



September 9, 2024

Chiquita Brooks-LaSure
Administrator
Centers for Medicare & Medicaid Services
Department of Health and Human Services
Attn: CMS-1807-P
7500 Security Boulevard
Baltimore, MD 21244-1850

Re: Medicare and Medicaid Programs; CY 2025 Payment Policies under the Physician Fee Schedule and Other Changes to Part B Payment and Coverage Policies; etc (CMS-1807-P)

Dear Administrator Brooks-LaSure:

The Personalized Medicine Coalition (PMC), a multi-stakeholder group comprising more than 200 institutions from across the health care spectrum, thanks the Centers for Medicare & Medicaid Services (CMS) for the opportunity to submit comments on payment policies under the CY 2025 Physician Fee Schedule (PFS) proposed rule.¹ While PMC recognizes there are numerous important payment issues included in the CY 2025 PFS proposed rule, our comments focus on specific proposed policy changes to CMS' Merit-based Incentive Payment System (MIPS) and MIPS Value Pathways (MVPs) on beneficiary access to personalized medicine. We support CMS' proposals that promote biomarker and germline testing in cancer care and screening under MVPs that can improve beneficiaries' health care and help advance the Biden administration's Cancer Moonshot goals. Our comments also highlight opportunities to advance personalized medicine in mental health and medication management, as well as through screening for social drivers of health, patient navigation services, and caregiver training.

PMC defines personalized medicine as an evolving field in which physicians use diagnostic tests and individual details about a person's health to determine which medical treatments will work best for each patient or use medical interventions to alter molecular mechanisms that impact health. By combining data from diagnostic tests with an individual's medical history, circumstances, and values, health care providers can develop targeted treatment and prevention plans with their patients.

Personalized medicine is helping to shift the patient and provider experiences away from trial-and-error toward a more streamlined process for making clinical decisions, which will lead to improved patient outcomes, a reduction in unnecessary treatment costs, and better patient and provider satisfaction. PMC and its members are leading the way in personalized medicine and in developing evidence showing how patients

BOARD OF DIRECTORS

President

Edward Abrahams, Ph.D.

Chair

Lincoln D. Nadauld, M.D., Ph.D.
Culmination Bio

Vice Chair

Lauren Silvis, J.D.
Tempus

Treasurer

Peter Maag, Ph.D.
Kyverna Therapeutics

Secretary

Michael S. Sherman, M.D., M.B.A., M.S.
RA Capital Management

Gabrielle Allegri, M.B.A.
Johnson & Johnson

Antonio L. Andreu, M.D., Ph.D.
European Infrastructure for Translational
Research (EATRIS)

Dawn Cardeiro, M.S.

Brian Caveney, M.D.
LabCorp

William S. Dalton, Ph.D., M.D.
Aster Insights

Stephen L. Eck, M.D., Ph.D.
1cBio

Helmy Eltoukhy, Ph.D.
Guardant Health

Lori Frank, Ph.D.
Women's Health Access Matters

Sarah Hersey, M.S., M.B.A., R.A.C.
Bristol Myers Squibb

Steffan Ho, M.D., Ph.D.
Pfizer

Richard Knight
American Association of Kidney Patients

James Lillard, Ph.D., M.B.A.
Morehouse School of Medicine

Howard McLeod, Pharm.D.
Clarified Precision Medicine

J. Brian Munroe
Bausch Health Companies

Elizabeth O'Day, Ph.D.
Olaris, Inc.

Josh Ofman, M.D., M.S.H.S.
Grail

Prasanth Reddy, M.D.

Cecelia Schott, Pharm.D., M.B.A.
GSK

Apostolia Tsimberidou, M.D., Ph.D.
MD Anderson Cancer Center

Michael J. Vasconcelles, M.D.
Abbvie

Jay G. Wohlgemuth, M.D.
Trusted Health Advisors

and the health care system can benefit from appropriate testing and tailored treatment as soon as possible during their clinical experiences.

Statement of Neutrality

Many of PMC's members will present their own responses to the Medicare CY 2025 PFS proposed rule and will actively advocate for those positions. PMC's comments are designed to provide feedback so that the general concept of personalized medicine can advance, and are not intended to adversely impact the ability of individual PMC members, alone or in combination, to pursue separate comments with respect to the proposed rule.

Incorporating Biomarker Testing into Cancer Diagnosis and Treatment

Personalized medicine helps target treatments to only those who will benefit, sparing expenses and side effects for those who will not. By incentivizing health care providers to improve and standardize the delivery of care through payment adjustments, MVPs – which align MIPS reporting requirements around specific clinical specialties, medical conditions, or episodes of care – provide important opportunities to set national benchmarks for the quality of health care in the United States. By incentivizing personalized medicine through these pathways, CMS can advance its goals of achieving better health outcomes and lowering costs.

Historically, there has been a lack of quality measures promoting personalized medicine.ⁱⁱ Since CMS first introduced MVPs in CY 2023, PMC has supported CMS' incorporation of quality measures advancing personalized medicine, notably measures supporting the use of biomarker testing to inform treatment selection for certain cancers under CMS' Advancing Cancer Care MVP.ⁱⁱⁱ Personalized medicines have now accounted for at least a quarter of new drug approvals for each of the last nine years, including many approvals in oncology.^{iv} Biomarker tests that play a critical role in helping patients evaluate their treatment options are increasingly being incorporated into clinical guidelines for cancer. Timely treatment targeting biomarkers in a patient's tumor can offer better health outcomes than non-targeted drug therapy, such as chemotherapy.^v We commend CMS for proposing to continue its Advancing Cancer Care MVP.

We support CMS' proposals to establish and include the following new MIPS quality measures in the Advancing Cancer Care MVP:

- ***TBD: Positive PD-L1 Biomarker Expression Test Result Prior to First-Line Immune Checkpoint Inhibitor Therapy:*** This proposed MIPS quality measure could help ensure timely biomarker testing for patients with a diagnosis of metastatic non-small cell lung cancer or squamous cell carcinoma of head and neck prior to the initiation of first-line immune checkpoint inhibitor therapy.
- ***TBD: Appropriate Germline Testing for Ovarian Cancer Patients:*** This proposed MIPS quality measure could help improve the completion of germline testing for BRCA1 and BRCA2 within six months for patients diagnosed with epithelial ovarian, fallopian tube, or primary peritoneal cancer.

Germline testing – i.e., genetic testing for an inherited mutation – can help patients understand whether there are genetic factors contributing to their conditions, inform treatment selection, identify opportunities to prevent and manage risk for developing other types of cancer, and highlight the need for testing of other family members’ cancer risk. We believe facilitating broader implementation of germline testing aligns with the Biden administration’s Cancer Moonshot goals to prevent cancer and to improve the experiences of cancer patients and their families. **PMC applauds CMS’ addition of the first germline testing measure to the Advancing Cancer Care MVP, and encourages CMS to expand the adopted measures in accordance with evidence-based guidelines to include germline genetic testing for additional cancers related to *BRCA1* and *BRCA2* genes.**

In addition, we thank CMS for retaining the following quality measures previously supported by PMC in the Advancing Cancer Care MVP:

- ***Q450: Appropriate Treatment for Patients with Stage I (T1c) – III HER2 Positive Breast Cancer:*** This MIPS quality measure could help ensure certain patients with HER2-positive breast cancer receive treatment in accordance with guidelines.
- ***Q451: RAS (KRAS and NRAS) Gene Mutation Testing Performed for Patients with Metastatic Colorectal Cancer who receive Anti-epidermal Growth Factor Receptor (EGFR) Monoclonal Antibody Therapy:*** By assessing if gene mutation testing was performed prior to therapy, this MIPS quality measure could help improve concordance with RAS (KRAS and NRAS) testing guidelines for metastatic colorectal cancer patients.
- ***PIMSH13: Oncology: Mutation testing for stage IV lung cancer completed prior to start of targeted therapy:*** This qualified clinical data registry (QCDR) measure would assess the use of mutation testing for all actionable biomarkers with appropriate mutation-directed therapy, in accordance with current National Comprehensive Cancer Network (NCCN) guidelines for stage IV non-small cell lung cancer (NSCLC).

Even though personalized medicine approaches for testing and targeted treatment have been included in updated clinical guidelines for cancer, patient access to personalized medicine remains varied because of clinical practice gaps, with one study showing diagnostic testing-informed treatment strategies benefitted only 36 percent of patients with advanced non-small cell lung cancer (aNSCLC).^{vi} Measure PIMSH13 could facilitate broader utilization of biomarker testing for patients with aNSCLC as well as testing that is more consistent with actionable biomarkers currently recommended for screening. In prior comments, however, PMC has recommended CMS expand PIMSH13 to include testing for all biomarkers recommended for screening in patients with NSCLC. **We continue to encourage CMS to consider opportunities in future years to expand the applicable guidelines for PIMSH13 beyond NCCN to include the recommendations of the American Society of Clinical Oncology (ASCO), the College of American Pathologists (CAP), and the International Association for the Study of Lung Cancer (IASLC).**

In addition, CMS should consider revising the language in PIMSH13 from “prior to start of targeted therapy” to “prior to start of first-line therapy.” While the use of immunotherapies with or without chemotherapy does not require testing of all actionable biomarkers upfront, the increasing number of actionable genomic targets, the scarcity of available tissue for multiple rounds of genomic testing, and the clinical outcomes associated with targeted therapies approved in the front-line setting

would support fully genotyping tumors prior to initiation of first-line treatment when it is clinically feasible.

Incentivizing physicians' appropriate utilization of biomarker and germline testing in cancer care through multiple measures in the Advancing Cancer Care MVP has the potential to close implementation gaps impacting cancer patients' access to personalized medicine. As CMS plans to sunset MIPS and transition to full adoption of MVPs, we understand that the agency is considering opportunities to expand MVPs to include measures related to additional specialists, like pathologists supporting cancer care, as well as the design of a potential future ambulatory specialty model leveraging the MVP framework to improve specialists' engagement in value-based care. **Throughout CMS' quality improvement efforts, we encourage CMS to consider additional quality measures advancing biomarker and germline testing that can help close these implementation gaps and ensure cancer patients are able to benefit from personalized medicine. Recognizing that CMS plans to fully transition from MIPS to MVPs in the coming years, we urge CMS to create opportunities that enhance patient and health care system access to personalized medicine by incorporating quality measures in oncology and other disease into MVPs.**

Promoting Earlier Detection of Cancer Through Blood-Based and Stool-Based Biomarker Tests

Molecular screening tests, including those that detect cancer signals in the bloodstreams of seemingly healthy individuals, are emerging as an additional way to screen for cancer. Detecting these signals in patients' bodies can warn physicians more quickly about the development of diseases like cancer and promise to put patients on the path to personalized cancer treatment more quickly and with less invasive intervention. While PMC would like to see blood-based cancer screening tests included for more cancer types, we recognize that these tests are currently only covered for colorectal cancer (CRC) screenings under National Coverage Determination (NCD) 210.3.^{vii}

Despite strides made to increase survival rates, colorectal cancer remains the second leading cause of cancer death in the United States. Nearly half of CRC cases and deaths would be preventable with improved screening.^{viii} Cancer screening and earlier detection are pivotal to guiding interventions earlier in asymptomatic cancer patients, often resulting in improved outcomes and reduced morbidities associated with advanced cancer as well as potentially significant reductions in the cost and complexity of cancer care. PMC appreciates CMS' continued focus on screening for various cancers under the Value in Primary Care MVP, as well as other MVPs such as the proposed Dermatological Care MVP. "Q497: Preventive Care and Wellness" combines seven measures for preventive screenings and wellness services. **To help ensure patients receive screening for CRC, PMC continues to support CMS' inclusion of "Q113: Colorectal cancer screening" in the composite measure "Q497: Preventive Care and Wellness" under the Value in Primary Care MVP, but urges CMS to update Q113 to reflect the most recent developments in blood-based and stool-based CRC screening.**

The MIPS quality measure Q113 includes screening modalities recommended by the United States Preventive Services Task Force (USPSTF) in its numerator. When USPSTF CRC screening recommendations last were updated in 2021, blood-based biomarker CRC screening tests were not widely available or FDA approved; a currently available FDA-approved RNA-based non-invasive stool-based CRC screening test was not yet FDA-approved; and it will be several years until USPSTF updates these screening recommendations. Physicians may be disincentivized to order a CRC screening test that is not included in the quality measure's numerator, even if the test could help remove barriers to CRC

screening, particularly for underserved and rural communities. Therefore, to expand access to CRC screening, Q113 should be updated to include each of these more recently FDA-approved tests.

CMS is also proposing to update and expand its description for “complete CRC screening” to include a follow-on screening colonoscopy after a “Medicare-covered blood-based biomarker CRC screening test” returns a positive result, alongside a “Medicare covered non-invasive stool-based colorectal cancer screening test.” This proposal would eliminate Medicare beneficiary cost-sharing for the follow-on colonoscopy and related frequency limitations. PMC previously highlighted concerns to CMS that inconsistencies in coverage for follow-on colonoscopies creates unnecessary confusion and costs for patients.^{ix} We thank CMS for responding to this feedback and reconsidering its approach to complete CRC screening in light of the availability of a blood-based CRC screening test that now meets CMS’ coverage requirements. We believe this timely and proactive change will empower patients to choose the non-invasive CRC screening test that best fits their screening needs and ensure there is a very limited window of time in which patients could experience an out-of-pocket cost for a follow-on colonoscopy after a positive blood-based screening test. **PMC supports CMS finalizing its proposal to cover the follow-on colonoscopy without cost-sharing after either a positive blood-based biomarker CRC screening test or a positive non-invasive stool-based CRC screening test.**

Improving Medication Management for Mental Health Conditions and Other Diseases Through Pharmacogenomics

Medication management can optimize care for patients across diseases and conditions and can also help in the management of comorbidities. Many of the previously finalized MVPs in CMS’ PFS proposed rule include the improvement activity “IA_PM_16: Medication Management,” which incentivizes managing medications to maximize efficiency, effectiveness, and safety. CMS also previously finalized the “Quality Care in Mental Health and Substance Use Disorders MVP” focused on promoting disease prevention and quality care in mental and behavioral health. To help ensure meaningful and comprehensive clinical care is provided to patients, CMS includes “Q009: Anti-Depressant Medication Management.”

Certain personalized medicine tests, called pharmacogenomic (PGx) tests, may be able to predict which medications at which doses will be most effective and least likely to lead to adverse events for individuals, based on their genetic makeup and known drug-gene interactions.^x This information can help guide the application of medicines for many health conditions, including in mental health. For example, one case study in retirees over age 65 found that leveraging pharmacists’ expertise to recommend medication changes based on patients’ genetic information and known PGx implications resulted in a 7 percent decrease in emergency department visits and a 15 percent decrease in inpatient hospitalizations. This shift in health care resource utilization away from acute care services and toward more cost-effective primary care options led to a reduction of about \$7,000 per patient in direct medical charges. For 5,288 patients over 32 months, this yielded an economic savings of \$37 million.^{xi}

Numerous medications approved by the U.S. Food and Drug Administration (FDA) to treat mental health concerns are impacted by genetics. A growing body of evidence supports the value of PGx-based testing to inform the treatment of mental health disorders. Supporting evidence includes the PRIME Care study, which was conducted by the U.S. Department of Veterans Affairs and utilized PGx testing in the treatment of veterans with major depressive disorder (MDD). This study found that after providing PGx testing results to health care providers, patients showed a meaningful decrease in symptoms.^{xii} Among

1,944 patients who were randomized between treatment guided by PGx testing versus usual care, the estimated risks for receiving an antidepressant with none, moderate, and substantial drug-gene interactions for the pharmacogenomic-guided group were 59.3, 30.0, and 10.7 percent compared with 25.7, 54.6, and 19.7 percent in the usual care group. Notably, PGx testing helped veterans with MDD reach quicker symptom remission, with remission rates over the first 24 weeks being higher among patients whose care was guided by PGx testing than those who received usual care.

Greater adoption of PGx testing is imperative to reduce adverse drug events and ensure the most effective treatment selections and doses for patients. In mental health and other conditions, the broad-based clinical integration of PGx testing could help patients achieve better outcomes and reduce avoidable health care costs attributed to poor disease management. **We continue to encourage CMS to consider opportunities to promote more comprehensive medication management and incentivize the clinical adoption of PGx testing based on a drug’s FDA-approved label or clinical guidelines in its MVPs for mental health and other diseases through “IA_PM_16: Medication Management,” “Q009: Anti-Depressant Medication Management,” and/or other quality measures and improvement activities.**

Addressing Health Inequities Through Need-Based Interventions

In 2024, PMC published recommendations for improving the collection and use of inclusive health data in research informing personalized medicine that were developed in collaboration with leaders from communities historically underrepresented in biomedical research.^{xiii} One priority recommendation included modifying and improving systems to capture and share data on social determinants of health (SDOH) in electronic health records (EHRs). Capturing and sharing SDOH data can ensure that patients’ unique circumstances are accounted for in their electronic health records. Supporting the process of collecting data on drivers of health and the performance of clinicians who choose to submit this measure provides a step towards defining, addressing, and allocating supportive resources to patients based on unique circumstances and needs that can impact their ability to benefit from personalized medicine.

PMC commends CMS’ continued focus on how to address disparities in health throughout the new and previously finalized MVPs as part of its larger health equity strategy. Delivering personalized medicine successfully depends on consideration of patients’ biology, medical history, values, and circumstances. Unfortunately, clinical care is too often delivered, and therapies prescribed, based on one-size-fits-all assumptions that do not account for the needs of underserved groups of patients. This approach risks disease progression and can exacerbate health inequities. **PMC supports CMS’ continued inclusion of “Q487: Screening for Social Drivers of Health,” such as food insecurity, housing instability, transportation needs, utility difficulties, and interpersonal safety, across new and previously finalized MVPs.**

Enhancing Utilization of Patient Navigation and Caregiver Training Services

PMC appreciates CMS’ focus on health-related social needs and its request for information in the CY25 PFS proposed rule on newly implemented Principal Illness Navigation (PIN), including potential barriers for Medicare beneficiaries in accessing PIN services and opportunities to improve their utilization. Patient navigation is integral to patient care and can be particularly important for patients who experience barriers to care due to socioeconomic factors. Providing patients with PIN services, in combination with coordinated care, may not only improve patient access to clinically recommended care and health

outcomes but also mitigate the emotional and mental burden facing patients with a new cancer diagnosis. Ensuring Medicare beneficiary access to PIN services can help patients navigate a complex health system to access personalized medicine approaches in cancer care, dementia, and other diseases.

To ensure that PIN services are designed and implemented in a way that truly meets the needs of the diverse Medicare population, we encourage CMS to actively seek and incorporate feedback from a wide range of stakeholders, including patient advocacy organizations, health care providers, community-based organizations, and patients on how to maximize the potential of PIN services. We also encourage CMS to work with Congress to allow statutory authority to waive cost sharing for PIN services, since the additional cost could prevent people who most need these services from benefitting from them.

The proposed rule currently limits PIN services to services that practitioners would only provide during active cancer treatment. Although PIN services during active cancer treatment are vital, PIN services can also be instrumental throughout a patient’s cancer journey starting with prevention, early detection, diagnosis, and into survivorship. PIN services also can help also patients navigate the health care system and access clinically appropriate testing services, such as biomarker testing, at the beginning of their diagnosis and treatment journeys. In previous comments, PMC urged CMS to clarify that PIN services may begin when a health care provider suspects a patient may have cancer to ensure PIN services can help guide patients toward the most effective cancer treatments as soon as possible.^{xiv} **We thank CMS for explaining in the CY 2024 PFS final rule that a definitive diagnosis is not required before a practitioner makes a clinical determination that the patient has a serious high-risk condition and can begin PIN services. However, we encourage CMS to explicitly clarify in regulation that PIN services may begin when a health care provider suspects a patient may have cancer.**

To further reduce barriers to accessing PIN services, we also suggest CMS further expand and refine requirements for PIN-initiating visits to include prevention and screening services as well as monitoring for disease progression or recurrence. In addition to benefitting patients diagnosed with or suspected to have cancer, expanding PIN-initiating visits can benefit patients at high-risk for dementia, where identifying cognitive impairments earlier can enhance quality of life and potentially direct patients earlier toward appropriate interventions.

Through Z-codes, CMS has introduced codes and standards to include SDOH information in EHRs. This includes capturing data related to social risk factors like housing instability, food insecurity, and transportation challenges. Z-codes can help capture non-medical factors that influence health outcomes, allowing for more comprehensive care planning and resource allocation. To promote the increased use of Z-codes, CMS requests input on including them on claims associated with PIN services. **PMC supports the increased utilization of Z-codes to document social risk factors as part of the PIN services. To better capture and address the diverse needs of Medicare beneficiaries, PMC urges CMS to encourage the consistent use of Z-codes across all relevant claims and to provide training and resources to healthcare providers to ensure accurate and comprehensive documentation.**

In addition to PIN services, PMC supports CMS’ efforts to enhance education and support for caregivers by formally recognizing and reimbursing caregiver training services through the establishment of new codes in the CY24 final and CY25 proposed rules. Health systems are still working on developing and adopting the procedures necessary to facilitate the widespread utilization of personalized medicine. For this reason, patients and their caregivers must educate themselves about the

field and discuss it with their physicians. It is important that patients and their caregivers are educated on personalized medicine approaches and collaborate closely with their entire health care team to develop prevention, diagnosis, and treatment plans. Caregivers provide critical support to patients in managing their health conditions. **We urge the inclusion of content in caregiver training services that helps guide patients' and caregivers' interactions with physicians and their entire health care team about personalized medicine.**

Conclusion

PMC appreciates CMS' commitment to improving the quality of care for its beneficiaries. We look forward to working with you and your colleagues to continue fostering the clinical adoption of personalized medicine in cancer and other disease areas through payment incentives under the MIPS and

MVP programs. If you have any questions about the content of this letter, please contact me at 202-499-0986 or cbens@personalizedmedicinecoalition.org, or David Davenport, PMC's Manager of Public and Science Policy, at ddavenport@personalizedmedicinecoalition.org or 804-291-8572.

Sincerely yours,



Cynthia A. Bens
Senior Vice President, Public Policy

ⁱ Centers for Medicare & Medicaid Services. *Medicare and Medicaid Programs; CY 2025 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment and Coverage Policies; etc. (CMS-1807-P)*. <https://www.federalregister.gov/d/2024-14828>. (Accessed September 4, 2024).

ⁱⁱ Russ Montgomery et al. "Personalized Medicine and Quality Measurement: From Conflict to Alignment." *Health Affairs Blog*. April 30, 2019. <https://www.healthaffairs.org/doi/10.1377/forefront.20190424.431063>. (Accessed September 4, 2024).

ⁱⁱⁱ Personalized Medicine Coalition. *Comment Letter on Medicare and Medicaid Programs; CY 2023 Payment Policies under the Physician Fee Schedule and Other Changes to Part B Payment Policies, etc. (CMS-1770-P)*. August 31, 2022. <https://www.personalizedmedicinecoalition.org/Userfiles/PMC-Corporate/file/PMC-Comment-Letter-CY23-PFS.pdf>. (Accessed September 4, 2024).

^{iv} Personalized Medicine Coalition. *Personalized Medicine at FDA: The Scope and Significance of Progress in 2023*. February 29, 2024. <https://www.personalizedmedicinecoalition.org/wp-content/uploads/2024/02/report-3.pdf>. (Accessed September 4, 2024).

^v Thomas Stricker et al. "Clinical Value of Timely Targeted Therapy (TT) for Patients With Advanced Non-small Cell Lung Cancer (aNSCLC) With Actionable Driver Oncogenes (ADO)." *Journal of Clinical Oncology*. May 31, 2023. Vol. 41(suppl 16): abstract 6507. https://ascopubs.org/doi/abs/10.1200/JCO.2023.41.16_suppl.6507. (Accessed September 4, 2024).

^{vi} Helen Sadik et al. "Impact of Clinical Practice Gaps on the Implementation of Personalized Medicine in Advanced Non-Small-Cell Lung Cancer." *JCO Precision Oncology*. October 31, 2022. Vol. 6. <https://ascopubs.org/doi/full/10.1200/PO.22.00246>. (Accessed September 4, 2024).

^{vii} Centers for Medicare & Medicaid Services. *National Coverage Determination for Screening for Colorectal Cancer-Blood-Based Biomarker Tests (210.3)*. Effective January 1, 2023. <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=281&ncdver=7>. (Accessed September 4, 2024).

-
- ^{viii} Centers for Disease Control and Prevention. *Vital Signs: Screening for Colorectal Cancer*. Updated March 12, 2020. <https://www.cdc.gov/vitalsigns/colorectalcancer/index.html>. (Accessed August 29, 2022).
- ^{ix} Personalized Medicine Coalition. *Comment Letter on Medicare and Medicaid Programs; CY 2023 Payment Policies under the Physician Fee Schedule and Other Changes to Part B Payment Policies, etc. (CMS-1770-P)*. August 31, 2022. <https://www.personalizedmedicinecoalition.org/Userfiles/PMC-Corporate/file/PMC-Comment-Letter-CY23-PFS.pdf>. (Accessed September 4, 2024).
- ^x Personalized Medicine Coalition. *The Personalized Medicine Report: Opportunity, Challenges, and the Future*. 6th edition. November 17, 2020. https://www.personalizedmedicinecoalition.org/Userfiles/PMC-Corporate/file/PMC_The_Personalized_Medicine_Report_Opportunity_Challenges_and_the_Future.pdf. (Accessed September 4, 2024).
- ^{xi} Joseph P. Jarvis et al. “Real-World Impact of a Pharmacogenomics-Enriched Comprehensive Medication Management Program.” *Journal of Personalized Medicine*. March 18, 2022. Vol. 12(3):421. <https://doi.org/10.3390/jpm12030421>. (Accessed September 4, 2024).
- ^{xii} David W. Oslin et al. “Effect of Pharmacogenomic Testing for Drug-Gene Interactions on Medication Selection and Remission of Symptoms in Major Depressive Disorder: The PRIME Care Randomized Clinical Trial.” *JAMA*. July 12, 2022. Vol. 328(2):151-161. <https://doi.org/10.1001/jama.2022.9805>. (Accessed September 4, 2024).
- ^{xiii} Personalized Medicine Coalition. *Addressing Disparities in Research Informing Personalized Medicine*. March 13, 2024. <https://www.personalizedmedicinecoalition.org/research/disparities-in-research>. (Accessed September 4, 2024).
- ^{xiv} Personalized Medicine Coalition. *Comment Letter on Medicare and Medicaid Programs; CY 2024 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment and Coverage Policies, etc. (CMS-1784-P)*. September 11, 2023. <https://www.personalizedmedicinecoalition.org/wp-content/uploads/2023/09/comment-letter-3.pdf>. (Accessed September 4, 2024).