Technical Expert Panel (TEP) for Refinement of the Nursing Home (NH) Antipsychotic Medication Measures

February 24, 2023

Summary Report

September 2023

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EXECUTIVE SUMMARY

The use of antipsychotic drugs can be an important treatment option for patients with certain neurological (e.g., Tourette's syndrome and Huntington's disease) and mental health conditions. However, the Food and Drug Administration (FDA) has warned that antipsychotic medications are associated with an increased risk of death when used among elderly patients with dementia-related psychosis.[1] While these drugs may be effective for some residents in treating a wide range of conditions, their usage must be closely monitored for effectiveness, benefits, risks, and harm, and adjusted as necessary. Nursing home residents and their families rely on nursing homes to provide quality care in a safe environment.

The Office of Inspector General (OIG) released a report showing abnormally high rates of schizophrenia diagnoses and potential under-reporting of antipsychotic medication use in nursing homes.[2] The report also showed that the Centers for Medicare & Medicaid Services' (CMS) use of the Minimum Data Set (MDS) 3.0 as the sole data source for assessing the number of long-stay residents receiving antipsychotic medications may not accurately reflect prescribing practices of nursing facilities. Therefore, OIG recommended for CMS to enhance the information used to monitor antipsychotic drug use in nursing homes by (i) taking additional steps to validate the information reported in MDS assessments, and (ii) supplementing the data used to monitor the use of antipsychotic drugs in nursing homes.

CMS has committed to reducing the unnecessary use of antipsychotic medications and erroneous diagnoses of schizophrenia. As part of this effort, CMS is considering options to re-specify the *Percent of Residents Who Newly Received an Antipsychotic Medication (Short-Stay)* and *Percent of Residents Who Received an Antipsychotic Medication (Long-Stay)* measures to accurately capture antipsychotic medication use in nursing facilities. Under contract with CMS, Acumen, LLC convened a Technical Expert Panel (TEP) for the purposes of soliciting feedback on refinement options to increase the accuracy of the Nursing Home Quality Initiative (NHQI) antipsychotic medication measures, and evaluating the MDS reporting of data elements used in the measure. Feedback was solicited over the course of four topic-driven sessions during the TEP meeting on February 24, 2023, and a poll following the TEP. Throughout the course of these sessions, TEP panelists provided feedback on (i) antipsychotic medication use and schizophrenia diagnosis trends, (ii) reporting gaps between the MDS and Medicare claims, (iii) re-specification

[1] FDA noted that mortality for elderly demented patients with behavioral disorders treated with atypical antipsychotics increased 1.6-1.7 times compared to mortality for those treated with a placebo. Food and Drug Administration. 2005. *FDA Public Health Advisory: Deaths With Antipsychotics in Elderly Patients with Behavioral Disturbances.* April. https://psychrights.org/drugs/FDAatypicalswarning4elderly.pdf.

[2] Office of Inspector General. 2021. *CMS Could Improve the Data It Uses to Monitor Antipsychotic Drugs in Nursing Homes*. May 3. https://oig.hhs.gov/oei/reports/OEI-07-19-00490.asp.

options for the antipsychotic medication measures, and (iv) additional considerations for measure refinement.

Analyses presented during the TEP showed a slight decrease in antipsychotic medication use, and a significant increase in schizophrenia diagnoses reported in the MDS from 2012 to 2022. Panelists shared that the COVID-19 Public Health Emergency (PHE) led to changes in nursing home care. The isolation and interruption of routines caused by social distancing could have resulted in an increase in the usage of antipsychotic medication. Several panelists commented that nursing home staff turnover during the COVID-19 pandemic negatively impacted the accuracy of the MDS, as nurses with little training on MDS coding would be tasked with its completion. Regarding the increasing rates of schizophrenia reporting on the MDS, panelists explained that people with schizophrenia are living longer, and schizophrenia diagnoses have been increasing globally. In addition, more nursing facilities are specializing in behavioral health and will therefore be serving more residents with schizophrenia diagnoses.

Additionally, Acumen conducted and presented analyses comparing the reported rates of antipsychotic medication use and schizophrenia diagnoses between the MDS and Medicare Part A/B (inpatient, outpatient, physician/carrier) and Part D (drug coverage) claims. Results of the comparison revealed that in 2021, around 5% of long-stay residents with a Part D prescription for an antipsychotic drug were not reported on MDS assessments as receiving the drug. Some panelists explained that discrepancies between MDS and Part D antipsychotic medication reporting may be due to several factors, such as lack of education and guidance on how to accurately complete the MDS, and confusion around which medications should be coded as antipsychotics. Furthermore, around 10% of long-stay residents with a schizophrenia diagnosis reported on MDS assessments do not have a record of the diagnosis on Part A/B claims. Several panelists noted that schizophrenia over-reporting could be a result of systemic or operational issues within facilities, as well as the quality of the source of the diagnosis. Panelists mentioned that potential gaps in schizophrenia reporting between the MDS and Medicare claims may be due to (i) a lack of mental health training among MDS coders, (ii) a lack of guidance on diagnosis documentation in the Resident Assessment Instrument (RAI) manual, and (iii) poor transfers of health information between providers. Several panelists suggested requiring the involvement of mental health professionals in the review and coding of mental health diagnoses on the MDS to improve its accuracy.

Following the aforementioned analyses, Acumen presented two options to re-specify the long-stay antipsychotic medication measure: (i) adding Part D claims to capture additional antipsychotic medication use not reported on the MDS, or (ii) adding both Part A/B and Part D claims to capture additional antipsychotic medication use not reported on the MDS, and validate the excluded diagnoses. Panelists expressed concerns about using Medicare claims data in the

measures' re-specification. Some panelists commented that Part D claims reflect the purchase of a medication, and not its administration. Furthermore, given the issues with Skilled Nursing Facility (SNF) consolidated billing, the MDS is a more accurate data source for the short-stay population in comparison to Part D claims. Panelists also suggested the removal of carbamazepine from the list of medications used to identify antipsychotic medication use in Part D claims, noting that carbamazepine (i) is not an antipsychotic, and (ii) is considered to be an anticonvulsant or antiepileptic that should not be used to treat psychosis. Some panelists recommended the removal of prochlorperazine from the antipsychotic medication list, noting that it is often used to treat nauseas rather than psychosis. Regarding the list of International Classification of Diseases, Tenth Revision (ICD-10) diagnosis codes used to identify schizophrenia in Part A/B claims, panelists indicated that ICD-10 codes F21 (*Schizotypal disorder*), F22 (*Delusional disorder*), F23 (*Brief psychotic disorder*), and F24 (*Shared psychotic disorder*) are distinct from schizophrenia and represent different disorders.

The panelists highlighted five additional considerations that should be kept in mind for future refinement of the long-stay antipsychotic medication measure. First, the measure should flag residents who are inappropriately prescribed antipsychotics rather than the percent of residents who receive antipsychotic medications. Second, the measure should adjust for additional severe mental illnesses, such as psychotic disorders and bipolar disorder, as the current measure exclusions are not comprehensive of all the FDA indications for antipsychotic medication. Third, the antipsychotic medication measures impact nursing home residents and families, providers, and communities. Therefore, it is important to incorporate lived experience into the re-specification of the antipsychotic measures. Fourth, reporting quality measures on a timely basis with the most recent data available is critical for the measure to be actionable. Lastly, in addition to re-specifying the antipsychotic medication measures, CMS should leverage existing materials to improve the appropriate use and coding of antipsychotic medications. Panelists also encouraged CMS to create guidelines, tools, and trainings based on the TEP discussions. The remaining sections of this report provide further detail on each of the discussion topics.

CONTENTS

1 INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) contracted Acumen, LLC (hereafter referred to as Acumen) to re-specify the Nursing Home Quality Initiative (NHQI) antipsychotic medication measures reported on the Care Compare website. The contract name is "*Quality Measure & Assessment Instrument Development & Maintenance & Quality Reporting Program (QRP) Support for the Long-Term Care Hospital, Inpatient Rehabilitation Facility, Skilled Nursing Facility QRPs and Nursing Home Compare*." The contract number is 75FCMC18D0015, Task Order 75FCMC19F0003.

This report provides a summary of the feedback shared by panelists during the February 24, 2023 Technical Expert Panel (TEP) meeting, which focused on evaluating Minimum Data Set (MDS) 3.0 reporting of data elements used and exploring refinement options for the nursing home antipsychotic measures. The remainder of this section briefly introduces the NHQI antipsychotic medication measures (Section 1.1), and summarizes the composition of the TEP (Section 1.2) and limitations of the TEP (Section 1.3). Section 2 outlines the structure of the TEP meeting and supplemental materials. Section 3 summarizes the orientation meeting held on February 21, 2023. Section 4 outlines the presentation, panelist discussion, and key findings for each session of the February 24, 2023 TEP meeting. Section 5 summarizes the TEP members' feedback on the post-TEP poll. Finally, Section 6 outlines the next steps for this project based on TEP feedback.

1.1 Project Context

Under the aforementioned contract, Acumen supports CMS in the development and maintenance of quality measures for post-acute care (PAC) settings. Among PAC settings, the NHQI is a quality and performance evaluation project aiming to improve the quality of care in nursing homes. The Office of Inspector General (OIG) released a report showing abnormally high rates of schizophrenia diagnoses and potential under-reporting of antipsychotic medication use in nursing homes.[3] The report also showed that CMS's use of the MDS as its sole data source to assess the number of long-stay residents receiving antipsychotic medications may not accurately reflect prescribing practices of nursing homes. OIG recommended for CMS to consider using additional data sources to ensure the accuracy of antipsychotic medication reporting on the MDS. Based on OIG's recommendation, CMS is considering options to re-specify the *Percent of Residents Who Newly Received an Antipsychotic Medication (Short-Stay)* and *Percent of Residents Who Received an Antipsychotic Medication (Long-Stay)* measures to more accurately capture antipsychotic medication use in nursing homes.

[3] Office of Inspector General. 2021. *CMS Could Improve the Data It Uses to Monitor Antipsychotic Drugs in Nursing Homes*. https://oig.hhs.gov/oei/reports/OEI-07-19-00490.asp.

To ensure newly re-specified measures meet CMS program requirements and goals while maintaining high levels of scientific acceptability, Acumen convened a TEP. Feedback solicited from the TEP will be used to inform the refinement and re-specification efforts for the antipsychotic medication measures.

1.2 TEP Panelists

The Refinement of the NH Antipsychotic Medication Measures TEP comprised 12 stakeholders with diverse perspectives and areas of expertise, as shown in Table 1-1. The panelists included stakeholders representing clinical, policy and program, measure development, and patient/family/caregiver perspectives.

1.3 TEP Limitations

The goal of the TEP was to gather feedback on potential additional data sources that can more accurately capture (i) antipsychotic medication use and (ii) excluded diagnoses among the current NHQI antipsychotic medication measures. Therefore, the TEP's limited, more technical focus on the measures' data source options did not allow for extended conversations on the measures' specifications. Specifically, there was limited time to discuss ways in which CMS can implement a measure that helps assess appropriate antipsychotic medication use.

An additional limitation is the composition of the TEP. Despite the variety of perspectives and areas of expertise represented in the TEP, Acumen did not receive nominations from independent researchers who could provide more in-depth insight into the data-specific questions posed during the meeting.

Table 1-1. TEP Membership List

Name, Credentials, Professional Role	Organizational Affiliation, City, State	Consumer/ Patient/Family/ Caregiver Perspective	Nursing Home (NH) Facility	Clinical Researcher	Post-Acute Care (PAC)/ Long-Term Care (LTC)	Quality Improvement	Conflict of Interest Disclosure
Amy Stewart, MSN, RN, RAC-MTA, DNS-MT, QCP-MT Vice President of Education and Certification Strategy	American Association of Post-Acute Care Nursing, Ely, MN	X	X	–	X	X	No conflict
Chard Worz, PharmD, BCGP, FASCP Pharmacist, Chief Executive	Project PAUSE*, Ethica, Louisville, GA	–	X	X	X	X	No conflict
Dorothy Winningham, PCA Family Caregiver	PFCCpartners, Health Quality Innovators Patient & Family Advisory Council, Warner Robins, GA	X	–	–	X	X	No conflict
Marc E. Agronin, MD Senior Vice President for Behavioral Health, Chief Medical Officer, Physician	Project PAUSE*, Miami Jewish Health, Miami, FL	–	X	X	X	–	No conflict
Melanie Ronda, MSN, RN Nurse, Infection Preventionist, Assistant Director for Long-Term Care Quality Improvement	IPRO Quality Innovation Network – Quality Improvement Organization (QIN-QIO), Lake Success, NY	–	X	–	X	X	No conflict
Michelle Stuerke, RN, BSN, MSN, DNP, LNHA Chief Clinical Officer, President	Transitional Care Management, Long Term Care Nurses Association, Arlington Heights, IL	–	X	–	X	–	No conflict
Pamela D. Price, RN Deputy Director	The Balm In Gilead, Inc., Brain Health Center for African Americans, Chesterfield, VA	X	–	–	–	X	No conflict

*Panelists did not disclose Project PAUSE affiliation in their nomination materials.

Name, Credentials, Professional Role	Organizational Affiliation, City, State	Consumer/ Patient/Family/ Caregiver Perspective	Nursing Home (NH) Facility	Clinical Researcher	Post-Acute Care (PAC)/ Long-Term Care (LTC)	Quality Improvement	Conflict of Interest Disclosure
Ronnie DePue, PharmD, BGCP, FASP Senior Director, Health Economics & Outcomes Research, Field Payer & Long-Term Care Lead	Sunovion Pharmaceuticals, Williamsburg, VA	–	X	–	X	X	Dr. DePue is a full-time employee of Sunovion Pharmaceuticals
Rosie Bartel Patient and Caregiver	PFA Network, PFCC Partners, Chilton, WI	X	X	–	X	X	No conflict
Steven A. Levenson, MD, CMD Physician, Physician Quality Specialist, Medical Director	AMDA, The Society For Post-Acute and Long-Term Care Medicine, Maryland Office of Health Care Quality, Baltimore, MD	–	X	–	X	X	No conflict
Susan Battaglia, RN-BC, RAC-CT CPA, LNHA, RAC-MT Director of Case Mix and Clinical Services	Tara Cares, Orchard Park, NY	–	X	–	X	X	No conflict
Wayne S. Saltsman, MD, PhD, CMD, CPE, FACP, AGSF Chief Medical Officer and Hospice Medical Director	Project PAUSE*, All Care VNA, Hospice, and Palliative Care AMDA, The Society for Post-Acute and Long-Term Care Medicine, Burlington, MA	–	X	–	X	–	No conflict

*Panelists did not disclose Project PAUSE affiliation in their nomination materials.

2 MEETING OVERVIEW

This section provides an overview of the overall TEP meeting structure and sessions (Section 2.1), and lists the meeting materials provided to the panelists (Section 2.2).

2.1 Structure

The Refinement of the NH Antipsychotic Medication Measures TEP encompassed two separate meetings. First, Acumen held a one-hour TEP orientation to provide panelists with an overview of MDS assessments, the current NHQI antipsychotic medication measures, and evidence for measure re-specification. During the main four-hour TEP meeting, Acumen sought feedback on Acumen's comparison analyses of MDS antipsychotic medication and schizophrenia reporting and Medicare claims, measure re-specification options using Medicare claims, and alternative data sources for measure refinement consideration. Table 2-1 provides the agenda for the TEP orientation and TEP meeting, and the sessions covered in the sections of this report.

Table 2-1. TEP Agenda

Session	Topic	Section
	TEP Orientation (February 21, 2023)	
1-A	Welcome and Introductions	–
1-B	Overview of MDS Assessments	3.1
1-C	Overview of NHQI Antipsychotic Medication Measures	3.2
1-D	Evidence Supporting Need for Measure Re-Specification	3.3
1-E	Next Steps and Closing Remarks	–
	TEP Meeting (February 24, 2023)	
2-A	Overview of the NHQI Antipsychotic Medication Measures	–
2-B	Comparing MDS Antipsychotic Medication Reporting and Medicare Claims	4.1
2-C	Comparing MDS Schizophrenia Reporting and Medicare Claims	4.2
2-D	Re-specifying the Measure Using Medicare Claims	4.3
2-E	Data Sources for Refinement Considerations	4.4
2-F	Wrap Up and Next Steps	–

Acumen presented targeted questions to facilitate the discussion and solicit feedback to inform next steps for re-specification of the NHQI antipsychotic medication measures. Bulleted highlights of those discussions are presented in Section 4 of this report following the summaries of the TEP sessions.

2.2 Meeting Materials

Prior to the TEP orientation, panelists reviewed the TEP Charter, which outlined the purpose of the TEP and level of commitment expected for participation. The TEP Charter was posted to the CMS.gov *Measures Management System (MMS) Current TEP Opportunities*

webpage: https://mmshub.cms.gov/get-involved/technical-expert-panel/current. Acumen also provided panelists with the applicable slide decks in advance of the TEP orientation and meeting. The TEP orientation slide deck provided some resources for panelists to review in preparation for the TEP meeting with additional background on the MDS 3.0, the current NHQI antipsychotic medication measure specifications, and the OIG report:

- Minimum Data Set (MDS) 3.0 for Nursing Homes and Swing Bed Providers[4]
- MDS 3.0 Quality Measures User's Manual V15[5]
- OIG Report[6]

The TEP meeting slide deck included a list of references with additional information on the MDS and data sources introduced in the presentation:

- MDS Background Documents (Table B-1)
- Data Source Websites (Table B-2)

[4] Centers for Medicare & Medicaid Services. 2023. *Minimum Data Set (MDS) 3.0 for Nursing Homes and Swing Bed Providers.* https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30.
[5] Centers for Medicare & Medicaid Services. 2022. *MDS 3.0 Quality Measures User's Manual V15*. https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIQualityMeasures.
[6] Office of Inspector General. 2021. *CMS Could Improve the Data It Uses to Monitor Antipsychotic Drugs in Nursing Homes*. https://oig.hhs.gov/oei/reports/OEI-07-19-00490.asp.

3 SUMMARY OF PRE-TEP ORIENTATION MEETING

This section reviews the orientation meeting held before the Refinement of the NH Antipsychotic Medication Measures TEP meeting. The one-hour orientation meeting on February 21, 2023 opened with the TEP formally approving the TEP Charter. Acumen then reviewed the TEP logistics and agenda. Section 3.1 summarizes session 1-B, in which Acumen provided background information on MDS assessments. Section 3.2 covers session 1-C, in which Acumen shared the NHQI antipsychotic medication measure specifications and the MDS items used in the measures. Finally, Section 3.3 summarizes the evidence Acumen presented in session 1-D that supports the re-specification of the antipsychotic medication measures.

3.1 Session 1-B: Overview of MDS Assessments

The MDS 3.0 is part of the federally mandated process for clinical assessment of all residents in Medicare- and Medicaid-certified nursing homes. MDS assessments are self-reported by nursing homes and are required for residents on admission to the nursing home, periodically, and at discharge. The MDS includes items such as identification information, functional status, active diagnoses, health conditions, skin conditions, and medication. All MDS assessments are completed within specific guidelines and time frames. The maximum interval between assessments is three months. Additional Prospective Payment System (PPS) assessments are required for Medicare patients receiving Part A Skilled Nursing Facility (SNF)-level care for reimbursement under the SNF PPS. Interim assessments are also required for patients or residents who have had a recent major change in health status.

In terms of assessing quality of care, the NHQI and the SNF QRP and Value-Based Purchasing (VBP) programs use MDS assessment data to calculate quality measure scores. CMS uses the MDS assessments for SNF PPS purposes under Medicare Part A. Some states also use the MDS to assess Medicaid patients residing in nursing homes.

3.2 Session 1-C: Overview of NHQI Antipsychotic Medication Measures

The antipsychotic medication measures are used in the NHQI and the Five-Star Quality Rating System. CMS instituted the NHQI in 2002 to improve the quality of nursing home care. Central to the NHQI is the public reporting of nursing home quality measures, which serve as the basis for the Initiative's quality improvement program. Quality measures assess healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality health care and/or that relate to one or more quality goals for health care. NHQI quality measures are divided into short-stay measures and long-stay measures. "Short stay" refers to a resident's cumulative days in a facility less than or

equal to 100 days as of the end of the target period. "Long stay" refers to a resident's cumulative days in a facility greater than or equal to 101 days as of the end of the target period.

In addition to the NHQI, CMS further incorporated the quality measures into its Five-Star Quality Rating System and displays the measure ratings on the Nursing Home Care Compare website. CMS created the Five-Star Quality Rating System in 2008 to help consumers, their families, and caregivers easily compare nursing homes and identify areas about which they may want to ask questions. The Nursing Home Care Compare website features a quality rating system that gives each nursing home a rating of one to five stars. A rating of five stars is considered much above average quality; a rating of one star is considered much below average quality. The overall star rating for a nursing home lets consumers compare nursing homes on topics consumers consider most important and provides a "snapshot" of the quality of each nursing home. The rating combines the results and data from three important sources, including health inspections, staffing, and quality measures. A star rating is calculated for each of these three sources, along with an overall rating.[7]

After introducing the programs that use antipsychotic medication measures, Acumen presented the current short-stay and long-stay antipsychotic medication measure specifications.[8] The short-stay antipsychotic medication measure focuses on the percent of short-stay residents who initiated antipsychotic medication during their nursing home stay. The long-stay measure, on the other hand, aims to capture overall antipsychotic medication use, regardless of where treatment was initiated. The antipsychotic medication measures utilize MDS items in their specifications. For example, MDS item N0410: *Medications Received* is utilized to capture the number of residents who received an antipsychotic medication. This item will change to item N0415: *High-Risk Drug Classes: Use and Indication*, effective October 1, 2023 with the transition to MDS 3.0 v1.18.11. This item will not only record whether an antipsychotic was received, but will also identify whether there is an indication noted for the medication. This change signals that clinicians should be sure that administration of the antipsychotic makes sense for the care plan of a resident. The antipsychotic medication measures use MDS Section I: *Active Diagnoses* in the exclusions, specifically items I5250: *Huntington's Disease*, I5350: *Tourette's Syndrome*, and I600: *Schizophrenia (e.g., schizoaffective and schizophreniform disorder)*.

The MDS 3.0 Resident Assessment Instrument (RAI) Manual states that nursing home staff should complete the following tasks to adhere to coding guidelines for MDS item N0410: (i) review the resident's medical record for documentation that any of the medications listed in the item were received by the resident during the seven-day lookback period (or since

[7] Centers for Medicare & Medicaid Services. 2023. *Overall Star Rating for Nursing Homes*. https://www.medicare.gov/care-compare/resources/nursing-home/overall-star-rating.
[8] See Appendix C for the detailed measure specifications.

admission/entry or reentry if less than seven days); (ii) review documentation from other healthcare settings where the resident may have received any of these medications while a resident of the nursing home (e.g., diazepam given in the emergency room); and (iii) record any medication that has a pharmacological classification or therapeutic category of an antipsychotic medication in this section, regardless of why the medication is being used. The RAI Manual coding guidelines for MDS Section I state that active diagnoses have a direct relationship to the resident's current functional, cognitive, or mood or behavior status; medical treatments; nursing monitoring; or risk of death during the seven-day lookback period, and require a physician-documented diagnosis in the last 60 days. Conditions that have been resolved, do not affect the resident's current status, or do not drive the resident's plan of care during the seven-day lookback period would be considered inactive diagnoses.[9]

3.3 Session 1-D: Evidence Supporting Need for Measure Re-specification

In 2021, OIG and the *New York Times* published investigations suggesting potential under-reporting of antipsychotic medication use in nursing homes and inaccurate schizophrenia diagnosing practices in nursing homes. The *Times* investigation found that the share of nursing home residents with a schizophrenia diagnosis had increased 70% since 2012, even though the related behaviors like delusions and hallucinations had not.[10] Evidence in the OIG report also suggested potential over-reporting of schizophrenia. Among long-stay residents reported by nursing homes as having schizophrenia, 30% did not have any evidence of this diagnosis in their Medicare claims. Furthermore, 71% percent of these residents had at least one Part D claim for an antipsychotic drug.

The OIG report also showed that CMS's use of the MDS as the sole data source to assess antipsychotic medication use may not accurately reflect nursing home prescribing practices. In 2018, 23% of long-stay residents age 65 or older had a Part D claim for an antipsychotic drug. However, 5% of these residents with Part D claims for an antipsychotic drug were not reported on the MDS as receiving an antipsychotic drug.

Based on its findings, OIG recommended that CMS (i) take additional steps to validate the information reported in MDS assessments, and (ii) supplement the data it uses to monitor the use of antipsychotic drugs in nursing homes to enhance the information it uses. CMS concurred with both recommendations. Based on OIG's recommendations, CMS is seeking options to

[9] Centers for Medicare & Medicaid Services. 2019. *Long-Term Care Facility Resident Assessment Instrument 3.0 User's Manual*. Version 1.17.1, October. https://downloads.cms.gov/files/mds-3.0-rai-manual-v1.17.1_october_2019.pdf.

[10] Thomas, Katie, Robert Gebeloff, and Jessica Silver-Greenberg. 2021. "Phony Diagnoses Hide High Rates of Drugging at Nursing Homes." *The New York Times*. September 11. https://www.nytimes.com/2021/09/11/health/nursing-homes-schizophrenia-antipsychotics.html.

re-specify the NHQI antipsychotic medication measures to more accurately capture antipsychotic medication use and diagnoses used in the exclusion criteria for these measures among the nursing home population.

Given the concerns related to accurately reporting antipsychotic use and schizophrenia diagnoses in the MDS, a main focus of the TEP was to explore the inclusion of Medicare claims in the antipsychotic medication measure specifications. Medicare claims can serve as an additional data source to identify measure exclusion diagnoses and antipsychotic medication use reported in the MDS, as nursing home residents are usually Medicare-enrolled and have associated claims with diagnoses and medication records other than MDS assessments. Medicare claims include Part A, B, C, and D claims. Part A includes inpatient, SNF, home health, and hospice claims; Part B comprises outpatient, home health, carrier/physician, and durable medical equipment claims; Part C refers to Medicare Advantage claims; and Part D corresponds to prescription drug claims. In response to concerns about antipsychotic medication use and schizophrenia reporting, the U.S. Department of Health and Human Services (HHS) announced new actions to reduce the inappropriate use of antipsychotic medications. As part of President Biden's call to action to improve the quality of America's nursing homes, CMS will begin auditing nursing homes. In these audits, CMS will assess the accuracy of MDS data by examining the facility's evidence for appropriately documenting, assessing, and coding a diagnosis of schizophrenia on the MDS for residents in a facility.[11] This effort will supplement focused schizophrenia onsite surveys, launched in 2016, to specifically address the issue of erroneous coding of schizophrenia in nursing homes.

[11] Center for Clinical Standards and Quality/Quality, Safety & Oversight Group. 2023. *Updates to the Nursing Home Care Compare Website and Five Star Quality Rating System: Adjusting Quality Measure Ratings Based on Erroneous Schizophrenia Coding, and Posting Citations Under Dispute.* QSO-23-05-NH. January 18. https://www.cms.gov/files/document/qso-23-05-nh.pdf.

4 SUMMARY OF TEP PRESENTATION AND DISCUSSION

This section summarizes feedback shared by TEP panelists during the TEP meeting on February 24, 2023 and is organized into four subsections. Section 4.1 presents the results of Acumen's comparison of antipsychotic medication reporting on the MDS and Medicare Part D claims. Section 4.2 summarizes Acumen's comparison of schizophrenia diagnoses reported on the MDS and Medicare Parts A and B claims. Section 4.3 delves into the long-stay antipsychotic measure re-specification options. Finally, Section 4.4 explores additional data sources for measure refinement. Each subsection summarizes the material presented to the TEP, discussions among TEP panelists in response to the material presented and guiding questions, and the key findings from the discussion.

4.1 Session 2-B: Prevalence of Antipsychotic Medication Use in Nursing Homes

To better understand antipsychotic medication use trends in nursing homes, Acumen presented the results of the comparison of antipsychotic medication use prevalence on the MDS with Medicare Part D claims. Section 4.1.1 provides an introduction of Acumen's methodology to compare MDS-reported antipsychotic medication use with Part D claims, and an analysis of Part D antipsychotic drug prescription rates. Section 4.1.2 presents mismatch rates between MDS and Medicare Part D claims reporting antipsychotic medication, characteristics of provider outliers with high Part D antipsychotic medication prescription rates, and gaps between MDS and Part D reporting.

4.1.1 Comparing MDS Antipsychotic Medication Reporting and Medicare Claims

In the first part of session 2-B, Acumen outlined the methodology for its comparison of Part D claims with antipsychotic medication reporting in the MDS. Acumen also shared the current Part D antipsychotic drug prescription rates by resident characteristics, provider characteristics, and US state. Panelists provided responses to guiding questions Acumen posed and shared general feedback on the antipsychotic medication measures. Acumen extracted key takeaways from this discussion.

Summary of Presentation

Nursing homes may have incentives to under-report antipsychotic medication use, as NHQI quality measure rates are publicly reported on the Care Compare website. Furthermore, language on Care Compare states that a lower rate on the antipsychotic medication measure indicates better quality. Since the antipsychotic medication measures are included in the Five-Star quality rating displayed on Care Compare, high rates of antipsychotic drug use can hurt a nursing home's public image and star rating. CMS designed the rating system to help nursing home residents and their families evaluate facilities using objective data; a low star rating can

result in lower occupancy. Publicly reporting antipsychotic medication use may have led to lower antipsychotic medication reporting on the MDS. According to the MDS frequency report, antipsychotic medication use reported on the MDS slightly decreased from over 25% of nursing residents in 2012 to around 21% of residents in 2022.[12]

To determine whether the decrease in antipsychotic medication use in the past 10 years is reflective of current nursing home prescribing practices, Acumen compared 2021 MDS assessments with Part D claims for nursing home residents who were continuously enrolled in Part D from 2020 to 2021. As most Part D drug supplies last less than a year, Acumen designed a one-year lookback window from the MDS assessment target date to capture antipsychotic drug prescriptions that lasted until 2021 and may have overlapped with MDS assessments. Acumen then identified Part D antipsychotic prescriptions filled in the one-year lookback window with a days' supply that overlapped with the lookback period of the MDS assessments in 2021. For Part D antipsychotic drugs that overlapped with MDS, Acumen calculated the number of cases where MDS assessments did not report the drug use. Part D claims were used for comparison as they are presumed to be accurate; prescription reporting is mandatory and inaccuracy may impact payment from CMS. To identify antipsychotic medication use on the MDS, Acumen used item N0410A: *Medications Received. Antipsychotic*. To identify antipsychotic medications in Part D claims, Acumen used the National Drug Codes (NDCs) for antipsychotic medications listed in Appendix D.

Acumen replicated OIG's study using the aforementioned methodology. The results were consistent with OIG's findings on antipsychotic medication reporting. Acumen found that, in 2021, 4.6% of long-stay residents with a Part D claim for an antipsychotic drug were not reported as receiving an antipsychotic drug on an MDS assessment, while OIG found that, in 2018, 4.9% of long-stay residents with a Part D claim for an antipsychotic drug were not reported as receiving an antipsychotic drug on an MDS assessment.

Overall, results of the 2021 MDS and Part D claims comparison revealed that long-stay residents had much higher rates of Part D antipsychotic prescription records than short-stay residents. Results show that 27.4% of long-stay residents had a Part D antipsychotic drug prescription compared to 15.6% of short-stay residents. However, the rate of Part D antipsychotic prescription records may not accurately represent the percent of short-stay residents who received antipsychotic medication. Medication use during the SNF Part A PPS

[12] Centers for Medicare & Medicaid Services. 2022. *MDS 3.0 Frequency Report*. https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/Minimum-Data-Set-3-0-Frequency-Report.
Effective August 1, 2023, CMS decommissioned the MDS 3.0 Frequency Report webpage. A replacement webpage where users can access the MDS 3.0 Frequency report data will be made available in the near future.

stays may not be fully captured in Part D claims due to consolidated billing. Under the consolidated billing requirement, SNFs bill Medicare for virtually all the services SNF residents receive during the course of a covered Part A stay. Consolidated billing includes, for example, medication, physical and occupational therapies, and speech-language pathology services received for any patient who resides in a SNF.[13] The usability of Part D claims in terms of measure refinement is therefore limited for short stays. Due to these issues with consolidated billing, the TEP focused on re-specifying the long-stay measure.

When assessing Part D antipsychotic drug prescription rates among long-stay residents by resident and facility characteristics, results reveal that White residents, male residents, residents dually enrolled in Medicare and Medicaid, and residents under age 65 had higher rates of Part D antipsychotic drug prescriptions. Furthermore, small facilities, for-profit facilities, and facilities in the Midwest and South had higher rates of Part D antipsychotic drug prescriptions.[14] This is consistent with findings across states. States in the Midwest, such as Missouri and Illinois and states in the South, such as Louisiana, Mississippi, and Alabama had above-average (>27.4%) Part D antipsychotic drug prescription rates.[15]

Panelist Discussion

Acumen posed four questions to the TEP regarding the prevalence of antipsychotic medication use and Acumen's criteria to compare antipsychotic medication reporting on the MDS with Medicare Part D claims. Panelists also provided general comments on the current measure specifications, potential future analyses, and measure alignment with clinical practice and quality of care.

1. *Are the criteria to compare antipsychotic medication use in Part D claims and MDS assessments appropriate?*

One panelist shared that they thought that the criteria are appropriate. However, the panelist did not believe that use of Part D claims will be effective in capturing or validating antipsychotic medication use reported on the MDS, given the limited usability of Part D claims in the short-stay population.

2. *Are the medications included reasonable to identify use of antipsychotic medications from the claims?* (See Appendix D to view the antipsychotic medication list.)

[13] Centers for Medicare & Medicaid Services. 2021. *SNF Consolidated Billing.* https://www.cms.gov/Medicare/Billing/SNFConsolidatedBilling.
[14] The Midwest region includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
[15] The South region includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Three panelists noted that carbamazepine is not an antipsychotic medication, but an anticonvulsant, which could account for the small difference between Part D claims and MDS data. Panelists provided more input on the medication list in the post-TEP poll, summarized in Section 5.

3. *How did the COVID-19 Public Health Emergency (PHE) impact antipsychotic medication use?*

One panelist commented that there was a study in January about an increase in antipsychotic usage among dementia residents during the PHE.[16] Care changed because of isolation, and the interruption of routines could cause some variation in the usage of antipsychotic medication.

4. *Are the differences in prevalence rate of Part D antipsychotic drug prescriptions across resident and provider characteristics expected?*

One panelist commented that the differences in prevalence rates of Part D antipsychotic prescriptions between small, medium, and large facilities are expected. Another panelist commented that it makes sense that among long-stay residents younger residents, White residents, and male residents have higher rates of Part D antipsychotic medication prescriptions, as some facilities specialize in severe mental illness. The panelist noted that most of the residents in these facilities tend to be younger, White men with bipolar disorder, a condition that, in some instances, can be treated with antipsychotic medication.

General Comments

Several panelists suggested that Acumen present more granular data on Part D antipsychotic drug prescription rates by facility characteristics. One panelist noted that it would be useful to see how the provider characteristics interact with each other; for example, a breakdown of small facilities by ownership type. Another panelist noted that that it would be helpful to make comparisons among facilities of the same size; for example, comparing antipsychotic medication rates of a small facility to other small facilities, rather than comparing across differently sized facilities. This panelist also commented that they would like to see comparisons of antipsychotic medication use among states in the same region, as opposed to comparing across all states, because different regions may have different socioeconomic factors that may affect resident characteristics and access to facilities in the region. The panelist

[16] Luo, Hao, Wallis C.Y. Lau, Yi Chai, et al. 2023. "Rates of Antipsychotic Drug Prescribing Among People Living With Dementia During the COVID-19 Pandemic." *JAMA Psychiatry* 80 (3): 211–219. https://doi.org/10.1001/jamapsychiatry.2022.4448. Citation was not provided by panelist. Acumen identified the article based on the information the panelist shared during the discussion.

suggested that socioeconomic factors should also be considered in the analysis of prevalence rates of antipsychotic medication use.

One panelist cautioned against comparing facilities with small sample sizes given that the rates can vary more widely with small absolute changes in use. Regarding the potentially discriminatory comparison of small facilities with larger ones, a representative of CMS's Division of Nursing Homes (DNH) mentioned that the quality measure accounts for smaller facilities by aggregating all residents over four quarters, and that there is a minimum threshold for the denominator which excludes facilities that could be impacted by having too few residents.

Several panelists recommended adjusting the measure for additional mental illnesses. One of these panelists mentioned that the measure does not adjust for a nursing facility that chooses to actively admit people with serious mental illness, and therefore could have a higher percentage of individuals potentially treated with an antipsychotic drug. A second panelist added that because antipsychotic medications have Food and Drug Administration (FDA) indications to treat conditions that are not excluded in the measure, such as bipolar disorder, the quality ratings of facilities specializing in behavioral and mental health might be negatively affected. These facilities may actually be appropriately using antipsychotic medications, but their measure score is not reflective of this, and leaves the impression that such facilities inappropriately manage antipsychotic medications. A third panelist suggested that the measures be adjusted to align with the type of facility. For example, the measure could allow the exclusion of conditions like bipolar disorder for facilities that specialize in behavioral health while having a narrower set of exclusions for facilities that serve primarily older adults for general care. Lastly, a panelist urged CMS to consider possible unintended consequences of the antipsychotic medication measures. This panelist believed that facilities could avoid admitting residents who need or potentially need an antipsychotic medication for fear that their measure score, and by extension their Five-Star rating, could be negatively affected. These residents are medically complex and require more resources, so the measure could further discourage nursing homes from admitting them. In response, the DNH representative informed the TEP that the antipsychotic medication quality measure is just one of 15 quality measures used in the Star Rating system, and that this gives facilities the opportunity to obtain high ratings by performing better on other measures. For example, if a facility performs poorer on the antipsychotic medication quality measure due to the type of residents it admits, the facility can still obtain a high Five-Star Quality Measure rating by performing better on the other measures.

Some panelists expressed concern over the measures' alignment with current antipsychotic prescription practices, and medical and scientific evidence. Two panelists suggested that there is no scientific or medical evidence to support the notion that lower antipsychotic medication use is an indicator of high quality of care. One of these panelists further

commented that such a restrictive approach to antipsychotic medication use may be one of the reasons that facilities have turned to using anticonvulsants instead of antipsychotics, which are equally or even more harmful. This panelist added that antipsychotic medication is FDA-indicated for conditions such as major depressive disorder, psychosis, or chronic disorders like delusional disorders and bipolar disorder. This panelist argued that it is more dangerous to taper antipsychotic medication use on people with such conditions, especially people who have a history of suicidality, delusional disorder, and other indications. The panelist added that a large percentage of medications used in elderly individuals in nursing homes are dangerous, but it is important to capture the proper evaluation of risk versus benefit, as that represents appropriate use.

One panelist noted that the public perceives the current measure as a percentage of *inappropriately* prescribed antipsychotic medications, since the measure excludes three diagnoses. However, the measure does not exclude other diagnoses, conditions, or rationales that would support the appropriate use of an antipsychotic medication. The panelist believed that, as a result, the current measure is not an accurate representation of inappropriate antipsychotic medication use. The panelist acknowledged that it would be challenging to document every possible indication as they are constantly changing, but it is important to have data or documentation at the provider and patient level that can inform whether the usage of an antipsychotic medication is appropriate. One panelist noted that the measure assumes that antipsychotic medication use is harmful and should be limited, but does not seem to focus on best practices, scientific validation, or FDA indications. The panelist suggested that the measure needs to focus more on person-centered care and best practices. Two panelists agreed with the aforementioned panelist and expressed interest in discussing how using additional sources would help improve quality of care for nursing home residents. However, panelists did not indicate which data sources could be feasible to use to implement their suggestions.

A DNH representative clarified that CMS does not believe that all antipsychotic medication use is harmful. However, CMS does strongly believe that antipsychotic medication use on elderly people in nursing homes, many of whom have dementia, is dangerous. The DNH representative also noted that the known side effects of antipsychotics in the elderly population with dementia include increased risk of death.[17] Additionally, although CMS acknowledges that there is an increasing number of younger individuals with serious mental illness coming to nursing homes, CMS is addressing the long-standing issue of inappropriate antipsychotic medication use among the elderly nursing home population. CMS has seen many cases of

[17] In 2005, the FDA issued a black-box warning (the most serious type of warning mandated by the FDA) for atypical (second-generation) antipsychotic medications, indicating increased risk of mortality in elderly patients treated for dementia-related psychosis. In 2008, the FDA issued a similar warning for typical (first-generation) antipsychotic medications.

unnecessary antipsychotic medication use in nursing homes and is extremely concerned about these cases. Therefore, the focus of this TEP is to advise CMS on how to obtain an accurate measurement of the percent of residents on an antipsychotic medication using all data sources available.

Key Findings

- One panelist shared that the COVID-19 PHE led to changes in nursing home care. The isolation and interruption of routines caused by these changes could have resulted in an increase in the usage of antipsychotic medication.
- One panelist believed that the criteria Acumen used in its comparison of antipsychotic medication reporting in the MDS and Part D claims are reasonable. However, three panelists suggested the removal of carbamazepine from the list of antipsychotic medications.
- Some panelists expressed concerns about using Part D data, and argued that, given the issues with SNF consolidated billing, the MDS is a more accurate data source for the short-stay population than Part D claims.
- A few panelists agreed that the differences in prevalence rate of antipsychotic use across resident and provider characteristics are expected. Two panelists suggested considering socioeconomic factors when analyzing antipsychotic medication use by facility and resident characteristics.
- Several panelists recommended adjusting the measure for additional severe mental illnesses, as the current measure exclusions are not comprehensive of all the FDA-indicated uses for antipsychotic medication.
- Some panelists expressed concerns about the measure's alignment with quality of care, current antipsychotic prescription practices, and medical and scientific evidence. However, panelists did not comment on how CMS can leverage existing data sources, like the MDS or Part D claims, in the measure to help prevent inappropriate or unnecessary use of antipsychotic medication.

4.1.2 MDS-Medicare Part D Claims Reporting Mismatch Rates for Antipsychotic Medication Reporting

In the second part of this session, Acumen provided a breakdown of the mismatch rates of nursing homes residents Part D antipsychotic medication prescriptions and residents with antipsychotic medication reported on the MDS among nursing home residents. Acumen also presented the results of the analysis of provider outliers for Part D antipsychotic medication prescriptions and MDS-Part D claims mismatch rates.

Summary of Presentation

Acumen found that among residents with a Part D antipsychotic drug prescription, 9.9% of short-stay residents and 4.6% of long-stay residents did not have an antipsychotic drug reported on the MDS. To investigate these mismatches further, Acumen assessed the MDS-Medicare Part D claims mismatch rates among long-stay residents by resident and facility characteristics. Additional analogous short-stay analyses were not performed due to the SNF consolidated billing limitations described in Section 4.1.1. Results revealed that among the long-stay population, non-White residents, female residents, Medicare-only residents, and residents aged 65 and older had slightly higher MDS-Part D reporting mismatch rates. Furthermore, large facilities, for-profit facilities, and facilities in the South had slightly higher MDS-Part D reporting mismatch rates. Across states, states in the Midwest, such as Missouri, and in the South, such as Texas, had above-average MDS-Part D reporting mismatch rates (over 4.6%).

To explore the driving force behind poorer performance and determine which facility characteristics influence lower reporting rates of antipsychotic medication use on the MDS, Acumen investigated the characteristics of the most extreme cases of antipsychotic medication reporting, or the provider outliers, including facilities' Five-Star ratings and resident compositions. The provider outliers for antipsychotic medication reporting were identified using the following criteria:

- **High Medication Use:** Percent of residents with a Part D antipsychotic medication prescription was above the 90th percentile (43.4%) among all providers.
- **High Mismatch:** Percent of residents with a Part D antipsychotic medication prescription not reported in MDS was above the 90th percentile (13.8%) among all providers.
- **Sufficient Size:** Providers had at least 20 long-stay residents who were continuously enrolled in Part D.

Based on these criteria, Acumen identified 67 provider outlier facilities. Acumen presented an analysis of the 67 providers by facility characteristics, resident characteristics, and Five-Star ratings. Most provider outliers for antipsychotic reporting were small facilities, for-profit facilities, and facilities in the Midwest, which is consistent with the previously presented findings. Out of the 67 facilities, 46% of provider outliers were small for-profit facilities in the Midwest (31%) and the South (15%). Furthermore, 36% of the facilities were in Texas (15%) and Missouri (21%).

On average, 55.3% of residents in outlier facilities had a Part D claim for antipsychotic medication compared to the national average of 27.0%. Furthermore, 18.5% of residents in outlier facilities did not have a Part D antipsychotic medication prescription reported on the MDS, compared to the national average of 4.8%. Most provider outliers had a large number of

residents with psychiatric or mood disorders.[18] The average percent of residents with a psychiatric or mood disorder reported on the MDS among provider outliers was 80.9%, compared to the national average of 66.5%. The higher proportion of residents with psychiatric or mood disorders among provider outliers may explain why those providers had higher percentages of Part D antipsychotic medication prescriptions, as treatment for some of these conditions require antipsychotic medication. Acumen also compared the percent of residents with dementia reported on the MDS in outlier facilities (50%) to the national average (49.5%) and did not find any significant differences.[19]

Provider outliers for antipsychotic medication reporting had concerning Five-Star ratings on Care Compare as of January 2023. In terms of overall Five-Star ratings, 63% of provider outliers had a rating of one or two stars, and 59% of providers had three stars or fewer for long-stay Quality Measure (QM) rating. This is important as the antipsychotic medication measure is factored into these two ratings. Furthermore, 81% of providers had a staffing rating of one or two stars. As such, poor staffing may be associated with higher antipsychotic medication use not reported on the MDS.

Panelist Discussion

Acumen posed three questions to the TEP:

1. *Are there any factors that might impact Part D billing of antipsychotic drugs?*

One panelist noted that Part D claims only reflect purchase of medication, not its administration. Two panelists asked whether the analysis considers a situation in which a short-stay resident has a Part D claim for an antipsychotic medication but is taken off the medication upon arrival to the nursing home. One of these panelists added that long-term care residents can also have a Part A episode during their stay, which could lead to difficulties capturing antipsychotic use using Part D claims. One panelist expressed concern about using the MDS and Part D claims as data sources for the measure since these data sources do not consider the clinical data, that is, whether there is a valid diagnosis that warrants treatment with antipsychotic medication. Another panelist mentioned that the RAI coding guidelines for active diagnoses can impact identification of certain diagnoses on claims.[20]

One panelist expected the percent of short-stay residents with a Part D antipsychotic drug prescription not reported on the MDS to be much higher than what Acumen presented, due to

[18] Psychiatric and mood disorders include anxiety disorder, depression, bipolar disorder, psychotic disorder, schizophrenia, and post-traumatic stress disorder (PTSD), as categorized in MDS items I5700-I6100 (*Psychiatric/Mood Disorder*).
[19] Dementia includes Alzheimer's disease, non-Alzheimer's dementia, and Parkinson's disease, as categorized in MDS items I4200, I4800, and I5300, respectively.
[20] See Section 3.2 for information on the RAI Manual coding guidelines for MDS Section I: *Active Diagnoses*.

SNF consolidated billing. The panelist expressed concerns about Part D claims, noting that residents may be admitted to a hospital and taken off antipsychotic medications during their stay due to the high cost of such medications. Therefore, a patient may have a previous Part D prescription before arriving to the nursing home, but may not be taking the medication. Another panelist noted that the opposite may also happen, where a short-stay resident has a Part D prescription for an antipsychotic medication given in a hospital, community, or home setting, and is taken off the medication when they arrive at the nursing home.

One panelist restated their interest in comparing the percentages of antipsychotic medication use in smaller rural nursing homes and larger urban nursing homes. The panelist shared that they worked in Texas, a state mentioned as having a significant share of provider outliers, and that is notorious for having 30-bed nursing facilities in small cities. The panelist commented that it is not uncommon to see high percentages of antipsychotic use in those small facilities, because it only takes two or three people on antipsychotics to create that higher percentage number in comparison to a 180-bed nursing facility in an urban environment that may have the same number of people on antipsychotic medication but has a much lower percentage. Larger nursing facilities in urban areas, because of their size, tend to have a very active rehabilitation population or a population that does not have as much serious mental illness.

2. *How should one interpret the gap in antipsychotic medication reporting between MDS and Medicare claims? Is this gap signaling MDS data element validity concerns?*

One panelist mentioned that the mismatch rate between Part D claims and the MDS is likely an indication of MDS accuracy and alignment with Part D claims, rather than an indicator of fraudulent behavior. Two panelists suggested that a 4.6% to 4.9% mismatch rate between the MDS and Part D claims is a reasonable margin of error, and this percentage alone should not signal a concern with data quality.

Four panelists commented that the results of the OIG report may be more nuanced, and that OIG should have considered that there may be other reasons for the mismatch between the MDS and Part D claims, such as insufficient education on how to fill out the MDS or how to review the reports. Two panelists noted that one of the potential reasons for the mismatch between the MDS and Part D claims is confusion regarding which medications are considered to be antipsychotics, particularly when a drug in the antipsychotic class is used for something unrelated to serious mental illness or a psychoactive condition. One panelist shared that they are constantly asked if a given medication is considered an antipsychotic. The panelist suggested including a list of antipsychotic medications in the RAI Manual and noting that this list is subject to change as new medications become available. This panelist also recommended that facilities receive a report indicating whether antipsychotic medication use was flagged by the MDS or Part

D claims for a given resident since facilities often struggle with verifying that information. The panelist suggested testing the approach with small and large facilities.

Three panelists commented that there are many other scenarios that may contribute to the 4.6% mismatch. One of these panelists added that although many clinicians do not agree that antipsychotic medications should be used on an as-needed basis, a resident could have a claim for an antipsychotic medication that is offered on an as-needed basis. A resident taking the medication on an as-needed basis could not take the medication within the seven-day lookback period of the target MDS assessment and would therefore not be reported on the MDS. Two panelists commented that some antipsychotic medications, like prochlorperazine, can be used to treat nausea and vomiting, and are therefore not coded as antipsychotics on the MDS. Antipsychotic medications including prochlorperazine, chlorpromazine, and haloperidol are also commonly used for appropriate end-of-life care needs in hospice.

3. *As provider outliers are mostly associated with poor staffing, could under-reporting antipsychotic medication use be a result of understaffing?*

One panelist shared that during the COVID-19 pandemic, there was a great wave of resignation where many people left long-term care facilities, including MDS coordinators and nurse assessment coordinators (NACs). In the panelist's 25 years of nursing, this was the largest turnover of MDS coordinators they have seen. The panelist added that turnover can impact the accuracy of the MDS and asked whether the accuracy of MDS assessments might be different if Acumen analyzed data from a different year. Four other panelists agreed, and added that because of low staffing during the pandemic, floor nurses with little training were tasked with completing the MDS. Quality of care was also negatively affected, since floor nurses would be taken off patient care to complete the MDS in a timely fashion.

One panelist disagreed with the assumption that facilities with low staffing are using antipsychotic medications due to short staffing. Another panelist added that the staffing challenges may impact routine gradual dose reductions that lead to discontinuing antipsychotic medication.

One panelist noted that although there are some possible positive statistical correlations between staffing, quality measure ratings, for-profit status, and antipsychotic medication use, they have observed other reasons why such a reporting gap exists. This panelist conducted a review of facilities in 28 different states that was almost a 1% sample of all the nursing homes in the United States, and noticed that facilities tend to have disorganized approaches to complex problems. Some facilities rely solely on the MDS and the RAI, despite the fact that Chapter 4, Table 2 of the RAI Manual explains that frequently the MDS is not enough to appropriately

manage a person's care.[21] The focus on data sources such as the MDS as indicators of quality limits the ability to identify the real reason for inappropriate antipsychotic medication use.

One panelist found it contradictory that provider outliers with high MDS-Part D claims mismatch rates for antipsychotic reporting had concerning Five-Star ratings since, at the beginning of the session, Acumen mentioned that better Five-Star ratings could be an incentive for nursing homes to under-report antipsychotic medication use on the MDS.

Key Findings

- Some panelists explained that mismatches between MDS and Part D antipsychotic medication reporting may be due to several factors, such as: (i) confusion regarding which medications are considered to be antipsychotics; (ii) lack of education on how to accurately complete the MDS; (iii) medications not recorded as antipsychotics if used for something other than psychosis; and (iv) residents receiving medication outside of the seven-day lookback period of the target MDS assessment. Furthermore, Part D claims reflect the purchase of a medication, and not its administration.
- Some panelists noted that the gap in antipsychotic medication reporting between MDS and Medicare claims does not signal MDS data validity concerns.
- Several panelists commented that nursing home staff turnover during the COVID-19 pandemic impacted the accuracy of the MDS, as well as patient care.
- One panelist disagreed with the assumption that low staffing leads to increased antipsychotic medication use. Another panelist noted that understaffing could increase the prevalence of antipsychotic medication use in nursing homes, as the staffing challenges may impact routine gradual dose reductions that lead to discontinuing antipsychotic medication.

4.2 Session 2-C: Prevalence of Schizophrenia in Nursing Homes

Acumen shared the results of the comparison of schizophrenia reporting on the MDS and Medicare claims to understand whether the increase in schizophrenia reporting in the MDS is an accurate reflection of the nursing home population. Section 4.2.1 provides an introduction of Acumen's methodology to compare MDS-reported schizophrenia diagnoses with Medicare Part A/B claims, and an analysis of MDS reporting of schizophrenia diagnoses. Section 4.2.2 presents

[21] "Neither the MDS nor the remainder of the RAI includes all of the steps, relevant factors, analyses, nor conclusions needed for clinical problem solving and decision making for the care of nursing home residents." Centers for Medicare & Medicaid Services. 2019. *Long-Term Care Facility Resident Assessment Instrument 3.0 User's Manual*. Version 1.17.1, October. https://downloads.cms.gov/files/mds-3.0-rai-manual-v1.17.1_october_2019.pdf.

mismatch rates of schizophrenia reporting between MDS and Part A/B claims, and provider outliers for schizophrenia reporting in both the MDS and Part A/B claims.

4.2.1 Comparing MDS Schizophrenia Reporting and Medicare Claims

In the first part of session 2-C, Acumen outlined the methodology for its comparison of schizophrenia reporting in the MDS with Medicare claims. Acumen also shared the prevalence of schizophrenia in nursing homes as reported by the MDS by resident characteristics, provider characteristics, and US state. Panelists offered their feedback on the results of this analysis and on guiding questions that Acumen posed. Acumen extracted key findings from this discussion.

Summary of Presentation

Nursing homes may over-report schizophrenia, Tourette's syndrome, and Huntington's disease diagnoses to exclude residents with antipsychotic medication use from the measure calculation in order to achieve lower measure rates on Care Compare. Among the three conditions, schizophrenia accounts for 98% of cases excluded. In addition, schizophrenia reporting on the MDS has increased by 75% in 10 years, from 6.5% in 2012 to 11.4% in 2022.[22]

To explore whether schizophrenia diagnoses on the MDS were reported elsewhere, Acumen compared schizophrenia diagnoses recorded on 2021 MDS assessments to diagnoses recorded on Medicare claims (inpatient, outpatient, and physician claims) among nursing home residents who were continuously enrolled in Part A or B from 2020 to 2021. Acumen identified schizophrenia records on Medicare claims in a one-year lookback and one-year look-forward window. To identify schizophrenia diagnoses reported on the MDS, Acumen used item I6000: *Schizophrenia (e.g., schizoaffective and schizophreniform disorders)*. Acumen used International Classification of Diseases, Tenth Revision (ICD-10) codes for schizophrenia, listed in Appendix E, to identify schizophrenia diagnoses in Medicare claims.

Acumen found that, among residents with a schizophrenia diagnosis reported on the MDS, 8.3% of long-stay residents and 12.0% of short-stay residents did not have a matching schizophrenia record on Medicare claims. Acumen's results for long-stay residents were much lower than OIG's findings of 30% because OIG used a more restrictive list of schizophrenia ICD-10 diagnosis codes.[23] However, Acumen found similar results as OIG when the same restriction was implemented. Among the additional ICD-10 codes Acumen included, F25.0

[22] Centers for Medicare & Medicaid Services. 2022. *MDS 3.0 Frequency Report*. https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/Minimum-Data-Set-3-0-Frequency-Report.
Effective August 1, 2023, CMS decommissioned the MDS 3.0 Frequency Report webpage. A replacement webpage where users can access the MDS 3.0 Frequency report data will be made available in the near future.

[23] See Appendix E for a comparison of the ICD-10 codes Acumen and OIG used for schizophrenia diagnoses.

(*Schizoaffective disorder*) represented the majority of the schizophrenia diagnoses in Medicare claims.

Long-stay residents had much higher schizophrenia reporting rates on the MDS than short-stay residents: 11.4% of long-stay residents had schizophrenia reported on the MDS, compared to 2.5% of short-stay residents. Among the long-stay population, results showed that non-White residents, male residents, dually enrolled residents, and residents under age 65 had higher rates of schizophrenia reporting on the MDS. In terms of facility characteristics, for-profit facilities and facilities in the West had higher rates of schizophrenia reported on the MDS.[24] When comparing schizophrenia reporting rates on the MDS across states, large states such as California, Florida, Illinois and New York had above-average rates (>11.4%).

Panelist Discussion

Acumen posed the following questions to the TEP:

1. *Does the increasing trend of schizophrenia diagnosis over time among the nursing home population meet your expectations? What may have led to such a trend? Have schizophrenia diagnosing practices changed in the clinical setting?*

One panelist asked whether audits have been conducted in particular nursing homes to understand the increase in schizophrenia reporting, and if there were additional data to inform the panel on schizophrenia reporting trends. A DNH representative answered that since 2015, CMS has been conducting onsite surveys targeting the accuracy of the coding of schizophrenia and found that a high percentage of nursing homes coded inappropriate schizophrenia diagnoses on the MDS. CMS also saw a large number of cases where there was no documentation of any diagnosis of schizophrenia. In cases where there was some sort of documentation, it was not comprehensive, nor did it explain how or why the resident was diagnosed. CMS has always required providing comprehensive assessments on the nursing home population and that professional standards be followed when diagnosing a patient, as required by the Omnibus Budget Reconciliation Act (OBRA) of 1987.

One panelist believed that there may be many other reasons for increases in schizophrenia reporting, including (i) the general trend that people with schizophrenia are living longer, (ii) some insurance programs may encourage individuals with schizophrenia to be placed in nursing homes, and (iii) the impacts of COVID-19. Another panelist mentioned that the World Health Organization (WHO) noted that schizophrenia diagnoses have been increasing globally, which could account for the increase in diagnoses observed in nursing homes. Two panelists commented that as behavioral homes or larger psychiatric units have closed, nursing homes are

[24] The West region includes Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

admitting individuals with mental illness, including schizophrenia. One of these panelists added that there are also a number of nursing homes across the United States that specialize in behavioral health, which will have a higher number of residents with schizophrenia. However, the panelists did not comment on why there was an increase in long-stay elderly residents with a diagnosis of schizophrenia (who may not have had this diagnosis prior to becoming a long-stay resident).

2. *Is the description of the MDS schizophrenia item clear enough to understand?*

One panelist noted that the description of the MDS schizophrenia item on the MDS is not clear enough to understand. The panelist said that they constantly receive questions from nursing home staff on whether they should code for item I6000: *Schizophrenia*, if a nursing home resident has schizophreniform or schizoaffective disorder. Since the MDS schizophrenia item is unclear, nursing home staff may also choose to document the diagnoses in item I8000: *Additional Active Diagnoses*, which allows nursing home staff to enter the name of the diagnosis and the corresponding ICD-10 code. This panelist added that nursing homes did not have proper guidance on coding new schizophrenia diagnoses from the RAI Manual until the MDS 3.0 RAI User's Manual (v1.17.1R) Errata was published on July 15, 2022.[25] One panelist noted that since MDS coordinators have little to no experience in mental health issues, MDS coding of diagnoses will lead to approximate, and often inaccurate, diagnoses. This panelist suggested creating a concise, best practice-structured "mini MDS" that mental health professionals could complete to have an accurate diagnosis by trained people that MDS coordinators could use to complete the MDS assessment. Although it might impose a burden on facilities that do not have mental health professionals, such an approach would improve the accuracy of the MDS and incentivize person-centered care.

3. *Are the differences in schizophrenia prevalence rates across resident and provider characteristics expected?*

One panelist responded that the differences in schizophrenia prevalence rates across resident and provider characteristics are expected. The panelist shared that Illinois, a state Acumen identified for having above-average schizophrenia reporting rates, has a large number of nursing homes that specialize in behavioral and mental health, which could explain the higher percentage of schizophrenia reporting.

[25] "In Section I: Active Diagnoses, CMS identified concerns regarding the assignment of a new diagnosis of schizophrenia to residents after admission. CMS added in page I-16 of the manual that 'documentation of a detailed evaluation by an appropriate practitioner of the resident's mental, physical, psychosocial, and functional status (§483.45(e)) and persistent behaviors for six months prior to the start of the antipsychotic medication in accordance with professional standards' is required to code a new diagnosis of schizophrenia."
Centers for Medicare & Medicaid Services. 2022. *MDS 3.0 RAI User's Manual (v1.17.1R) Errata (v2)*. July 15. https://www.cms.gov/files/document/mds30raimanualv1171rerratav2july152022.pdf.

General Comments

In addition to answering the aforementioned questions, panelists provided feedback on improving the accuracy of schizophrenia diagnoses reporting on the MDS. One panelist supported adding measures to identify possible errors in diagnosing of schizophrenia. Another panelist suggested refining the schizophrenia reporting criteria on the MDS. Regarding new schizophrenia diagnoses in nursing homes, the panelist noted that schizophrenia is bimodal; a schizophrenia diagnosis may appear in a person's twenties or early sixties. As such, it would not be appropriate for a 75- to 95-year-old person to be newly diagnosed with schizophrenia. Therefore, adding a question on newly diagnosed schizophrenia to the MDS could help identify potentially fraudulent diagnoses. Another panelist noted that at least 20% of people experience onset after the age of 40, and cited the following excerpt from an article: "Although schizophrenia most commonly presents early in life, at least 20% of patients have onset after the age of 40 years. Some have proposed that schizophrenia with onset between the ages of 40 and 60 years is a distinct subtype of schizophrenia, late-onset schizophrenia (LOS)."[26] Although late-life onset of schizophrenia may occur, it is certainly less common than onset at a younger age, and does not speak to onset after age 60.[27] The DNH representative agreed that new schizophrenia diagnoses among the elderly population are inappropriate, and stated that it is uncommon for schizophrenia to be diagnosed in a person older than 40.[28] One panelist mentioned that although they have seen cases where nursing homes falsely diagnose residents with schizophrenia to warrant the use of antipsychotic medication and other drugs, in their experience, these situations represent a small percentage.

One panelist suggested that the measure also consider other psychotic disorders as measure exclusions in addition to schizophrenia. The panelist noted that some of the ICD-10 codes used for schizophrenia Acumen identified are not truly schizophrenia, but are part of the schizophrenia spectrum. The panelist added that the section of the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) that includes schizophrenia diagnoses is called "Schizophrenia Spectrum and Other Psychotic Disorders," which implies that the disorders described in this chapter are related and share common symptoms. Schizophrenia is a more specific collection of signs and symptoms, but psychosis is the common denominator of all

[26] Maglione, Jeanne E., Scot E. Thomas, and Dilip V. Jeste. 2014. "Late-Onset Schizophrenia." *Current Opinion in Psychiatry* 27 (3): 173–178. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4418466/.
[27] Maglione et al. (2014) note that literature on pharmacologic treatment strategies specifically for patients with late-onset schizophrenia is limited, but suggests that the dose requirements are generally lower than those in patients with early-onset illness. Furthermore, commonly used atypical antipsychotic medications may be helpful in the short term but neither safe nor effective over longer periods of treatment in middle-aged and older adults.
[28] National Alliance on Mental Illness. 2020. "What Is Schizophrenia?" https://www.nami.org/About-Mental-Illness/Mental-Health-Conditions/Schizophrenia.

of these diagnoses. Excluding only schizophrenia from the measure, therefore, fails to account for the impact that psychotic disorders other than schizophrenia have on an individual. This panelist added that an article published a few months ago found that serious psychosis is very prevalent, afflicts between 15% and 20% of people with dementia, and has a measurable negative impact on function and quality of life.[29] Another panelist appreciated that Acumen expanded the list of diagnoses to include disorders in the schizophrenia spectrum as they believed that is more helpful in determining appropriate use, especially for facilities that focus on behavioral health.

Key Findings

- Four panelists listed the following as reasons for the increasing trend of schizophrenia diagnoses in nursing homes: (i) people with schizophrenia are living longer, (ii) schizophrenia diagnoses have been increasing globally, and (iii) more nursing facilities specialize in behavioral health and will therefore have more residents with schizophrenia diagnoses.
- One panelist did not believe that the description of the MDS schizophrenia item is clear enough to understand. Several panelists suggested requiring the involvement of mental health professionals in coding on the MDS, and considering other psychotic disorders as measure exclusions in addition to schizophrenia to improve MDS accuracy.
- One panelist commented that the differences in schizophrenia reporting rates across resident characteristics, facility characteristics, and states are expected.

4.2.2 MDS-Medicare Fee-for-Service (FFS) Claims Reporting Match Rates for Schizophrenia Reporting

In the second part of this session, Acumen provided a breakdown of the match rates between MDS and FFS (Part A/B) claims for schizophrenia reporting, as well as an analysis of provider outliers for schizophrenia reporting in both the MDS and Medicare FFS claims. Based on the information provided, panelists provided responses to questions Acumen posed about the schizophrenia reporting gap between the MDS and Medicare claims, and potential explanations for over-reporting schizophrenia diagnoses.

[29] Choi, Aaron, Anthony Martyr, Linda Clare, Jane Fossey, Zunera Khan, Joanne McDermid, and Clive Ballard. 2022. "Impact of Psychotic Symptoms and Concurrent Neuropsychiatric Symptoms on the Quality of Life of People with Dementia Living in Nursing Homes." *Journal of the American Medical Directors Association* 23 (9): 1474-1479.E1. https://doi.org/10.1016/j.jamda.2022.03.017.
Citation was not provided by panelist. Acumen identified the article based on the information the panelist provided during the discussion.

Summary of Presentation

Acumen found that among long-stay residents with a schizophrenia diagnosis on the MDS, 91.7% also had evidence of this diagnosis in Medicare claims, compared to 88.0% of short-stay residents. Acumen analyzed the MDS-Medicare FFS claims match rates for schizophrenia reporting among long-stay residents by resident characteristics and facility characteristics. Among long-stay residents, Medicare-only individuals and residents aged 85 and older had lower MDS-claims schizophrenia reporting match rates. The MDS-claims schizophrenia reporting match rate among residents aged 85 and older (82.9%) was about 10 percentage points and 12 percentage points lower than among residents aged 64 to 84 (92.4%) and residents under the age of 65 (94.5%), respectively. Government-owned facilities and facilities in the West had slightly lower MDS-claims reporting match rates. Consistent with Acumen's analysis of schizophrenia reporting match rates on the MDS and Medicare claims by facility characteristics, states in the West had below-average (91.7%) MDS-claims reporting match rates.

To explore possible driving forces of poorer performance and other facility characteristics that may influence over-reporting of schizophrenia diagnoses, Acumen investigated the characteristics of the most extreme cases. Acumen explored facilities' Five-Star ratings and resident compositions. The provider outliers for schizophrenia reporting were identified using the following criteria:

- **High Prevalence:** Percent of residents with schizophrenia reported in MDS assessments was above the 90th percentile (27.3%) among all providers.
- **High Mismatch:** Percent of residents with schizophrenia reported in both MDS assessments and Medicare claims was below the 10th percentile (66.7%) among all providers.
- **Sufficient Size:** Providers had at least 20 long-stay residents continuously enrolled in Part A or B but not Part C.

Based on these criteria Acumen identified 44 facilities. Acumen presented an analysis of the 44 providers by facility characteristics, resident characteristics, and Five-Star ratings. Provider outliers for schizophrenia reporting were mostly for-profit facilities in the South. 80% of provider outliers were for-profit facilities. 39% of provider outliers were in eight states in the South. 48% of provider outliers were in California (18%), Pennsylvania (11%), Ohio (9%), and Florida (9%).

On average, 38.2% of residents in outlier facilities had a schizophrenia diagnosis reported on the MDS, compared to the national average of 11.1%, and 54.0% of residents in outlier facilities had a schizophrenia diagnosis reported in both the MDS and Medicare claims,

compared to the national average of 91.1%. Most provider outliers for schizophrenia reporting had a higher share of residents with psychiatric/mood disorders (78.4%) than the national average (65.9%). Comparing the percent of residents with dementia reported on the MDS in outlier facilities (49.2%) to the national average (49.5%) did not reveal significant differences.

Provider outliers for schizophrenia reporting had high long-stay quality measure Five-Star ratings, unlike provider outliers for antipsychotic medication reporting. 79% of provider outliers had three stars or less in the overall Five-Star rating. However, only nine providers (21%) had a long-stay QM rating below four stars. 60% of providers had a staffing rating of one or two stars.

Panelist Discussion

Acumen posed the following questions to the TEP:

1. *Are Acumen's criteria to compare schizophrenia diagnosis in Part A/B claims and MDS assessments appropriate? Are the ICD-10 codes Acumen identified appropriate to compare with the MDS schizophrenia diagnosis item?*

Panelists did not directly address this question. As a result, Acumen sent a poll after the TEP to obtain feedback on the ICD-10 codes used to identify schizophrenia diagnoses. The results of the poll are shown in Section 5.

2. *How should one interpret the gap in schizophrenia reporting between MDS and Medicare claims? Does this gap signal MDS data element validity concerns?*

One panelist commented that they have seen cases where nursing homes record schizophrenia diagnoses without any documentation to justify antipsychotic medication use. The panelist recounted the most extreme case they witnessed, where nursing home administrators forced staff to record a schizophrenia diagnosis for a patient, and used a psychologist, not a psychiatrist, from another state to write notes that confirmed that the patient had mental illness to warrant the use of drugs not limited to antipsychotics. This panelist acknowledged that although these situations happen, they are only part of the issue, and not the whole issue.

One panelist noted that nurses do not diagnose, so the coding on the MDS is based on what physicians record in residents' records, which could explain the schizophrenia reporting gap between the MDS and Medicare claims. This panelist added that despite having more clarification in the July 15, 2022 MDS 3.0 RAI User's Manual (v1.17.1R) Errata, there is still ambiguity about what a diagnosis or a documentation must look like to be comprehensive. This panelist suggested including schizophrenia ICD-10 codes in the RAI Manual, given the confusion around which diagnoses correspond to the schizophrenia MDS item (as mentioned in the Panelist Discussion in Section 4.2.1).

Another panelist mentioned that transfer of health information, especially for long-stay residents, could influence the gap in schizophrenia reporting, as getting information from a hospital, such as a discharge summary or record history, can be an extreme challenge. Not having the appropriate health information has an impact on the type of support that can be given for schizophrenia or any mental illness diagnosis.

3. *Why is the gap in schizophrenia reporting between MDS and Medicare claims wider among residents over 85 years old?*

   Panelists did not address this question.

4. *As most provider outliers have high rates of residents with psychiatric/mood disorders, would schizophrenia over-reporting be a result of nursing homes miscoding other psychiatric/mood disorders?*

Regarding the miscoding of psychiatric and mood disorders, one panelist explained that, in their experience, it is challenging to trace the origin of a psychiatric diagnosis, and it is questionable whether physicians ever review it, except for a number of facilities where the medical practitioners are actively involved. Sometimes a Licensed Practical Nurse (LPN) on the evening shift may fill out the diagnoses. Many of these diagnoses may come from psychiatric facilities, assisted living transfers, or inpatient hospitals, and it is hard to identify where the diagnosis came from, who made the diagnosis, or what was the supporting evidence. This panelist shared an example of a 60-year-old resident in a Florida nursing home who exhibited behaviors consistent with a developmental disorder, yet was admitted to the facility for a schizophrenia diagnosis. This patient was taking 50 milligrams of Haldol, which is an uncommonly high dose of an antipsychotic medication. The panelist noted that this is not an uncommon example. Some nursing homes often obtain diagnoses from outside places and from people who are not physicians. If a healthcare professional does not review the diagnosis, it will not get updated properly on the MDS. As such, the panelist believed that, in those cases, there seems to be a self-reinforcing system of assumptions and premature conclusions that lead to inappropriate diagnoses and the failure to reevaluate and correct these diagnoses.[30]

Another panelist added that an MDS-like audit completed by a trained behavioral health clinician, as mentioned in Section 4.2.1, would help improve quality of care and MDS accuracy.

[30] According to DNH, regardless of a person's previous diagnoses and care plan (including prescribed medications), CMS regulations require nursing homes to complete a comprehensive assessment and care plan on each resident, which is intended to ensure individuals are reevaluated, that their diagnoses are correct, and their care plan addresses their unique needs.

Key Findings

- Panelists mentioned that lack of mental health training among MDS coders, lack of guidance on diagnosis documentation in the RAI Manual, and transfer of health information between providers are potential explanations for the gap in schizophrenia reporting between MDS and Medicare claims.
- Several panelists noted that schizophrenia over-reporting could be a result of systemic or operational issues within facilities, and the quality of the source of the diagnosis.
- Some panelists highlighted the importance of requiring mental health professionals to be involved in reviewing and recording mental health diagnoses on the MDS.

4.3 Session 2-D: Re-specifying the Long-Stay Measure Using Medicare Claims

Acumen discussed in this session how to use the data currently available to improve the accuracy of the long-stay antipsychotic medication measure. Acumen presented two re-specification options focused on which data sources are most helpful to re-specify the measure. Acumen posed five questions to the TEP regarding the incorporation of Medicare claims data in the re-specification options, and additional considerations for future refinement of this measure.

4.3.1 Summary of Presentation

Acumen reviewed the current long-stay antipsychotic medication measure specifications, and highlighted two potential issues with the measure based on previous discussions: (i) potential under-reporting of antipsychotic medication use, and (ii) potential upcoding of diagnoses excluded in the measure.[31]

Regarding the first issue, nearly 5% of long-stay residents with a Part D claim for an antipsychotic drug were not reported on MDS assessments as receiving an antipsychotic drug. This observation suggests that the measure numerator does not completely capture the number of residents who received an antipsychotic medication. In terms of the second issue, depending on the ICD-10 codes used, 10%-30% of long-stay residents who were reported on the MDS as having schizophrenia did not have any Medicare service claims for that diagnosis. Additionally, among these residents, 65%-71% had one Part D claim for an antipsychotic drug overlapping with their MDS assessment. This suggests that using MDS assessments alone may lead to negative events being falsely excluded from the measure denominator.

To address these issues, Acumen offered two options for re-specification of the antipsychotic measures. These re-specification options were tailored for the long-stay antipsychotic measure rather than the short-stay measure since medication use of SNF Part A

[31] See Appendix C.2 for the long-stay antipsychotic measure specifications.

PPS stays may not be fully captured on Part D claims due to consolidated billing. The first re-specification option uses the MDS and Medicare Part D (drug coverage) claims to capture antipsychotic medication use only. Under-reporting of antipsychotic medication has a larger impact on the measure numerator, and Part D enrollment alone covers approximately 80% of long-stay residents. The second re-specification option uses the MDS and Part A (inpatient), Part B (outpatient and physician/carrier), and Part D claims data files to capture both schizophrenia diagnosis and antipsychotic medication use.[32] Table 4-1 summarizes the data sources used in the current long-stay antipsychotic measure specification and the re-specification options.

Table 4-1. Data Sources for Re-Specification Options

	Current	Option 1	Option 2
Numerator: Antipsychotic medications received	MDS	MDS + Medicare claims	MDS + Medicare claims
Denominator: Long-stay nursing home residents with a selected target assessment, except those with exclusions	All residents regardless of Medicare enrollment	Continuous enrollment in Medicare Part D	Continuous enrollment in Medicare Part A/B/D, and not C
Exclusions: Schizophrenia, Tourette's syndrome, Huntington's disease	MDS	MDS	MDS + Medicare claims

Adding Medicare claims as a data source in the measure specifications entails applying enrollment restrictions to the denominator. The application of enrollment restrictions has a notable impact on measure coverage. As shown in Table 4-2, the measure's current specifications include the greatest number of providers and episodes. Enrollment restrictions have the largest impact on the number of episodes the re-specification options would cover. Approximately 80% of long stays included in the original specification are included in Option 1 for re-specification, and 50% of long stays are included in Option 2.

Table 4-2. Measure Coverage Across Specification Options

Specification Options	Number of Providers	Number of Episodes
Original	14,805	3,207,056
Option 1	14,641	2,615,948
Option 2	14,128	1,578,023

Acumen analyzed the distribution of the measure scores across the different specification options. The score distributions for the re-specification options are similar to the original specification, where both Option 1 and Option 2 have slightly higher average measure scores.

[32] See Appendix F: for more details on the two re-specification options.

Option 1 has a higher mean measure score (15.2%) than the current specification (14.5%), as more episodes are being included in the numerator through Part D claims. Option 2 has the highest mean measure score (15.8%), because excluded diagnoses needed to be recorded in both the MDS and Part A/B claims.

Acumen performed split-half reliability testing to assess the internal consistency of a quality measure. Split-half reliability testing consists of dividing the residents within each nursing facility into two halves and calculating the correlation between each facility's quality measure scores. When comparing the two measure scores, the closer the correlation, the more likely it reflects systemic differences in nursing home-level quality rather than random variation. A correlation value close to 1 indicates a strong correlation/reliability. When restricting the populations of the original measure specification and both re-specification options to long-stay residents with continuous enrollment in Medicare Parts A, B, and D, the Pearson correlation[33] for all specifications was approximately 0.9, and the Spearman correlation[34] was approximately 0.85 (Table 4-3).

Table 4-3. Comparison of Split-Half Reliability Scores Across Different Specifications

Specification Options	Pearson Correlation	Spearman Correlation
Original	0.867	0.848
Option 1	0.871	0.847
Option 2	0.871	0.840

Since the long-stay antipsychotic measure is publicly reported, Acumen considered how re-specification could impact changes in provider rankings. Table 4-4 displays the Pearson correlation and the Spearman correlation for provider scores across the different specification options. Overall, Option 1 is strongly correlated with the measure's current specifications. Comparatively, Option 2 has a lower correlation to the measure's current specifications, but its correlation is still high. These results are expected as Option 1 only modified the measure's numerator definition, and Option 2 modified both the numerator and exclusion definitions.

[33] The Pearson correlation measures whether the relationship between two sets of data follows a straight line (as one variable increases/decreases, the other variable tends to also increase/decrease at a fixed rate).
[34] The Spearman rank correlation measures whether two sets of data have a relationship (as one variable increases/decreases, the other variable tends to also increase/decrease) that does not necessarily follow a straight line.

Table 4-4. Correlation Matrix for Provider Scores Across Different Antipsychotic Medication Measure Specifications

Specification	Original	Option 1	Option 2
Original		0.966	0.871
Option 1: MDS and Medicare Claims to Capture Antipsychotic Medication Use	0.957		0.900
Option 2: MDS and Medicare Claims to Capture Measure Exclusion Diagnoses and Antipsychotic Medication Use	0.829	0.865	

Pearson correlation results
Spearman correlation results

In summary, utilizing the simpler design of Option 1 allows for the inclusion of more eligible residents; however, it only uses claims to capture additional antipsychotic medication use rather than schizophrenia diagnoses. Option 2 is more complex and includes fewer eligible residents; however, it captures additional antipsychotic medication use and schizophrenia diagnoses.

4.3.2 Panelist Discussion

Acumen posed the following questions to the TEP:

1. *What are some recommended approaches for the short-stay measure to capture additional antipsychotic medication use given the challenges of SNF PPS consolidated billing?*

   Panelists did not address this question.

2. *Given the findings on data element quality of schizophrenia and antipsychotic medication items on MDS assessments, are the recommended approaches to incorporate claims data in the measure specifications appropriate?*

Some panelists restated that they did not believe that claims data are more accurate than MDS data. One panelist mentioned that the MDS is used for care planning and there are penalties for inaccurate reporting. Another panelist added that MDS coders are required to sign attestation agreements indicating that the MDS was completed to the best of their ability as clinicians.[35] However, this panelist noted that although the RAI Manual outlines federal guidelines for MDS completion, states may have additional documentation guidelines. Differences in state-specific and federal MDS coding guidelines may lead to discrepancies, and

[35] The attestation agreement refers to MDS item Z0400: *Signature of Persons Completing the Assessment or Entry/Death Reporting*.

put clinicians in difficult situations. Therefore, clearer RAI Manual instructions may also reduce inappropriate antipsychotic medication use or schizophrenia diagnoses.

One panelist combed through the MDS to find items that could potentially help with the re-specification and accuracy of the antipsychotic measures, noting that item E0100: *Potential Indicators of Psychosis* names hallucinations and delusions as potential indicators of psychosis. This panelist also recommended use of item E0200: *Behavioral Symptom – Presence & Frequency* for capturing frequency. This item may be useful for capturing initiation or continuation of antipsychotic use among the short-stay population. The panelist also highlighted the use of item I5950: *Psychotic Disorder (other than schizophrenia)* for assessing psychotic disorders other than schizophrenia.

One panelist noted that, regardless of the approach, clearly identifying whether antipsychotic medication use for a given resident is reported in either the MDS or claims data is paramount to ensure accurate MDS reporting of antipsychotic medication use.

3. *Between the two re-specification options, is there a preferred approach? Why?*

Five panelists questioned the re-specification of the antipsychotic measures and asked how the incorporation of Part D claims into the measure would improve accuracy. One panelist noted that the presence of a medication or the presence of a diagnosis is not necessarily an indication of quality of care. The panelist added that using one data source (Medicare claims) to validate another data source (MDS) is not a rational approach for understanding quality of care. Two panelists with a patient/caregiver perspective asked how the inclusion of claims data will improve patient outcomes, and ensure that residents are not inappropriately prescribed antipsychotic drugs. One panelist questioned the inclusion of Part D claims considering their limited usability in the short-stay measure. Another panelist asked if validation will occur on a person-by-person basis if the resident is not covered by Medicare Part D. One panelist quoted a personal anecdote of an 85-year-old neighbor who was billed for seven different tests that she was never given. The panelist warned against using claims data as an additional data source as it may make the measure more convoluted and more confusing to understand. This panelist also highlighted that generally, quality measure calculations are confusing both to providers and to community members. However, the panelists did not provide suggestions on how to improve the data sources used in the measure to prevent inappropriate or unnecessary use of antipsychotic medication.

4. *How important is it to have stable ranking before and after re-specification?*

   Panelists did not address this question.

5. *In addition to data-validation concerns, what are other considerations for future refinement of this measure?*

Panelists provided extensive input on additional considerations for future refinement of the measure. Additional considerations included OIG's previous recommendations to CMS, and schizophrenia diagnosis practices. One panelist mentioned that in its 2011 report regarding Medicare antipsychotic drug claims for nursing home residents, OIG recommended that CMS require diagnosis information in Part D claims, but CMS did not agree with the recommendation.[36] This panelist asked why CMS disagreed with the recommendation if it could be useful when comparing Part D claims with MDS data. A DNH representative clarified that Part D claims are managed by a different division of CMS, and it is not under DNH's authority to change what is required in a Part D claim. Several panelists reiterated that the measure should flag residents who are inappropriately prescribed antipsychotics rather than the number of residents who use antipsychotic medications.

In response to panelists' concerns, Acumen noted that, based on panelist feedback, there are two issues to address: (i) the specifications for antipsychotic measures, and (ii) ensuring that antipsychotic use is being measured accurately, regardless of what the measure specifications are. Acumen clarified that the goal of the TEP is to make the antipsychotic measures more accurate by reflecting additional information. Claims data may capture additional aspects of a beneficiary's quality of care that is not represented by the MDS. Acumen emphasized that several panelists have recognized inaccuracies in antipsychotic and schizophrenia coding practices for various reasons. Claims data and evaluations from other clinicians treating a beneficiary may provide a more accurate picture of the events a beneficiary is experiencing. Claims data undergo auditing processes, and can be used in conjunction with MDS data to capture a more comprehensive view of a beneficiary experience and quality of care. Several panelists pointed out in session 2-C (Sections 4.2.1 and 4.2.2) the notion of encouraging or requiring mental health professionals to be involved in coding on the MDS. Use of claims data will provide an opportunity to receive the input of mental health professionals.

4.3.3 Key Findings

- Some panelists questioned the validity of Part D claims data, and reiterated that they did not believe that claims data are more accurate than MDS data. However, panelists did not suggest alternative data sources that can be used to improve the accuracy of the MDS.
- One panelist suggested using MDS items E0100: *Potential Indicators of Psychosis* and E0200: *Behavioral Symptom – Presence & Frequency* to validate the MDS items currently used in the measure.

[36] Office of Inspector General. 2011. *Medicare Atypical Antipsychotic Drug Claims for Elderly Nursing Home Residents.* May. https://oig.hhs.gov/oei/reports/oei-07-08-00150.pdf.

- Several panelists discussed additional considerations for future refinement of the long-stay antipsychotic medication measure, including flagging residents who are inappropriately prescribed antipsychotics rather than the number of residents who use antipsychotic medications.

4.4 Session 2-E: Data Sources for Refinement Considerations

Acumen provided an overview of common nursing home payer sources. Based on the most common nursing home payer sources, Acumen presented additional data source options, specifically Medicare Part C (Medicare Advantage) and Medicaid claims, which may be considered for inclusion in the antipsychotic medication measure specifications.

4.4.1 Common Nursing Home Payer Sources

Summary of Presentation

Acumen summarized the common payer sources in the long-stay nursing home population to identify how representative Medicare Part A, B, and D data are of the overall nursing home population. Table 4-5 provides a breakdown of the enrollment status of long-stay nursing home residents based on 2021 MDS data. Nearly 90% of long-stay nursing home residents were enrolled in Medicare. Within Medicare, hospital and medical services were either covered by traditional Medicare (Part A and Part B) or Medicare Advantage (Part C). Traditional Medicare coverage (continuous enrollment in Part A or B, but not C) comprised 58% of the long-stay nursing home population with Medicare enrollment, while Medicare Advantage coverage comprised 26% of the long-stay nursing home Medicare population. Most residents, around 87%, had Medicare prescription drug (Part D) coverage. Around 84% of long-stay residents were enrolled in Medicaid, 88% of whom were dually enrolled in Medicare.

Table 4-5. Long-Stay Nursing Home Residents by Enrollment Status (2021)

Enrollment Status	% of Long-Stay Nursing Home Residents
All in Study Window*	100.0%
Medicare	89.3%
Continuously Enrolled in Part A or B, not C**	58.1%
Continuously Enrolled in Part C	26.2%
Continuously Enrolled in Part D	86.5%
Medicaid	83.5%
Medicaid Only	12.0%

*Percentages are calculated based on 2021 MDS data. Medicare and Medicaid percentages include dually enrolled nursing home residents.
**"Continuously enrolled" refers to Medicare beneficiaries with continuous enrollment in different Medicare Parts from 2020 to 2021.

To determine whether the Medicaid-only and the Medicare Advantage population are similar to the Medicare Part A, B, and D population, Acumen compared MDS antipsychotic use and schizophrenia diagnosis rates across these different payer sources. When comparing MDS antipsychotic use and schizophrenia diagnosis rates among Medicaid-only, Medicare-only, and dually enrolled long-stay resident populations, Acumen found that the Medicaid-only population had much higher rates of antipsychotic medication use (29.6%) and schizophrenia diagnoses (22.5%). When comparing MDS antipsychotic use and schizophrenia diagnosis rates across Medicare Part A or B-, Part C-, and Part D-enrolled nursing home residents, results reveal that the Medicare Advantage (Part C) population had slightly lower antipsychotic medication use (19.1%) and lower schizophrenia diagnosis (8.2%).

Panelist Discussion

Acumen posed the following questions to the TEP:

1. *What are the potential reasons the Medicaid-only population has higher rates of antipsychotic medication use and schizophrenia diagnosis? What are the potential reasons the Part C population has a lower rate of schizophrenia diagnosis?*

One panelist mentioned that the Medicaid-only population has higher rates of antipsychotic medication use and schizophrenia diagnoses because Medicaid-only beneficiaries are usually in nursing homes due to mental health diagnoses. Another panelist added that in some instances, people with intellectual and/or developmental disabilities, who are usually enrolled in Medicaid, are often misdiagnosed with mental illness. These individuals are not reevaluated when they enter a nursing home, which contributes to the higher rates of both schizophrenia diagnoses and antipsychotic medication use.

A third panelist shared that in their experience, the extreme medical and behavioral complexity of Medicaid beneficiaries, social determinants of health, and provider access contribute to the higher rates of antipsychotic medication use and schizophrenia diagnoses in the Medicaid-only population. The panelist added that in the case of the typical Part C-enrolled individual, the situation is the opposite, so lower rates are expected among the Part C population.

Key Findings

- Three panelists explained that the extreme medical and behavioral complexity of Medicaid beneficiaries, and social determinants of health, such as provider access, contribute to the higher rates of antipsychotic medication use and schizophrenia diagnoses in the Medicaid-only population.
- One panelist shared that the Part C population has lower rates of antipsychotic medication use and schizophrenia diagnoses due to the lower medical and behavioral complexity of the average Part C-enrolled individual.

4.4.2 Part C and T-MSIS as Candidate Data Sources for Measure Refinement

Given the difference in the rates of antipsychotic use and schizophrenia diagnosis across payer sources, Acumen presented two additional data sources to capture antipsychotic medication use and measure exclusion diagnoses: Medicare Advantage (MA) claims (Encounter Data System [EDS]) and Medicaid claims (Transformed Medicaid Statistical Information System [T-MSIS]).

Summary of Presentation

Unlike FFS claims data used as the basis for direct payments to providers, one use of MA encounter data is to determine risk adjustment factors used to adjust CMS's payments to Medicare Advantage Organizations (MAOs). CMS requires MAOs to submit diagnosis information for each beneficiary as part of the risk adjustment process. Furthermore, diagnosis codes must be documented in the medical record and must be documented as a result of a face-to-face visit.[37] However, EDS data policies might create a possible incentive for over-reporting certain diagnoses for the risk adjustment process.

T-MSIS collects Medicaid data from all states. Similar to Medicare files, T-MSIS claims have different file types: Inpatient (IP), Long-Term Care (LT), Other Services (OT), and Pharmacy (RX) files. However, there may be data quality concerns for T-MSIS files since, in 2021, only 35 states met data quality targets set by the Outcomes Based Assessment (OBA) methodology. For example, states with a large number of nursing homes, such as California and Florida, failed to meet data quality targets set by OBA. Furthermore, a few states with a large number of nursing homes had data quality issues regarding diagnosis codes and NDCs, which will be needed for the long-stay antipsychotic measure re-specification. In 2021, some T-MSIS records in these states did not have a valid ICD-10 primary diagnosis code in OT or IP records, or had missing or invalid NDC codes in RX line records. However, Acumen noted that data quality issues change from year to year and tend to improve over time as states resolve these issues. Another potential challenge is that T-MSIS files have fewer diagnosis code fields available per claim than Medicare claims, which impacts the thoroughness of diagnosis information

Another consideration for adding T-MSIS and Part C data into the antipsychotic measure specifications is data processing times. Data processing times impact the timeliness of the information displayed on Care Compare. The MDS has the benefit of covering the entire nursing home population, and it is processed faster than the claims data sources. The reporting delay is three to four months for measures using the MDS, meaning that measures updated in the October

[37] Centers for Medicare & Medicaid Services. 2014. *Medicare Managed Care Manual. Chapter 7 – Risk Adjustment.* Rev. 118, 09-19-14. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/mc86c07.pdf.

2022 Care Compare refresh contain MDS data up to June 2022. Medicare Part A claims are another data source currently used in NHQI and Five-Star public reporting, and the public reporting delay is about seven months based on the October 2022 refresh on Care Compare. Medicare Part B and Part D claims are not used in NHQI quality measures, but have similar processing times to Medicare Part A claims, so the reporting delays are expected to be similar. On the other hand, Medicaid and Part C claims are not as timely as Part A, Part B, and Part D claims. Since Medicaid claims are submitted by each individual state, there are large variations in processing times across states. EDS also has slightly longer processing times because MAOs typically have up to 13 months after the end of a service year to submit encounter data to CMS. Therefore, if Medicaid and Part C claims were to be included in the measure re-specification, longer reporting delays would be expected in the measure.

Panelist Discussion

Acumen posed the following questions to the TEP:

1. *Are there any concerns about using Part C encounter claims for measure re-specification?*

   Panelists did not address this question.

2. *Given the T-MSIS data quality issues, would the benefit of including T-MSIS in measure re-specification outweigh its data quality concern?*

   Panelists did not address this question.

3. *If we were to include T-MSIS in the measure re-specification, should we include Long-Term Care (LT) claims where nursing homes may have incentives to over-report schizophrenia diagnoses there?*

   Panelists did not address this question.

4. *There is a tradeoff between population coverage/data validity and actionability. How important is it to report quality measures on a timely basis?*

Two panelists shared that timeliness is critical if the measure is to be useful for the public in determining which nursing home to choose. One of these panelists noted that it is important to consider that these measures not only impact the nursing home residents, but also their families, the communities, and providers that want to have the right information and the right data.

General Comments

TEP members offered feedback on the importance of patient/caregiver perspective in the development of quality measures, and emphasized the importance of quality of care.

A panelist with a patient/caregiver perspective expressed the importance of incorporating lived experience into re-specification of the antipsychotic measures. This panelist highlighted how residents are often misdiagnosed and given inappropriate medications. Several panelists echoed this sentiment. Another panelist noted that Care Compare should display whether or not a facility is appropriately prescribing antipsychotic medications, rather than using claims data and updated measure specifications to provide a percentage of antipsychotic medication usage.

One panelist commented that they have a responsibility to nursing home residents to provide the best quality of care, and noted that antipsychotics are dangerous when used inappropriately and life-saving when used appropriately. Another panelist expressed appreciation of the patient perspective, and recommended broadening the focus of the measures to all drugs rather than focusing on one category of drugs and how to measure them. This panelist commented that 10% to 20% of behavioral problems may be solved by assessing for drugs that cause psychiatric symptoms, given that psychiatric symptoms may be the result of other medications. The MDS can be used in combination with a publication of the Medical Letter called "Drugs That May Cause Psychiatric Symptoms," which is available for free, to understand drugs that cause psychiatric symptoms.[38]

A DNH representative responded that almost every quality measure cannot account for every appropriate and inappropriate situation. For example, CMS measures hospitalizations and acknowledges that some hospitalizations are appropriate while others are not, and that some nursing homes may have higher-acuity patients. Measuring mobility is another example, as some facilities may have a larger share of residents who inherently will not be able to improve their mobility. Therefore, when one considers the context that no quality measure can account for every situation, it is important that the data used to calculate the quality measure are accurate. However, the DNH representative reiterated that less antipsychotic medication use among nursing home populations, many of whom are elderly patients with dementia, is better. CMS is committed to reducing the unnecessary use of antipsychotic medications and erroneous diagnoses of schizophrenia. One panelist noted that if the main concern of the measure is to reduce antipsychotic medication use among elderly residents, the measure should include age identifiers. Another panelist commented that there is a need to define "appropriate use" and what "good" looks like, rather than "lower" use. However, the panelist did not provide suggestions on how appropriate use can be determined through MDS or claims data.

One panelist highlighted that guidelines, tools, and trainings should be developed for the information discussed during the TEP, in addition to including more data sources in the measure specification.

[38] The Medical Letter. 2008. "Drugs That May Cause Psychiatric Symptoms." *The Medical Letter on Drugs and Therapeutics* 50 (1301): 100-103. https://secure.medicalletter.org/TML-article-1301c.

Key Findings

- Two panelists commented that reporting quality measures on a timely basis with the most recent data available is critical if the measure is to be useful for the public in determining which nursing home to choose.
- Several panelists noted the importance of recognizing that the antipsychotic measures impact nursing home residents and families, communities, and providers. Therefore, it is important to incorporate lived experience into the re-specification of the antipsychotic measures.
- In addition to re-specifying the antipsychotic medication measures, one panelist suggested using existing materials to improve the appropriate use and coding of antipsychotic medications. Panelists also encouraged CMS to create guidelines, tools, and trainings based on the TEP discussions.

5 SUMMARY OF POST-TEP POLL

Following the TEP, Acumen distributed a poll to gather panelist feedback on the antipsychotic medication list (Appendix D) and the schizophrenia ICD-10 codes (Appendix E) that will be used to identify antipsychotic use and schizophrenia diagnoses in measure re-specification. In total, the poll received 10 responses. The poll was comprised of three yes/no questions with an optional comment section in each question to provide additional comments and explain their reasoning. Section 5.1 summarizes the results of the survey and the panelists' comments. See Appendix G: for the full poll text.

5.1 Summary of Poll Results

Question 1: 1. Some TEP panelists had questions about the inclusion of carbamazepine as an antipsychotic medication. Should this drug be included?

100% of responding panelists voted that carbamazepine should not be included as an antipsychotic medication, noting that carbamazepine (i) is not an antipsychotic, (ii) is considered to be an anticonvulsant or antiepileptic that should not be used to treat psychosis, and (iii) should only be included on the antipsychotic medication list if there is an exclusion for seizures.

Question 2: Are the other medications in the list reasonable to identify antipsychotic medications?

60% of responding panelists voted "yes" and 40% voted "no."

Panelists recommended the removal of prochlorperazine from the antipsychotic medication list, noting that this drug currently is not used for the main purpose of treating psychosis, but for treating nausea.

Question 3: Are the ICD-10 codes Acumen identified appropriate to identify schizophrenia (e.g., schizoaffective and schizophreniform disorders)?

60% of responding panelists voted "yes" and 40% voted "no."

One panelist recommended the inclusion of code F28 (*Other psychotic disorder*) on the schizophrenia ICD-10 diagnoses list. Three panelists noted that code F22 (*Delusional disorder*) may apply to other conditions besides schizophrenia, and is a psychotic disorder with distinct course and presentation. Two panelists noted that diagnosis codes F21 (*Schizotypal disorder*), F23 (*Brief psychotic disorder*), and F24 (*Shared psychotic disorder*) are distinct from schizophrenia and represent different disorders. A final panelist noted that psychosis is one symptom of schizophrenia; however, not all psychosis is schizophrenia. In cases where psychosis is not schizophrenia, such as among dementia patients, it is often a major and debilitating problem. Psychosis may be a valid indication for medication treatment (including antipsychotics)

when no other treatment is available or effective, and the symptoms are dangerous or severely debilitating to the individual or damaging to others.

6 NEXT STEPS

The input provided by this TEP meeting will provide guidance to CMS and the PAC QRP Support team throughout the antipsychotic medication measures re-specification effort.

As next steps, the PAC QRP Support team envisions the following:

- Conduct additional analyses to understand antipsychotic medication use and schizophrenia diagnosis reporting in nursing homes.
- Refine the antipsychotic medication list and schizophrenia ICD-10 codes to identify antipsychotic use and schizophrenia diagnoses in claims data.
- Explore the inclusion of Medicaid and Medicare Advantage data in the antipsychotic medication measure re-specification.

APPENDIX A: NHQI MEASURE MAINTENANCE SUPPORT TEAM

The Acumen PAC QRP Support team is multidisciplinary and includes individuals with knowledge and expertise in the areas of measure development, clinician payment policy, health economics, clinical practice, public reporting, pay-for-performance, and value-based purchasing and quality improvement. The following individuals from the project team attended the TEP:

- Suzann Pershing, TEP Moderator
- Sriniketh Nagavarapu, Co-Project Director
- Stephen McKean, Co-Project Director
- Cheng Lin, Project Manager
- Abbie Yuan, Policy Associate
- Qianru Zheng, Data and Policy Analyst
- Serena Master, Data and Policy Analyst
- Gloriana Lopez Montealegre, Data and Policy Analyst
- Wagner Peng, Data and Policy Analyst
- Francisco Ambrosini, Data and Policy Analyst
- Hussain Bakshi, Data and Policy Analyst
- Shawn Ho, Data and Policy Analyst

APPENDIX B: BACKGROUND MATERIALS

The following tables present the background materials provided to the TEP panelists for review prior to the TEP meeting, with additional information on the specific measures and data sources introduced in the presentation. Materials include MDS background documents (Table B-1) and data source websites (Table B-2).

Table B-1. MDS Background Documents[39]

Document Name	URL
Minimum Data Set (MDS) 3.0 Quality Measures (QM) User's Manual V15.0	https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIQualityMeasures
Minimum Data Set 3.0 Public Reports	https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports
MDS 3.0 RAI Manual v1.17.1	https://downloads.cms.gov/files/mds-3.0-rai-manual-v1.17.1_october_2019.pdf
MDS 3.0 Frequency Report[40]	https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/Minimum-Data-Set-3-0-Frequency-Report

Table B-2. Data Source Websites[41]

Data Source	URL
Medicaid Data Quality (DQ) Atlas	https://www.medicaid.gov/dq-atlas/landing/topics/info https://www.medicaid.gov/dq-atlas/landing/topics/single/map?topic=g15m51&tafVersionId=32
Minimum Data Set (MDS) 3.0 for Nursing Homes and Swing Bed Providers	https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30
T-MSIS Data Quality Progress for Outcomes Based Assessment (OBA)	https://www.medicaid.gov/medicaid/data-systems/macbis/transformed-medicaid-statistical-information-system-t-msis/index.html

[39] Copy and paste URLs into web browser.
[40] Effective August 1, 2023, CMS decommissioned the MDS 3.0 Frequency Report webpage. A replacement webpage where users can access the MDS 3.0 Frequency report data will be made available in the near future.
[41] Copy and paste URLs into web browser.

APPENDIX C: ANTIPSYCHOTIC MEDICATION MEASURES SPECIFICATIONS

C.1 Percent of Residents Who Newly Received an Antipsychotic Medication (Short Stay)[42]

Measure Description
This measure reports the percentage of short-stay residents who are receiving an antipsychotic medication during the target period but not on their initial assessment.
Measure Specifications
Numerator Short-stay residents for whom one or more assessments in a look-back scan (*not including* the initial assessment) indicates that antipsychotic medication was received: 1. N0410A = [1, 2, 3, 4, 5, 6, 7]. Note that residents are excluded from this measure if their initial assessment indicates antipsychotic medication use or if antipsychotic medication use is unknown on the initial assessment (see exclusion #3, below). ***Denominator*** All short-stay residents who do not have exclusions and who meet all of the following conditions: 1. The resident has a target assessment, ***and*** 2. The resident has an initial assessment, ***and*** 3. The target assessment is not the same as the initial assessment. ***Exclusions*** 1. The following is true for ***all*** assessments in the look-back scan (excluding the initial assessment): 1.1. For assessments with target dates on or after 04/01/2012: (N0410A = [-]). 2. ***Any*** of the following related conditions are present on ***any*** assessment in a look-back scan: 2.1. Schizophrenia (I6000 = [1]). 2.2. Tourette's syndrome (I5350 = [1]). 2.3. Huntington's disease (I5250 = [1]). 3. The resident's initial assessment indicates antipsychotic medication use or antipsychotic medication use is unknown: 3.1. For initial assessments with target dates on or after 04/01/2012: (N0410A = [1, 2, 3, 4, 5, 6, 7, -]).
Covariates
Not applicable

[42] This measure is used in the Five-Star Quality Rating System.

C.2 Percent of Residents Who Received an Antipsychotic Medication (Long Stay)[43]

Measure Description
This measure reports the percentage of long-stay residents who are receiving antipsychotic drugs in the target period.
Measure Specifications
Numerator Long-stay residents with a selected target assessment where the following condition is true: antipsychotic medications received. This condition is defined as follows: 1. For assessments with target dates on or after 04/01/2012: (N0410A = [1, 2, 3, 4, 5, 6, 7]). ***Denominator*** Long-stay nursing home residents with a selected target assessment except those with exclusions. ***Exclusions*** 1. The resident did not qualify for the numerator and ***any*** of the following is true: 1.1. For assessments with target dates on or after 04/01/2012: (N0410A = [-]). 2. ***Any*** of the following related conditions are present on the target assessment (unless otherwise indicated): 2.1. Schizophrenia (I6000 = [1]). 2.2. Tourette's syndrome (I5350 = [1]). 2.3. Tourette's syndrome (I5350 = [1]) on the prior assessment if this item is not active on the target assessment and if a prior assessment is available. 2.4. Huntington's disease (I5250 = [1]).
Covariates
Not applicable.

[43] This measure is used in the Five-Star Quality Rating System.

APPENDIX D: ANTIPSYCHOTIC MEDICATIONS IDENTIFIED IN PART D CLAIMS

National Drug Code (NDC) Brand Name	NDC Generic Name
Abilify	Aripiprazole
Saphris, Secuado	Asenapine
Rexulti	Brexpiprazole
Tegretol, Carbatrol, Epitol, Equetro	Carbamazepine
Vraylar	Cariprazine
Thorazine, Largactil	Chlorpromazine
Clozaril	Clozapine
Modecate	Fluphenazine
Haldol, Haldol decanoate, Serenace	Haloperidol
Fanapt	Iloperidone
Adasuve	Loxapine
Caplyta	Lumateperone
Latuda	Lurasidone
Serentil	Mesoridazine
Moban	Molindone
Zyprexa, Zyprexa Zydis	Olanzapine
Invega Trinza, Invega Hafyera, Invega Sustaina	Paliperidone
Trilafon	Perphenazine
Nuplazid	Pimavanserin
Stemetil, Buccastem, Compazine	Prochlorperazine
Seroquel	Quetiapine
Risperdal	Risperidone
Mellaril, Melleril	Thioridazine
Navane	Thiothixene
Stelazine	Trifluoperazine
Geodon	Ziprasidone

APPENDIX E: SCHIZOPHRENIA ICD-10 CODES IDENTIFIED IN MEDICARE FEE-FOR-SERVICE (FFS) CLAIMS

Schizophrenia Diagnoses ICD-10 Code	Description	Used by Acumen	Used by OIG
F20.0	Paranoid schizophrenia	✓	✓
F20.1	Disorganized schizophrenia	✓	✓
F20.2	Catatonic schizophrenia	✓	✓
F20.3	Undifferentiated schizophrenia	✓	✓
F20.5	Residual schizophrenia	✓	✓
F20.81	Schizophreniform disorder	✓	✓
F20.89	Other schizophrenia	✓	✓
F20.9	Schizophrenia, unspecified	✓	✓
F21	Schizotypal disorder	✓	×
F22	Delusional disorder	✓	×
F23	Brief psychotic disorder	✓	×
F24	Shared psychotic disorder	✓	×
F25.0	Schizoaffective disorder, bipolar type	✓	×
F25.1	Schizoaffective disorder, depressive type	✓	×
F25.8	Other schizoaffective disorders	✓	×
F25.9	Schizoaffective disorder, unspecified	✓	×

APPENDIX F: DRAFT LONG-STAY ANTIPSYCHOTIC MEDICATION MEASURE RE-SPECIFICATION OPTIONS

F.1 Draft Option 1: Antipsychotic Medication Captured Using MDS and Part D Claims[44]

Suggested Measure Re-specification

Numerator

Long-stay residents with a selected target assessment where the following condition is true: antipsychotic medications received. This condition is defined as follows:

1. For assessments with target dates on or after 04/01/2012: (N0410A = [1, 2, 3, 4, 5, 6, 7]).

   OR

2. *For assessments with target dates on or after 04/01/2012: (N0410A = [0, -] while a Part D antipsychotic drug supply overlaps with the lookback period of N0410A).*

   2.1. Part D antipsychotic drug supply is defined as number of days' supply from prescription date. For example, a Part D antipsychotic drug prescription that has a prescription date of 6/1/2021 and a 30-day supply. The drug supply starts on 6/1/2021 and ends on 6/30/2021.

   2.2. Lookback period of N0410A is defined as the last 7 days from the target dates or the number of days since admission/entry or reentry if less than 7 days. For example, a MDS target assessment that has a target date of 6/1/2021 and entry date of 3/1/2021. The lookback period starts on 5/26/2021 and ends on 6/1/2021. If the entry date is 5/30/2021, then the lookback period starts on 5/30/2021 and ends on 6/1/2021.

Denominator

Long-stay nursing home residents with a selected target assessment except those with exclusions.

Exclusions

1. *The resident is not continuously enrolled in Medicare Part D one year before the target date to the month of the target assessment.*
2. The resident did not qualify for the numerator and ***any*** of the following is true:
   2.1. For assessments with target dates on or after 04/01/2012: (N0410A = [-]).
3. ***Any*** of the following related conditions are present on the target assessment (unless otherwise indicated):
   3.1. Schizophrenia (I6000 = [1]).
   3.2. Tourette's syndrome (I5350 = [1]).
   3.3. Tourette's syndrome (I5350 = [1]) on the prior assessment if this item is not active on the target assessment and if a prior assessment is available.
   3.4. Huntington's disease (I5250 = [1]).

[44] Suggested changes presented to the panelists are italicized in red.

F.2 Draft Option 2: Antipsychotic Medication Validated by Part D Claims and Measure Exclusion Diagnoses Captured Using MDS and Part A and B Claims[45]

Suggested Measure Re-specification

Numerator

Long-stay residents with a selected target assessment where the following condition is true: antipsychotic medications received. This condition is defined as follows:

1. For assessments with target dates on or after 04/01/2012: (N0410A = [1, 2, 3, 4, 5, 6, 7]).

   OR

2. *For assessments with target dates on or after 04/01/2012: (N0410A = [0, -] while a Part D antipsychotic drug supply overlaps with the lookback period of N0410A).*

   2.1. *Part D antipsychotic drug supply is defined as number of days' supply from prescription date. For example, a Part D antipsychotic drug prescription that has a prescription date of 6/1/2021 and a 30-day supply. The drug supply starts on 6/1/2021 and ends on 6/30/2021.*

   2.2. *Lookback period of N0410A is defined as the last 7 days from the target dates or the number of days since admission/entry or reentry if less than 7 days. For example, a MDS target assessment that has a target date of 6/1/2021 and entry date of 3/1/2021. The lookback period starts on 5/26/2021 and ends on 6/1/2021. If the entry date is 5/30/2021, then the lookback period starts on 5/30/2021 and ends on 6/1/2021.*

Denominator

Long-stay nursing home residents with a selected target assessment except those with exclusions.

Exclusions

1. *The resident is not continuously enrolled in Medicare Part D one year before the target date to the month of the target assessment.*
2. The resident did not qualify for the numerator and ***any*** of the following is true:
   2.1. For assessments with target dates on or after 04/01/2012: (N0410A = [-]).
3. ***Any*** of the following related conditions are present on the target assessment (unless otherwise indicated):
   3.1. Schizophrenia (I6000 = [1]).
   3.2. Tourette's syndrome (I5350 = [1]).
   3.3. Tourette's syndrome (I5350 = [1]) on the prior assessment if this item is not active on the target assessment and if a prior assessment is available.
   3.4. Huntington's disease (I5250 = [1]).

OR

For Medicare claims, the conditions are present on admitting diagnosis field, principal diagnosis field, or diagnoses code fields during one year before the target date of the target assessment until the target date:

3.5. Schizophrenia: (ICD-10: F20.0-F20.3, F20.5, F20.81, F20.89, F20.9, F21-F24, F25.0, F25.1, F25.8, F25.9).

3.6. Tourette's syndrome: (ICD-10: F95.2).

3.7. Huntington's disease: (ICD-10: G10).

[45] Suggested changes presented to the panelists are italicized in red.

APPENDIX G: POST-TEP POLL

Nursing Home (NH) Antipsychotic Medication Measures Post-TEP Poll

Hello TEP panelists, we created this poll to get your feedback on the antipsychotic medication list and schizophrenia ICD-10-CM codes that will be used to identify antipsychotic use and schizophrenia diagnoses.

Antipsychotic Medications by Generic Name

- Aripiprazole (Abilify)
- Asenapine (Saphris, Secuado)
- Brexpiprazole (Rexulti)
- Cariprazine (Vraylar)
- Carbamazapine (Tegretol, Carbatrol, Epitol, Equetro)
- Chlorpromazine (Thorazine, Largactil)
- Clozapine (Clozaril)
- Fluphenazine (Modecate)
- Haloperidol (Haldol, Haldol decanoate, Serenace)
- Iloperidone (Fanapt)
- Loxapine (Adasuve)
- Lumateperone (Caplyta)
- Lurasidone (Latuda)
- Mesoridazine (Serentil)
- Molindone (Moban)
- Olanzapine (Zyprexa, Zyprexa Zydis)
- Paliperidone (Invega Trinza, Invega Hafyera, Invega Sustaina)
- Perphenazine (Trilafon)
- Pimavanserin (Nuplazid)
- Prochlorperazine (Stemetil, Buccastem, Compazine)
- Quetiapine (Seroquel)
- Risperidone (Risperdal)
- Thioridazine (Mellaril, Melleril)
- Thiothixene (Navane)
- Trifluoperazine (Stelazine)
- Ziprasidone (Geodon)

1. Some TEP panelists had questions about the inclusion of carbamazepine as an antipsychotic medication. Should this drug be included?
    - Yes
    - No

    Why?

2. Are the other medications in the list reasonable to identify antipsychotic medications?
    - Yes
    - No

    Please list here any medications that should be removed or added to the list and explain why:

Schizophrenia Diagnoses ICD-10 Codes

- F20.0: Paranoid schizophrenia
- F20.1: Disorganized schizophrenia
- F20.2: Catatonic schizophrenia
- F20.3: Undifferentiated schizophrenia
- F20.5: Residual schizophrenia
- F20.81: Schizophreniform disorder
- F20.89: Other schizophrenia
- F20.9: Schizophrenia, unspecified
- F21: Schizotypal disorder
- F22: Delusional disorder
- F23: Brief psychotic disorder
- F24: Shared psychotic disorder
- F25.0: Schizoaffective disorder, bipolar type
- F25.1: Schizoaffective disorder, depressive type
- F25.8: Other schizoaffective disorders
- F25.9: Schizoaffective disorder, unspecified

3. Are the ICD-10-CM codes Acumen identified appropriate to identify schizophrenia (e.g., schizoaffective and schizophreniform disorders)?
    - Yes
    - No

Please list here any ICD-10-CM codes that should be removed or added to the list and explain why: