

April 2019

Summary Report of the Technical Advisory Workgroup Roundtable

Use of the CMS Data Element Library to Inform Healthcare Policy and Advance Interoperability, Health Information Exchange, and Quality Measurement

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Abstract

The roundtable meeting was held on November 28, 2018 to obtain feedback from the technical advisory group to improve, enhance, and sustain the future use of the Data Element Library (DEL) and explored how the DEL can be used to inform healthcare policies, advance interoperability, and support transfer of care, coordination of care, and quality measurement. Participants included private and public-sector stakeholders with representatives from providers, payers, measure developers, health information exchange (HIE) and professional associations, vendors, and other federal agencies.

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Executive Summary

The Improving Medicare Post-Acute Care Transformation Act (IMPACT) of 2014 was a bipartisan bill passed on September 18, 2014, and signed into law on October 6, 2014. The Act requires the standardization and interoperability of patient assessment in specific categories for post-acute care (PAC) settings, including long-term care hospitals (LTCHs), home health agencies (HHAs), skilled nursing facilities (SNFs), and inpatient rehabilitation facilities (IRFs). The Centers for Medicare and Medicaid Services (CMS) Data Element Library (DEL) supports IMPACT Act requirements by serving as the centralized repository for CMS PAC assessment data elements and their associated health information technology (IT) standards to promote interoperability of patient data.

This report summarizes the vision, scope, and purpose of the DEL and its progress to date to support interoperability of patient assessment data. The report further describes a day-long CMS Technical Advisory Group (TAG) roundtable discussion on the *Use of the CMS Data Element Library to Inform Healthcare Policy, and Advance Interoperability, Health Information Exchange, Quality Measurement, and Research* held in Woodlawn, Maryland, on November 28, 2018. This report discusses: (1) the purpose of the roundtable discussion; (2) a summary of the participants' responses; (3) the analyses of findings and recommendations; and (4) plans for next steps.

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1. Background

1.1 IMPACT Act 2014, PAC Assessments, and PAC Interoperability

The IMPACT Act—a bipartisan bill signed into law in 2014—requires the use of standardized Medicare quality measures and assessment data in PAC settings, and also requires that the standardized data be interoperable. The intent of the IMPACT Act is to:

- Support access to longitudinal information to help inform clinical decision making and promote coordinated care
- Enable comparison of data across PAC settings
- Improve discharge planning and health information exchange (HIE)
- Lead to improved efficiencies, improved quality of care, and improved health outcomes.

PAC providers are required to submit patient data to CMS using their setting-specific assessments (see sidebar). CMS uses the data collected and submitted from the assessments for quality measurement and public reporting, payments, and survey and certification.

Providers may also reuse assessment data for care planning or for quality improvement activities. To meet IMPACT Act requirements, the PAC assessments must be updated to include standardized items in the following categories.

- **Quality Measures:** Functional status, skin integrity, medication reconciliation, incidence of major falls, and transfer of health information.
- **Resource Use and Other Measures:** Medicare spending per beneficiary, discharge to community, and potentially preventable hospital readmissions.
- **Standardized Data Submission:** Admission and discharge, functional status, cognitive function and mental status, special services, treatments and interventions; medical conditions and comorbidities; impairments, and other categories required by the Secretary.

Applicable PAC Settings and Corresponding Assessments

- Home Health Agencies (HHAs) - *Outcome and Assessment Information Set (OASIS)*
- Inpatient Rehabilitation Facilities (IRFs) - *Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI)*
- Long-Term Care Hospitals (LTCHs) - *Long-Term Care Hospital Continuity Assessment Record & Evaluation (CARE) Data Set (LCDS)*
- Skilled Nursing Facilities (SNFs)- *Resident Assessment Instrument (RAI) Minimum Data Set (MDS)*

By requiring that PAC assessment data be standardized and interoperable, the IMPACT Act lays a foundation for interoperable health information to support a patient's care coordination and transition of care. PAC settings were ineligible for the electronic health record (EHR) incentive program established by the Health Information Technology for Economic and Clinical Health (HITECH) Act as part of the American Recovery and

Reinvestment Act (ARRA) in 2009.¹ As a result, many PAC providers lag behind eligible hospital and eligible professional counterparts in EHR adoption and interoperability. Recent Office of the National Coordinator for Health Information Technology (ONC) surveys show that 66% of SNFs and 78% of HHAs are using EHRs.² Compared to acute care hospitals, their EHR adoption and interoperability rates are much lower.^{3,4}

1.2 Data Element Library

In June 2018, CMS launched the Data Element Library (DEL), a tool that supports standardization and interoperability requirements in the IMPACT Act. The DEL is the central repository of PAC assessment data elements (questions and response options) and their related health IT standards.⁵ The DEL is a free public resource available to all interested stakeholders, including providers, health IT vendors, researchers, health IT standards developers, and the general public.

The DEL does not contain patient data. Instead, the DEL allows stakeholders to search through PAC assessment content and generate a variety of reports. For example, health IT vendors can obtain a report on assessment questions and their response options, mapped to related health IT codes, such as Logical Observation Identifiers Names and Codes (LOINC) and Systematized Nomenclature of Medicine--Clinical Terms (SNOMED-CT). Vendors could use this report to develop software that supports the interoperable use and exchange of patient clinical data across settings during a transfer in care, referral, care planning, and summary documents.

The vision of the DEL is to promote HIE, support inclusion of PAC assessment data into EHRs, and improve care coordination by (1) serving as a resource for CMS assessment data elements; (2) facilitating interoperable exchange of electronic CMS assessment data sets using health IT standards; and (3) supporting industry efforts with EHR use, implementation, and health data sharing.

¹ American Recovery and Reinvestment Act, Pub. L. No. 111-5, 123 Stat. 115. (2009)

² ONC Data Brief: Electronic Health Record Adoption and Interoperability among U.S. Skilled Nursing Facilities and Home Health Agencies in 2017. November 2018.

<https://www.healthit.gov/sites/default/files/page/2018-11/Electronic-Health-Record-Adoption-and-Interoperability-among-U.S.-Skilled-Nursing-Facilities-and-Home-Health-Agencies-in-2017.pdf>

³ ONC Data Brief: Adoption of Electronic Health Record Systems among U.S. Non-Federal Acute Care Hospitals: 2008-2015. May 2016.

https://www.healthit.gov/sites/default/files/briefs/2015_hospital_adoption_db_v17.pdf

⁴ ONC Data Brief: Variation in Interoperability among U.S. Non-federal Acute Care Hospitals in 2017. November 2018. https://www.healthit.gov/sites/default/files/page/2018-11/Interop%20variation_0.pdf

⁵ CMS Data Element Library. <https://del.cms.gov>.

1.3 CMS DEL's Health IT Workgroup (HITWG)

The CMS DEL Health Information Technology Workgroup (HITWG) consists of subject matter experts (SMEs) who advise on data standardization and interoperability related to the IMPACT Act. The HITWG collaborates with HIT Standards Organizations (SDOs) to leverage national HIT standards adopted by the Department of Health and Human Services (DHHS) to advance interoperability in PAC settings.

The work of the HITWG to date includes:

- Developing high-level scenarios/use cases for exchange of interoperable assessment data elements
- Analyzing assessment item alignment with national policy and data standards including ONC's Common Clinical Data Set and Interoperability Standards Advisory
- Mapping the Minimum Data Set (MDS) and Outcome and Assessment Information Set (OASIS) to Consolidated Clinical Document Architecture (C-CDA®) templates
- Mapping questions and responses in PAC assessment instruments for versions 2016, 2017, and 2018 to LOINC codes to reflect the text of assessment question/answer pairs as shown on the assessment instrument and preserve psychometric representation of data elements
- Mapping assessment data elements responses concepts in the 2018 versions of the IRF-PAI and LCDS to SNOMED-CT, when feasible. The MDS and OASIS mapping will be completed in 2019.
- Developing best practices in data element design for assessment item developers to support interoperability.
- Identifying industry tools that the DEL may interact with such as the National Library of Medicine's (NLM's) Value Set Authority Center (VSAC) repository, or the Regenstrief LOINC Mapping Assistant (RELMA).

To expand SME input, the HITWG convened stakeholders to gather feedback on ways to leverage the DEL content for interoperability, measurement, and care coordination.

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2. Technical Advisory Group Roundtable

To explore ways the CMS DEL could be used to inform healthcare policies and promote interoperability, RTI International, under contract with CMS, held a day-long Technical Advisory Group (TAG) Roundtable Discussion on the *Use of the CMS Data Element Library to Inform Healthcare Policy, and Advance Interoperability, Health Information Exchange, and Quality Measurement* (see Agenda – Appendix A). Hosted at the MITRE Corporation in Woodlawn, Maryland, on November 28, 2018, the roundtable participants included private and public-sector stakeholders with representatives from providers, payers, measure developers, HIE and professional associations, vendors, and other federal agencies (Appendix B).

2.1 Objective

The objective of the roundtable meeting was to obtain feedback from the TAG to improve, enhance, and sustain the future use of the DEL across key stakeholder groups. Three critical areas were explored to understand how the DEL can be used to:

1. Inform healthcare policies
2. Advance interoperability
3. Achieve priorities for transfer of care, coordination of care, quality measurement and/or research.

2.2 Feedback Requested

Roundtable participants were asked to provide feedback on how the DEL could be more helpful to them and other stakeholder groups in the future. Breakout sessions focused on brainstorming and consensus-building activities where participants were urged to discuss and/or make suggestions on deeper-dive questions, such as:

- What PAC health and/or health IT policies are being hindered by the lack of interoperability for which the PAC assessments and their data elements can alleviate the problems?
- What type of health information needs to be exchanged?
- How can CMS PAC assessments help advance interoperability and HIE?
- What are the opportunities to leverage DEL content (i.e., data element definitions, question and response codes, versions, etc.) to support interoperability and HIE?
- What are the business drivers and pain points that must be addressed?
- How can the DEL support the voice of the consumer/individual?

This day-long roundtable event included breakout sessions that covered three topics. Roundtable participants were asked to self-select a break out session based on one of the

following topic priority areas: (1) transfer of care, (2) coordination of care, and/or (3) quality measurement. During the breakout sessions, TAG participants were asked to develop, prioritize, and recommend a use case for each topic area. The participants also discussed and suggested varying health IT policies the use case may address, and if a Connect-a-thon or an Implementation-a-thon may be recommended to allow vendors to test draft standards with their existing system functionalities—and if so, what is involved, who should be involved and when, and how to garner support.

A summary of the roundtable discussion findings for the main session and breakout sessions is detailed in the following sections. The complete roundtable agenda is provided in Appendix A.

3. Summary of Findings

The following section describes the findings from the roundtable discussions and reports roundtable participants' recommendations regarding how the DEL can help (1) inform healthcare policies, (2) advance interoperability, and (3) support transfer of care, coordination of care, and quality measurement to improve care.

3.1 Healthcare Policies

First, the TAG participants discussed how the DEL could inform healthcare policies that could be used to improve patient outcomes and reduce provider burden.

To reduce burden and increase harmonization, most TAG roundtable participants agreed that **"resources should be centralized"** and the **"source of truth [should be] identified for data and related industry standards."** Participants commented that such a resource is sorely needed; some described it as a "mega" industry reference data dictionary that could unify, consolidate, align, map, and harmonize data and all related standards in one place.

Other roundtable attendees discussed the importance of **"leveraging what we have"** and avoiding the temptation to **"build new."** The participants emphasized continuing to align PAC assessment data elements to industry data standards to allow for harmonization and use across a larger continuum (e.g., align with the Interoperability Standards Advisory (ISA), USCDI, map to SNOMED/LOINC, build value sets in VSAC).

Participants also stated that business drivers alone haven't been enough to urge success in this area and suggested to further **"use incentives and/or policy levers to achieve semantic and technical interoperability."** The TAG attendees recommended aligning financial incentives and regulatory drivers with implementation and interoperability goals. Some suggestions included tying incentives and/or requirements to (a) sending and receiving ends of the data exchange; (b) quality metrics and pay for reporting; (c) consolidated reporting requirements from multiple policy initiatives; and/or (d) setting-specific or facility-specific reporting requirements, IMPACT Act, and Merit Based Incentive Payments System (MIPS).

3.2 Interoperability

TAG participants also addressed how the DEL could be used to viably and sustainably advance interoperability and HIE. Roundtable participants were asked to determine how the DEL complements or distinguishes itself from other industry tools for data standards (e.g., VSAC, RELMA).

Many participants recommended “**using the DEL as a compass**” or central resource that references, points to, and links to data and HIE standards, resources, and initiatives. Roundtable participants acknowledged that the DEL specialized in PAC content, data (assessment elements), and exchange standards, but they also commented that the DEL platform should be used to support technical assistance and training activities to further promote semantic and technical interoperability. Some participants recommended expanding the DEL to include other useful industry data content, or, if that is not feasible, using the DEL as a reference point to those recommended data standards. Most concluded that a clearly-defined scope for the DEL would help further inform healthcare policies. Others deliberated whether that scope needed to be limited to the IMPACT ACT or if other stakeholders could benefit beyond PAC settings by expanding the content of the DEL outside assessment items.

TAG participants commented throughout the day that DEL content should be reused where appropriate to reduce burden and stressed the need to “not reinvent the wheel.” Most described this as “**re-envisioning the use of assessment content**” and leveraging the PAC assessment data for use in other settings (e.g., acute care). Roundtable participants recommended harmonizing PAC assessment content with industry standards to support HIE and working with industry to test HIE use case priorities. They also suggested that use of standardized data elements should not be limited to assessments, but rather be included in other parts of the EHR (e.g., on a transfer summary) and by other care settings.

3.3 Use Case Priorities

The third area TAG participants discussed was in response to identifying and designing high-level, priority exchange use cases to improve transfer of care, coordination of care, and quality measurement and reporting. Roundtable participants were asked to reach consensus on a priority use case for their area of interest, and to consider how the DEL could be used and leveraged to design that use case, including the data elements, definitions, standards, etc. Participants also conferred on the importance of support and testing for their recommended use case and endorsements for next steps (such as a Connect-a-thon/Implementation-a-thon to exchange health information using their suggested use case). The next section summarizes the roundtable TAG’s findings and recommendations.

3.3.1 Transfer of Care

Priority Use Case

The TAG identified the timeline for completion and exchange of an interoperable transfer of care summary as the top priority—specifically, a transfer summary consisting of structured data for an EHR system and sent prior to or at the time of discharge. The TAG did not see a need to create a new standard or implementation guide. They recommended building on

existing standards (e.g., C-CDA or Fast Healthcare Interoperability Resources [FHIR]) and tailoring an implementation guide specifically to the data needs between PAC and acute care.

Rationale

The group discussed high-value data critical to ensure a safe transition including advanced directives, reconciled medications, goals and preferences, cognitive function, and physical function. They also discussed processes used in PAC to reduce unnecessary hospitalizations and support transfers, including the use of tools like Interact© and completion of SBARs. Rather than focus on one type of data, the group recognized that the biggest gap is use of an interoperable transfer summary that includes these data. They specifically noted that existing transfer standards did not meet the needs or relay data needed for PAC. The TAG focused on the timeliness of the data but recognized that some data isn't always available at or before discharge and recommended that there be a way to obtain iterative updates as additional data become available.

Recommended Data Elements

The following data were recommended for the transfer of care summary.

- Patient demographics and representative information; home/community living, insurance information, other patient identifiers.
- Reconciled problem list and procedures that the patient had in the hospital (diagnosis and procedures with codes).
- Plan of care including follow-up/special instructions, goals, and future appointments.
- Reconciled medication list including pre-hospital medications and discharge medications when moving from acute to PAC.
- Last medication dose administered and timing of next dose.
- Allergies and drug sensitivities.
- Immunizations received.
- Lab results including outstanding tests and studies that need reporting and/or follow-up care.
- Advanced directives including orders and statement of patient goals and wishes for care (Medical Orders for Life Sustaining Treatment (MOLST) or Physician Orders for Life Sustaining Treatment [POLST]).
- Content related to PAC assessments categories that are high priority for transitions of care, such as:
 - Functional status and activities of daily living
 - Cognitive status
 - Behavioral and mood issues
 - Skin status (e.g., issues, staging, nursing assessment)

- Falls issues
- Pain issues
- Transfer home including important social determinants of health (SDOH) items.
- Role-specific information that a nurse, physician, therapist, or other specialist needs to know.
- Point of contact from discharging organization for immediate follow-up and clarification.

Recommended Standards (Semantic/Technical)

The TAG recommended that the transfer of care summary build from current standards and align with industry direction for the specific content. They were agnostic to the exchange standard used (C-CDA or FHIR) and recommended using industry content standards that were aligned to the data element listed above (e.g., NDC, ICD-10, CPT4, LOINC, SNOMED)

3.3.2 Coordination of Care

Priority Use Case

The TAG participants that attended the care coordination breakout session identified patient-centric care plans as the top priority for a recommended use case. From the perspective of care coordination, the participants said the care plan needs to be patient centric and reflect, in real time, input from providers of care and services both internal and external to the organization. Explicitly, the care plan needs to support coordination of providers of both healthcare and social support services to the individual.

Rationale

TAG participants felt that it was important to promote a use case that supports concurrent population of, and access to, a cross-setting/cross-organization care plan reflecting the perspectives of the varied providers of care and services to the individual. Such coordination of information is foundational to promoting quality outcomes for the individual and efficiency for those providing care and services.

The group also felt it was important that the use case promote an “ideal state” that focuses on the patient/caregiver perspective and leapfrogs the siloed data found with EHRs by embracing opportunities for shared data afforded by cloud computing.

Recommended Data Elements

From a care coordination perspective, TAG participants felt that the use case should reflect both the data elements of the care plan itself (e.g., problem/issue/strength, goal, interventions) and the related assessments and evaluations. Care plan content would need to support both post-hospital as well as long-term care services and support organizations.

Recommended Standards (Semantic/Technical)

The care coordination group participants discussed data standards at length, focusing on the strengths and limitations of C-CDA and FHIR. The group felt strongly that long-term and post-acute care (LTPAC), with current limited involvement in data exchange, should accrue the benefit of learning from the experience from meaningful use providers who struggled with C-CDA. The group recommended that LTPAC efforts should focus on FHIR care plan resources and recommended avoiding the challenges and limitations of C-CDA.

Quality Measurement and Reporting

Priority Use Case. TAG participants that attended the quality measurement and reporting breakout session recommended that the top-priority use case that they would like to see further developed and leveraged using data elements from the DEL was around patient-centric care plans. Participants described these care plans as “advanced care plans” that follow the patient across the care continuum and suggested that this use case could expand on already existing work from CMS’ Transfer of Health (TOH) Information measure pilot study for PAC settings.

Rationale. TAG participants identified gaps and challenges to quality measurement and reporting, such as multiple overlapping policy initiatives, lack of harmonization, and poor alignment of clinical concepts and value sets. An advanced patient-centric care plan that follows patients through their care continuum would decrease data collection burden, reduce the redundancies and duplications that cause confusion, improve quality of care, and decrease cost (i.e., by setting specific requirements, thereby decreasing the number of reporting requirements across initiatives, such as the IMPACT Act and MIPS).

The participants discussed the importance of a longitudinal care plan that incorporates short-term and long-term healthcare goals. These goals would be customized for each patient and include appropriate assessment data that could be updated over time to track the patient’s progress, allowing the patient’s entire healthcare team to be “on the same page.” The TAG stressed the benefits of the advanced care plan as a means to inform providers of the changes in a patient’s condition over time. For example, a patient’s overall functional ability (improvement or decline) could be compared and tracked over time, or the healing process of a patient’s pressure ulcer could be monitored as the patient moves from the acute care setting to the PAC setting, and then to home.

Recommended Data Elements. TAG participants identified the seven most important care plan data elements required for exchange: (1) short- and long-term patient goals (for recovery to the patient’s baseline health status); (2) medical conditions (diagnoses), impairments, and/or comorbidities; (3) current medications; (4) functional status, (5) cognitive/mental status; (6) interventions and treatments; and (7) diet/nutrition.

Recommended Standards (Semantic/Technical). The roundtable breakout participants suggested following ISA recommendations for care plan standards, such as CDA and FHIR. These standards use the national health IT terminology for information exchange and quality measurement reporting.

4. Recommendations

TAG roundtable and breakout discussions validated the value that the CMS DEL has as a component of interoperability and standards exchange. Vendors can leverage the content in the repository to reduce redundancy, support harmonization concepts, and improve data elements for information exchange, care coordination, patient care planning, patient outcomes, and quality measurement and reporting. The stakeholders shared ways the DEL could augment other repositories or data element libraries (e.g., NLM's VSAC, ONC's ISA, RELMA).

Recommendations from the TAG roundtable included:

1. Consider how the DEL can be a "compass" to point to relevant industry tools and data and related industry standards.
2. Provide thought leadership and subject matter expertise on how assessment content should be referenced in other industry repositories and tools to advance interoperability.
3. Reduce duplication and harmonize assessment content to industry data standards and policies whenever possible to facilitate communication and reduce burden.
4. Assist with standardization of PAC data elements and alignment with industry by mapping to appropriate, nationally recognized semantic and technical exchange standards.
5. Re-envision the use of assessment content by Identifying a core set of data elements that supports exchange across settings, and focus on these for alignment with industry data standards and policies.
6. Achieve consensus on priority use cases to support improving care coordination, transfer, and quality by:
 - a. working with standards developing organizations (SDOs) to assess and test semantic and technical exchange standards and mappings of PAC data elements; and
 - b. participating in technical exchange standards activities and testing (i.e., HL7 and HIMSS Connect-a-thons, etc.) to advance priority use cases.

TAG participants also recommended continued improvement and expansion of DEL content by adding and updating LOINC codes, SNOMED-CT terms, FHIR and other health IT/transfer standards to maintain a robust and reliable repository. Other roundtable participants suggested to continue efforts to align reporting requirements and enhance quality measures to reduce provider burden. All recommendations and suggestions focused on ways that stakeholders could use the DEL in more effective and efficient ways for its intended specialty purpose.

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5. Next Steps

The recommendations outlined in this report coincide with other federal initiatives and programs focused on healthcare policy that advances interoperability, reduces EHR-related burden, and improves quality of care (see [Strategy on Reducing Regulatory and Administrative Burden Relating to the Use of Health IT and EHRs](#)) as required by the 21st Century Cures Act. The recommendations underscore the need to align nationwide strategies to further the accuracy and exchange of health data to improve care coordination and health outcomes, and to reduce burden and costs. In addition, recommendations from the TAG inform how the DEL can support policy, interoperability, and HIE in the future.

TAG roundtable participants suggest the following important next steps toward this progress:

- **Create a clear, transparent strategic plan** addressing how the DEL supports interoperability and its unique role along with other industry tools.
- **Conduct landscape analysis of all health data element repositories for two purposes:** (1) to identify what we have nationwide but to also identify any gaps; and (2) to understand each repository's purposes, contents, strengths and weaknesses, as well as to gauge when and how to use them, and to find any gaps in content that the DEL might be used to fill.
- **Identify all the strengths and benefits of the DEL** (1) by clearly defining and referencing all up-to-date assessment instruments and content; (2) by illustrating how the data elements are used (i.e., how the functional codes fit in and how the DEL augments other repositories); (3) by citing PAC-approved best practices for data mapping that improves data accuracy and reduces burdens associated with health IT reporting; (4) by identifying and citing all up-to-date semantic and health IT technical standards; and (5) by exploring opportunities to expand the DEL in high-priority areas such as patient-reported outcomes (PRO) and social determinants of health.
- **Create guidance for vendors and other stakeholders** on how to use the DEL and interoperable assessment content for HIE.
- **Recommend that priority use cases from the TAG be the basis for work** of the PAC Interoperability Workgroup and related Connect-a-thon activities, including:
 - **Prioritizing the development and test an interoperable Transfer of Care Summary** that is tailored for PAC to acute care transitions.
 - **Conducting an analysis of care plan domain analysis models to see where the DEL assessment items fit in, by:** (1) evaluating HL7 Version 3, Domain Analysis, Care Plan, see: http://www.hl7.org/implement/standards/product_brief.cfm?product_id=435; (2) evaluating quality improvement models and standards in these domains to determine which elements are critical to be exchanged; and (3) Clearly defining recommendations for care plan use case.
 - **Conducting and demonstrating care plan use case at a Connect-a-thon to** (1) identify data elements that support meaningful measure development and

avoid duplicate documentation (see above); (2) identify venue and invite stakeholders (e.g., vendors, providers, SDOs); and (3) use FHIR interoperability standards.

- **Handing off the care plan measure concept to the CMS measure development team** to investigate for a future quality measure development.

6. Conclusion

The TAG participants offered a wide range of input, with priority uses case recommendations, follow-up actions, and suggestions for completing these next steps, which surfaced throughout the day-long meeting. The roundtable provided some clear directions for the CMS DEL team and the roundtable participants to consider and potentially pursue. In short, it served as a forum for formative discussions about the specific, viable, and sustainable ways in which the DEL can add value and support interoperability including ways to improve the content, functionality, and technical assistance to support the industry.

Prioritizing the above next steps identified during the roundtable, and then supporting these actions, will require the continued participation by TAG members. The high levels of engagement and thoughtful contributions by all the roundtable participants represented a range of organizations and stakeholders dedicated to improving care quality by using health data and IT (see Appendix B). TAG feedback provides insight from the industry on current challenges and opportunities for the CMS DEL to support interoperability and reduce provider burden.

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Appendix A: Roundtable Agenda

CMS Technical Advisory Group (TAG) roundtable discussion on the CMS Data Element Library (DEL) to inform healthcare policy, and advance interoperability, health information exchange, and quality measurement

AGENDA (November 28, 2018)

Background and Introductions	
9:00 – 9:30 AM ET	<p>Welcome, Introductions and Meeting Overview</p> <ul style="list-style-type: none"> ▪ Discussion being recorded for note-taking purposes ▪ Purpose of the meeting ▪ Meeting goals and objectives ▪ Anticipated deliverables ▪ Review of the agenda ▪ Introductions (All)
9:30 – 10:00 AM ET	<p>Overview of the DEL and Demonstration</p> <ul style="list-style-type: none"> ▪ Purpose and vision for the DEL ▪ What's in the DEL ▪ Future developments
10:00 – 10:30 AM ET	<p>Landscape Analysis:</p> <ul style="list-style-type: none"> ▪ Post-Acute Care Interoperability Use Cases and Challenges ▪ Implementation Case Study: Rocky Mountain Care
Break and Move into Breakout Groups	
10:40 – 12:00 PM ET	<p>Breakout 1 and Report Out: Interoperability and Health Information Exchange Discussion</p>
Working Lunch Session	
12:15 – 1:30 PM ET	<p>The DEL's Interaction with Other Standards, Tools, and Data Sets: Opportunities and Challenges</p> <ul style="list-style-type: none"> ▪ US core data for interoperability ▪ Data and interoperability standards ▪ How does the DEL interact with other interoperability/HIE tools ▪ What are ways that burden can be reduced?
Breakout Groups and Break	
1:30 – 2:30 PM ET	<p>Breakout 2: HIE Use Case and Connect-a-thon/Implementation-a-thon Discussion</p>
End of Breakouts. All Groups Reconvene in Main Room	
2:40 – 3:30 PM ET	<p>Wrap Up</p> <ul style="list-style-type: none"> ▪ Report Out 2 ▪ Consensus on future directions ▪ Role of the DEL in supporting implementation ▪ Next steps

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Appendix B: Roundtable Participants

Healthcare Providers, Organizations, and Vendors	
Name	Organization
Majd Alwan, PhD Senior VP of Technology, Executive Director	Center for Aging Services Technologies, LeadingAge
Alex Bardakh, MPP Director, Public Policy/Advocacy	Society for Post-Acute and Long-Term Care Medicine
Michael Berger, MBA Chief Information Officer	Chesapeake Regional Information System for our Patients
Zahid Butt, MD, FACC Chief Executive Officer	Medisolv, Inc.
Dusanka Delovska-Trajkova Chief Information Officer	Ingleside Engaged Living
Doc DeVore Director, Enterprise Interoperability	MatrixCare
Donna Doneski Director of Policy	National Association for the Support of Long Term Care
Evelyn Gallego, MBA, MPH, CPHIMS Chief Executive Officer	EMI Advisors LLC
Faiza Haq, MHA Project Manager	Greater New York Hospital Association
Ryan Howells, MA Principal	Leavitt Partners
Gautami Inamdar Manager, Quality & LTC Trend Tracker	American Health Care Association/National Center for Assisted Living
Robert Latz, PhD Chief Information Officer	Trinity Rehab Services
David Lee, JD Director	Leavitt Partners
Holly Miller, MD, MBA, FHIMSS Chief Medical Officer	MedAllies
Terrence O'Malley, MD Geriatrician	Massachusetts General Hospital
Hannah Patterson Director, Product Management	Netsmart
Julia Skapik, MD, MPH Chief Health Information Officer	Cognitive Medical Systems, Inc.

(continued)

Healthcare Providers, Organizations, and Vendors

Name	Organization
Jennifer Sprague, MPH Solutions Leader	Philips Population Health Management
Alan Swenson Vice President of Interoperability	Kno2 LLC
Cheri Whalen, CHTS - IM, CHC Senior Regulatory Strategist, Regulatory Compliance & Certification	Cerner
Adam C. Young Director of IT Operations	GPM Corp
Pete Zeigler, MBA Vice President of Innovation	Rocky Mountain Care

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Appendix C: Acronym List

- ARRA – American Recovery and Reinvestment Act
- CMS – Centers for Medicare & Medicaid Services
- C-CDA – HL7 Consolidated Clinical Document Architecture
- CCDS – Common Clinical Data Set
- CPT – Current Procedural Terminology
- DHHS – Department of Health and Human Services
- DEL – Data Element Library
- EHR – Electronic Health Record
- FHIR – Fast Healthcare Interoperability Resources
- HHA – Home Health Agency
- HIE – Health Information Exchange
- HIMSS – Health Information Management Systems Society
- HIT – Health Information Technology
- HITECH – Health Information Technology for Economic and Clinical Health (HITECH) Act
- HITWG – The CMS DEL Health Information Technology Workgroup
- HL7 – Health Level 7
- IMPACT – Improving Medicare Post-Acute Care Transformation Act
- ICD-10-CM – International Classification of Diseases, 10th Revision, Clinical Modification
- IRF – Inpatient Rehabilitation Facility
- IRF-PAI – Inpatient Rehabilitation Facility Patient Assessment Instrument
- ISA – ONC Interoperability Standards Advisory
- LCDS – Long-Term Care Hospital (LTCH) Continuity Assessment Record and Evaluation (CARE) Data Set
- LOINC – Logical Observation Identifiers Names and Codes
- LTCH – Long-Term Care Hospital
- LTPAC – Long-term and Post-Acute Care
- MDS – Minimum Data Set

- MIPS -- Merit Based Incentive Payments System
- MOLST – Medical Orders for Life Sustaining Treatment
- NDC – National Drug Codes
- NLM – National Library of Medicine
- OASIS – Outcome and Assessment Information Set
- ONC – Office of the National Coordinator for Health IT
- PAC – Post-Acute Care
- POLST – Physician Orders for Life Sustaining Treatment
- PRO – Patient-Reported Outcomes
- RAI – Resident Assessment Instrument
- RELMA – Regenstrief LOINC Mapping Assistant
- SBAR – Situation, Background, Assessment, and Recommendation Tool
- SDO – Standards Developing Organization
- SDOH – Social Determinants of Health
- SME – Subject Matter Expert
- SNF – Skilled Nursing Facility
- SNOMED-CT – Systematized Nomenclature of Medicine - Clinical Terms
- TAG – Technical Advisory Group
- TOH – Transfer of Health
- USCDI – U.S. Core Data for Interoperability
- VSAC – Value Set Authority Center