117,723	27.1%
101-200	59,562	13.0%	72,437	13.1%	68,638	13.7%	56,439	13.0%
201+	80,880	17.7%	98,633	17.8%	103,959	20.8%	79,020	18.2%
Unknown	1	0.0%	936	0.2%	465	0.1%	404	0.1%
Group Participants	--	--	--	--	--	--	--	--
1-25	1,082	0.2%	6,583	1.2%	3,284	0.7%	2,394	0.6%
26-100	965	0.2%	5,283	1.0%	3,039	0.6%	2,125	0.5%
101-200	645	0.1%	3,304	0.6%	1,814	0.4%	1,299	0.3%
201+	831	0.2%	4,514	0.8%	2,862	0.6%	2,251	0.5%
Unknown	4	0.0%	126	0.0%	5	0.0%	84	0.0%
Specialty	--	--	--	--	--	--	--	--
MD/DO	--	--	--	--	--	--	--	--
Primary Care	78,931	17.3%	96,366	17.4%	82,101	16.4%	71,480	16.4%
Surgery	24,646	5.4%	30,508	5.5%	25,022	5.0%	21,309	4.9%
Other Specialties	128,435	28.1%	161,368	29.1%	142,693	28.5%	119,114	27.4%
Other Eligible Professionals	--	--	--	--	--	--	--	--

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Eligible Professional Characteristics	EPs Subject to 2015 Payment Adjustment	Percent of Total EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of Total EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of Total EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of Total EPs Subject to 2018 Payment Adjustment
Physicians	68,361	14.9%	78,443	14.2%	78,204	15.6%	69,355	15.9%
Physician Assistant	23,511	5.1%	28,201	5.1%	24,497	4.9%	22,787	5.2%
Nurses	53,011	11.6%	66,593	12.0%	59,331	11.9%	44,553	10.2%
Other Eligible Professionals	80,454	17.6%	92,432	16.7%	88,492	17.7%	86,504	19.9%
Unknown/Missing	2	0.0%	0	0.0%	6	0.0%	9	0.0%
Provider Age	--	--	--	--	--	--	--	--
44 and younger	51,096	11.2%	55,764	10.1%	40,153	8.0%	26,420	6.1%
45 to 54	79,234	17.3%	99,003	17.9%	84,717	16.9%	68,483	15.7%
55 to 65	90,986	19.9%	115,873	20.9%	100,716	20.1%	82,646	19.0%
66 to 80	37,451	8.2%	50,771	9.2%	48,271	9.6%	44,991	10.3%
Older than 80	2,078	0.5%	2,870	0.5%	2,802	0.6%	2,791	0.6%
Unknown	196,506	43.0%	229,630	41.5%	223,687	44.7%	209,780	48.2%
Total (Unduplicated)	457,351	100.0%	553,911	100.0%	500,346	100.0%	435,111	100.0%

[a] Non-participants include any EPs who did not submit any PQRS data and did not avoid the payment adjustment for any reason. Attempted participation but were not successful means the EP submitted only invalid QDCs and did not avoid the payment adjustment for any other reason. Individual participants include any EPs who submitted PQRS data and did not avoid the payment adjustment for any reason.

[b] Regions are defined as follows: Boston (CT, MA, ME, NH, RI, VT); New York (NJ, NY, PR, VI); Philadelphia (DC, DE, MD, PA, VA, WA); Atlanta (AL, FL, GA, KY, MS, NC, SC, TN); Chicago (IL, IN, MI, MN, OH, WI); Dallas (AR, LA, NM, OK, TX); Kansas City (IA, KS, MO, NE); Denver (CO, MT, ND, SD, UT, WY); San Francisco (AZ, CA, HI, NV); and Seattle (AK, ID, OR, WA). Some EPs submitted claims through multiple regions; consequently, sums across categories within the Geography results do not equal totals. Information about the RRB carrier is not displayed due to the RRB not being based on the geographical location of the EP.

Notes for Table 15: (1) Results include EPs participating in a Medicare ACO that participates under the Shared Savings Program, Pioneer ACO Model, Next Generation ACO Model, CEC ACO Model, as well as EPs participating under the CPC Initiative. (2) Individual Participants exclude TIN/NPIs that are part of a Medicare ACO participating under the Shared Savings Program Model.

The number of EPs subject to the 2018 payment adjustment represents 32 percent of the 1,349,834 EPs who did not automatically avoid the adjustment because they did not meet the CMS definition for EPs subject to the payment adjustment (data not shown). EPs who were MD/DOs were less likely than those in non-MD/DO specialties or provider types to be subject to the 2018 payment adjustment based on 2016 reporting (see Table 16). For example, 26 percent of MD/DOs are subject to the payment adjustment compared to 42 percent of non-MD/DOs.

Table 14: 2015, 2016, 2017, and 2018 PQRS Payment Adjustment, by Specialty or Provider Type

Specialty or Provider Type	EPs Subject to 2015 Payment Adjustment	Percent of EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of EPs Subject to 2018 Payment Adjustment
MD/DO	232,012	31.8%	288,242	36.6%	249,816	31.4%	211,903	26.1%
Allergy/Immunology	1,918	49.6%	2,089	52.5%	1,829	45.9%	1,656	41.8%
Anesthesiology	10,757	22.7%	14,956	30.4%	14,190	28.4%	5,873	13.8%
Cardiology	6,747	24.0%	8,441	26.4%	6,209	19.9%	5,247	16.3%
Colon/Rectal Surgery	407	30.0%	472	32.2%	366	24.4%	284	18.7%
Critical Care	931	31.8%	1,151	35.1%	964	28.5%	926	24.8%
Dermatology	4,286	36.0%	4,604	36.9%	4,496	35.2%	3,980	30.6%
Emergency Medicine	11,442	19.0%	18,387	28.2%	18,217	27.2%	13,869	20.0%
Endocrinology	1,586	25.5%	2,048	30.1%	1,573	23.6%	1,408	20.3%
Family Practice	37,021	35.3%	46,269	40.6%	37,914	33.4%	32,863	28.4%
Gastroenterology	3,802	27.3%	4,894	32.2%	3,702	24.3%	3,306	21.1%
General Practice	3,887	63.9%	4,591	71.9%	4,192	65.9%	4,152	65.0%
General Surgery	8,633	34.9%	10,663	39.4%	8,630	31.7%	7,239	26.0%
Geriatrics	1,644	35.2%	1,861	38.4%	1,414	31.0%	1,405	29.7%
Hand Surgery	710	36.9%	910	41.6%	740	33.5%	627	27.6%
Hospice and Palliative Care - MD/DO	146	24.4%	262	31.8%	268	25.5%	254	19.8%
Infectious Disease	2,273	34.9%	2,585	37.1%	2,140	30.4%	1,962	26.7%
Internal Medicine	34,637	31.5%	41,014	35.5%	36,023	30.4%	30,671	25.2%
Interventional Radiology	398	19.4%	675	28.6%	708	27.4%	726	23.2%
Nephrology	2,660	27.3%	3,427	31.5%	2,748	25.1%	2,486	21.7%
Neurology	4,708	31.1%	5,806	34.7%	4,789	28.5%	4,200	24.0%
Neurosurgery	1,636	31.7%	2,229	38.2%	1,842	31.5%	1,562	25.6%
Nuclear Medicine	214	30.1%	239	31.6%	162	22.3%	157	21.5%

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Specialty or Provider Type	EPs Subject to 2015 Payment Adjustment	Percent of EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of EPs Subject to 2018 Payment Adjustment
Obstetrics/Gynecology	15,184	43.8%	16,314	44.5%	13,388	36.6%	11,949	32.3%
Oncology/Hematology	2,566	19.5%	3,666	24.9%	2,671	18.5%	2,376	15.9%
Ophthalmology	5,637	27.5%	7,351	34.0%	7,577	35.1%	5,348	24.9%
Oral/Maxillofacial Surgery	288	71.3%	328	72.2%	310	69.7%	293	67.5%
Orthopaedic Surgery	8,094	34.6%	10,180	39.4%	8,278	32.3%	7,067	27.0%
Other MD/DO	4,714	36.1%	5,922	39.6%	5,624	35.7%	4,777	28.3%
Otolaryngology	3,537	36.4%	4,240	40.8%	3,577	34.6%	3,101	29.6%
Pathology	1,555	14.4%	1,891	16.0%	2,541	20.5%	1,822	14.4%
Pediatrics	3,269	31.8%	4,279	33.9%	3,764	31.3%	3,589	28.5%
Physical Medicine	4,272	46.2%	4,878	49.6%	4,264	43.8%	3,928	39.1%
Plastic Surgery	2,839	59.6%	3,092	60.4%	2,788	54.6%	2,563	50.3%
Psychiatry	21,634	66.9%	23,640	70.7%	21,529	63.9%	20,423	60.5%
Pulmonary Disease	3,348	29.1%	4,164	32.5%	3,254	25.5%	2,868	21.5%
Radiation Oncology	1,251	24.3%	1,591	28.8%	1,192	21.5%	1,030	18.1%
Radiology	7,326	18.3%	10,932	25.5%	9,632	21.9%	10,918	21.4%
Rheumatology	1,218	24.6%	1,657	30.0%	1,204	21.8%	986	17.6%
Thoracic/Cardiac Surgery	931	22.0%	1,243	27.4%	906	20.2%	738	15.8%
Urology	2,799	26.7%	3,912	33.1%	3,044	26.8%	2,341	20.2%
Vascular Surgery	1,107	30.0%	1,389	34.6%	1,157	28.1%	933	22.4%
Other Eligible Professionals	225,336	50.7%	264,830	55.0%	250,524	48.9%	223,199	41.6%
Agencies/Hospitals/Nursing and Treatment Facilities	57	38.5%	18	12.6%	23	45.1%	31	37.3%
Audiology	3,502	48.1%	4,252	57.5%	3,372	45.1%	3,317	42.7%
Certified Nurse Midwives	698	34.2%	798	33.4%	655	24.8%	552	18.8%
Chiropractor	36,515	77.8%	37,082	80.3%	34,514	75.4%	32,529	72.8%

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Specialty or Provider Type	EPs Subject to 2015 Payment Adjustment	Percent of EPs Subject to 2015 Payment Adjustment	EPs Subject to 2016 Payment Adjustment	Percent of EPs Subject to 2016 Payment Adjustment	EPs Subject to 2017 Payment Adjustment	Percent of EPs Subject to 2017 Payment Adjustment	EPs Subject to 2018 Payment Adjustment	Percent of EPs Subject to 2018 Payment Adjustment
Clinical Nurse Specialists	1,485	54.0%	1,644	55.2%	1,497	48.0%	1,472	43.4%
Counselor/Psychologist	25,483	75.8%	27,778	81.8%	26,517	77.3%	26,774	76.0%
Dentist	2,633	84.9%	2,570	83.7%	2,490	82.2%	2,367	79.4%
Dietitian/Nutritionist	1,824	57.8%	1,813	55.6%	1,704	48.0%	1,656	44.1%
Hospice and Palliative Care - other than MD/DO	0	0%	0	0%	0	0.0%	1	25.0%
Nurse Anesthetist	16,239	31.2%	19,408	35.0%	15,110	25.7%	867	2.0%
Nurse Practitioner	34,530	41.8%	44,734	44.9%	41,998	37.0%	41,633	31.0%
Occupational Therapy	2,523	44.5%	3,054	47.9%	3,215	49.3%	2,358	33.5%
Optometry	20,300	58.5%	25,616	71.6%	29,476	81.0%	24,253	65.5%
Other Eligible Professional	1,998	48.1%	1,525	43.2%	1,743	43.0%	1,928	38.9%
Physical Therapy	16,011	34.7%	21,734	42.5%	20,397	38.9%	17,739	31.5%
Physician Assistant	23,511	35.0%	28,201	37.2%	24,497	29.0%	22,787	24.4%
Podiatry	8,913	48.9%	13,175	69.7%	11,724	61.8%	10,206	54.1%
Registered Nurse	59	43.7%	9	10.0%	71	46.7%	29	28.4%
Social Worker	29,055	85.2%	31,419	88.1%	31,521	83.4%	32,700	81.9%
Unknown/Missing	3	9.1%	839	56.4%	6	17.6%	9	25.7%
Total	457,351	38.9%	553,911	43.6%	500,346	38.3%	435,111	32.2%

Notes for Table 16: Results include EPs who were part of a practice that participated under the PQRS GPRO, EPs participating as part of a Medicare ACO participating under the Shared Savings Program, the Pioneer ACO Model, the Next Generation ACO Model, the CEC ACO Model, and EPs participating through the CPC initiative. It should be noted that the percent subject to the payment adjustment in each year is based on a denominator that does not include EPs whose taxonomy would not be eligible for the payment adjustment.

Table 15: Eligible Professionals Avoiding the 2018 PQRS Payment Adjustment

Method of Participation	Eligible Count	Participating Count	Participation Rate
Individual Participants	962,974	939,225	97.5%
GPRO	354,149	351,236	99.2%
Pioneer ACO	8,086	8,086	100.0%
Shared Savings Program ACO	244,498	244,487	100.0%
CEC ACO	670	670	100.0%
NextGen ACO	16,517	16,517	100.0%
CPC	2,064	1,980	95.9%
Total	962,974	939,225	97.5%

Notes for Table 17: (1) This table provides an unduplicated count of EPs avoiding the PQRS payment adjustment, including CAH II EPs.

Table 18 provides more detail on how EPs and practices avoided the 2015, 2016, 2017, and 2018 PQRS payment adjustments; note that EPs could avoid the payment adjustment for more than one reason so an EP can be counted in more than one avoidance reason in this table. EPs who were eligible for individual participation avoided the 2018 PQRS payment adjustment most often by reporting the required data (95 percent of those avoiding the adjustment), as seen in the rightmost column of Table 18. The second most common reason for avoiding the 2018 payment adjustment was not having a denominator eligible claim (11.6 percent of EPs who were eligible for individual participation). Among EPs who were part of a practice that was eligible to report under the GPRO, 98 percent of those avoiding the adjustment did so because the practice met reporting requirements, while only three percent avoided the adjustment because they did not meet the definition of an EP for the purposes of the 2018 PQRS Payment Adjustment, and fewer than one percent did so based on informal review. Among those in a Shared Savings Program ACO, virtually every EP avoided the adjustment because the ACO met reporting requirements while 100% of EPs in Pioneer, CEC, and Next Generation ACOs avoided the payment adjustment due to the ACO meeting reporting requirements.

Table 16: How Eligible Professionals Avoided the 2015, 2016, 2017, and 2018 PQRS Payment Adjustments

Reason for Avoiding Payment Adjustment	EPs Avoiding 2015 Payment Adjustment	EPs Avoiding 2016 Payment Adjustment	EPs Avoiding 2017 Payment Adjustment	EPs Avoiding 2018 Payment Adjustment
Individual	388,196	341,442	617,273	962,974
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	65,724	36,317	43,256	48,251
Did Not Have MPFS Charges	36,221	6,755	17,412	27,282
Did Not Have at least 1 Denominator Eligible Claim	6,378	20,583	19,041	111,847
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	558	2,010
Elected Administrative Claims	1,083	N/A	N/A	N/A
Met Reporting Requirements	322,296	295,615	563,680	914,427
Informal Review	11,597	13,409	25,540	11,221
GPRO	305,250	263,624	297,671	354,149
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	9,899	9,422	10,521	10,769
Did Not Have MPFS Charges	1,539	14	0	0
Did Not Have at least 1 Denominator Eligible Claim	7,430	173	15,499	34,863
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	429	326
Elected Administrative Claims	172,336	N/A	N/A	N/A
Met Reporting Requirements	214,893	242,136	287,183	347,391
Informal Review	1,580	19,645	8,365	2,803
Pioneer ACO	17,743	24,144	18,755	8,086
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	697	538	825	340
Did Not Have MPFS Charges	5,842	9,521	7,126	1,988
Did Not Have at least 1 Denominator Eligible Claim	6,108	9,521	7,441	2,194

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Reason for Avoiding Payment Adjustment	EPs Avoiding 2015 Payment Adjustment	EPs Avoiding 2016 Payment Adjustment	EPs Avoiding 2017 Payment Adjustment	EPs Avoiding 2018 Payment Adjustment
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	1	1
Elected Administrative Claims	0	N/A	N/A	N/A
Met Reporting Requirements	17,743	24,144	18,755	8,086
Informal Review	0	0	0	0
CEC ACO	N/A	N/A	N/A	670
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	N/A	N/A	N/A	254
Did Not Have MPFS Charges	N/A	N/A	N/A	278
Did Not Have at least 1 Denominator Eligible Claim	N/A	N/A	N/A	278
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	N/A	0
Elected Administrative Claims	N/A	N/A	N/A	N/A
Met Reporting Requirements	N/A	N/A	N/A	670
Informal Review	N/A	N/A	N/A	0
NextGen ACO	N/A	N/A	N/A	16,517
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	N/A	N/A	N/A	467
Did Not Have MPFS Charges	N/A	N/A	N/A	5,056
Did Not Have at least 1 Denominator Eligible Claim	N/A	N/A	N/A	5,385
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	N/A	3
Elected Administrative Claims	N/A	N/A	N/A	N/A
Met Reporting Requirements	N/A	N/A	N/A	16,517
Informal Review	N/A	N/A	N/A	0
Shared Savings Program ACO	85,059	139,408	206,866	244,498

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Reason for Avoiding Payment Adjustment	EPs Avoiding 2015 Payment Adjustment	EPs Avoiding 2016 Payment Adjustment	EPs Avoiding 2017 Payment Adjustment	EPs Avoiding 2018 Payment Adjustment
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	2,899	4,584	6,340	7,224
Did Not Have MPFS Charges	0	24	0	0
Did Not Have at least 1 Denominator Eligible Claim	3,766	89	11,945	23,398
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	99	137
Elected Administrative Claims	0	N/A	N/A	N/A
Met Reporting Requirements	85,059	139,214	205,445	244,453
Informal Review	0	76	1,276	9
CPC	1,221	1,096	2,054	2,064
Did Not Meet the Definition of an Eligible Professional for the PQRS Payment Adjustment	15	12	10	9
Did Not Have MPFS Charges	107	93	123	112
Did Not Have at least 1 Denominator Eligible Claim	111	34	125	115
Member of an Independent Lab or Diagnostic Testing Facility	N/A	N/A	2	1
Elected Administrative Claims	171	N/A	N/A	N/A
Met Reporting Requirements	1,109	995	1,919	1,975
Informal Review	29	30	46	5
Total	796,248	768,618	858,345	962,974

Notes for Table 18: (1) Eligible professionals (TIN/NPI) in the CPC, Pioneer, NextGen, and CEC finder files and TINs on the Shared Savings Program ACO finder file are used to identify EPs eligible for these programs. (2) Administrative claims was only an option in program year 2013 (2015 payment adjustment) and does not apply to program years 2014 (2016 payment adjustment), 2015 (2017 payment adjustment), or 2016 (2018 payment adjustment file).

VI. CLINICAL PERFORMANCE RATES

Although PQRS focuses on reporting of quality data by EPs, clinical performance rates that use quality data submitted through the program can also be used to evaluate the quality of care provided to Medicare beneficiaries, and were used as part of the Value Modifier program beginning in 2015, based on performance in the 2013 performance year. EPs reported data on recommended quality actions that were performed, not performed, or did not apply (i.e., exclusions) on eligible instances; this information is used in this report to describe EPs' clinical performance on measures. Performance on a measure was calculated as the number of times the eligible professional reported that the recommended quality action for that measure was performed (numerator), divided by the number of instances they could have performed the quality action (denominator), multiplied by 100. For example, under claims-based reporting options, the numerator was the number of times the EP reported the measure-specific QDC indicating the quality action was met and the denominator was the number of eligible instances for that measure identified through claims. Instances that did not apply (i.e., reported as exclusions) were excluded from performance rate calculations.

The following hierarchy was applied if an EP participated through more than one reporting mechanism: (1) QCDR, (2) EHR (QRDA III, then QRDA I)²⁴, (3) claims, and (4) registry. The hierarchy ensured only one performance rate for each measure for an EP is displayed in results.

This report also presents data on measure performance trends; however, multiple factors should be considered when interpreting performance trends in this report. For example, there have been many changes within PQRS across program years. As described above, the participation options have been changed and refined. Individual measures have been added, removed, and in some cases their definitions have changed. Moreover, the EPs who participated each year change, and there has been a shift from individual to group reporting. As a result, it is unclear the extent to which any observed changes in measure performance were artifacts of the aforementioned changes or trends in provided care.

Nonetheless, this section of the report aims to describe clinical performance rates and trends. The appendix contains detailed tables on reporting and performance rates; please refer to Appendix Tables A1 and A2 for the full name of measures in these tables. Appendix Table A16 provides eligibility and reporting information across program years for individual measures.

²⁴ EHR performance rates of zero percent have been excluded. CMS has found that the EHR method of reporting has a high instance of zero percent performance rates. We believe this has to do with EHR functionality and submission that can result in a measure being submitted for an EP who did not intend to report the measure. These instances do not give an accurate reflection of performance and are not comparable to other reporting methods where we are certain that an EP has intended to report the measure. Due to our concerns with the reliability of the EHR data for performance measurement, our policy has been to suppress the zero percent performance rates for PQRS measures in our public facing reports until we are more confident with the accuracy of the performance data.

Appendix Table A19 presents the average number of reported instances and the average performance rate by measure for 2013 through 2016. To provide more context on cohort effects, Appendix Table A20 shows the number of EPs who consistently reported measures across successive program years. Appendix Tables A21 through A23 also provide total counts and performance rates for EPs who reported a measure for two, three or four consecutive years. These tables can provide context for changes in measure performance rates related to how constant the cohort reporting a measure has been over time.

Tables 19 and 20 display the measures with the largest percentage point decline and improvement in performance between 2013 and 2016, among EPs who reported the measure for all four years (2013 to 2016). While this approach attempts to account for changes in participating EPs, it does not account for other changes. For example, trends in reporting mechanisms— such as a growth in EHR reporting or a measure changing to/from registry reporting only—could cause performance rates to change. Other examples of changes to measures include the addition of new exclusions or changes in thresholds used to define clinical control of a condition. Registries, in some cases, incorporate processes that support EPs' selection of appropriate measures, edits that help to ensure that measures are submitted accurately, and reminders that help providers meet the performance criteria of the measures. In addition, performance rates may be less stable among measures with smaller reporting populations, as is the case with a number of the measures in the following tables.

The decrease in performance rates shown in Table 19 could be attributed to a change in the measure specifications. Measure 241 was reportable through claims, registry, and EHR in 2013 but only through EHR or QCDR in 2016; also, there were only 65 EPs who reported this measure for all four years from 2013 to 2016 so the population behind this change is not very large. Drops in measure 317 performance are being driven by a number of EPs who reported only exclusions in 2013; therefore, they reported the measure but they did not count in the performance data; these same EPs did have performance rates in 2016 but they had a much lower than average performance; the vast majority of these submissions were through claims. Measure 18 had a change in available reporting mechanisms; both claims and registry reporting were no longer available for this measure starting in 2015. Table 20 presents the five measures with the largest improvement in performance. These measures appeared to remain stable for the four program years analyzed and they did not receive any major revisions, although claims reporting was no longer available for measure 121 starting in 2015 and EHR was added as a reporting mechanism for measure 143 in 2014.

Table 17: Individual Measures Reported with the Largest Percentage Point Decrease in Clinical Performance Rate (2013 to 2016)

Rank	Measure Number	Measure Description	2013 Performance Rate	2016 Performance Rate	EPs Reporting the Measure in each year from 2013 to 2016	Percentage Point Change 2013-2016
1	241	Ischemic Vascular Disease (IVD): Complete Lipid Panel and LDL Control	50.3%	20.0%	65	30.3%

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Rank	Measure Number	Measure Description	2013 Performance Rate	2016 Performance Rate	EPs Reporting the Measure in each year from 2013 to 2016	Percentage Point Change 2013-2016
2	317	Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	91.5%	62.9%	4,253	28.6%
3	18	Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy	96.0%	76.7%	2,044	19.3%
4	310	Chlamydia Screening for Women	100.0%	83.3%	10	16.7%
5	19	Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care	93.2%	83.4%	2,950	9.7%

[a] Inverse measure; lower performance rate indicates better performance.

Notes for Table 19: (1) Results include the claims, registry, EHR, and QCDR mechanisms. (2) Results include measure performance regardless of whether EPs reporting the measure met the satisfactory reporting requirements. (3) Measures are limited to those reported by at least 10 EPs. (4) Results are restricted to EPs who reported the same measure from 2013 to 2016.

Table 18: Individual Measures Reported with the Largest Increase in Clinical Performance Rate (2013 to 2016)

Rank	Measure Number	Measure Description	2013 Performance Rate	2016 Performance Rate	EPs Reporting the Measure in each year from 2013 to 2016	Percentage Point Change 2013-2016
1	312	Use of Imaging Studies for Low Back Pain	28.5%	97.1%	37	68.7%
2	309	Cervical Cancer Screening	41.3%	79.8%	103	38.5%
3	143	Oncology: Medical and Radiation - Pain Intensity Quantified	79.8%	100.0%	10	20.2%
4	121	Adult Kidney Disease: Laboratory Testing (Lipid Profile)	27.8%	46.5%	140	18.7%
5	222	Functional Deficit: Change in Risk-Adjusted Functional Status for Patients with Elbow, Wrist or Hand Impairments	71.0%	88.5%	79	17.5%

[a] Inverse measure; lower performance rate indicates better performance.

Notes for Table 20: (1) Results include the claims, registry, EHR, and QCDR mechanisms. (2) Results include measure performance regardless of whether EPs reporting the measure met the satisfactory reporting requirements. (3) Measures are limited to those reported by at least 10 EPs. (4) Results are restricted to EPs who reported the same measure from 2013 to 2016.

For some measures, improvement in measure performance over time was limited by measure performance that ‘topped out.’ In other words, if performance is at or near 100 percent, the ability to improve performance is limited. Table 21 displays the measures—mostly QCDR non-PQRS measures—with the highest mean clinical performance rates in 2016.

Table 19: Individual Measures Reported with the Highest Mean Clinical Performance Rates (2016)

Rank	Measure Number	Measure Description	Mean Performance Rate	EPs Submitting
1	386	Amyotrophic Lateral Sclerosis (ALS) Patient Care Preferences	100.00%	11
2	432	Proportion of Patients Sustaining a Bladder Injury at the Time of any Pelvic Organ Prolapse Repair [a]	0.00%	10
3	433	Proportion of Patients Sustaining a Major Viscus Injury at the time of any Pelvic Organ Prolapse Repair [a]	0.00%	10
4	434	Proportion of Patients Sustaining a Ureter Injury at the Time of any Pelvic Organ Prolapse Repair [a]	0.00%	10
5	ABG 25	Time out error- regional block [a]	0.00%	157
6	ACRad 20	CT IV Contrast Extravasation Rate (Low Osmolar Contrast Media) [a]	0.00%	31
7	AQI 44	Rate of Post-operative stroke or death in asymptomatic patients undergoing Carotid Endarterectomy (CEA) [a]	0.00%	40
8	EPREOP 13	Malignant Hyperthermia [a]	0.00%	2,388
9	EPREOP 23	Unplanned Readmission Within 30 Days of Principal Procedure [a]	0.00%	97
10	NHQI 28	Perioperative Mortality Rate [a]	0.00%	33
11	NPA 21	Participation in a Systematic National Database for Spine Care Interventions	100.00%	34
12	PInc 21	Thrombolytic Therapy	100.00%	20
13	PInc 27	VTE Warfarin Therapy Discharge Instructions	100.00%	107
14	PInc 44	Prevention of Post-Operative Nausea and Vomiting (PONV) - Combination Therapy (Pediatrics)	100.00%	42
15	THPSO 11	Post-obstructive Pulmonary Edema rate following endo-tracheal intubation [a]	0.00%	46
16	THPSO 12	Respiratory Arrest in PACU rate [a]	0.00%	36
17	THPSO 2	Post-dural puncture headache rate [a]	0.00%	24
18	THPSO 3	Perioperative Peripheral Nerve Injury rate [a]	0.00%	30
19	THPSO 4	Pneumothorax rate as a complication of central line placement [a]	0.00%	23
20	THPSO 6	Perioperative Myocardial Infarction rate in low risk patients [a]	0.00%	30
21	THPSO 7	Perioperative Myocardial Infarction rate in high risk patients [a]	0.00%	29

Rank	Measure Number	Measure Description	Mean Performance Rate	EPs Submitting
22	THPSO 8	New perioperative central neurologic deficit [a]	0.00%	30
23	ABG 23	Intraoperative patient fall [a]	0.00%	5,771
24	ABG 24	Time out error- surgical [a]	0.00%	5,242
25	ABG 9	OR Fire [a]	0.00%	5,679
26	ABG 13	Malignant Hyperthermia [a]	0.00%	4,769
27	ABG 17	Medication errors during surgery [a]	0.00%	5,773
28	ABG 26	Myocardial Ischemia requiring intervention during the operative period [a]	0.00%	5,646
29	EPREOP 12	Anaphylaxis [a]	0.00%	2,283
30	ABG 11	Anaphylaxis During Anesthesia Care in the Operating Room [a]	0.00%	5,345
31	EPREOP 19	Documentation of Current Medications in the Medical Record	100.00%	504
32	ABG 14	Corneal Abrasion [a]	0.00%	5,503
33	EPREOP 10	Intraoperative Fire [a]	0.00%	2,310
34	EPREOP 16	Unplanned admission to Hospital [a]	0.00%	2,254
35	ABG 5	Composite Procedural Safety for All Vascular Access Procedures [a]	0.00%	4,800
36	ABG 4	PACU tracheal intubation Rate [a]	0.00%	5,063
37	ABG 3	Intra-operative Mortality Rate [a]	0.00%	5,911
38	EPREOP 15	Unplanned admission to ICU [a]	0.00%	2,254
39	EPREOP 8	Failed Airway [a]	0.00%	2,305

[a] Inverse measure; lower performance rate indicates better performance.

Notes for Table 21: (1) Results include the claims, registry, EHR, and QCDR reporting mechanisms. (2) Results include measure performance regardless of whether EPs reporting the measure met the satisfactory reporting requirements. (3) Measures are limited to those reported by at least 10 EPs.

Some measures show particularly high rates of performance across all EPs reporting the measure. Table 22 displays the top measures for which at least 90 percent of the EPs who reported the measure achieved performance at or above 90 percent in 2016; more than one-fifth of all measures are represented here but it is worth noting that almost 38 percent of these measures were reportable by fewer than 100 EPs. Appendix Table A24 is similar and displays the percentage of EPs who reported a measure and had a performance rate at or above 90 percent by individual measure.

Table 20: Individual Measures Where at least 90% of Submitting EPs had at least a 90% Performance Rate (2016)

Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
255	Rh Immunoglobulin (Rhogam) for Rh-Negative Pregnant Women at Risk of Fetal Blood Exposure	100.0%
327	Pediatric Kidney Disease: Adequacy of Volume Management	100.0%
335	Maternity Care: Elective Delivery or Early Induction Without Medical Indication at 37 and < 39 Weeks	100.0%
348	HRS-3: Implantable Cardioverter-Defibrillator (ICD) Complications Rate [a]	100.0%
359	Optimizing Patient Exposure to Ionizing Radiation: Utilization of a Standardized Nomenclature for Computed Tomography (CT) Imaging Description	100.0%
363	Optimizing Patient Exposure to Ionizing Radiation: Search for Prior Computed Tomography (CT) Studies Through a Secure, Authorized, Media-Free, Shared Archive	100.0%
364	Optimizing Patient Exposure to Ionizing Radiation: Appropriateness: Follow-up CT Imaging for Incidentally Detected Pulmonary Nodules According to Recommended Guidelines	100.0%
386	Amyotrophic Lateral Sclerosis (ALS) Patient Care Preferences	100.0%
393	HRS-9: Infection within 180 Days of Cardiac Implantable Electronic Device (CIED) Implantation, Replacement, or Revision [a]	100.0%
417	Rate of Open Repair of Abdominal Aortic Aneurysms (AAA) Where Patients Are Discharged Alive	100.0%
428	Pelvic Organ Prolapse: Preoperative Assessment of Occult Stress Urinary Incontinence	100.0%
432	Proportion of Patients Sustaining a Bladder Injury at the Time of any Pelvic Organ Prolapse Repair [a]	100.0%
433	Proportion of Patients Sustaining a Major Viscus Injury at the time of any Pelvic Organ Prolapse Repair [a]	100.0%
434	Proportion of Patients Sustaining a Ureter Injury at the Time of any Pelvic Organ Prolapse Repair [a]	100.0%
AAAAI 10	Documentation of the Consent Process for Subcutaneous Allergen Immunotherapy in the Medical Record	100.0%
AAAAI 5	Allergen Immunotherapy Treatment: Allergen Specific Immunoglobulin E (IgE) Sensitivity Assessed and Documented Prior to Treatment	100.0%
ABG 10	Day of Surgery Case Cancellation Rate [a]	100.0%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
ABG 11	Anaphylaxis During Anesthesia Care in the Operating Room [a]	100.0%
ABG 13	Malignant Hyperthermia [a]	100.0%
ABG 14	Corneal Abrasion [a]	100.0%
ABG 15	Dental Injury [a]	100.0%
ABG 17	Medication errors during surgery [a]	100.0%
ABG 2	Intra-operative Cardiac Arrest Rate [a]	100.0%
ABG 20	Unplanned transfer ASC to hospital [a]	100.0%
ABG 23	Intraoperative patient fall [a]	100.0%
ABG 24	Time out error- surgical [a]	100.0%
ABG 25	Time out error- regional block [a]	100.0%
ABG 26	Myocardial Ischemia requiring intervention during the operative period [a]	100.0%
ABG 3	Intra-operative Mortality Rate [a]	100.0%
ABG 4	PACU tracheal intubation Rate [a]	100.0%
ABG 5	Composite Procedural Safety for All Vascular Access Procedures [a]	100.0%
ABG 9	OR Fire [a]	100.0%
ACRad 14	Participation in a National Dose Index Registry	100.0%
ACRad 20	CT IV Contrast Extravasation Rate (Low Osmolar Contrast Media) [a]	100.0%
AGA 1	Hepatitis C Virus (HCV) - Sustained Virological Response	100.0%
AQI 40	Unplanned Transfer or Admission to Hospital [a]	100.0%
AQI 41	Coronary Artery Bypass Graft (CABG): Stroke [a]	100.0%
AQI 42	Coronary Artery Bypass Graft (CABG): Post-Operative Renal Failure [a]	100.0%
AQI 44	Rate of Post-operative stroke or death in asymptomatic patients undergoing Carotid Endarterectomy (CEA) [a]	100.0%
AQI 45	Rate of Endovascular aneurysm repair (EVAR) of small or moderate non-ruptured abdominal aortic aneurysms (AAA) who die while in the hospital [a]	100.0%
ASBS 3	Specimen orientation for partial mastectomy or excisional breast biopsy	100.0%
ASNC 13	SPECT-MPI studies meeting appropriate use criteria	100.0%
ASNC 2	Cardiac Stress Nuclear Imaging Not Meeting Appropriate Use Criteria: Routine Testing After Percutaneous Coronary Intervention (PCI) [a]	100.0%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
ASNC 3	Cardiac Stress Nuclear Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low-Risk Patients [a]	100.0%
ASNC 4	Utilization of standardized nomenclature and reporting for nuclear cardiology imaging studies	100.0%
ASPIRE 11	Colloid use limited in cases with no indication	100.0%
ASPIRE 18	Avoiding myocardial Injury	100.0%
ASPIRE 4	Administration of insulin or glucose recheck for patients with hyperglycemia	100.0%
ASPS 1	Use of wound surface culture technique in patients with chronic skin ulcers (overuse measure)	100.0%
ASPS 2	Use of wet to dry dressings in patients with chronic skin ulcers (overuse measure)	100.0%
ASPS 3	Use of compression system in patients with venous ulcers	100.0%
ASPS 4	Offloading (pressure relief) of diabetic foot ulcer	100.0%
ECPR 38	Three Day All Cause Return ED Visit Rate with Admission on Re-Visit [a]	100.0%
EPREOP 10	Intraoperative Fire [a]	100.0%
EPREOP 12	Anaphylaxis [a]	100.0%
EPREOP 13	Malignant Hyperthermia [a]	100.0%
EPREOP 15	Unplanned admission to ICU [a]	100.0%
EPREOP 16	Unplanned admission to Hospital [a]	100.0%
EPREOP 19	Documentation of Current Medications in the Medical Record	100.0%
EPREOP 2	Overall Mortality [a]	100.0%
EPREOP 20	Pain Assessment and Follow-Up	100.0%
EPREOP 23	Unplanned Readmission Within 30 Days of Principal Procedure [a]	100.0%
EPREOP 24	Overall Cardiac Arrest [a]	100.0%
EPREOP 3	PACU Intubation Rate [a]	100.0%
EPREOP 8	Failed Airway [a]	100.0%
GIQIC 5	Incidence of perforation [a]	100.0%
GIQIC 8	Age appropriate screening colonoscopy [a]	100.0%
IRIS 1	Corneal Graft Surgery - Postoperative Improvement in Visual Acuity of 20/40 or greater	100.0%
IRIS 19	Chronic Anterior Uveitis: Post-treatment Grade 0 anterior chamber cells	100.0%
IRIS 20	Idiopathic Intracranial Hypertension: No worsening or improvement of mean deviation	100.0%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
IRIS 21	Ocular Myasthenia Gravis: Improvement of ocular deviation or absence of diplopia or functional improvement	100.0%
IRIS 22	Giant Cell Arteritis: Absence of fellow eye involvement after corticosteroid treatment	100.0%
IRIS 6	Acquired Involutional Entropion - Normalized Lid Position After Surgical Repair	100.0%
IRIS 7	Amblyopia - Interocular Visual Acuity	100.0%
IRIS 8	Surgical Esotropia: Postoperative Alignment	100.0%
M2S 13	Survival at least 9 months after elective open repair of small abdominal aortic aneurysms	100.0%
M2S 14	Disease specific patient-reported outcome surveys for Varicose Vein procedures	100.0%
MBS 1	Medical Complications [a]	100.0%
MBS 2	Surgical Site Complications [a]	100.0%
MBS 3	Serious Complications [a]	100.0%
MBSAQIP 3	Risk standardized rate of patients who experienced a reoperation within 30 days following a primary LRYGB or LSG operation. [a]	100.0%
MBSAQIP 4	Risk standardized rate of patients who experienced an anastomotic/staple line leak within 30 days following primary LRYGB or LSG operation. [a]	100.0%
MBSAQIP 5	Risk standardized rate of patients who experienced a bleeding/hemorrhage event requiring transfusion, intervention/operation, or readmission within 30 days following primary LRYGB or LGS operation [a]	100.0%
MBSAQIP 6	Risk standardized rate of patients who experienced a postoperative surgical site infection (SSI) (superficial incisional, deep incisional, or organ/space SSI) within 30 days following primary LRYGB or LSG operation [a]	100.0%
MBSAQIP 7	Risk standardized rate of patients who experienced postoperative nausea, vomiting or fluid/electrolyte/nutritional depletion within 30 days following primary LRYGB or LSG operation. [a]	100.0%
MOA 12	Efficacy of Manipulative Medicine with Treatment Adjustment	100.0%
MOA 2	Appropriate Use of Advanced Imaging by Ordering Provider	100.0%
MOA 7	Adherence to Controlled Substance Agreement/Opiate Agreement with Corrective Actions for Violations	100.0%
MUSIC 2	Unplanned Hospital Admission within 30 Days of TRUS Biopsy: [a]	100.0%
NHCR 3	Incidence of perforation [a]	100.0%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
NHCR 6	Age inappropriate screening colonoscopy [a]	100.0%
NHQI 27	Perioperative Cardiac Arrest [a]	100.0%
NHQI 28	Perioperative Mortality Rate [a]	100.0%
NJIISMD 10	Critical Result: Ruptured ectopic pregnancy	100.0%
NJIISMD 11	Critical Result: New DVT	100.0%
NJIISMD 4	Critical test: OR Foreign Body	100.0%
NPA 10	Unplanned Reoperation Following Spine Procedure Within the 30 Day Post-Operative Period [a]	100.0%
NPA 11	Unplanned Readmission Following Spine Procedure Within the 30 Day Post-Operative Period [a]	100.0%
NPA 21	Participation in a Systematic National Database for Spine Care Interventions	100.0%
NPA 6	Spine-related procedure site infection [a]	100.0%
NPA 7	Complication Following Spine-Related Procedure [a]	100.0%
NPA 8	Hospital Mortality following Spine Procedure [a]	100.0%
PInc 21	Thrombolytic Therapy	100.0%
PInc 27	VTE Warfarin Therapy Discharge Instructions	100.0%
PInc 44	Prevention of Post-Operative Nausea and Vomiting (PONV) - Combination Therapy (Pediatrics)	100.0%
PInc 46	Immediate Perioperative Cardiac Arrest [a]	100.0%
PInc 47	Immediate Perioperative Mortality Rate [a]	100.0%
QUANTUM 34	Dental Damage/Loss [a]	100.0%
QUANTUM 37	Aspiration of Gastric Contents [a]	100.0%
QUANTUM 41	Surgical Case Cancellation [a]	100.0%
QUANTUM 42	Unplanned Hospital Admission [a]	100.0%
QUANTUM 48	Anaphylaxis [a]	100.0%
QUANTUM 49	Immediate Perioperative Cardiac Arrest [a]	100.0%
QUANTUM 51	Unplanned ICU Admission [a]	100.0%
SPINEIQ 3	Repeated X-Ray Imaging [a]	100.0%
THPSO 1	Perioperative Aspiration Pneumonia rate [a]	100.0%
THPSO 11	Post-obstructive Pulmonary Edema rate following endo-tracheal intubation [a]	100.0%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
THPSO 12	Respiratory Arrest in PACU rate [a]	100.0%
THPSO 13	Dental Injury Rate following airway management [a]	100.0%
THPSO 2	Post-dural puncture headache rate [a]	100.0%
THPSO 3	Perioperative Peripheral Nerve Injury rate [a]	100.0%
THPSO 4	Pneumothorax rate as a complication of central line placement [a]	100.0%
THPSO 6	Perioperative Myocardial Infarction rate in low risk patients [a]	100.0%
THPSO 7	Perioperative Myocardial Infarction rate in high risk patients [a]	100.0%
THPSO 8	New perioperative central neurologic deficit [a]	100.0%
THPSO 9	Postoperative nausea and vomiting rate Adults [a]	100.0%
USWR 18	Complications or Side Effects among patients undergoing Treatment with HBOT	100.0%
AQI 35	Perioperative Mortality Rate [a]	100.0%
ABG 19	Unplanned hospital admission post-op, including 23 hr stay [a]	100.0%
ABG 27	Dysrhythmia requiring intervention during the operative period [a]	100.0%
AQI 28	New Corneal Injury Not Diagnosed in the Post-anesthesia Care Unit/Recovery Area after Anesthesia Care	100.0%
EPREOP 7	Corneal Injury [a]	100.0%
EPREOP 11	Case Delay [a]	99.9%
EPREOP 6	Surgical Safety Checklist/Timeout	99.9%
EPREOP 1	Overall Anesthesia Safety	99.9%
EPREOP 14	Dental Injury [a]	99.9%
EPREOP 5	Procedural Safety for Central Venous or Arterial Catheterization	99.9%
AQI 34	Perioperative Cardiac Arrest [a]	99.9%
AQI 32	Composite Procedural Safety for Central Line Placement	99.8%
AQI 30	Composite Anesthesia Safety	99.8%
ASPIRE 22	Avoiding medication overdose	99.8%
ABG 7	Immediate Adult Post-Operative Pain Management	99.8%
AQI 47	Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet	99.7%
165	Coronary Artery Bypass Graft (CABG): Deep Sternal Wound Infection Rate [a]	99.7%
AQI 31	Post-anesthesia Care Unit (PACU) Re-intubation Rate [a]	99.6%
QUANTUM 43	Difficult Intubation due to unrecognized difficult airway [a]	99.6%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
192	Cataracts: Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures [a]	99.5%
ABG 8	Use of Checklist or Protocol for Transfer of Care in Phase I recovery From Anesthesia Provider to PACU or ICU	99.5%
MIRAMED 4	Perioperative Mortality Rate	99.5%
MIRAMED 8	Case Cancellation Rate	99.5%
MIRAMED 2	PACU Intubation Rate	99.4%
MBSAQIP 8	Risk standardized rate of patients who experienced extended length of stay (> 7 days) following primary LRYGB or LSG operation [a]	99.3%
MIRAMED 1	Perioperative Cardiac Arrest Rate	99.3%
146	Radiology: Inappropriate Use of "Probably Benign" Assessment Category in Mammography Screening [a]	99.2%
QUANTUM 47	Medication Error by Anesthesia Care Team [a]	99.2%
224	Melanoma: Overutilization of Imaging Studies in Melanoma	99.2%
251	Quantitative Immunohistochemical (IHC) Evaluation of Human Epidermal Growth Factor Receptor 2 Testing (HER2) for Breast Cancer Patients	99.2%
249	Barrett's Esophagus	99.2%
ECPR 11	Three Day All Cause Return ED Visit Rate All Patients [a]	99.1%
MIRAMED 3	Dental Injury	99.1%
396	Lung Cancer Reporting (Resection Specimens)	99.0%
156	Oncology: Radiation Dose Limits to Normal Tissues	99.0%
166	Coronary Artery Bypass Graft (CABG): Stroke [a]	99.0%
ABG 1	Intra-operative anesthesia safety	99.0%
MIRAMED 5	Adult PACU Pain Management	98.9%
250	Radical Prostatectomy Pathology Reporting	98.9%
MIRAMED 7	Corneal Abrasion [a]	98.9%
388	Cataract Surgery with Intra-Operative Complications (Unplanned Rupture of Posterior Capsule requiring unplanned vitrectomy) [a]	98.8%
Plnc 7	Venous Thromboembolism (VTE) Prophylaxis	98.7%
AQI 33	Composite Patient Experience	98.7%
GIQIC 4	Photo documentation of the cecum (also known as cecal intubation rate) Screening Colonoscopies	98.6%
Plnc 45	Post Anesthesia Care Unit (PACU) Re-intubation Rate [a]	98.6%
ECPR 12	Three Day All Cause Return ED Visit Rate Adults [a]	98.5%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
MIRAMED 10	Unplanned Use of Difficult Airway Equipment and/or Failed Airway	98.5%
43	Coronary Artery Bypass Graft (CABG): Use of Internal Mammary Artery (IMA) in Patients with Isolated CABG Surgery	98.3%
EPREOP 4	Short-term Pain Management/Maximum Pain Score	98.3%
262	Image Confirmation of Successful Excision of Image-Localized Breast Lesion	98.2%
ECPR 13	Three Day All Cause Return ED Visit Rate Pediatrics [a]	98.2%
GIQIC 3	Photo documentation of the cecum (also known as cecal intubation rate) All Colonoscopies	98.0%
GIQIC 9	Documentation of history and physical rate - Colonoscopy	98.0%
ASPIRE 16	Avoiding intraoperative hypotension	98.0%
EPREOP 9	Prophylactic Antibiotic Administration	97.9%
ASBS 2	Surgical Site Infection and Cellulitis After Breast and/or Axillary Surgery [a]	97.9%
AQI 46	Total Knee Replacement: Venous Thromboembolic and Cardiovascular Risk Evaluation	97.7%
MBS 9	Unplanned Hospital Readmission within 30 Days of Principal Procedure [a]	97.6%
ASPIRE 13	Transfusion goal of hematocrit less than 30	97.5%
100	Colorectal Cancer Resection Pathology Reporting: pT Category (Primary Tumor) and pN Category (Regional Lymph Nodes) with Histologic Grade	97.4%
AQI 29	Prevention of Post-Operative Vomiting (POV) - Combination Therapy (Pediatrics)	97.4%
ASPIRE 17	Avoiding gaps in systolic or mean arterial pressure measurement	97.4%
68	Hematology: Myelodysplastic Syndrome (MDS): Documentation of Iron Stores in Patients Receiving Erythropoietin Therapy	97.3%
167	Coronary Artery Bypass Graft (CABG): Postoperative Renal Failure [a]	97.1%
MBSAQIP 2	Risk standardized rate of patients who experienced an unplanned readmission within 30 days following primary LRYGB or LSG operation. Risk standardized rate of patients who experienced a reoperation within 30 days following primary a LRYGB or LSG operation. [a]	97.1%
263	Preoperative Diagnosis of Breast Cancer	97.0%
AQI 37	Surgical Safety Checklist Applicable Safety Checks Completed Before Induction of Anesthesia	96.9%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
99	Breast Cancer Resection Pathology Reporting: pT Category (Primary Tumor) and pN Category (Regional Lymph Nodes) with Histologic Grade	96.8%
ABG 18	Pre-operative Attestation of documentation of current medications in the medical record	96.8%
347	Rate of Endovascular Aneurysm Repair (EVAR) of Small or Moderate Non-Ruptured Abdominal Aortic Aneurysms (AAA) Who Die While in Hospital [a]	96.4%
168	Coronary Artery Bypass Graft (CABG): Surgical Re-Exploration [a]	96.3%
345	Rate of Postoperative Stroke or Death in Asymptomatic Patients Undergoing Carotid Artery Stenting (CAS) [a]	96.3%
USWR 13	Patient Vital Sign Assessment Prior to HBOT	96.3%
MUSIC 1	Prostate Biopsy: Compliance with AUA best practices for antibiotic prophylaxis for transrectal ultrasound-guided (TRUS) biopsy	96.2%
378	Children Who Have Dental Decay or Cavities [a]	96.2%
IRIS 9	Diabetic Retinopathy - Documentation of the Presence or Absence of Macular Edema and the Level of Severity of Retinopathy	96.2%
67	Hematology: Myelodysplastic Syndrome (MDS) and Acute Leukemias: Baseline Cytogenetic Testing Performed on Bone Marrow	96.1%
M2S 4	Amputation-free survival assessed at least 9 months following Supra-Inguinal Bypass for claudication	96.0%
344	Rate of Carotid Artery Stenting (CAS) for Asymptomatic Patients, Without Major Complications (Discharged to Home by Post-Operative Day #2)	95.8%
334	Adult Sinusitis: More than One Computerized Tomography (CT) Scan Within 90 Days for Chronic Sinusitis (Overuse) [a]	95.8%
THPSO 10	Postoperative nausea and vomiting rate Pediatrics [a]	95.7%
70	Hematology: Chronic Lymphocytic Leukemia (CLL): Baseline Flow Cytometry	95.6%
AAN 6	Headache: Overuse of Barbiturate Containing Medications for Primary Headache Disorders	95.6%
346	Rate of Postoperative Stroke or Death in Asymptomatic Patients Undergoing Carotid Endarterectomy (CEA) [a]	95.3%
264	Sentinel Lymph Node Biopsy for Invasive Breast Cancer	95.2%
ASBS 1	Surgeon assessment for hereditary cause of breast cancer	95.1%

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Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
336	Maternity Care: Post-Partum Follow-Up and Care Coordination	94.7%
426	Post-Anesthetic Transfer of Care Measure: Procedure Room to a Post Anesthesia Care Unit (PACU)	94.4%
182	Functional Outcome Assessment	94.4%
Plnc 22	Discharged on Statin Medication	94.4%
Plnc 5	30 day Mortality for Heart Failure [a]	94.4%
333	Adult Sinusitis: Computerized Tomography (CT) for Acute Sinusitis (Overuse) [a]	94.3%
ASPIRE 19	Avoiding acute kidney injury [a]	94.0%
424	Perioperative Temperature Management	94.0%
PPRNET 30	Treatment of Hypokalemia	93.9%
IRIS 16	Acute Anterior Uveitis: Post-treatment visual acuity	93.8%
ASBS 7	Unplanned 30 day re-operation after mastectomy	93.6%
102	Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients	93.5%
ASPIRE 6	Avoiding excessively high tidal volumes during positive pressure ventilation	93.5%
MBS 7	Extended Length of Stay (LOS) [a]	92.9%
Plnc 23	Stroke Education	92.8%
254	Ultrasound Determination of Pregnancy Location for Pregnant Patients with Abdominal Pain	92.5%
22	Perioperative Care: Discontinuation of Prophylactic Parenteral Antibiotics (Non-Cardiac Procedures)	91.9%
322	Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients [a]	91.8%
IRIS 17	Acute Anterior Uveitis: Post-treatment Grade 0 anterior chamber cells	91.7%
53	Asthma: Pharmacologic Therapy for Persistent Asthma - Ambulatory Care Setting	91.4%
395	Lung Cancer Reporting (Biopsy/Cytology Specimens)	91.3%
52	Chronic Obstructive Pulmonary Disease (COPD): Inhaled Bronchodilator Therapy	91.1%
46	Medication Reconciliation Post-Discharge	91.1%
44	Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery	90.8%

Measure Number	Measure Description	Percent of EPs with At Least 90% Performance Rate
427	Post-Anesthetic Transfer of Care: Use of Checklist or Protocol for Direct Transfer of Care from Procedure Room to Intensive Care Unit (ICU)	90.8%
72	Colon Cancer: Chemotherapy for AJCC Stage III Colon Cancer Patients	90.7%
ASPIRE 3	Administration of Neostigmine before Extubation for Cases with Nondepolarizing Neuromuscular Blockade	90.6%
141	Primary Open-Angle Glaucoma (POAG): Reduction of Intraocular Pressure (IOP) by 15% OR Documentation of a Plan of Care	90.6%
69	Hematology: Multiple Myeloma: Treatment with Bisphosphonates	90.2%
ASBS 11	Surgeon documentation of clinical stage of breast cancer	90.1%

[a] Inverse measure; lower performance rate indicates better performance.

Note for Table 22: Results include the claims, registry, EHR, and QCDR reporting mechanisms. This table includes measure performance for EPs regardless of whether the EP met the satisfactory reporting requirement.

Appendix Tables A25 through A29 summarize quality measure reporting and performance of the group practices participating in the 2016 PQRS as a GPRO or ACO, via registry (Table A25), EHR (Table A26), QCDR (Table A27), web interface (Table A28), and CAHPS for PQRS (Table A29).

Among practices participating via the GPRO registry mechanism, the most frequently reported registry measures were documentation of current medications (#130) and preventive measures such as tobacco screening and cessation intervention (#226), screening for high blood pressure and follow-up documented (#317), and BMI screening and follow-up (#128) (Appendix Table A25). The performance rates across the registry measures varied widely. Almost all of the GPRO EHR submissions used the QRDA III format. The measures reported by the most practices under the GPRO EHR mechanism were also #226 and #130 (Appendix Table A26). For practices submitting data through the GPRO QCDR reporting mechanism, radiology measures were reported most frequently; the measures reported by the most practices were radiology: stenosis measurement in carotid imaging reports (#195), radiology: exposure time reported for procedures using fluoroscopy (#145), and radiology: reminder system for screening mammograms (#225) (Appendix Table A27).

Group practices reporting under the GPRO web interface or as an ACO (Shared Savings Program, Pioneer, or Next Generation) reported 18 measures covering care coordination/patient safety, coronary artery disease, diabetes mellitus, heart failure, hypertension, ischemic vascular disease, mental health, and preventive care. Among practices participating via the GPRO and the Shared Savings Program, Pioneer ACO model, and Next Generation ACO Model web interface, the highest performance rates are for the Prev-10 (Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-up Plan) and HF-6 (Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD); the lowest performance was in DM-7 (Diabetes: Eye Exam) and MH-1 (Depression Remission at Twelve Months). Note that these performance rates are not reflective of the VM performance calculations. The 2016 CAHPS for PQRS Survey includes the core questions contained in the CAHPS Clinician & Group Survey (CG-CAHPS, Version 2.0)²⁵, plus additional questions that measure key domains of beneficiaries' experiences of care, for a total of 12 patient experience of care summary survey measures:

- Getting Timely Care, Appointments and Information
- How Well Providers Communicate
- Patient's Rating of Provider
- Access to Specialists
- Health Promotion and Education
- Shared Decision-Making
- Health Status and Functional Status
- Courteous and Helpful Office Staff
- Care Coordination

²⁵ The survey instrument and further information regarding summary survey measures and scoring are available at: <http://www.pqrscahps.org>.

- Between Visit Communication
- Helping You to Take Medications as Directed
- Stewardship of Patient Resources

All but three of the summary survey measures are comprised on two or more individual survey items; Patient's Rating of Provider, Between Visit Communication, and Stewardship of Patient Resources comprise an individual survey item. Three of the summary survey measures (Health Promotion and Education, Shared Decision-Making, and Health Status and Functional Status) include subsidiary measures for which measure scores are also calculated. To develop a score for each summary survey measure or subsidiary measure, a numerical value is assigned to each individual question response for that measure. Then, sampling and non-response weights are applied, case mix adjustment is applied, the assigned score is linearly transformed to a 0-100 possible range, and then the weighted, case mix adjusted, transformed item scores are averaged to produce the overall summary score.

Appendix Table A29 presents the overall 2016 mean for the 12 CAHPS for PQRS summary survey measures, and, where applicable, the subsidiary measures that are used to derive them. Scores are presented on a 0-100 scale. Group practices that report via the GPRO web interface, EHR, registry, or QCDR could elect to participate in the 2016 CAHPS for PQRS survey. In all, 513 practices participated in the CAHPS for PQRS Survey in 2016.

The national practice mean was above 90 out of 100 for How Well Providers Communicate (93 out of 100), Patient's Rating of Provider (92 out of 100) and Courteous and Helpful Office Staff (93 out of 100). In contrast, practices showed greatest room for improvement on the Stewardship of Patient Resources summary survey measure, which had a national practice mean of 26 out of 100.

VII. PQRS FEEDBACK REPORTS

A. Background

CMS provides PQRS feedback reports each year. The 2016 PQRS feedback reports were available to EPs in the early fall of 2017. The 2016 PQRS feedback reports reflect data from the Medicare PFS claims received with dates of service from January 1, 2016 through December 31, 2016 that were processed into the National Claims History (NCH) by February 24, 2017. Although these reports are not provided simultaneously with the notification of payment adjustment letters to EPs, CMS strives to make PQRS feedback reports available as closely as possible to delivery of payment adjustment letters. A PQRS feedback report will be generated for each individual TIN/NPI and/or TIN for GPROs that reported PQRS data or that submitted Medicare PFS claims that included denominator-eligible events but did not submit PQRS data. The PQRS feedback reports will include all measures reported by the individual TIN/NPI and/or TIN for GPROs for each submission mechanism utilized (Registry, Claims, EHR, Web Interface and QCDR). The two types of feedback reports available for both individual TIN/NPI and group practices that submitted data as a GPRO are:

- PQRS Payment Adjustment Feedback Report – contains information regarding the individual EP’s or PQRS group practice’s payment adjustment status, rationale as to why the payment adjustment was or was not applied, and high-level PQRS reporting detail. The PQRS Payment Adjustment Feedback Report (for Individuals or Groups) contains the following sections/tabs:
 - o About This Report (default tab)
 - o Adjustment Summary
 - o Individual Adjustment Detail-1
 - o Individual Adjustment Detail-2
 - o Group Adjustment Detail
 - o Hover-Over Terms
- PQRS Payment Adjustment Measure Performance Detail Report – contains specific detail on the measure(s) submitted by each mechanism utilized by the individual EP or PQRS group practice during the 2016 reporting year. Additionally, the Reportable Claim Measure tab on this table will identify measure(s) that had denominator-eligible instances that potentially could have been reported. The PQRS Payment Adjustment Measure Performance Detail Report (for Individuals or Groups) contains the following sections/tabs (the order of the tabs in the report will vary based on the user’s role):
 - o About This Report (default tab)
 - o Group Registry Measure
 - o Group QCDR Measure
 - o Group EHR Measure
 - o Reported Claim Measure
 - o Reportable Claim Measure
 - o Registry Measure

- o Measures Group Measure
- o QCDR Measure
- o EHR Measure
- o Hover-Over Terms

B. Accessing PQRS Feedback Reports

To access the 2016 PQRS feedback reports, an EIDM account with the appropriate role is required. Anyone is eligible to register for an EIDM account, but the account owner is the only user allowed to utilize the account. EIDM role requests are made at the TIN level and should be utilized by authorized representatives of the TIN. If a user is a representative of multiple TINs, a role for each TIN is required in order to access the feedback reports. A Security Official may also approve access for other group users who apply for the Group Representative roles and an Individual Practitioner may approve access for other Individual Practitioner Representative roles.

The Quick Reference Guide (QRG) for Accessing the 2016 PQRS Feedback Reports will provide information on accessing, navigating, and downloading the PQRS feedback reports. This document can be found on the [PQRS Analysis and Payment webpage](#).

The program years 2014, 2015, and 2016 PQRS feedback reports for TIN-level reports and the NPI-level reports and the Annual Quality Resource and Use Reports (QRURs) can be accessed through the CMS Enterprise Portal using an EIDM account. An authorized representative of a TIN can use the same EIDM account to access the TIN's PQRS feedback reports and Annual QRURs. Instructions for accessing an Annual QRUR are available on the [How to Obtain a QRUR webpage](#).

VIII. HELP DESK

A. Background

In 2008, CMS recognized the need for a dedicated PQRS Help Desk to support the reporting efforts of EPs. The QualityNet Help Desk was tasked with providing such support, and began working with the External User Services (EUS) Help Desk and all of the Medicare Administrative Contractors (MACs) and carriers (as of September 2013 all carriers were replaced by MACs). Professionals who have questions on eligibility, reporting, accounts for Portal access, informal reviews, PQRS feedback reports, or payments can contact the appropriate support desk for assistance.

B. Support Desks

- The CMS MAC Provider Contact Centers provide Medicare enrollment and claims administration support. This now includes the responsibility of disbursing the PQRS incentive payments to EPs who earned incentives, paid at the TIN level for program years 2014 and prior. They answer questions related to payment disbursement, Remittance Advice, and any offsets or payment adjustments. The MACs previously were tasked with accepting requests for individual NPI-level feedback reports through the Alternative Feedback Report Request Process. Instead, the CSP was made available in early 2012 as a means for individual EPs to request NPI-level feedback reports for the years 2008-2013. The CSP is available through the Portal, and does not require an account login. This alternative was implemented in response to some difficulties EPs were having obtaining their account login. The TIN-level and NPI-level PQRS feedback reports for the 2014, 2015, and 2016 PQRS program years and the Annual QRURs can be accessed on the [CMS Enterprise Portal](#) using an EIDM account.
- The QualityNet Help Desk initially consisted of one level of support, known as Tier I, which consisted of a team dedicated to issues related to the PQRS and eRx Incentive Program. This tier handled questions in the summer and fall of 2008 regarding 2007 program year payments and feedback reports, as well as questions regarding 2008 program year reporting. They were available to answer a range of questions on issues such as eligibility, measures, reporting options, portal login, feedback reports, registries, and payments. In the summer of 2009, a second Tier was added, known as Inquiry Support, to address specific measure questions and assist CMS with escalated payment or report issues. This Tier was able to provide a level of detailed data review to EPs who did not qualify for an incentive and needed information in addition to their feedback report. The Inquiry Support team became the Tier II Inquiry Support level to handle claims detail requests as well as other data specific issues. In 2010, a Tier II Inquiry Support team was implemented to focus on providing answers to measures questions and program inquiries for both individual measure reporting as well as measures groups reporting, so that EPs could better understand their feedback reports and use that knowledge to be more successful in future years. Currently, there are two Tier II support teams; Physician Quality Measurement Management (PQMM) handles questions related to measures and Physician Quality Programs Management and Implementation (PQPMI) handles program inquiries. Near the end of 2010, the IACS support for PQRS transitioned to the QualityNet Help Desk (Tier I). This includes vetting for the Security Official role in Organizations, IACS account issues,

the new Annual Recertification requirement, assistance in obtaining the data submission role, etc. The IACS accounts have transitioned to EIDM accounts for all of the above noted access. EPs still need to contact the EUS Help Desk for issues related to Medicare enrollment and the PECOS system. In 2011, the QualityNet Help Desk at all levels also began to assist with questions related to the eRx payment adjustments for 2012-2014. Starting in 2013, all helpdesk levels began to assist with questions related to the PQRS payment adjustment for the 2015, 2016, 2017, and 2018 PQRS payment adjustment years.

- There are additional support teams that the QualityNet Help Desk Tiers work with to resolve related issues:
 - o The EHR Meaningful Use Information Center assists with Medicare EHR Incentive Program reporting, as well as with issues stemming from the eRx payment adjustment EHR-related significant hardship exemptions.
 - o The PQPMI Support Team within the Tier II Help Desk assists with vetting new Registry and QCDR vendors, helps train these entities, and assists the aforementioned vendors and MOCP vendors with file submissions at the end of the reporting periods.
 - o The PQMM Support team within the Tier II Help Desk assists with vetting PQRS measures that all Registry and QCDR vendors would like to support for the program year.
 - o The Tier II ACO Help Desk provides guidance related to ACOs that report (via the GPRO Web Interface) on behalf of EPs for purposes of Physician Quality Reporting System reporting under the Shared Savings Program or the Pioneer ACO model.
 - o The Physician Value Help Desk assists with Value Modifier and QRUR questions, as well as questions related to registering online for a GPRO.
 - o The Physician Compare Tier II Help Desk assists with questions regarding public reporting of quality care data on Physician Compare data posted in calendar year 2014, 2015, and 2016.

EPs are encouraged to utilize the services provided by these support desks. The contact information for the support desks follows:

- External User Services Help Desk for Medicare enrollment and PECOS questions:
 - o Phone: 1-866-484-8049
 - o TTY/TDD: 1-866-523-4759 (Monday-Friday; 7am-7pm EST)
 - o Email: EUSupport@cgi.com
- MAC Provider Contact Centers:
 - o A list of Provider Contact Centers is located in the “Review Contractor Directory - Interactive Map” at the following link: <http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/provider-compliance-interactive-map/index.html>.

- QualityNet Help Desk for first-level questions on EIDM, Portal Login, payments, reports, measures, GPRO, ACO, Physician Value, file submissions etc. The Help Desk incidents generated may then be escalated to the appropriate Tier II or Tier III support teams:
 - o Phone: 1-866-288-8912 (Monday-Friday; 7:00 a.m.-7:00 p.m. Central Time)
 - o TTY: 1-877-715-6222
 - o Email: Qnetsupport@hcqis.org

IX. CONCLUSION

Participation in PQRS has increased steadily since its inception in 2007. The program saw continued growth in the 2016 program year, with a seven percent increase in the number of participants over the 2015 program year and more than seventy percent of EPs participating in the program via individual or group reporting options, as part of an ACO, or through the CPC initiative. The final year for reporting in this program was 2016.

PQRS offered incentives for participation in program years 2007 through 2014. Beginning in calendar year 2015, the PQRS payment adjustment was applied to Part B FFS payments based on performance in program year 2013. Reporting in each of the program years in 2014, 2015, and 2016 determined who was subject to the payment adjustment for Part B FFS payments in calendar years 2016, 2017, and 2018, respectively. In the first year of the PQRS payment adjustment (2015), 796,248 EPs avoided the downward adjustment. In the second year of the PQRS payment adjustment (2016), 768,615 EPs avoided the adjustment.

In the third year of the payment adjustment (2017), even more EPs avoided the payment adjustment (858,167) with most of them doing so by meeting the reporting requirements for 2015. In the final year of the payment adjustment, 954,740 EPs were able to avoid the payment adjustment with most of them doing so by meeting reporting requirements. Among those subject to the 2018 payment adjustment, most continued to be in small practices and were not participating in the program.

In addition to the PQRS payment adjustment, the Value Modifier was implemented in 2015 to provide a payment adjustment to PFS payments based on quality of care and cost of care furnished to Medicare beneficiaries. The Value Modifier was required under section 1848(p) of the Social Security Act. The Value Modifier was phased in over time with the first payment adjustment occurring in calendar year 2015 for physicians in groups of 100 or more EPs based on quality and cost performance in 2013. The second year of the Value Modifier occurred in calendar year 2016 and was applied to PFS payments for physicians in groups of 10 or more EPs based on quality and cost performance in 2014. The 2017 Value Modifier to PFS payments for physician solo practitioners and physicians in groups of two or more EPs based on quality and cost performance in 2015. Calendar year 2018 is the final year of the Value Modifier, and the payment adjustment applies to PFS payments for physicians, physician assistants, nurse practitioners, clinical nurse specialists, and certified nurse anesthetists who are solo practitioners or in groups of two or more EPs based on quality and cost performance in 2016. More information on the Value Modifier payment adjustment applied during each of these calendar years can be found on the [Value Modifier webpage](#).

The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) ended the Sustainable Growth Rate formula and replaced the three legacy clinician quality programs (the Medicare EHR Incentive program, PQRS and the Value Modifier) with a single system, called the Quality Payment Program, where Medicare physicians and clinicians have a chance to be paid more for better care. Clinicians will be able to practice as they always have, but they can get paid more for high quality care and investments that support patients. There are two paths to quality in this program:

- Merit-based Incentive Payment System (MIPS)

Advanced Alternative Payment Models (APMs) CMS continues to foster growth and participation in quality reporting and has worked to implement MIPS in a way that will encourage participation and

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reduce burden. CMS also continues to streamline the measures available by eliminating measures that are topped out, redundant, or under-reported. Lastly, CMS continues to streamline measures across programs as it balances competing goals of establishing parsimonious sets of measures while including sufficient measures to facilitate provider participation; for example, a large number of measures have been added through qualified clinical data registries to target specialties that did not have many applicable measures.

The first performance year of the Quality Payment Program began on January 1, 2017 and the first payment adjustment year will be 2019. There is more information on the Quality Payment Program and transitioning from PQRS, the Value Modifier, and the Medicare EHR Incentive program on qpp.cms.gov.²⁶

Table 21: Abbreviations

Abbreviation	Meaning
ACO	Accountable Care Organization
AMA	American Medical Association
CAP	Community-Acquired Pneumonia
CEC	Comprehensive ESRD (End Stage Renal Disease) Care Model
CEHRT	Certified EHR Technology
CKD	Chronic Kidney Disease
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
CPC	Comprehensive Primary Care Initiative
CPT	Current Procedural Terminology
CSP	Communication Support Page
CVP	Cardiovascular Prevention
eCQM	Electronic Clinical Quality Measure
EHR	Electronic Health Record
EP	Eligible Professional
EUS	External User Services
FFS	Fee for Service
GPRO	Group Practice Reporting Option
HCPCS	Healthcare Common Procedure Coding System
HCV	Hepatitis C Virus
HIC	Health Insurance Claim number
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome

²⁶ See the following link for more information on the Quality Payment Program: <https://qpp.cms.gov/>

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Abbreviation	Meaning
IACS	Individuals Authorized Access to CMS Computer Services
ICD-9-CM	International Classification of Diseases, 9th Revision, Clinical Modification
IVD	Ischemic Vascular Disease
MAV	Measure Applicability Validation
MD/DO	Doctor of Medicine or Doctor of Osteopathy
MG	Measures Groups
MIEA	Medicare Improvements and Extension Act of 2006
MIPPA	Medicare Improvements for Patients and Providers Act of 2008
MMSEA	Medicare, Medicaid, and SCHIP Extension Act of 2007
MOCP	Maintenance of Certification Program
MPFS	Medicare Physician Fee Schedule
NCQA	National Committee for Quality Assurance
NPI	National Provider Identifier
NPPES	National Plan and Provider Enumeration System
PCPI	Physician Consortium for Performance Improvement
PECOS	Provider Enrollment, Chain, and Ownership System
PFS	Physician Fee Schedule
PQRI	Physician Quality Reporting Initiative
PQRS	Physician Quality Reporting System
QCDR	Qualified Clinical Data Registry
QDC	Quality Data Code
QRUR	Quality and Resource Use Report
RRB	Railroad Retirement Board
SCHIP	State Children's Health Insurance Program
TIN	Taxpayer Identification Number
TRHCA	Tax Relief and Health Care Act of 2006
VBP	Value-Based Purchasing
Value Modifier	Value-Based Payment Modifier