

Accelerating the Center for Medicare and Medicaid Innovation's Mission



Integrating Community Pharmacy Care into Value-Based Programs Amid COVID-19 Pandemic Recovery & Beyond

Table of Contents

Preface 1

Executive Summary 2

Section 1. Integrating Pharmacy Care into Value-Based Programs
to Achieve Better Care, Healthier People, & Smarter Spending 8

Section 2. Methodology22

Section 3. Recommendations for Integrating Pharmacy Care into
Value-Based Programs (VBP) and Alternative Payment Model (APM) Design 24

Section 4. Conclusion – Call to Action for CMS and CMMI32

Section 5. Appendix – Overview of Select VBPs, APMs and Quality
Measures Impacted by Pharmacy Care35

Section 6. Glossary.....43

Section 7. Endnotes44

This report analyzes the value and feasibility of integrating clinical pharmacy care into value-based payment programs but does not cover reimbursement reform for medication products dispensed by pharmacies.

Accelerating the Center for Medicare and Medicaid Innovation's Mission – Integrating Community Pharmacy Care into Value-Based Programs Amid COVID-19 Pandemic Recovery & Beyond

This report was developed to advance the thinking of the Center for Medicare and Medicaid Innovation (CMMI), policymakers, and stakeholders on developing innovative approaches to integrating pharmacies and pharmacists into value-based programs (VBPs) and alternative payment models (APMs). Pharmacies and pharmacists are well positioned for inclusion in APMs given their ability to support health system transformation, improve health outcomes, address equity, and decrease health system costs. The paper examines the essential role pharmacists play in providing patient-centered services in their communities, which has been further highlighted by the COVID-19 pandemic. Building on this demonstrated value, the integration of pharmacies and pharmacists into VBPs and APMs presents a great opportunity to support the Biden Administration in achieving its refreshed vision for CMMI, which includes advancing health equity by engaging providers and populations who have not previously participated directly in CMMI models.

This report was developed using an evidence-based approach and includes the following:

- An examination of the role of CMMI in advancing health system transformation through a review of existing initiatives and the Centers for Medicare and Medicaid Services' (CMS) vision for the next decade of CMMI;
- A review of research demonstrating the positive impact of pharmacy-based clinical care services on outcomes, quality, and costs; and
- Five key recommendations to CMMI and policymakers for integration of pharmacists and pharmacy-based clinical services into VBPs and APMs.

Last, the report includes a call to action for CMMI to leverage pharmacists and their role within the communities they serve to meaningfully accelerate the movement to value, advance quality, improve outcomes and support equitable care for all communities.

Executive Summary

CMMI Leading the Movement to Value – Transforming Care and Payment

The COVID-19 pandemic has exposed and exacerbated challenges in our nation's health care system and infrastructure, underscoring the importance and relevance of The Center for Medicare and Medicaid Innovation's (CMMI) goals to achieve better, patient-centered care, healthier people, and smarter spending. Since its creation in 2010, CMMI has been the main catalyst for the movement to value in health care through the development and testing of more than 50 value-based programs (VBPs) and alternative payment models (APMs). Also, the reach of these models across patients is growing. The Centers for Medicare and Medicaid Services (CMS) estimated that 27.9 million individuals had or would receive care from one of 528,000 providers or plans participating in CMMI initiatives between October 2018 and September 2020.¹ As more beneficiaries receive care through VBPs and APMs, there will be greater opportunities to deliver high-quality, efficient care in accessible settings and policy imperatives to evaluate models' impacts – which is especially critical as the nation works to recover from the pandemic and build back better health and a stronger healthcare infrastructure to tackle ongoing and future health crises.

As CMMI moves into its second decade, the Biden Administration and policy experts are focusing on the broader role of CMMI in health system transformation, creating new opportunities to chart a path forward for the movement to value. In its June 2021 Report to Congress, the Medicare Payment Advisory Commission (MedPAC) recommended that CMMI streamline its portfolio and align models to evaluate and achieve greater impact on costs and quality.² The Biden Administration is reviewing current models, making adjustments and is seeking to establish a sustainable and meaningful path for the future. CMMI has stated a commitment to advancing broad system transformation through its models, as well as priorities such as health equity.³

While evaluations of many CMMI models are still underway, early findings point to their potential to improve quality and patient outcomes and to reduce costs. For example, the Next Generation Accountable Care Organization (ACO) model decreased Medicare Parts A and B spending by \$348.6 million, relative to the comparison group, and participating ACOs earned \$466 million in shared savings in the first 3 years of the model.⁴ An evaluation of the first

three years of the five-year Comprehensive Primary Care Plus (CPC+) model found a small (1.5 percent) decrease in emergency department visits and hospitalizations but no net savings.⁵ CMMI built on these early models with major initiatives, including the Direct Contracting and Primary Care First models, models for end-stage renal disease (ESRD) that seek to increase home-based care, and improved triage for low acuity cases in emergency medical services through the Emergency Triage, Treat, and Transport (ET3) model. These developments demonstrate that CMMI has expanded the reach of its models to new care settings and a broader range of providers than were historically included in its initiatives.

To accelerate and build on this first decade of progress and to harness CMMI's role in supporting broader system transformation, CMMI will need to integrate additional providers, suppliers, and care settings into models. CMS has incorporated this thinking into a refreshed vision for CMMI in the coming decade and has identified strategic objectives to guide its efforts. These objectives include driving accountable care through meaningful patient-provider relationships, advancing health equity through engaging providers and populations who have not previously participated in models, supporting innovations that close gaps in care, addressing affordability, and building partnerships with new providers and private sector payers to support transformation. To achieve meeting its goals, CMMI should consider incorporating into models those providers and settings that have the demonstrated ability to expand access and equity, improve quality and patient outcomes, foster meaningful patient-provider relationships, and reduce costs. Specifically, local, community-based care provided by the nation's pharmacies is intrinsic to patient care management. Pharmacies and pharmacists play a vital role in the health care continuum by improving medication use, delivering accessible clinical care for a variety of key interventions, and facilitating patient-centered care in the community.

This paper outlines actionable recommendations for CMMI to further its goals to drive value for Medicare beneficiaries, the Medicare program – and more broadly across patients and the health care system – by including pharmacy-based care in current and future VBPs and APMs, as underscored most recently by the remarkable efforts of pharmacies during the COVID-19 pandemic response.

Expanding Participation in CMMI Models – Value of Pharmacy Care

CMMI models are available to a wide range of health care providers, facilities, and entities including health plans (See Figure 2. Exclusion of Pharmacy Care in Major CMMI Models, Page 15). However, an examination of eligibility criteria for many of CMMI's models illustrates gaps in the providers and care settings currently included. Specifically, pharmacists are unable to participate directly, despite their extensive clinical training, medication expertise, accessibility, and integration in the communities they serve, and a growing body of research demonstrating the positive impact of pharmacy care on patient experience and outcomes and reduced downstream health care costs. Importantly, pharmacies have leveraged their accessibility and clinical expertise to help improve access to COVID-19 testing and vaccinations, with an important focus on equity as a key pillar of the nation's COVID-19 pandemic response. Yet, currently, the Medicare Diabetes Prevention Program (MDPP) is the only program in which a pharmacy can directly participate, but only as an organizational entity called a supplier, similar to the designation provided to non-clinical community centers. While the inclusion of pharmacies as suppliers within the program is a positive development, it does not harness pharmacists' doctorate-level clinical training and expertise to deliver screenings, coaching and other services to patients at risk of diabetes.

To ensure the upward trajectory of innovation and success in building care models that meet the needs of patients, work to eliminate health disparities, and deliver on quality, value, and patient-centered care, CMMI must include and leverage all qualified providers and suppliers across the health care continuum. Inclusion of a wider range of professionals and entities across the continuum can help to address existing barriers in care delivery and coordination and ensure VBPs are truly patient-centered and able to most effectively reduce total cost of care. Pharmacy-based care, in particular, has been excluded from CMMI models to date despite its accessibility and integration in most communities, the strong evidence supporting its value, and its trusted role in clinical treatment across care modalities and patients all across the country.⁶

Community pharmacy care primarily consists of preventive services, including screenings and vaccinations, chronic disease management, especially for diabetes, cardiovascular disease and more, and medication optimization services, including medication adherence interventions. All three are central to maximize the benefit of CMMI's largest models

(See Figure 3. Pharmacy Care Central to the Goals of CMMI Models, Page 16). As shown, pharmacy care services extend well beyond dispensing of medication to include point-of-care testing (e.g., COVID-19, cholesterol, blood pressure, HIV, Hepatitis C and Hemoglobin A1c), medication adherence interventions, patient education, risk assessment, identification and resolution of medication gaps (e.g., statins for patients with diabetes, pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) for HIV prevention in at-risk populations), screening for social determinants of health, depression, and substance use disorders, and even providing acute care and treatment for “minor” or self-limiting ailments (e.g., urinary tract infections, influenza, strep throat). A growing body of research illustrates the positive impacts of pharmacy care on quality, patient outcomes, and costs.⁷ In fact, integration of pharmacy is an emerging best practice among Medicare ACOs.⁸ Increasing access to pharmacy care can help to better achieve not only a given model’s goals, but also CMMI’s overall mission.

Recent policy changes at the Department of Health and Human Services (HHS) and CMS indicate increased awareness of the role pharmacies can play in care delivery. First, the COVID-19 pandemic has underscored the essential role pharmacists play in providing community-based pandemic related care. In states where scope of practice restrictions would unnecessarily hinder care delivery, pharmacists and pharmacy technicians have been granted temporary federal authority to provide COVID-19 testing and vaccines, administer immunizations to children age 3 to 18 – under certain circumstances – and have been integrated as a foundational component of the federal and state COVID-19 vaccination plans and strategies.⁹ Notably, HHS with the Centers for Disease Control and Prevention (CDC) developed the Federal Retail Pharmacy Program for COVID-19 Vaccinations, which leverages 40,000 pharmacies across the nation to improve equitable access to COVID-19 vaccines.¹⁰ Within the Federal Retail Pharmacy Program, 45 percent of sites were located in zip codes with high social vulnerability scores – a CDC index that uses 15 U.S. Census variables to identify communities that may need support.¹¹ As of September 22, 2021, pharmacies had conducted over 8,000 pop up clinics for COVID-19 vaccinations. As of November 9, 2021, more than 162 million COVID-19 vaccinations doses have been administered by retail pharmacies, and in recent weeks, more than 49 percent of people vaccinated through the program have been from a racial or ethnic minority group.¹²

Second, HHS in partnership with national pharmacy and retail chains launched the Community Based Testing Site program to expand COVID-19 testing across all 50 states, DC, and Puerto Rico. Over 70 percent of the programs' testing sites were located in communities with moderate to high-social vulnerability – demonstrating the role these pharmacies can play in increasing access and reaching vulnerable communities.¹³ As of March 8, 2021 more than 6,000 live testing sites were established under this public-private partnership with over 9.8 million samples processed.¹⁴

Finally, HHS recently finalized a regulation that is intended to reduce regulatory barriers to value-based care arrangements in Medicare and Medicaid by clarifying safe-harbors for these arrangements under the Anti-Kickback Statute. In the final regulation, HHS recognized the role of community and retail pharmacies in delivering value-based care and participating in care coordination arrangements by including them as covered under the new safe harbors.¹⁵ New authorities and flexibilities that have been extended to pharmacists, as well as the longstanding capabilities pharmacists have demonstrated during the public health emergency, can be built upon and leveraged in the testing of a pharmacy-focused VBP model.

Key Recommendations for Inclusion of Pharmacy in VBPs and APMs

CMS has the authority to integrate pharmacy care into VBPs and APMs. Integration of pharmacy into such models is operationally feasible and, importantly, has the potential to further improve quality and outcomes and drive greater cost savings to beneficiaries and the system at large. This report puts forth the value, feasibility, and importance of integrating community pharmacies – already critical care settings for Medicare and Medicaid beneficiaries – into VBPs and APMs, and of creating a new model to test the impact of pharmacy care on quality, beneficiary outcomes, and Medicare program costs. CMMI is a leader in the shift to value across payers and the care continuum – and inclusion of pharmacy care into VBPs and APMs would not only benefit Medicare but could also have a broader impact in Medicaid and commercial programs as well.

This report identifies the following key recommendations that policymakers should implement to both integrate pharmacy care into CMMI models and create a new model to increase

access to clinical pharmacy care for patients, and broadly improve healthcare quality and value:

- **Recommendation # 1** – Include pharmacists and pharmacies as eligible providers and/or suppliers in existing and future VBPs and APMs.
- **Recommendation # 2** – Allow pharmacies to be directly paid and/or incentivized for providing care to beneficiaries that improves quality of care, health outcomes, and reduces total cost of care.
- **Recommendation # 3** – Develop and implement meaningful measures, including standardized pharmacy-level quality metrics, across all VBPs and APMs, payers and programs.
- **Recommendation # 4** – Support advancements in health information technology, interoperability and other tools that support coordination across providers, including the bidirectional integration of pharmacy data into broader systems.
- **Recommendation # 5** – Test a pharmacy value-based program to increase access to evidence-based community pharmacy care for Medicare beneficiaries.

These recommendations are built around pharmacies' proven accessibility to patients, ability to provide a wide variety of evidence-based interventions and patient-centered services shown to improve value, and capacity to provide testing, immunization and routine care as demonstrated during the COVID-19 pandemic response and beyond. The evidence-based research on the value of pharmacy care, coupled with the recommendations presented in this report, offer CMMI and policymakers an actionable blueprint for both integrating pharmacy care into VBPs and APMs and creating a new pharmacy care model to drive broad and equitable transformation in the Medicare program and the health system.

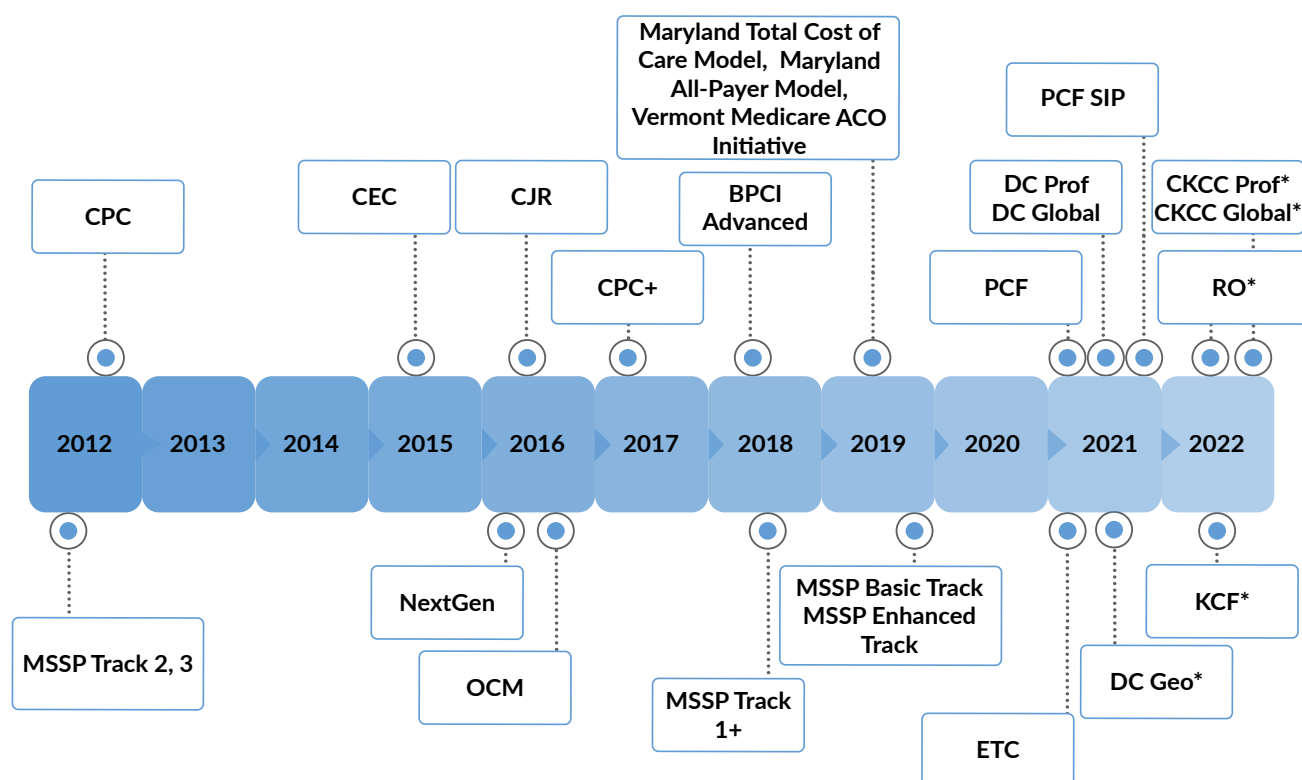
Section 1. Integrating Pharmacy Care into Value-Based Programs to Achieve Better Care, Healthier People, & Smarter Spending

CMMI Leading the Movement to Value – Transforming Payment and Care

The movement to value-based payment and care has been one of the most transformative changes in health care over the last decade. Policymakers have invested heavily in new programs to test changes in payment and care delivery to address the cost and quality challenges in the U.S. health care system. The Centers for Medicare and Medicaid Services (CMS) has led the movement to value across payers – primarily through the establishment of The Center for Medicare and Medicaid Innovation (CMMI) in the Affordable Care Act (ACA) in 2010. Since its creation, CMMI has launched more than 50 value-based programs (VBPs) and alternative payment models (APMs), also serving as a catalyst for commercial payers to test value-based payment arrangements.¹⁶

In recent years, CMMI has been building on lessons learned from early models. In 2019, several models were announced, including the Primary Care First (PCF), Direct Contracting (DC), and the Kidney Care First (KCF) and Comprehensive Kidney Care Contracting (CKCC) models. CMMI also extended models across the care continuum with the Emergency Triage, Treat and Transport model (ET3) for ambulance suppliers and providers. Over the last decade, the scope and reach of CMMI-led initiatives has continued to expand.

Figure 1. CMMI is Driving Advancements in Alternative Payment Models (APMs)¹⁷



*Anticipated Start Date for models expected to qualify as Advanced APMs.
Includes models that qualified as Advanced APMs in 2019 and 2020 or anticipated to qualify as Advanced APMs in 2021 and 2022.

Acronyms: Figure 1

APM: Alternative Payment Model

BPCI Advanced: Bundled Payment for Care Improvement

CEC: Comprehensive End-Stage Renal Disease Care

CJR: Comprehensive Joint Replacement

CKCC: Comprehensive Kidney Care Contracting

CMMI: Center for Medicare and Medicaid Innovations

CPC+: Comprehensive Primary Care Plus

DC: Direct Contracting

ETC: End-Stage Renal Disease Treatment Choices Model

KCF: Kidney Care First

MSSP: Medicare Shared Savings Program

NextGen: Next Generation Accountable Care Organization

OCM: Oncology Care Model

PCF: Primacy Care Model

RO: Radiation Oncology Model

Since 2015, Administration policy goals and legislative changes have accelerated the movement to value. The passage of the Medicare Access and CHIP (Children's Health Insurance Program) Reauthorization Act of 2015 (MACRA) created new incentives for providers to participate in APMs meeting certain eligibility criteria (known as Advanced APMs), which entails a 5 percent bonus payment for participation. In October 2019, the Health Care Payment Learning & Action Network (HCPLAN) announced the goals of tying 100 percent of Medicare Fee-for-Service (FFS) and Medicare Advantage (MA) payments and 50 percent of Medicaid and commercial payments to value-based arrangements by 2025.¹⁸ More recently, the Biden Administration and policy experts are focusing on the larger role of CMMI in health system transformation, which will impact its path forward. Under the new Administration, CMMI has stated a commitment to advancing broad system transformation, as well as other priorities, such as health equity, through its models. It has also taken steps to review and make adjustments to existing models. Additionally, the Medicare Payment Advisory Commission (MedPAC) recommended that CMMI streamline its portfolio and align models to evaluate and achieve greater impact on costs and quality, which may also influence CMMI's focus in coming years. Together, the Administration and stakeholders' review of CMMI and its role moving forward are likely to create new opportunities to advance initiatives that drive broader and more equitable system transformation.

While many evaluations are still underway, early results from CMMI models are promising. Specifically, the Next Generation Accountable Care Organization (ACO) model decreased Medicare Parts A and B spending by \$348.6 million, relative to the comparison group, and participating ACOs earned \$466 million in shared savings in the first 3 years of the model.¹⁹ An evaluation of the first three years of the five year Comprehensive Primary Care Plus (CPC+) model found a small (1.5 percent) decrease in emergency department visits and hospitalizations but no net savings.²⁰ These types of results indicate the promise of such models and their potential to accelerate quality improvements and cost savings with access to the right services and care settings.

Integration of pharmacists in ACOs and as part of care teams is associated with improved care outcomes and lower costs. For instance, including pharmacists in clinics is associated with positive impacts on reducing drug costs (e.g., by recommending less expensive generic or therapeutic alternatives).²¹ Coordination between hospitals and community pharmacists post-discharge and during transitions of care can improve continuity of care (e.g., through

medication screening during inpatient admissions followed by discharge consultation and home visits from pharmacists).²² An evaluation of the Comprehensive End-Stage Renal Disease Care (CEC) model found that participating ACOs entered into partnerships with a range of outside providers, including pharmacists, and that all non-large dialysis organization participants (i.e. chains with fewer than 200 dialysis facilities or independent or hospital-based facilities) relied on employed or affiliated pharmacists to help with medication therapy management.²³ These findings illustrate that ACOs and other models are incorporating pharmacists into care teams to improve care and outcomes, and CMS should develop opportunities for pharmacists to participate directly in existing and new models of care to support and expand quality improvements.

Pharmacy Care Impacts MIPS Performance, But Remains Excluded from Program

In addition to creating Advanced APMs, MACRA established the Merit-Based Incentive Payment System (MIPS), which consolidated a number of existing quality programs. MIPS-eligible, Medicare Part B providers may receive a positive or negative payment adjustment based on performance across four categories – quality, cost, promoting interoperability, and improvement activities. Pharmacists are not MIPS-eligible providers; however, a review of MIPS quality measures published in 2018 found that 25 percent of measures in the quality category, 25 percent of improvement activities and 20 percent of promoting interoperability measures were related to medications, indicating community pharmacies are positioned to positively impact performance under the program.²⁴

The exclusion of pharmacists is counter-productive given the importance of preventive care, chronic care management, and emphasis on medication optimization in the MIPS program. The facilitation of pharmacists into all CMS programs, including existing and future VBPs and APMs, could improve their potential to meet outlined objectives of improved quality and value, while reducing burden on other providers so that they may focus on tasks they are uniquely positioned and qualified to provide. Inclusion of pharmacists in MIPS as recognized Part B providers would align incentives for pharmacists to support achievement of pharmacy level metrics, synergistic with existing metrics on quality and outcomes. Services delivered by pharmacists that could contribute to outcomes and performance on measures include at least: medication reconciliation post-discharge; documentation of current medications and management of high-risk medication; immunizations; preventive readmission interventions; chronic disease control for blood pressure and diabetes; screenings for high blood pressure, opioid misuse, depression, and osteoporosis; promoting adherence; tobacco screening and cessation interventions; and risk assessment for falls.

Expanding CMMI Models – Filling Gaps in the Care Continuum

The design and testing of VBPs and APMs is raising a number of questions on how a broader set of providers, care settings, and medical and non-medical services are necessary to improve health and reduce costs. While the majority of CMMI initiatives target physicians, hospitals, and health systems, models also target post-acute care providers, health plans, and behavioral health care (See Figure 1. Exclusion of Pharmacy Care in Major CMMI Models, Page 9). Announcements under the last administration signaled how CMMI was expanding its reach and harnessing the care continuum to drive value. For instance, ambulance providers have the opportunity to improve care for low acuity cases with the recently launched ET3 model. The new Administration has indicated it will explore opportunities to engage providers who have not previously participated in value-based care initiatives. Even with the expansion of models, pharmacy care has largely been excluded from Medicare APMs and VBPs, despite clear evidence of the positive impact of the services and care pharmacies provide on both improvement in health outcomes and reduction in downstream spending. Further, while pharmacists undergo rigorous clinical training, they remain omitted from directly participating in models where nurses and other providers of care are eligible. Additionally, short-term changes in response to the COVID-19 have allowed the pandemic response efforts to harness community pharmacies' essential role in providing testing and vaccinations while continuing to dispense critical medications, provide patient education and referrals and serve as a main access point within their communities (See The Role of Pharmacies in the COVID-19 Response, Page 14). Building off of these learnings and actions, immediate and permanent steps are needed to improve health across the country and optimize health care spending and resources by allowing community pharmacists to practice at the top of their training and expertise. This includes removing unnecessary barriers that can lead to wasteful spending and suboptimal outcomes for patients.

Ongoing Challenges – Demographic and Fiscal Pressures

The U.S. health system continues to face serious challenges that will require new points of access to cost-effective and high-quality care. Demographic factors and fiscal trends are continuing to place pressure on the need to improve the value of care. First, the portion of individuals eligible for Medicare is growing substantially – by 2029, over 20 percent of the U.S. population will be over age 65.²⁵ At the same time, nearly 7 in 10 Americans 65 or older has multiple chronic conditions, indicating this population will have significant health care needs as they age.²⁶ One study estimated that in 2010, 39 percent of Americans ages 65 years and older took at least five prescription drugs.²⁷

Second, fiscal pressures are mounting as health care spending continues to rise. National health expenditures are expected to constitute 19.7 percent of gross domestic product by 2028 – up from 17.7 percent in 2018.²⁸ Additionally, Medicare spending as a percent of total federal spending is projected to rise from 15 percent in 2018 to 18 percent in 2029.²⁹ Recently, it was estimated that up to \$935 billion of total health care spending annually is attributable to waste.³⁰ Together, these factors create an imperative to develop novel approaches to care delivery that extend across the continuum of care to meet patients' evolving health care needs – and to control spending.

The Role of Pharmacies in the COVID-19 Response

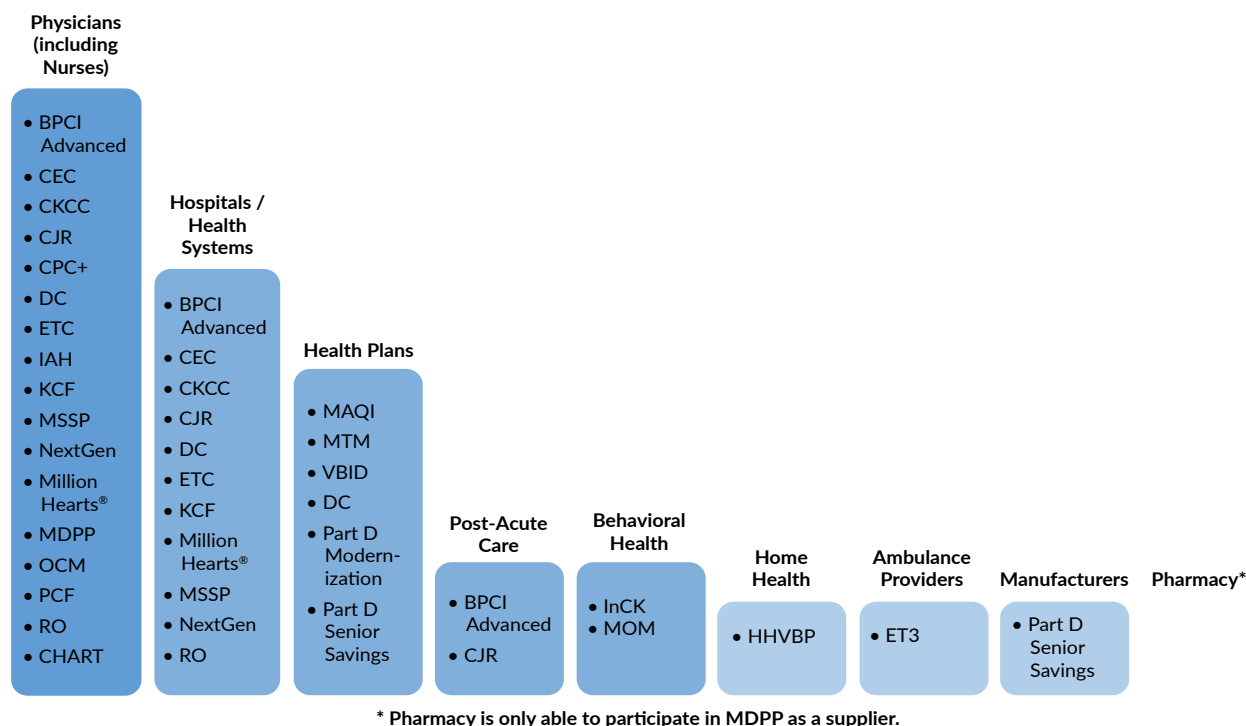
The COVID-19 pandemic has further highlighted the vital role pharmacies play in providing essential health care interventions and as part of a robust pandemic response strategy. Community pharmacies and their partners have more than a decade of experience planning for pandemics, which dates back to the deployment of vaccines during the 2009-2010 H1N1 pandemic. Pharmacies accounted for 23 percent of all distributed vaccines under the CDC's 2009 H1N1 Vaccine Pharmacy Initiative.³¹

Throughout the COVID-19 public health emergency, pharmacies have continued to dispense necessary medications and provide patient education and referrals and have played a critical role in expanding access to COVID-19 testing, vaccinations and other immunizations. HHS and CMS have taken a number of actions demonstrating awareness of the essential role played by pharmacies. This includes temporarily granting pharmacists and pharmacy technicians the authority to provide COVID-19 testing and vaccines and to administer immunizations to children age 3 to 18 – under certain circumstances – in states where scope of practice laws would otherwise have hindered care delivery.³² Further, HHS, with CDC, developed the Federal Retail Pharmacy Program for COVID-19 Vaccination, a collaboration between the federal government, states, territories, and 21 national pharmacy chains and independent pharmacy networks that aims to improve equitable access to COVID-19 vaccination and leverages over 40,000 pharmacies nationally.³³ Within the Federal Retail Pharmacy Program, 45 percent of sites are located in zip codes with high social vulnerability scores – a CDC index that uses 15 U.S. census variables to identify communities that may need support.³⁴ Through this program, more than 162 million COVID-19 vaccinations have been administered, and pharmacies have conducted over 8,000 pop up clinics. Additionally, more than 49 percent of doses administered through the program have gone to a person from a racial or ethnic minority group in recent weeks.³⁵

Further, HHS, in partnership with national pharmacy and retail chains, launched the Community-Based Testing Sites for COVID-19 program to expand COVID-19 testing across all 50 states, DC and Puerto Rico. Over 70 percent of the program's testing sites are located in communities with moderate to high-social vulnerability – demonstrating the role these pharmacies can play in increasing access and reaching vulnerable communities.³⁶ As of March 8, 2021, more than 6,000 live testing sites were established under this public-private partnership with over 9.8 million samples processed.³⁷ Recently, planned program expansion was announced to include 20,000 pharmacies.³⁸

Along with providing infrastructure and supporting public health efforts during pandemics, pharmacies are a trustworthy and accessible point for providing care. Polling shows that pharmacists have high trust ratings – 3 out of 4 adults report trusting pharmacists to administer a COVID-19 vaccination.³⁹ Additionally, research has shown that pharmacies reduce barriers to care by providing services at accessible locations that operate outside of normal clinic hours, which positions pharmacies to address concerns with access – including disparities in access – that have been a focus during the COVID-19 response.

Figure 2. Exclusion of Pharmacy Care in Major CMMI Models¹⁷



Acronyms: Figure 2

BPCI Advanced: Bundled Payment for Care Improvement

CEC: Comprehensive End-Stage Renal Disease Care

CHART: Community Health Access and Rural Transformation

CJR: Comprehensive Joint Replacement

CKCC: Comprehensive Kidney Care Contracting

CMMI: Center for Medicare and Medicaid Innovations

CPC+: Comprehensive Primary Care Plus

DC: Direct Contracting

ET3: Emergency Triage, Treat, and Transport Model

ETC: End-Stage Renal Disease Treatment Choices Model

HHVBP: Home Health Value-Based Program

IAH: Independence at Home

InCK: Integrated Care for Kids Model

KCF: Kidney Care First

MAQI: Medicare Advantage Qualifying Payment Arrangement Incentive Demonstration

MDPP: Medicare Diabetes Prevention Program Expanded Model

Million Hearts®: Cardiovascular Disease Risk Reduction

MOM: Maternal Opioid Misuse Model

MSSP: Medicare Shared Savings Program

MTM: Medication Therapy Management

NextGen: Next Generation Accountable Care Organization

OCM: Oncology Care Model

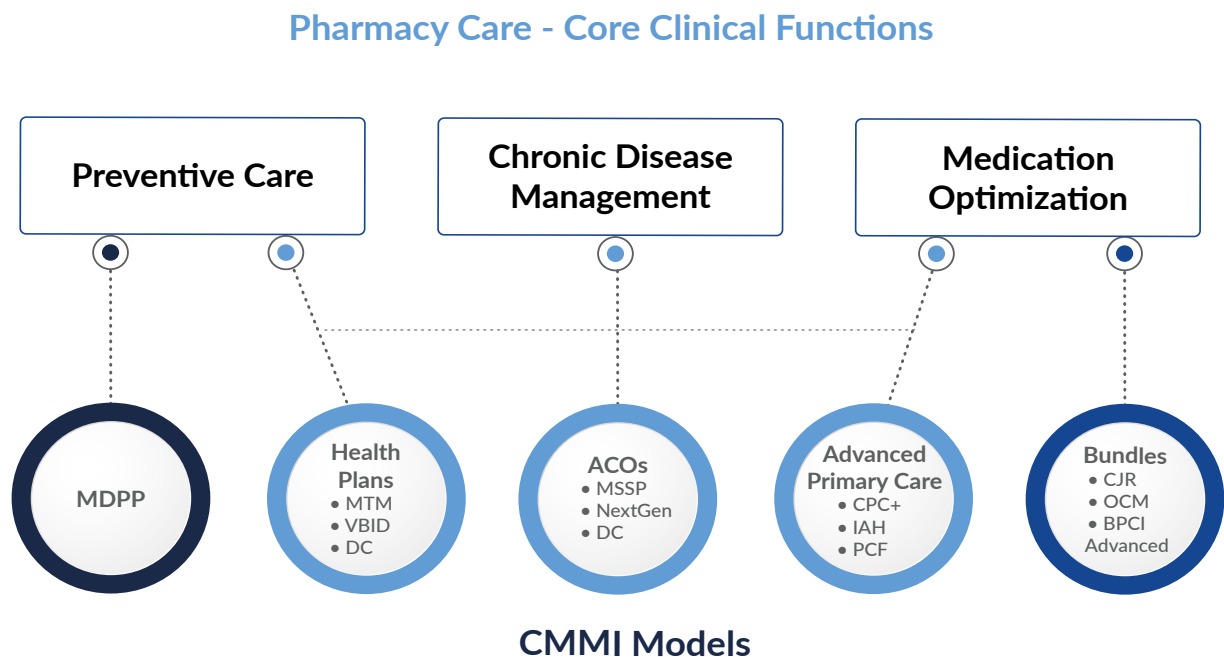
PCF: Primary Care First

RO: Radiation Oncology Model

VBID: Medicare Advantage Value-Based Insurance Design Model

Research has shown that core services provided by pharmacists and in community pharmacies – preventive services, chronic disease management, and medication optimization – can improve quality, patient outcomes, and help control spending, as will be detailed in the next section. A review of select APMs’ quality and utilization measures and/or care requirements clearly shows that these core pharmacy care services could meaningfully contribute to improving care delivered under these models and support model goals of improved quality and outcomes, and reduced costs (See Figure 2. Pharmacy Care Central to Goals of CMMI Models, Page 15; Appendix – Overview of Select VBPs, APMs and Quality Measures Impacted by Pharmacy Care, Page 35).

Figure 3. Pharmacy Care Central to Goals of CMMI Models¹⁷



Acronyms: Figure 3

ACO: Accountable Care Organization

BPCI Advanced: Bundled Payment for Care Improvement

CJR: Comprehensive Joint Replacement

CMMI: Center for Medicare and Medicaid Innovations

CPC+: Comprehensive Primary Care Plus

DC: Direct Contracting

IAH: Independence at Home

MDPP: Medicare Diabetes Prevention Program Expanded Model

MSSP: Medicare Shared Savings Program

MTM: Medication Therapy Management

NextGen: Next Generation Accountable Care Organization

OCM: Oncology Care Model

PCF: Primary Care First

VBID: Medicare Advantage Value-Based Insurance Design Model

This report first presents seminal research on the impacts of preventive services, chronic disease management, and medication optimization services provided in pharmacy settings or by pharmacists on quality, patient outcomes, and costs. The paper then offers actionable recommendations for how CMMI, policymakers, and stakeholders can integrate and emphasize pharmacy care in VBPs and APMs to both achieve a model's goals – as well as fulfill CMMI's mission and goals to drive broader and more equitable system transformation.

Value of Pharmacy Care – Improved Patient Health and Reduced Downstream Costs

Pharmacy care interventions extend well beyond dispensing of medication to include a variety of essential preventive care, chronic disease management, and medication optimization services. These include immunizations, point-of-care testing (e.g., COVID-19, cholesterol, blood pressure, HIV, Hepatitis C and Hemoglobin A1c), medication adherence, patient education, risk assessment, screenings (e.g., for social determinants of health, depression, and substance use disorders), and acute care and treatment for “minor” or self-limiting ailments (e.g., urinary tract infections, influenza, strep throat). As noted above, pharmacies are playing a significant role in expanding the reach of testing and vaccination to augment the COVID-19 pandemic response.

About 90 percent of Americans live within 5 miles of a community pharmacy, making pharmacies a highly accessible care setting and an integral component of a patient's team of providers.⁴⁰ An analysis of a pilot program to improve care coordination for high-risk Medicaid beneficiaries found that they visited their pharmacies an average of 35 times per year – much greater than the average number of visits to their primary care provider or specialist, which was 4 and 9 times per year, respectively.⁴¹ An analysis of 680,000 Medicare beneficiaries (including more than 65,000 Black and more than 16,500 Hispanic beneficiaries), showed pharmacy visits significantly outnumber primary care encounters (13 pharmacy visits to 7 primary care encounters per year), with the difference in rural areas being even more profound (14 compared to 5).⁴² Pharmacy is a highly frequented care setting for the general population as well. Further, 90 percent of surveyed voters reported that a pharmacy is easy to reach – more than any other health care access category – and 75 percent of adults reported that they had visited a pharmacy in the past year.⁴³ Clearly, community pharmacists can fill gaps in care, especially when patients face access barriers because of physician shortages, distance to other providers, are underserved or face other inequities.

Pharmacies Increase Access to Preventive Care, Screenings

A growing body of research demonstrates the positive impacts of preventive services, including vaccine administration, and point-of-care testing and screenings for early detection, and management and treatment of chronic diseases delivered in a pharmacy setting on health, access, and spending.

- **Improving Adult Vaccination Rates.** An examination of the role of pharmacists in administering immunizations concluded their involvement was correlated with higher rates of immunizations, compared to administration of vaccines by traditional providers.⁴⁴ Recent data on influenza immunizations underscore the growing role of pharmacies. In 2018, the CDC reported that 32.2 percent of flu shots were administered at a pharmacy.⁴⁵ Further, influenza vaccinations administered in pharmacies were 52 percent higher during the 2020-21 flu season compared to 2019-2020, and pharmacies provided over 14 million more flu shots than other providers.⁴⁶
- **Decreasing Barriers to Access.** Pharmacies provide crucial access to vaccines during off-clinic hours when physician offices are unavailable. One study found that of more than 6 million vaccinations administered by pharmacists over 12 months, 30.5 percent were administered during non-traditional office hours.⁴⁷ The literature also demonstrates that allowing pharmacists to provide immunizations and practice at the top of their license has improved vaccination coverage,⁴⁸ and pharmacies have been shown to be a cost-effective healthcare setting for providing immunizations.⁴⁹
- **Reducing Medical Costs.** A 2014 analysis of the direct medical costs of administering vaccines in different settings found that the direct medical cost per adult vaccination was 11 to 26 percent lower in pharmacies compared to physician offices and other medical settings.⁵⁰
- **Improving Outcomes and Overall Savings Related to Influenza.** A 2018 study that modeled the clinical and economic impacts of using pharmacies to administer influenza vaccinations estimated that including pharmacies in addition to traditional locations for vaccination (e.g., clinics, physician offices, urgent care centers) could prevent up to 16.5 million symptomatic influenza cases and 145,278 deaths at an estimated cost savings of \$4.1 to \$11.5 billion.⁵¹

- **Supporting Early Diagnosis with Screenings.** A review of 16 studies in which over 100,000 patients were screened for diabetes and cardiovascular disease risk factors at community pharmacies determined that pharmacy-based screenings successfully led to identifying a significant portion of patients at risk of or suffering from type 2 diabetes or cardiovascular disease.⁵² Pharmacy-based programs to screen for behavioral health challenges, such as substance use disorders, anxiety, and depression are also associated with increased early detection and coordinated linkage to treatment⁵³ in addition to promising outcomes when pharmacies screen for social determinants of health.⁵⁴
- **Expanding Point-of-Care Testing Access in Underserved Populations.** Studies have shown community pharmacies can expand testing for HIV to underserved communities and areas with high rates of poverty.⁵⁵ Other successful examples include pharmacy-based screening for hepatitis C, influenza, and strep throat.⁵⁶

Increasing access to community pharmacy care for immunizations and preventive care broadly can both improve care for beneficiaries and decrease avoidable costs – both central goals of VBPs and APMs.

Leveraging Pharmacies to Improve Chronic Disease Management

An estimated 60 percent of the U.S. adult population has one chronic condition and 40 percent have two or more.⁵⁷ Pharmacists can provide a range of activities to support chronic disease management including monitoring chronic disease clinical markers, medication optimization or adherence interventions, and disease specific counseling. Increasing access to pharmacy care can improve the management of chronic conditions – a key goal of many value-based programs.

- **Improving Outcomes with Chronic Care Management.** A review by the Department of Veterans Affairs of over 60 research studies found that patients receiving chronic care management from a pharmacist had a higher likelihood of meeting blood pressure, cholesterol and blood glucose goals, compared to those receiving usual care.^{58, 59} A retrospective study that assessed clinical outcomes in patients with diabetes, with and without management by a pharmacist, found that the pharmacy intervention group had greater improvements in the individual areas of A1c, blood

pressure, and statin goal attainment that were statistically significant. In this study, 40 percent of patients in the pharmacist intervention group achieved all three clinical goals after the intervention, compared with only 12 percent of patients in the usual care group.⁶⁰

- **Increasing Adherence and Health.** A review of 22 studies analyzing community pharmacist-led interventions showed that these services increase patients' medication adherence and contribute to improved blood pressure control, cholesterol management, and chronic obstructive pulmonary disease and asthma control. Most of the effective interventions examined across the studies were multifaceted and included patient education and counseling often related to medications, medical conditions, or demonstration of effective technique (for example, inhaler technique). Other elements included simplification of treatment regimens, communication between patients and health care professionals, follow-up, and monitoring. The findings demonstrate that pharmacist-led interventions may positively impact patients' satisfaction and knowledge.⁶¹

Medication Optimization Associated with Improved Patient Outcomes and Lower Costs

One of the most cited ways that community pharmacists have demonstrated positive impacts on patient care, outcomes and costs is through the provision of medication optimization services – defined as “patient-centered activities that improve health outcomes by addressing medication appropriateness, effectiveness, safety, adherence, and access.”⁶²

- **Medication Synchronization for Chronic Diseases.** A study evaluating pharmacy-based medication synchronization programs for Medicaid fee-for-service beneficiaries with conditions such as hypertension, hyperlipidemia and diabetes found improvements in adherence to cardiovascular medications, improved cardiovascular clinical outcomes and significantly lower rates of hospitalization and emergency department visits, compared to a control group.⁶³ Further, a Government Accountability Office (GAO) review of available data on the impact of synchronization found most studies showed positive impacts of medication synchronization on patients.⁶⁴
- **Medication Adherence for Diabetes and Cardiovascular Disease Treatments.** An evaluation of the Pennsylvania Project – a pharmacy-based medication adherence

program across 107 pharmacies with 283 participating pharmacists – found a statistically significant improvement in adherence across five classes of medications examined. In this program, pharmacists screened patients for nonadherence and wellbeing using validated tools, and based on screening results, pharmacists provided brief interventions. The study estimated that the program resulted in \$241 of annual savings per patient for improved adherence to oral diabetes medications and \$341 for improved adherence to statin medications.⁶⁵

- **Adherence and Reduced Medical Costs.** A 2015 study estimated individuals with better adherence to angiotensin converting enzyme (ACE) inhibitors and angiotensin-receptor blockers (ARBs) had \$4,920 to \$6,389 in reduced adherence-related medical costs per person and 14 to 26 percent lower adherence-related drug costs.⁶⁶
- **Medicare Advantage and Part D Adherence Efforts.** CMS’ 2018 National Impact Assessment Report determined that Medicare Advantage (MA) plans and prescription drug plans (PDPs) that focused on improving adherence for select medications to treat cholesterol, hypertension and diabetes saw an estimated \$4.2 to \$26.9 billion in avoided costs between 2011 and 2015.⁶⁷
- **Medication Optimization and Improved Adherence.** A study that used Medicare FFS claims data to estimate the prevalence of medication non-adherence among beneficiaries with diabetes, heart failure, hypertension and hyperlipidemia projected that Medicare could save \$13.7 billion annually if the 25 percent of non-adherent beneficiaries with hypertension became adherent.⁶⁸

As more Americans – many of whom will have chronic conditions and utilize medications to manage disease – become eligible for the Medicare program, the potential for medication optimization to control spending and improve outcomes will likely grow.

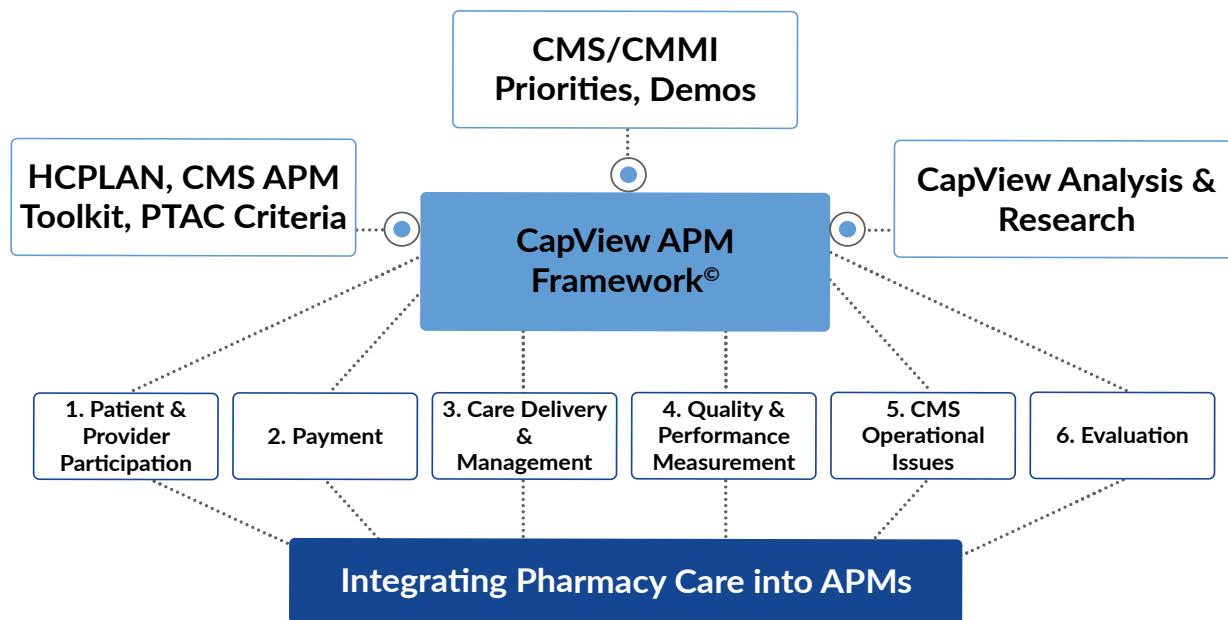
Overall, research underscores that community pharmacies provide evidence-based care that improves quality, patient outcomes, and reduces costs. New payment and delivery models with these shared goals that integrate and focus on community pharmacies would accelerate CMMI’s mission to advance value in the health care system and promote equity – and help CMS address the demographic and fiscal challenges ahead.

Section 2. Methodology

While pharmacists and pharmacy care are not systematically included in existing Medicare Fee-for-Service (FFS) value-based programs (VBPs) and alternative payment models (APMs), examining existing models can help inform opportunities to integrate pharmacy care into models. The following recommendations are for consideration by The Centers for Medicare and Medicaid Services (CMS) and other stakeholders developing and improving health care delivery and payment models. They were developed using the CapView APM Framework[®], which is a synthesis of program design elements derived from the CMS APM Toolkit,⁶⁹ Health Care Payment Learning and Action Network (HCPLAN) resources, the Physician-Focused Payment Model Technical Advisory Committee (PTAC) criteria for model evaluation,⁷⁰ review and synthesis of The Center for Medicare and Medicaid Innovation (CMMI) and other APM initiatives' evaluations, and CapView research on elements of APMs, including state payment and delivery reform initiatives and commercial models (See Figure 4. CapView APM Framework[®], Page 23; Appendix – Overview of Select VBPs, APMs and Quality Measures Impacted by Pharmacy Care, Page 35).

The CapView APM Framework[®] includes six essential design categories – patient and provider participation, payment, care delivery, quality and performance measurement, CMS operational issues, and evaluation – that should be addressed in designing, implementing, and evaluating APMs.

Figure 4. CapView APM Framework^{©71}



Acronyms: Figure 4

APM: Alternative Payment Models

CMS: Centers for Medicare and Medicaid Services

CMMI: Center for Medicare and Medicaid Innovations

HCPLAN: Health Care Payment Learning and Action Network

PTAC: Physician-Focused Payment Model Technical Advisory Committee

Section 3. Recommendations for Integrating Pharmacy Care into VBP and APM Design

The following recommendations outline how The Centers for Medicare and Medicaid Services (CMS) and other stakeholders can actionably support integration of pharmacists, pharmacies, and pharmacy care into current and future value-based program (VBP) and alternative payment model (APM) design, implementation, and evaluation. The recommendations are informed by the CapView APM Framework®, research on the impacts of pharmacy care on outcomes and costs, and a review of current models in which pharmacists could be included to advance model goals. The recommendations are written to actionably facilitate the integration of pharmacy care into VBPs and APMs as a strategy to improve health and reduce costs. These recommendations are built on pharmacies' accessibility to patients and ability to provide a wide variety of evidence-based interventions and patient-centered services – most recently highlighted by pharmacies' capacity to provide testing, immunization, and routine care during the COVID-19 pandemic response.

Recommendation # 1 – Include pharmacists and pharmacies as eligible providers and/or suppliers in existing and future VBPs and APMs.

Pharmacists should be recognized as eligible providers and pharmacies as suppliers in VBPs and APMs to allow them to serve on beneficiary care teams, improve access to community-based care, and improve quality of care and care experience through the delivery of patient-centered services. CMS should expand direct payment to pharmacies as suppliers of healthcare services in the Medicare program through rulemaking, such as the annual Medicare Physician Fee Schedule rule, consistent with the treatment of pharmacies in the Medicare Diabetes Prevention Program (MDPP) Expanded Model and having mass immunizer status for vaccinations. The integration of pharmacies into value-based or alternative payment models should not reduce pharmacy dispensing fees, but rather support broader beneficiary access to clinical care delivered at pharmacies.

Additionally, The Center for Medicare and Medicaid Innovation (CMMI) should use its authority granted under Section 1115A of the Patient Protection and Affordable Care Act to test the impact of an expanded clinical role for pharmacists on outcomes, quality, and costs.

CMS and payers designing VBPs and APMs should explicitly allow community pharmacists and pharmacies to provide the following:

- Preventive services (e.g., COVID-19 testing and vaccines, other point-of-care testing such as flu and strep throat, vaccinations, wellness visits, behavioral health, and other screenings);
- Chronic disease management (e.g., diabetes/Hb A1c and HIV point-of-care testing, hypertension and cardiovascular disease programs, asthma, and chronic obstructive pulmonary disease (COPD) control, and relevant organ function tests such as kidney and liver function);
- Medication optimization services (e.g., adherence, pharmacist-managed medications, intervention on drug therapy problems, ensuring a patient is on the right medication, formulation, dose, and evaluating and addressing safety and efficacy of all therapies); and
- Beneficiary education and health coaching.

Recommendation # 2 – Allow pharmacies to be directly paid and/or incentivized for providing care to beneficiaries that improves quality of care, health outcomes, and reduces total cost of care.

Pharmacies should be eligible for direct payments or incentive payments under VBPs or APMs given that many of the services they provide (e.g., preventive care and screening, chronic disease management, and medication optimization) directly impact models' goals of improving quality of care, patient outcomes, and reducing total cost of care. Current models, which allow for APM entities to partner with pharmacies – rather than permitting direct participation – are not structured to support sustainable delivery of pharmacy care services.

CMS and payers designing VBPs and APMs should provide direct payments to pharmacies. The following recommendations outline opportunities to leverage pharmacies and pharmacists and are organized from the most to the least promising:

- Permit pharmacists to be eligible for performance-based or bonus payments linked to outcomes for measures related to preventive care, chronic care, medication optimization and other services that pharmacists can provide like immunizations, screenings, drug therapy and problem resolution (See Challenges and Opportunities Related to Payment for Pharmacy Services, Page 28).
- Test models that allow pharmacists to be paid under Part B for preventive care, chronic disease management, and medication management services as well as other services with the potential to improve quality, health outcomes and reduce costs.
- Incorporate a one-time or monthly, risk adjusted care management fee into existing or new model design to support direct patient care provided by pharmacists.
- Expand incident-to billing opportunities for pharmacists to facilitate greater integration of community pharmacy care in VBPs and APMs and remove the requirement that incident-to services be provided at the physician's site of practice, to improve patient access to care.

Recommendation # 3 – Develop and implement meaningful measures, including standardized pharmacy-level quality metrics, across all VBPs and APMs, payers and programs.

A number of existing VBPs and APMs already link performance to delivery of services and interventions that can be provided by pharmacists. CMS should develop and promote utilization of a standard set of performance metrics that includes pharmacy-level measures, which would allow for more accurate and consistent evaluation of models and programs. This would also support assessment of the impact of pharmacy-based care on improving outcomes and quality for beneficiaries and reducing costs for the Medicare program. In fact,

pharmacists can positively impact a number of metrics that are established and integrated into existing models. (See Appendix – Overview of Select VBPs, APMs and Quality Measures Impacted by Pharmacy Care, Page 35).

CMS and payers designing VBPs and APMs can advance meaningful measurement across payers and programs by:

- Requiring that VBPs and APMs include a clear, standardized, achievable set of measures, including pharmacy-specific metrics applicable across programs, that accurately evaluate the impact of clinical pharmacy care on quality, outcomes, and costs.
- Designing and implementing multi-payer models that align efforts across payers to include broader patient and population health goals and promote use of consistent, meaningful measures.
- Ensuring accurate risk-adjustment under models to account for clinical needs, demographic characteristics, and social determinants of health.
- Using standard metrics to support inclusion of evidence-based services (e.g., medication optimization, chronic disease management and other services shown to improve outcomes and reduce costs) that primary care and population-based models [such as accountable care organizations (ACOs)] must provide, with the option for provision directly through community pharmacy as part of these models.

Challenges and Opportunities Related to Payment for Pharmacy Services

Payment for pharmacy care – other than dispensing medications – is limited for services, especially under Medicare, as pharmacists are not recognized as Part B providers. Additionally, current billing for pharmacists that practice in hospital outpatient settings or physician offices is limited “to incident”-to-billing – in which case the payment is made to the provider or physician supervising the pharmacists. However, commercial payers and Medicaid offer examples of how pharmacists can be reimbursed for patient care services directly. These examples should be used to inform future models of care to improve quality, outcomes, and reduce costs in the Medicare program.

Per Member Per Month Fees. In Iowa and South Dakota, Wellmark Blue Cross Blue Shield’s (BCBS’s) Value Based Payment program targets patients with certain chronic conditions to increase medication adherence, improve clinical markers and lower emergency department (ED) visits, hospital readmission, and total cost of care. Participating pharmacies offer clinical services (e.g., immunization programs, medication review, health screenings, medication synchronization programs) and are paid a prospective per member per month fee with the opportunity to receive a bonus payment based on shared savings.⁷² While the impact of the 3-year pilot, which concluded in June 2020, is still being evaluated, the Continuous Medication Monitoring (CoMM) pharmacy pilot – on which the Wellmark BCBS’s program builds – demonstrated lower total costs of care and meaningfully better medication adherence. Specifically, patients who received medications only from pharmacies offering the CoMM program had approximately \$300 lower per member per month costs, compared to patients receiving medications from other pharmacies. Broader evaluations showed that the pharmacists interventions reduced health care costs by \$25 million during first two years of the program.⁷³

Fee-For-Services Based on Patient Complexity. Minnesota operates the Medication Therapy Management (MTM) Services program for Medicaid and other low-income residents. Under the program, pharmacists provide a range of services including assessing health status, developing medication treatment plans, performing comprehensive medication reviews, documenting care, communicating with patients’ primary care providers, and providing patient education. Pharmacists in the program are also able to use telehealth to provide services to certain beneficiaries. The state reimburses pharmacies or other providers based a continuum of patient need and using MTM Current Procedural Terminology (CPT) codes. Patient need level is based on the number of medications, drug therapy problems, and the patient’s medical conditions.⁷⁴

Pay for Performance. In California, the Inland Empire Health Plan’s (IEHP) Pharmacy Pay for Performance (P4P) Program was designed for Medicaid managed care and Medicare Advantage enrollees and has included several phases aimed at improving member health and reducing costs since it started in 2013. As part of the medication safety component of the program, pharmacies receive a payment per prescription claim for certain actions related to drug utilization review (DUR) alerts and are also eligible for bonus payments. Participating pharmacies receive bonus payments for meeting quality measures every 6 months and for certain actions (e.g., pharmacies sending text notifications to plan members).^{75, 76}

Recommendation # 4 – Support advancements in health information technology, interoperability and other tools that support coordination across providers, including the bidirectional integration of pharmacy data into broader systems.

Health information technology (HIT) systems and tools to promote interoperability and coordination should support integration across providers and settings, including the community pharmacy setting. Efforts should build upon longstanding initiatives undertaken by the pharmacy industry to realize HIT systems and tools that promote interoperability and coordination between pharmacies and other stakeholders across the continuum of care. Progress to date includes:

- The Pharmacist eCare Plan, which is an interoperable standard developed in Fast Healthcare Interoperability Resources (FHIR), that allows for clinical information exchange between pharmacies and others such as physicians and payers.⁷⁷ This standard was jointly developed by the National Council for Prescription Drug Programs (NCPDP) and Health Level Seven (HL7). Many pharmacy system vendors have enhanced their systems to support the creation and sharing of the Pharmacist eCare Plan with the patient's other providers and health plan.
- A referral transaction developed by NCPDP in the SCRIPT ePrescribing Standard that supports a patient's provider or health plan sending a referral to a pharmacy or pharmacist for a patient care service, separate from medication dispensing activities.
- An effort currently underway by NCPDP that aims to increase adoption of the current Health Insurance Portability and Accountability Act (HIPAA) standard's "S1-service billing transaction," which will streamline pharmacy billing and reporting of clinical services separate from medication dispensing activities.
- Work by the Pharmacy Health Information Technology (PHIT) Collaborative to develop new CPT and Systemized Nomenclature of Medicine – Clinical Terms (SNOMED CT) codes for pharmacists to bill for pharmacy-based patient care services.⁷⁸ Additionally, the PHIT Collaborative is working to support use of

standardized Electronic Health Records (EHRs) that integrate pharmacists and other providers and support safe and effective medication utilization.⁷⁹

Policymakers, CMS, and payers can advance the use of health information technology (HIT) and support coordination and interoperability by:

- Supporting the development and utilization of a standardized claims processing system that accommodates the ability for community pharmacies to bill for clinical patient care services in real-time and leverages existing pharmacy billing systems and processes, where possible.
- Integrating standardized coding terminology for documenting clinical pharmacy care (e.g., SNOMED CT) into practice, in addition to building on work underway to develop new CPT and Healthcare Common Procedure Coding System (HCPCS) codes for pharmacists to bill for pharmacy-based care.
- Expanding interoperability and sharing of clinical and patient care data to include pharmacies.
- Developing resources (e.g., patient engagement materials, learning collaboratives) that encourage and facilitate other provider types to collaborate with pharmacists to meet quality-based objectives.
- Requiring that entities participating in VBPs or APMs share relevant patient care information with all providers and across all settings – including community pharmacies – to promote coordination of care and reduce waste, where feasible.

Recommendation # 5 - Test a pharmacy value-based program to increase access to evidence-based community pharmacy care for Medicare beneficiaries.

CMS and payers should design and implement a pharmacy care focused model – the Pharmacy Care Quality Incentive Program (PCQIP) – to test the impact on quality, beneficiary

outcomes and costs. A PCQIP would support CMS' goal of moving more providers and patients into value-based care and would help advance CMMI's vision to achieve better care, healthier people, greater equity, and smarter spending. Specifically, a PCQIP would:

- Provide value-based payments that incentivize and reward community pharmacies for providing accessible, high-quality, and coordinated care.
- Align direct incentives for pharmacy to provide and sustain the evidence-based, accessible, clinical care interventions that pharmacists are uniquely qualified and positioned to provide, such as preventive care, chronic care management, and medication optimization.
- Include a standardized set of transparent, fair, achievable, clinically meaningful performance metrics to consistently measure pharmacy performance across plans, pharmacy benefit managers, and pharmacies.

Section 4. Conclusion – Call to Action for CMS and CMMI

Growing evidence on the value of pharmacy care, including as a key part of the COVID-19 pandemic mitigation and recovery effort, underscores the imperative to directly integrate pharmacists and pharmacy care services into value-based programs (VBPs) and alternative payment models (APMs), and to create a pharmacy-focused model to achieve The Center for Medicare and Medicaid Innovation's (CMMI's) mission. The recommendations included in this report provide a blueprint and actionable solutions for integrating and emphasizing pharmacy care in CMMI's work to improve health, quality, value, and equity in our system. Key recommendations and actions for policymakers outlined in this report include:

- **Recommendation # 1** – Include pharmacists and pharmacies as eligible providers and/or suppliers in existing and future VBPs and APMs. The Centers for Medicare and Medicaid Services (CMS) should implement this change by granting pharmacies supplier status through annual rulemaking and using CMMI to test the impact of an expanded clinical role for pharmacists on outcomes, quality, and costs.
- **Recommendation # 2** – Allow pharmacies to be directly paid and/or incentivized for providing care to beneficiaries that improves quality of care, health outcomes, and reduces total cost of care. CMS should allow direct participation by pharmacies in existing population-based models and support establishment of a pharmacy-specific model.
- **Recommendation # 3** – Develop and implement meaningful measures, including standardized pharmacy-level quality metrics, across all VBPs and APMs, payers and programs. CMS should develop a standard set of performance measures for pharmacies and assess their impact on improving outcomes and quality for beneficiaries and reducing costs in the Medicare program.
- **Recommendation # 4** – Support advancements in health information technology, interoperability and other tools that support coordination across providers, including the bidirectional integration of pharmacy data into broader systems. CMS should

prioritize expanding interoperability and the sharing of clinical and patient care data to include pharmacies, where feasible.

- **Recommendation # 5** – Test a pharmacy value-based program to increase access to evidence-based community pharmacy care for Medicare beneficiaries. CMMI should test the Pharmacy Care Quality Incentive Program (PCQIP) within the Medicare program.

CMMI has transformed payment and care across payers over the last decade with the launch of over 50 models and early results have indicated their potential to improve quality and control costs. There is a significant opportunity now to build on these initial findings and advance CMS’ refreshed vision for CMMI by integrating providers and care settings that can provide accessible, evidence-based care in the community, such as pharmacies. Further, integration of pharmacies and pharmacists into VBPs and APMs presents an important opportunity to drive broader health system transformation as well as to support emerging priorities such as the advancement of equity and patient-centered care. The access to care provided by pharmacies paired with the ever-growing evidence regarding the clinical value of community pharmacies and pharmacists creates the imperative for CMMI and policymakers to leverage these providers and settings to meaningfully accelerate the movement to value and equity in this next decade.

About CapView Strategies

CapView Strategies is a health policy consultancy committed to shaping health care transformation and innovation. In a time of increasing complexity and convergence across health care, our mission is to improve quality of care for patients and advance value in the system. CapView Strategies works with stakeholders across the health continuum and specializes in understanding – and analyzing the implications of – the evolving policy landscape and the roles and responsibilities of the federal government, states, and the private sector. Please visit capviewstrategies.com.

About NACDS

The National Association of Chain Drug Stores (NACDS) represents traditional drug stores, supermarkets, and mass merchants with pharmacies. Chains operate nearly 40,000 pharmacies, and NACDS' 80 chain member companies include regional chains, with a minimum of four stores, and national companies. Chains employ nearly 3 million individuals, including 155,000 pharmacists. They fill over 3 billion prescriptions yearly, and help patients use medicines correctly and safely, while offering innovative services that improve patient health and healthcare affordability. NACDS members also include more than 900 supplier partners and over 70 international members representing 21 countries. Please visit nacds.org.

Section 5: Appendix

Overview of Select VBPs, APMs and Quality Measures Impacted by Pharmacy Care

The table on pages 36-42⁸⁰ includes an overview of select value-based payment models, including entities eligible to participate, quality measures impacted by pharmacy and whether models are multi-payer. While pharmacists are not eligible to directly participate in these models, note that many include established quality measures where clear opportunity exists for pharmacies to make positive impacts based on their accessibility, clinical expertise, and the multitude of literature and evidence supporting the value of pharmacy care interventions.

Further, examining results from some models may indicate opportunities where pharmacists could improve patient outcomes. For example, an evaluation of the Medicare Shared Savings Program during contract year 2 indicated that, on average, less than a third of accountable care organizations' (ACOs') patients with diabetes were controlled on each related ACO measure (A1c controlled, low density lipoprotein controlled, blood pressure under <140/90, tobacco non-use, aspirin use). While this evaluation showed progress from earlier assessments, vast opportunity still remains to make additional quality improvements for beneficiaries across programs, and evidence supports the ability for pharmacists to make meaningful impacts on such measures.⁸¹

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
CPC+ (Tracks 1 and 2)	Advanced Primary Care Model	Aims to improve quality, access, and efficiency of primary care through delivery of five Comprehensive Primary Care Functions	Primary care practices	<ul style="list-style-type: none"> • Controlling High Blood Pressure • Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%) • Acute Hospital Utilization Emergency Department Utilization • Patient Experience of Care Survey (PECS)⁸³ 	Yes
PCF	Advanced Primary Care Model	Aims to improve quality, patient experience of care and reduce expenditures by creating a seamless continuum of care	Primary care practices	<ul style="list-style-type: none"> • Controlling High Blood Pressure • Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%) • Acute Hospitalization Utilization • Total Per Capita Costs • Advance Care Plan • Patient Experience of Care Survey (PECS)⁸⁴ 	Yes

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
DC (Professional Model)	Primary Care Transformation	Aims to reduce expenditures, preserve or enhance quality of care, and improve outcomes for Medicare FFS beneficiaries	Physician practices, hospitals, integrated systems, SNF, health plans	<ul style="list-style-type: none"> • Risk-Standardized All-Condition Readmission Measure • All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions • Timely Follow-Up After Acute Exacerbations of Chronic Conditions • Consumer Assessment of Healthcare Providers & Systems (CAHPS®) Survey⁸⁵ 	No

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
DC (Global Model)	Primary Care Transformation	Aims to reduce expenditures, preserve or enhance quality of care, and improve outcomes for Medicare FFS beneficiaries	Physician practices, hospitals, integrated systems, SNF, health plans	<ul style="list-style-type: none"> • Risk-Standardized All-Condition Readmission Measure • All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions • Timely Follow-Up After Acute Exacerbations of Chronic Conditions • Consumer Assessment of Healthcare Providers & Systems (CAHPS®) Survey⁸⁶ 	No

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
MSSP (Basic and Enhanced Tracks)	ACO	Groups of physicians, hospitals and other providers jointly accountable for quality, cost and patient experience	Physicians, hospitals, and other health care providers	<ul style="list-style-type: none"> • Consumer Assessment of Healthcare Providers & Systems (CAHPS®) for MIPS Survey • Hospital-Wide, 30-Day, All-Cause Unplanned Readmission • Risk Standardized, All-Cause Unplanned Admissions for Multiple Chronic Conditions • Diabetes: Hemoglobin A1c (HbA1c) Poor Control • Preventive Care and Screening: Screening for Depression and Follow-up Plan • Controlling High Blood Pressure⁸⁷ 	No

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
OCM (Tracks 1 and 2)	Bundled Payment	Physician practices accountable for an episode of care structured around administration of chemotherapy to a cancer patient. The aim of the model is to improve care coordination, delivery of appropriate care, and improve access to care. ⁸⁸	Oncology group practices or solo practitioners that care for oncology patients	<ul style="list-style-type: none"> • Risk-adjusted proportion of patients with all-cause emergency department visits or observation stays that did not result in a hospital admission within the 6-month episode • Oncology: Medical and Radiation – Plan of Care for Pain • Preventive Care and Screening: Screening for Depression and Follow-Up Plan • Patient-Reported Experience of Care⁸⁹ 	Yes

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
BPCI Advanced	Bundled Payment	<p>Episode-based model in which providers are accountable for care and spending around specific clinical episodes.</p> <p>Model includes 29 inpatient and 3 outpatient clinical episodes⁹⁰</p>	Acute care hospitals, physician group practices, Medicare-enrolled providers/suppliers	<ul style="list-style-type: none"> • Advance Care Plan • Hospital-Wide All-cause Unplanned Readmission Measure • CMS Patient Safety Indicators • Other measures depending on Clinical Episode Service Line Groups (CESLGs) (e.g., Substance Use Screening and Intervention Composite; Perioperative Care: Selection of Prophylactic Antibiotic: First or Second Generation Cephalosporin; Preventive Care & Screening: Tobacco Use: Screening & Cessation Intervention)⁹¹ 	No

APM	Type of Model	Description of Model	Entities Eligible	Examples of Quality Measures Impacted by Pharmacy in Models ⁸²	Multi-payer
IAH ⁹²	Shared Savings Primary Care Model	Comprehensive primary care services delivered at home with the goal of improving care for Medicare beneficiaries with multiple chronic conditions	Physician or nurse-practitioner-led primary care practices (pharmacist may be included as part of the care team) ⁹³	<ul style="list-style-type: none"> • Inpatient admissions for ambulatory-care sensitive conditions • Readmissions within 30 days • ED visits for ambulatory-care sensitive conditions • Contact with beneficiaries within 48 hours upon admission to the hospital, and discharge from the hospital and/or ED • In-home medication reconciliation within 48 hours of hospital discharge and ED visits • Patient preferences documented in medical record⁹⁴ 	No

Comprehensive Glossary

ACO: Accountable Care Organization

ACA: Affordable Care Act

ACE: Angiotensin Converting Enzyme

APM: Alternative Payment Model

ARB: Angiotensin-Receptor Blocker

BCBS: Blue Cross Blue Shield

BPCI Advanced: Bundled Payment for Care Improvement

CAHPS®: Consumer Assessment of Healthcare Providers & Systems

CDC: Centers for Disease Control and Prevention

CEC: Comprehensive End-Stage Renal Disease Care

CESLGs: Clinical Episode Service Line Groups

CHART: Community Health Access and Rural Transformation

CHIP: Children's Health Insurance Program

CJR: Comprehensive Joint Replacement

CKCC: Comprehensive Kidney Care Contracting

CMMI: Center for Medicare and Medicaid Innovation

CMS: Centers for Medicare and Medicaid Services

CoMM: Continuous Medication Monitoring

COPD: Chronic Obstructive Pulmonary Disease

CPC+: Comprehensive Primary Care Plus

CPT: Current Procedural Terminology

DC: Direct Contracting

DUR: Drug Utilization Review

ED: Emergency Department

EHR: Electronic Health Record

ESRD: End-Stage Renal Disease

ET3: Emergency Triage, Treat, and Transport Model

ETC: End-Stage Renal Disease Treatment Choices Model

FFS: Fee-for-Service

FHIR: Fast Healthcare Interoperability Resources

GAO: Government Accountability Office

HbA1c: Hemoglobin A1c

HCPCS: Healthcare Common Procedure Coding System

HCPLAN: Health Care Payment Learning and Action Network

HHS: Department of Health and Human Services

HHVBP: Home Health Value-Based Program Model

HIPAA: Health Insurance Portability and Accountability Act

HIT: Health Information Technology

HIV: Human Immunodeficiency Virus

HL7: Health Level Seven

IAH: Independence at Home

IEHP: Inland Empire Health Plan

InCK: Integrated Care for Kids Model

KCF: Kidney Care First

MA: Medicare Advantage

MACRA: Medicare Access Children's Health Insurance Program Reauthorization Act

MAQI: Medicare Advantage Qualifying Payment Arrangement Incentive Demonstration

MDPP: Medicare Diabetes Prevention Program Expanded Model

MedPAC: Medicare Payment Advisory Commission

Million Hearts®: Cardiovascular Disease Risk Reduction

MIPS: Merit-Based Incentive Payment System

MOM: Maternal Opioid Misuse Model

MSSP: Medicare Shared Savings Program

MTM: Medication Therapy Management

MTMP: Part D Enhanced Medication Therapy Management Model

NACDS: National Association of Chain Drug Stores

NCPDP: National Council for Prescription Drug Programs

NextGen: Next Generation Accountable Care Organization

OCM: Oncology Care Model

P4P: Pay for Performance

PCF: Primary Care First

PCQIP: Pharmacy Care Quality Incentive Program

PDP: Prescription Drug Plan

PECS: Patient Experience of Care Survey

PEP: Post-Exposure Prophylaxis

PHIT: Pharmacy Health Information Technology

PrEP: Pre-Exposure Prophylaxis

PTAC: Physician-Focused Payment Model Technical Advisory Committee

RO: Radiation Oncology Model

SNF: Skilled Nursing Facility

SNOMED CT: Systemized Nomenclature of Medicine – Clinical Terms

VBID: Medicare Advantage Value-Based Insurance Design Model

VBP: Value-Based Program

Endnotes

- ¹ Center for Medicare and Medicaid Innovation. (2020). [CMS Innovation Center 2020 Report to Congress](#). Accessed September 23, 2021.
- ² MedPAC. [Report to The Congress Medicare and the Health Care Delivery System](#). June 2021.
- ³ Brooks-LaSure, Chiquita; Fowler, Elizabeth; Seshamani, Meena; Tsai, Daniel, "Innovation At The Centers For Medicare And Medicaid Services: A Vision For The Next 10 Years," *Health Affairs Blog*, August 12, 2021.
- ⁴ NORC at the University of Chicago. (September 2020). [Third Evaluation Report Next Generation Accountable Care Organization Model Evaluation](#).
- ⁵ Mathematica. (January 2021). [Independent Evaluation of Comprehensive Primary Care \(CPC+\) Plus - Third Annual Report](#).
- ⁶ NACDS, "NACDS Emphasizes Trust, Accessibility, and Community Presence of Pharmacies and Pharmacists in Joining 'COVID-19 Vaccine Education and Equity Project'," December 2020.
- ⁷ Bartsch, S., Taitel, M., DePasse., et al. (2018). "Epidemiologic and economic impact of pharmacies as vaccination locations during an influenza epidemic." *Vaccine*. 36(46), 7054–7063. doi: 10.1016/j.vaccine.2018.09.040. Spence, M., Makarem, A., Reyes, S., et al. (2014). "Evaluation of an Outpatient Pharmacy Clinical Services Program on Adherence and Clinical Outcomes Among Patients with Diabetes and/or Coronary Artery Disease." *Journal of Managed Care Pharmacy*. 20:10, 1036-1045. Pringle JL, et al. (2014). "The Pennsylvania Project: Pharmacist Intervention Improved Medication Adherence and Reduced Health Care Costs." *Health Affairs*.
- ⁸ Centers for Medicare and Medicaid Services (CMS). (March 2019). [Care Coordination Toolkit](#). Accessed June 5, 2019.
- ⁹ U.S. Department of Health and Human Services (HHS), "HHS Expands Access to Childhood Vaccines during COVID-19 Pandemic," August 19, 2020. HHS. (December 2020). [Fourth Amendment to the Declaration Under the Public Readiness and Emergency Preparedness Act for Medical Countermeasures Against COVID-19 and Republication of the Declaration](#).
- ¹⁰ CDC. [Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination](#). Accessed September 23, 2021.
- ¹¹ White House, [FACT SHEET: Biden Administration Announces Historic \\$10 Billion Investment to Expand Access to COVID-19 Vaccines and Build Vaccine Confidence in Hardest-Hit and Highest-Risk Communities](#), March 25, 2021.
- ¹² CDC. [Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination](#). Accessed September 23, 2021.
- ¹³ HHS, "HHS Continues Community Based Testing Sites for COVID-19," January 7, 2021.
- ¹⁴ FEMA, "Coronavirus Pandemic Whole-of-America Response," March 8, 2021.
- ¹⁵ HHS, Office of Inspector General (OIG). [Medicare and State Health Care Programs: Fraud and Abuse; Revisions to Safe Harbors under the Anti-Kickback Statute, and Civil Monetary Penalty Rules Regarding Beneficiary Inducements Final Rule](#). Federal Register, Vol. 85, No. 232. December 2, 2020.
- ¹⁶ Center for Medicare and Medicaid Innovation, "Innovation Models," accessed December 10, 2018.
- ¹⁷ Source: CapView Strategies Analysis
- ¹⁸ Health Care Payment Learning & Action Network, "While Progress Continues, The LAN Launches New Goals to Increase Reach and Impact Of Value-Based Payment Reform," October 24, 2019.
- ¹⁹ NORC at the University of Chicago. (September 2020). [Third Evaluation Report Next Generation Accountable Care Organization Model Evaluation](#).
- ²⁰ Mathematica. (January 2021). [Independent Evaluation of Comprehensive Primary Care \(CPC+\) Plus - Third Annual Report](#).
- ²¹ Tate, M. L., Hopper, S., Bergeron, S. P. (2018). "Clinical and Economic Benefits of Pharmacist Involvement in a Community Hospital-Affiliated Patient-Centered Medical Home." *Journal of Managed Care & Specialty Pharmacy*. 24(2), 160–164. doi: 10.18553/jmcp.2018.24.2.160
- ²² Ensing, H. T., Koster, E. S., Dubero, D. J., Dooren, A. A. V., & Bouvy, M. L. (2019). "Collaboration between hospital and community pharmacists to address drug-related problems: The HomeCoMe-program." *Research in Social and Administrative Pharmacy*. 15(3), 267–278. doi: 10.1016/j.sapharm.2018.05.001.
- ²³ Lewin Group. (September 2019). [Comprehensive End Stage Renal Disease Care \(CEC\) Model Performance Year 2 Annual Evaluation Report](#).
- ²⁴ "Payment Methods in Outpatient Team-based Clinical Pharmacy Practice, Part 2: MACRA for Pharmacists." *American College of Clinical Pharmacy*. August 2018.
- ²⁵ Colby, Sandra; Ortman, Jennifer. (May 2014). "The Baby Boom Cohort in the United States: 2012 to 2060. Population Estimates and Projections." *Current Population Reports*. United States Census Bureau.

- ²⁶ National Council on Aging. [The Top 10 Most Common Chronic Conditions in Older Adults](#). Accessed October 2021.
- ²⁷ Charlesworth CJ, Smit E, Lee DS, Alramadhan F, Odden MC. Polypharmacy Among Adults Aged 65 Years and Older in the United States: 1988-2010. *J Gerontol A Biol Sci Med Sci*. 2015;70(8):989-995. doi:10.1093/gerona/glv013
- ²⁸ CMS. [Projected National Health Expenditure Data. NHE Projections 2019-2028 - Forecast Summary](#). Accessed January 20, 2021.
- ²⁹ Kaiser Family Foundation. (August 2019). [The Facts on Medicare Spending and Financing](#).
- ³⁰ Shrank WH, Rogstad TL, Parekh N. (October 2019). "Waste in the U.S. Health Care System: Estimated Costs and Potential for Savings." *JAMA*. doi: 10.1001/jama.2019.13978.
- ³¹ Koonin LM, Beauvais DR, Shimabukuro T, et al. (2011). "CDC's 2009 H1N1 vaccine pharmacy initiative in the United States: implications for future public health and pharmacy collaborations for emergency response." *Disaster Med Public Health Prep*. 2011;5(4):253-255. Institute of Medicine Forum on Medical and Public Health Preparedness for Catastrophic Events. (2010). "The 2009 H1N1 Influenza Vaccination Campaign: Summary of a Workshop Series." Washington, DC. National Academies Press.
- ³² U.S. Department of Health and Human Services (HHS), "HHS Expands Access to Childhood Vaccines during COVID-19 Pandemic," August 19, 2020. HHS (December 2020). [Fourth Amendment to the Declaration Under the Public Readiness and Emergency Preparedness Act for Medical Countermeasures Against COVID-19 and Republication of the Declaration](#).
- ³³ CDC. [Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination](#). Accessed September 23, 2021.
- ³⁴ White House, [FACT SHEET: Biden Administration Announces Historic \\$10 Billion Investment to Expand Access to COVID-19 Vaccines and Build Vaccine Confidence in Hardest-Hit and Highest-Risk Communities](#), March 25, 2021.
- ³⁵ CDC. [Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination](#). Accessed September 23, 2021.
- ³⁶ HHS, "HHS Continues Community Based Testing Sites for COVID-19," January 7, 2021
- ³⁷ FEMA, "Coronavirus Pandemic Whole-of-America Response," March 8, 2021.
- ³⁸ White House, [Press Briefing by White House COVID-19 Response Team and Public Health Officials](#). Accessed November 1, 2021.
- ³⁹ Poll Results: Flu Vaccination. Poll conducted by Morning Consult, August 13-16, 2020. Commissioned by NACDS. NACDS, "NACDS Emphasizes Trust, Accessibility, and Community Presence of Pharmacies and Pharmacists in Joining 'COVID-19 Vaccine Education and Equity Project'," December 2020.
- ⁴⁰ NACDS, 2017. <https://www.nacds.org/pdfs/about/rximpact-leavebehind.pdf>
- ⁴¹ Moose J, Branham A, "Pharmacists as Influencers of Patient Adherence," *Pharmacy Times*; August 21, 2014.
- ⁴² Berenbrok, Lucas, et al. "Evaluation of Frequency of Encounters With Primary Care Physicians vs Visits to Community Pharmacies Among Medicare Beneficiaries." *JAMA*. 2020 Jul 15. doi: 10.1001/jamanetworkopen.2020.9132.
- ⁴³ NACDS, 2017.
- ⁴⁴ Isenor, J., Edwards, N., Alia, T. (2016). "Impact of pharmacists as immunizers on vaccination rates: A systematic review and meta-analysis." *Vaccine*. 34(47) 5708–5723.
- ⁴⁵ CDC, "Early-Season Flu Vaccination Coverage—United States, November 2018," accessed October 1, 2021.
- ⁴⁶ CDC, "Influenza Vaccinations Administered to Adults in Pharmacies and Physician Medical Offices, United States," accessed October 1, 2021.
- ⁴⁷ Goad, J., Taitel, M., Fensterheim, L. et al. (2013). "Vaccinations Administered During Off-Clinic Hours at a National Community Pharmacy: Implications for Increasing Patient Access and Convenience." *Annals of Family Medicine*. 11(5), 429-436.
- ⁴⁸ Drozd EM, Miller L, et al. (2017). "Impact of Pharmacist Immunization Authority on Seasonal Influenza Immunization Rates across States." *Clinical Therapeutics*. doi: 10.1016/j.clinthera.2017.07.004.
- ⁴⁹ Burson, R., Bottenheim, A., Armstrong, A. et al. (2016). "Community Pharmacies as Sites of Adult Vaccination: A systematic review." *Human Vaccines & Immunotherapeutics*. 12:12, 3146-3159.
- ⁵⁰ Winegarden W. (2018). [Promoting Access and Lowering Costs in Health Care: The Case of Empowering Pharmacists to Increase Adult Vaccination Rates. The Pacific Research Institute](#).
- ⁵¹ Bartsch SM et al. (2018). [Epidemiologic and economic impact of pharmacies as vaccination locations during an influenza epidemic. Vaccine](#).

- ⁵² Willis A, Rivers P, Gray LJ, Davies M, Khunti K. (2014). "The Effectiveness of Screening for Diabetes and Cardiovascular Disease Risk Factors in a Community Pharmacy Setting." *PLoS ONE*. 9(4): e91157. doi: 10.1371/journal.pone.0091157.
- ⁵³ O'Reilly, C et al. (2015). "A feasibility study of community pharmacists performing depression screening services." *Research in Social and Administrative Pharmacy*. 11(3), 364-381.
- ⁵⁴ Hippensteele, Alana, "Pharmacists' Role in Tackling Social Determinants of Health," *Pharmacy Times*, May 18, 2020.
- ⁵⁵ Weidle, P, Lecher, S, Botts, L, et al. (2014). "HIV testing in community pharmacies and retail clinics: A model to expand access to screening for HIV infection." *Journal of the American Pharmacist Association*. 54(5), 486-492. Collins, B et al.. "The "No Wrong Door" Approach to HIV Testing: Results From a Statewide Retail Pharmacy-Based HIV Testing Program in Virginia, 2014-2016." *Public Health Rep*. 2018 Nov-Dec; 133(2 Suppl): 34S-42S.
- ⁵⁶ Isho N, et al. (2017). "Pharmacist-initiated hepatitis C virus screening in a community pharmacy to increase awareness and link to care at the medical center." *Journal of the American Pharmacists Association*.
- ⁵⁷ CDC, "Chronic Diseases in America," accessed May 23, 2019.
- ⁵⁸ Carmichael, J. et al. (2016). "Healthcare metrics: Where do pharmacists add value?" *Am J Health-Syst Pharm*. 73: 1537-47.
- ⁵⁹ Greer N, Bolduc J, Geurkink E et al. (2016). "Pharmacist-led chronic disease management: a systematic review of effectiveness and harms compared with usual care." *Ann Intern Med*.
- ⁶⁰ Prudencio J, Cutler T, Roberts S, Marin S, Wilson M. (2018). "The Effect of Clinical Pharmacist-Led Comprehensive Medication Management on Chronic Disease State Goal Attainment in a Patient-Centered Medical Home." *JMCP*. 24(5):423-429.
- ⁶¹ Milosavljevic A, Aspden T, Harrison J. (2018). "Community pharmacist-led interventions and their impact on patients' medication adherence and other health outcomes: a systematic review." *International Journal of Pharmacy Practice*. 26(5).
- ⁶² American Pharmacists Association, "Medication Optimization Services within the Patient Care Process Proposed Statements," accessed September 24, 2019.
- ⁶³ Krumme A, Glynn, R., Schneeweiss, S. et al. (2018). "Medication Synchronization Programs Improve Adherence to Cardiovascular Medications and Health Care Use." *Health Affairs*. 37(1):125-133.
- ⁶⁴ Government Accountability Office. (2019). *Limited Information Exists on the Effects of Synchronizing Medication Refills*.
- ⁶⁵ Pringle JL, et al. (2014). "The Pennsylvania Project: Pharmacist Intervention Improved Medication Adherence and Reduced Health Care Costs." *Health Affairs*.
- ⁶⁶ Stuart, BC, Dai, M, Xu, J, Loh, FH, Dougherty, SJ. (2015). "Does Good Medication Adherence Really Save Payers Money?" *Medical Care*. 53(6):517-523.
- ⁶⁷ CMS. (2018). *National Impact Assessment of the Centers for Medicare & Medicaid Services (CMS) Quality Measures Report*.
- ⁶⁸ Lloyd, J. T., Maresh, S., Powers, C. A., Shrank, W. H., & Alley, D. E. (2019). *How Much Does Medication Nonadherence Cost the Medicare Fee-for-Service Program?* *Medical Care*. 57(3), 218-224. doi: 10.1097/mlr.0000000000001067
- ⁶⁹ CMS. *Alternative Payment Model Design Toolkit*. Accessed 2019.
- ⁷⁰ HHS Assistant Secretary for Planning and Evaluation, "Physician-Focused Payment Models: PTAC Proposal Submission Instructions," accessed 2019.
- ⁷¹ Source: CapView Strategies.
- ⁷² NACDS, "Comment Letter Re: OIG-0936-AA10-P: Proposed Rule Regarding Fraud and Abuse Revisions to Safe Harbors Under the Anti-Kickback Statute and Beneficiary Inducements CMP," December 31, 2019
- ⁷³ Doucette, William R, et al.. "Pharmacy performance while providing continuous medication monitoring." *Journal of the American Pharmacists Association*. Volume 57, Issue 6, 692-697. Balick, Rachel. "Adventures in getting paid." *Pharmacy Today*. Volume 27, Issue 2, P22-37, February 01, 2021. Minnesota Department of Human Services, "Medication Therapy Management Services (MTMS).
- ⁷⁴ Doucette, William R, et al.. "Pharmacy performance while providing continuous medication monitoring." *Journal of the American Pharmacists Association*. Volume 57, Issue 6, 692-697. Balick, Rachel. "Adventures in getting paid." *Pharmacy Today*. Volume 27, Issue 2, P22-37, February 01, 2021. Minnesota Department of Human Services, "Medication Therapy Management Services (MTMS).
- ⁷⁵ NACDS, "Comment Letter Re: OIG-0936-AA10-P: Proposed Rule Regarding Fraud and Abuse Revisions to Safe Harbors Under the Anti-Kickback Statute and Beneficiary Inducements CMP," December 31, 2019
- ⁷⁶ "As Pay For Performance Grows, Health Plans Work With Pharmacies." *Pharmacy Today*. March 2016.

- ⁷⁷ Pharmacists eCare Plan Initiative, “[What is the Pharmacist electronic Care Plan?](#),” accessed June 23, 2020. National Council for Prescription Drug Programs. (2016). [Pharmacist eCare Plan Version 1.0 Guidance on the Use of the HL7 CDA Consolidated Templates for Clinical Notes R2.1 Care Plan](#).
- ⁷⁸ Pharmacy Health Information Technology Collaborative. (2016). [Implementing SNOMED CT in Practice: A Beginner’s Guide, Assessing Pharmacy Value Sets](#).
- ⁷⁹ Pharmacy Health Information Technology Collaborative, “[The Collaborative’s Guiding Principles](#)”, accessed November 7, 2019.
- ⁸⁰ Source: CapView Strategies Analysis.
- ⁸¹ Frazee TK, Lewis VA, Tierney E, Colla CH. (2018). “Quality of Care Improves for Patients with Diabetes in Medicare Shared Savings Accountable Care Organizations: Organizational Characteristics Associated with Performance.” *Popul Health Manag.* 21(5):401-408. doi:10.1089/pop.2017.0102.
- ⁸² Measures from most recent year available as of October 2021.
- ⁸³ CMS. (2021). [CPC+ Payment and Attribution Methodologies for Program Year 2021, version 2](#). Accessed October 10, 2021.
- ⁸⁴ CMS. (2021). [Primary Care First: Payment and Attribution Methodologies for Program Year 2022, version 1](#). Accessed October 10, 2021.
- ⁸⁵ CMS. [Global and Professional Direct Contracting Model: Quality Measurement Methodology \(for PY2022 only–1/1/2022–12/31/2022\)](#). Accessed October 10, 2021.
- ⁸⁶ CMS. [Global and Professional Direct Contracting Model: Quality Measurement Methodology \(for PY2022 only–1/1/2022–12/31/2022\)](#). Accessed October 10, 2021.
- ⁸⁷ CMS. Medicare Shared Savings Program. Program Guidance & Specifications. [Guide Alternative Payment Models \(APM\) APM Performance Pathway for Shared Savings Program Accountable Care Organizations \(ACOs\) Guide](#). Accessed October 10, 2021.
- ⁸⁸ CMS. [Oncology Care Model](#). Accessed 2019.
- ⁸⁹ CMS. (2021). [OCM Quality Measures Guide, Version 2.10](#). Accessed October 10, 2021.
- ⁹⁰ CMS. [BPCI Advanced](#). Accessed March 26, 2019.
- ⁹¹ CMS. (2021). [Clinical Episodes to Quality Measures Correlation Table – MY5](#). Accessed October 10, 2021.
- ⁹² CMS. [Independence at Home Demonstration](#). Accessed March 29, 2019.
- ⁹³ Includes independent practices or consortiums of more than one practice in a region. CMS, [IAH Fact Sheet](#). [IAH Solicitation](#).
- ⁹⁴ CMS. (2021). [Independence at Home Revised Actuarial Methodology Specifications](#). Accessed October 10, 2021.