Quality Measurement Manual 2019 UPDATE

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Purpose

This edition of the American Academy of Neurology Institute's (AANI) Quality Measurement Manual outlines the AANI's approach to quality measure development for neurological conditions. This document supersedes information provided in the 2008 Quality Measures Development Process, 2010 addendum, 2014 manual update, and 2017 manual update. This document:

- Provides an overview of quality measurement,
- Provides the rationale for quality measure development by the AANI,
- Outlines processes for Development, Testing, & Evaluation of Measures,
- Outlines Dissemination and Implementation of Quality Measures in Practice, and
- Explains the oversight role of the AANI's Quality Measure Subcommittee (QMS).

Goals for AANI Quality Measure Development

- Develop measures to facilitate guideline implementation and improve quality of care provided to patients with neurological disorders and diseases, ultimately leading to improved patient outcomes
- Ensure that quality measures are understood as unique from guidelines and practice parameters
- Develop measures that demonstrate the value of specialist neurological care for patients
- Develop well-defined measure statements and technical specifications
- Define appropriate outcome measures and define necessary risk adjustment strategies
- Develop measures with appropriate stakeholder input
- Develop measures that are not burdensome for stakeholders to implement and measure in everyday practice
- Submit appropriately specified measures for consideration in AANI's Axon Registry®
- Harmonize with existing measures when possible
- Eliminate AANI-developed quality measures found to not be feasible, reliable, valid, or that lack a link to continued improvement or improved patient outcomes

AANI Quality Measures

- Have a strong evidence-base
- Address an objectively identified gap in patient care
- Are relevant to users and actionable in the clinical setting
- Are feasible to collect, measure, and track over time
- Directly measure health care outcomes or link processes of care to improved outcomes
- Improve or maintain health care outcomes, patient safety, quality of life, cost of care, the patient experience, or coordination of care
- Provide e-specifications when appropriate

AANI Quality Measures Are Not

- A statement of the standard of care
- A new clinical practice guideline for providers
- Mandates for clinical practice
- Required to have perfect performance rates
- Intended to penalize physicians or care teams
- Intended for use as practice standards in malpractice claims
- Intended for use to approve or deny insurance claims
- Intended to substitute for the independent professional judgment of the treating provider

Quality Measurement in Neurology

Quality measures measure the quality of patient care in an objective fashion. Though the principles of quality management and continuous quality improvement were formalized in the manufacturing and service industries as early as the 1940s, health care did not adopt formal principles of quality improvement until the 1980s, when the Joint Commission on Accreditation of Healthcare Organizations mandated quality improvement and measurement of outcomes and processes for hospital accreditation. (Bever CT, Holloway RG, Iverson DJ, et al. Invited article: Neurology and quality improvement – An introduction. Neurology 2008;70:1636-1640. "Bever 2008") The 1980s also marked the start of evidence-based clinical practice guideline development, primarily under the aegis of medical specialty societies, professional associations, and some disease-specific organizations. In the 1990s, the concept of quality improvement first emerged in the outpatient setting, when managed care organizations began tracking performance measures such as immunization rates and mammography screening. (Bever 2008.) In 1998, the federal government's growing interest in quality improvement led to the development of a National Forum for Health Care Quality Measurement and Reporting, now known as the National Quality Forum (NQF). The NQF acts as the principal federal endorser of healthcare performance measures, quality indicators, and quality standards at the national level, and provides a liaison between the Centers for Medicaid and Medicare Services (CMS) and stakeholders within the healthcare sector, including medical specialty societies, provider groups, and consumer organizations. (National Quality Forum About Us. Available at: *http://www.qualityforum.org/story/About_Us.aspx* Accessed on February 14, 2019.)

Cognizant of the potential impact of performance measurement on the practice of clinical neurology and of the need for neurology-specific quality measures developed by and for neurologists, the AAN incorporated quality measure development for neurological practice into their strategic plan in 2003. (American Academy of Neurology. Strategic Plan 2003, Practice and Patient Care.) To spearhead this effort, the AANI established the Quality Measurement and Reporting (QMR) subcommittee and charged it with establishing the capacity to produce and serve as steward for quality measures for neurological conditions.

The Physician Consortium for Practice Improvement (PCPI), convened by the American Medical Association (AMA) took a national leadership role in developing evidence-based, physician-led, quality measures in the early 2000's. In 2016, the PCPI Foundation was established as an entity independent from the AMA. The PCPI Foundation focuses on three priority areas: quality improvement, measure development, and registry collaboration. (Available at: *https://www.thepcpi.org* Accessed on March 27, 2019.) The PCPI primarily functions as a measure development contractor, but retains stewardship of numerous measures developed under its aegis that are updated on a regular basis, including a Dementia Cognitive Impairment measure originally developed in partnership with the AANI.

Beginning in 2008, the AANI participated in PCPI-led development of quality measurement sets for stroke and stroke rehabilitation and management of dementia. Recognizing the need for additional specialty-specific quality measures, the AANI began to develop measurement sets independently, (Cheng EM, Tonn S, Swain-Eng R, et al., Quality improvement in neurology: AANI Parkinson disease quality measures. Neurology 2010; 75:2021-2027.) and the AANI measurement set catalog continues to grow.

The Quality and Safety Subcommittee was established in February 2014, with the merger of the former Patient Safety and the Quality Measure and Reporting Subcommittees. In 2019, restructuring occurred and measure development oversight was moved to the Quality Measure Subcommittee (QMS). All AANI measures are available online at *AAN.com/policy-and-guidelines/quality/qualitymeasures2/quality-measures/.*

Quality Measurement Overview

Quality measures are one way that guideline recommendations are operationalized for use in clinical practice. Measures assess the degree to which physicians or care teams implement clinical practice guideline recommendations in practice. Ideally, specific processes of care should directly correlate to desired patient outcomes. However, at present the use of outcome measures continues to lag behind that of process measures. Process measures are easier to develop and do not require risk adjustment. It is via specification of the outcome measure, however, that the real power of the quality measurement enterprise will eventually be felt.

A quality measure (also called a quality indicator or performance measure) is an objective measurement of the proportion of patients who received the indicated process(es) of care and/or whether patients had the desired outcome(s) of care.

$$\textit{Quality of Patient Care} = \frac{\textit{patients who meet criterian}}{\textit{(eligible population-exclusions)}}$$

Quality measures are frequently reported as a percentage rate (or a score) derived by dividing the number of patients who meet a criterion for quality (the numerator) by the number of eligible patients within a given time frame (the denominator) where the numerator cases are a subset of the denominator cases.

Measure Types

Conceptually, quality measures in health care have been grouped into three main interrelated types: structural, process, and outcome measures. (Donabedian A. The role of outcomes in quality assessment and assurance. QRB Qual Rev Bull. 1992;18:356–360.) (See diagram below.)

Figure 1 demonstrates some of the more common measure types and shows how aspects of care progress from structure measures, to process, and then to measures of desired outcome.

Structural measures emphasize innate features of a given health care system as a whole, such as policy guidelines, management systems, and resource allocation. Example: Percentage of physicians in a state with access to electronic health records.

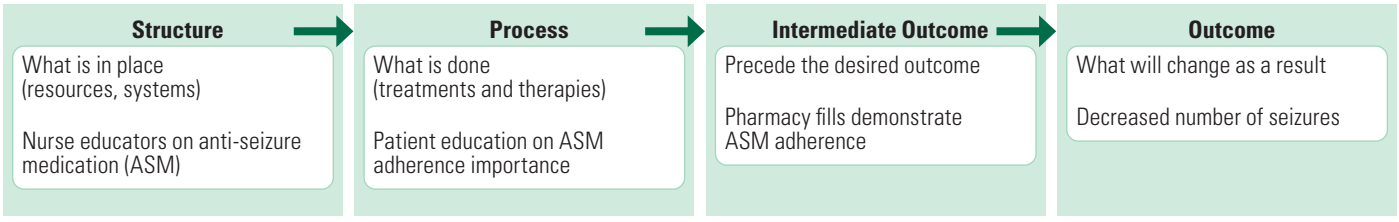
Process measures focus on the actions of health care professionals and evaluate whether these activities follow established evidence-based clinical guidelines, care protocols, and best practices. Example: Percentage of women with epilepsy provided counseling on how epilepsy and its treatment impacts contraception and pregnancy.

Outcome measures address critical endpoints that represent the culmination of an episode of care, defined as the entire spectrum of care related to a particular disease, disorder or condition, from the initial assessment through the final stages of care. Example: Percentage of patients diagnosed with Parkinson's disease who fell during the measurement period.

Within the broader definition of outcome measures, many subtypes can be defined:

- Intermediate outcome measures assess factors or short-term results that contribute to an ultimate outcome. Example: Percentage of patients diagnosed with a prior stroke who are maintaining their blood pressure within a healthy range.
- Patient Reported Outcome (PRO) measures (PROM) use an instrument or scale to directly assess any report of a patient's health condition directly from that patient, without interpretation of the patient's symptoms, feelings, or concerns by anyone else. Examples: PHQ-9, PROMIS, HIT-6
- PRO-Performance Measures (PRO-PM) are performance measures based on PROM. Example: Percentage of patients with diagnosis of major depression or dysthymia with an initial PHQ-9 score>9 with a follow-up PHQ-9 score <5 at 6 months.
- Economic or efficiency measures evaluate and compare health care outcomes based on cost. Historically, the AANI has not developed economic outcome measures given that cost information is not standardized and rarely available to providers in real time.

Figure 1.



Unique Challenges to Outcome Measure Creation

There is increasing pressure to generate outcome measures for neurology because outcome measures 1) provide needed information to patients so they can make informed health care choices, 2) facilitate quality improvement in care, and 3) can be used in accountability programs (i.e., pay for performance or public reporting) such as, CMS' Merit-based Incentive Payment System (MIPS), to pay for quality rather than quantity. Subspecialty societies that develop measures have struggled to develop equitable outcome measures for disease states with long-term negative outcomes.

In August 2017, Baker and Chassin proposed four criteria for health care outcome measures that must be met to hold providers accountable in pay-for-performance or public reporting programs. (Baker DW and Chassin MR. Holding Providers Accountable for Health Care Outcomes. Ann Intern Med 2017;167(6):418-423.) These four criteria are:

1. Strong evidence that good medical care leads to improvement in the outcome within the measurement period,
2. The health care outcome should be measurable with a high degree of precision,
3. Risk-adjustment should include and accurately measure the risk factors most strongly associated with the health care outcome, and
4. Implementing the measure should have little chance of adverse consequences.

The QMS hopes to adopt these criteria in the future. At this time, there remain limitations on the development of risk adjustment strategies as not all necessary data elements can be gathered for risk adjustment. As an example, disease severity is frequently not captured in neurologic populations and when captured it is not gathered in a standardized universally used format (e.g., NIHSS), instead being recorded in a physician note as mild, moderate, or severe.

Composite measures combine multiple measures to produce a single score. AHRQ notes composite measures may be referred to as "roll-up" measures. AHRQ "What is the role and value of composite measures, and what are the most common approaches to constructing composites?" (Available at: *https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/perfmeasguide/perfmeaspt2.html* Accessed on March 27, 2019.) Composite measures are valuable given their patient focus and indication of commitment to the highest quality of care. These measures are being adopted by federal, state, and private organizations for provider profiling and pay-for-performance programs. Given their complexity, careful analysis is necessary to ensure sensitivity of results. There are multiple methods of calculation, such as, equal weights, numerator-based weights, or all-or-nothing. (Shwartz M, Restuccia JD, Rosen AK. Composite Measures of Health Care Provider Performance: A Description of Approaches. The Millbank Quarterly 2015;93(4):788-825) An example of an all-or-none calculation composite measure created by the AANI is the percentage of patients aged 18 years and older with a diagnosis of ischemic stroke who were admitted to the hospital for inpatient care and received all appropriate intervention for optimal care (i.e., early antithrombotic administered, discharged on antithrombotic, and smoking cessation addressed) prior to discharge.

e-Measures (aka eMeasures, Electronic Quality Measures, and eCQMs) are health care quality measures standardized for data assessment and calculation from any electronic health record. These measures utilize Quality Data Model (QDM), Health Quality Measure Format (HQMF), and the National Library of Medicine's Value Set Authority Center (VSAC) formats and models to establish a universal language for data collection.

Quality Measure Subcommittee (QMS) Oversight

The QMS was established in May 2019, and reports to the Quality Committee.

- QMS develops and maintains quality measures for neurological care and promotes improvements in clinical outcomes, patient safety, resource use, and patient-experience.
- QMS oversees the development, testing and evaluation, and dissemination and implementation of quality measures.
- QMS increases the awareness of tools available to assist in quality reporting and measurement, and supports the integration of measures into qualified clinical data registries (including the Axon Registry), pay for performance programs, and electronic health records (EHRs).

AANI Measure Development Process

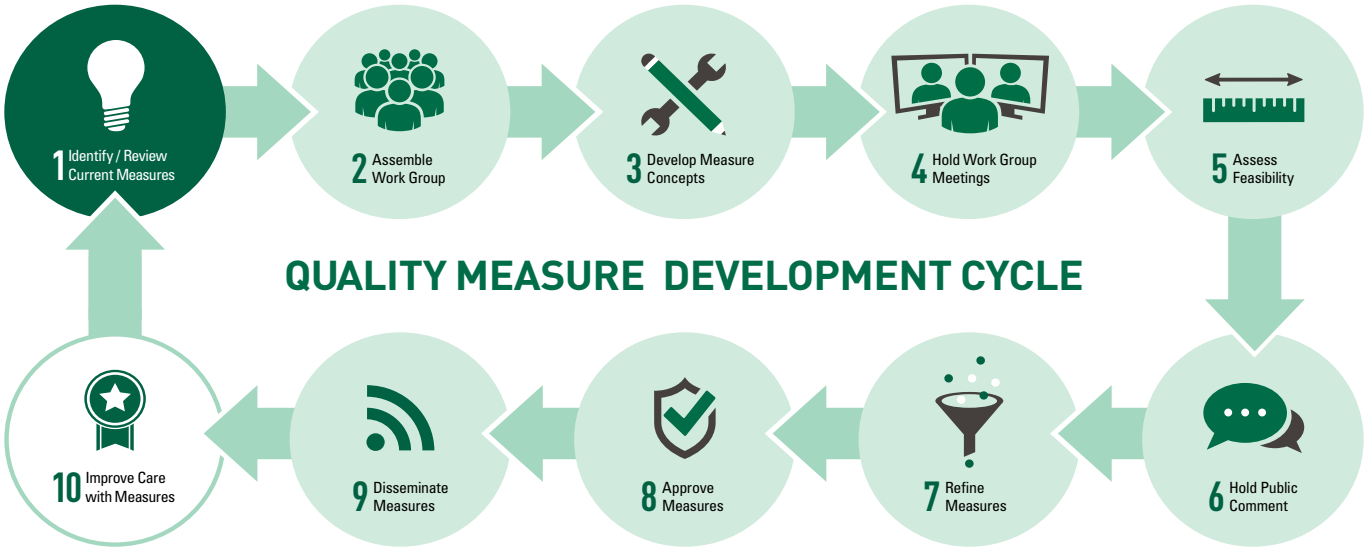
The AANI quality measure development process starts once a topic is identified. AANI commissions a multi-disciplinary measure development work group (Work Group) to evaluate available evidence and draft measure concepts (Figure 2). These Work Groups can be standing for a period of two years or ad hoc, terminating at time of publication.

This process includes the following steps:

- Topic identification and selection
- Work Group formation
- Evidence identification
- Measure concepts drafted and refined
- Axon Registry review for feasibility
- Public comment
- Revisions
- Approvals
- Executive summary published

AANI measures undergo a regularly scheduled maintenance review, at which time decisions are made about retaining, retiring, or updating the measurement set, and whether changes to the evidence base suggest that new measures should be developed.

Figure 2.



Topic Identification and Selection

Any individual, specialty society, government agency (i.e., CMS), non-governmental agency (i.e., PCPI and NQF), and employers or payers may submit a topic for measure development. Nominations are submitted in writing and should address the gap in care, potential impact, and evidence-base. Annually, an environmental scan is conducted to evaluate gaps in neurology-relevant measures, the evidence-base to support the development of measures, and the potential impact of topic area. QMS will review possible measure development topics, including those identified in the environmental scan and assign a topic for development dependent on available resources. QMS will determine the scope of the proposed measurement set, identify potential collaborating organizations or specialty societies, facilitator(s), and possible content experts to chair the Work Group.

Criteria for Topic Selection

The AANI is committed to development of high-quality measures. Table 1 summarizes required characteristics for each measure to be developed by Work Groups.

Table 1. Required characteristics for topic development into quality measures

If a potential topic does not meet all the required characteristics, it will not be prioritized.

Gaps and Variations in Care	Documented evidence that current care practices deviate (or observed patterns of deviation) from established norms or desired standards of care. Gaps in care may be manifested by underuse, overuse, or misuse of health services.
Evidence Base	One or more national, widely accepted clinical guidelines OR One or more documented quality improvement (QI) initiatives or research projects that have demonstrated improvement in the quality of care (based on measures of access, processes, outcomes or the patient experience of care).
High Impact	High prevalence of the clinical problem or condition, significant burden of illness, high cost, or nationally identified clinical priority area (e.g., Institute of Medicine, National Priority Partners) OR evidence of high impact within neurological care.

Work Group Formation

A multi-disciplinary stakeholder Work Group is formed that includes content, methodological, and patient expertise. The AANI makes every effort to collaborate with other appropriate and relevant professional associations and patient advocacy organizations when developing measures. If possible, AANI will partner with other specialty societies to co-lead and facilitate the development process and disseminate measurement sets. If other organizations are not interested, or the disease state is specific to neurology, the AANI will invite other specialty societies to participate as stakeholder representatives. See *Appendix A* for process map.

Chairs

QMS may seek out a content expert(s) who has experience leading Work Groups or consensus activities and has a strong understanding of evidence-based medicine to chair measure development Work Groups. Not all Work Groups will have chair(s) identified. The chair(s) is identified through the topic nomination process, outreach to AAN sections or subspecialty societies, or through partner specialty societies when jointly developing a measurement set. Chair responsibilities include:

- Guide Work Group members to consensus opinions, resolve conflicts, and ensure a collaborative process
- Serve as a content expert (understanding of evidence, gaps in care and patient outcomes; familiarity with valid and reliable assessment tools, etc.)
- Lead the meeting(s) to ensure input from all members
- Ensure the Work Group adheres to project timeline and scope
- Represent disseminated measures for endorsement to external organizations, Axon Registry, and others as needed
- Lead the development of the executive summary, if agreeable and available

Facilitators

The process of taking clinical practice guideline recommendations and developing quality measures requires an understanding of the clinical area involved and the technical aspects of measure development. QMS would prefer to assign a QMS member as methodological facilitator to guide the measure development Work Group through the measures process; however, resource limitations may prevent assignment of a QMS facilitator to every measure project. As a result, facilitator(s) may also be seated from AANI's Quality Committee, Registry Subcommittee, Guideline Subcommittee, or a partnering organization. If there are no volunteers to facilitate, QMS chairs assist in identifying a facilitator(s). Facilitators are non-voting members of the Work Group. Facilitator responsibilities include:

- Serve as a neutral advisory party to measure development Work Group
- Advance the project goals and adhere to project development timeline
- Serve as methodologist in measure development and specification
- Develop and host the pre-meeting webinar
- Resolve Work Group conflict(s)
- Ensure the finalized measures are high quality, valid, and implementable
- Participate in pre-and-post-meeting leadership calls, as needed
- Participate in the development of the executive summary
- Have no voting authority on proposed measures or approval of the finalized set

Staff

Staff provide expertise in all areas of measure development, including AANI's measure development process, meeting facilitation, methodology, and manuscript development and submission. Staff are accountable for resource allocation, project management, coordination with external organizations, and publication process and approval. If another organization is partnering on a measure development project these duties will be shared among staff from both organizations.

Measure Expert Team (MET)

QMS identifies a small team of members each term to ensure AANI measure development goals are met, assist in annual portfolio reviews, respond to timely requests for input from development groups or external partners, and identify project facilitators if there are no volunteers. The team consists of QMS chairs and a QMS representative from each term. This team is available to address any conflicts or concerns that arise during the measure development process. The team meets with staff quarterly, as needed.

Leadership Team

Chairs, facilitators, and staff (and other association staff representatives if applicable) comprise the leadership team. The leadership team responsibilities include:

- Review of project scope
- Development of project deliverables and timelines
- Identification of appropriate stakeholder organizations for participation and finalization of Work Group make-up
- Identification and summarization of the subject matter evidence base
- Lead Work Group in prioritization of measures for development
- Produce executive summary for journal publication; leadership team may decline and alternate Work Group members who are sought out to serve in this role
- Champion the measurement set as needed before committees, user groups, and external agencies

Work Group Members

The leadership team generates a list of potential stakeholders including relevant AAN sections, patient advocacy organizations, relevant medical specialty associations, large group health employers, and insurer representatives and sends a call for nominations to this list. Current employees of pharmaceutical companies or device manufacturers may not serve on Work Groups. Interested nominees submit their curriculum vitae (CV), a relationship disclosure form, and a statement of interest or experience with performance measures, quality improvement, and guideline development.

The leadership team shall identify the appropriate number of potential AAN representatives needed to form a well-rounded Work Group. Efforts will be made to include at least one general neurologist on each Work Group unless no general neurologists express interest. Often there will be a limited number of AAN representative seats, and the leadership team will use submitted nomination materials to select Work Group members based on a ranking that assesses guideline development and implementation experience, quality measure development and implementation experience, clinical expertise, and leadership experience.

Work Group responsibilities include:

- Develop quality measures that address gaps in care by assessing improvements to current clinical practice and moving toward desired outcomes based on clinical evidence
- Propose new measure concepts and feedback on measure concepts developed
- Provide insights on the degree to which measures are high quality, valid, and implementable

Work Group members will:

- Adhere to timelines and respond to requests for information
- Attend an introductory webinar and meetings (virtual or in-person) as needed.
- Review existing guideline and literature recommendations
- Assist in the development of draft process and outcome quality measures
- Respond to public comments received and revise measures as appropriate
- Give final Work Group approval on measures
- Assist in development of an executive summary for publication
- Assist with technical specification of the measurement set
- Develop quality improvement implementation tools, as appropriate, to assist measure users in collection of data and application of data in quality improvement projects
- Respond in a timely manner to all assignments and requests

An introductory webinar is held for all Work Group members. This webinar provides an opportunity for Work Group members to learn more about measure development, the AANI's rationale and goals for developing measures, and review Work Group timeline, scope, and other specifics. The AANI pays for all costs associated with Work Group member attendance at face-to-face meetings, including airfare and accommodations.

Standing Work Group Measure Development Projects

In 2016, the AANI approved pilot process changes to encourage more rapid development of measures with a continuous opportunity for updates. In 2017, the AANI launched two projects for headache and epilepsy seating small Work Groups of 11-13 individuals for two-year terms. These projects will be led by a content chair and a methodological chair, who is a non-voting Work Group member. Work Groups will meet virtually, sharing responsibilities equally during an initial update of the measurement sets. Following final Work Group approvals of these updates, the Work Group will continue to meet virtually every six months to review the evidence base, measure testing and use data if available, and measure development efforts by others in the field. The Work Group shall assist in development of additional quality improvement resources to supplement the initial release of updated measurement sets. See *Appendix B* Process Flow.

Work Group members are seated for two-year terms and are representatives of associations/organizations. If a Work Group member requests to resign prior to the end of their term, the nominating organization will be contacted to assist in identification of a replacement. The Work Group members will serve up to three terms with rotating membership to ensure Work Group stability and measure exposure.

QMS will continue to roll out standing Work Groups to other major disease states are planned for a total of nine standing groups. Work Groups are planned for:

- Epilepsy (2017)
- Headache (2017)
- Movement disorders (2019)
- Multiple sclerosis (2019)
- Stroke (2019)
- Child neurology (2020)
- Geriatric care (2020)
- All/Universal Neurology and Outcomes (2021)
- Brain injury and emergency (2021)

An additional Neurology Measurement Evidence Review Work Group (ERG) was seated in 2018 to review other AANI measure development sets on an ongoing basis that are not reviewed by standing groups identified above. These topics include, but are not limited to, neuro-oncology, neurotology, amyotrophic lateral sclerosis (ALS), muscular dystrophy, and distal symmetric polyneuropathy (DSP). The ERG is comprised of six to eight members. As a measurement set approaches the three-year review window the ERG will seek out additional content expertise from the identified disease state to provide a multi-disciplinary team review. These experts will include patient and care partner representatives. The ERG with content experts will conduct a literature review assisted by a medical librarian (see evidence identification section

above). The ERG will review literature, measure performance rates, and testing data to identify if measures are appropriate to update, reaffirm, or retire. If the ERG identifies the need for an update, an ad hoc Work Group with appropriate subject matter experts will be seated to complete the measurement set update. The ERG is available to identify and respond as needed to breakthrough developments in neurology for disease states not addressed through other standing quality measure work groups (see above).

Relationships and Disclosures of Interest

The AANI is committed to producing independent, critical, and trustworthy quality measures. The AANI fulfills this commitment by convening experts that conduct in-depth review and develop measures based on the best available evidence in a manner that minimizes the influence of industry and other relevant entities. The AANI makes best efforts not to include individuals with conflicts of interest in the development of AANI measures but recognizes that this is not always practical and may preclude necessary thought leaders from participating. Therefore, disclosure and management of measure developer and reviewer relationships are conducted in compliance with the AAN Relationships & Conflicts of Interest Policy, Principles Governing Academy Relationships with External Sources of Support, and the Council for Medical Specialty Societies' Code for Interactions with Companies. The following procedures implement the relevant policies and outline the process followed through each phase of measure development and review.

Disclosing Relationships and Determining Relevance

Prospective Work Group members for AANI measure projects must disclose all financial and certain nonfinancial relationships with industry (including for-profit entities that develop, produce, market, or distribute drugs, devices, services, or therapies used to diagnose, treat, monitor, manage, or alleviate health conditions), as well as relevant relationships with other entities (including payers, government entities, and not-for-profit organizations) and intellectual biases by completing the AAN's Relationship Disclosure Form *AAN.com/AAN-Resources/Details/about-the-aan/relationships-and-conflicts-of-interest-policy/* before commencing work on or reviewing an AANI measure. The form describes the categories or types of relationships to be reported. Members of QMS, other applicable AAN subcommittees and committees, and members of the Board of Directors who review AANI measures are required to make the same disclosures. The term "relationship disclosure" is preferred to "conflict of interest (COI) disclosure," as not all relationships necessarily imply conflict or bias.

All relationships with industry must be disclosed regardless of the perceived relevance to the measure topic. However, to assist the reviewers, prospective Work Group members are asked to highlight relationships that they deem to be "relevant" to the measure's topic (see the following description of relevance). Regarding relationships with non-industry entities or intellectual biases, only those relationships or potential biases that are relevant to the measure topic must be disclosed. Intellectual biases may include "academic activities that create the potential for an attachment to a specific point of view that could unduly affect an individual's judgment about a specific recommendation" (Guyatt et al., 2010, *page 739*), examples of which are receipt of a grant or participation in research or article(s) directly related to the measure. In addition, a strong intellectual conflict would be judged to exist if a potential Work Group member had a strong preexisting opinion that would not be changed by strong evidence.

For measure development Work Groups, MET will review potential facilitators' disclosures prior to seating a facilitator chair and/or other facilitator(s) for the project. The identified facilitator chair and other facilitator(s) will review potential subject matter chair(s) application before the chair is officially invited to begin work on the measure project. Potential Work Group member applications are then reviewed by the project facilitators and chairs for any relevant relationships that may constitute a conflict of interest. Relevant relationships may include any of the following:

- A relationship or interest that relates to the same or similar topic, intellectual property or asset, or issue addressed in the measure.
- A relationship of the person or an immediate family member having a reasonable possibility of financial, professional, or other personal gain or loss as a result of the measure.
- A relationship with an "affected" company within industry, meaning there is a reasonable likelihood of direct regulatory or commercial impact (positive or negative) on the company as a result of care delivered in accordance with the measure. Affected companies will generally be identified before commencement of the measure project by QMS and staff, who will be assisted by the prospective Work Group members highlighting relationships they deem to be relevant, per the above disclosure process.

Project facilitators and chairs will consider the relevance of the relationship and the degree of influence when determining whether a conflict of interest exists. Depending on the severity of the conflict, mitigation or management steps may include not inviting the prospective Work Group member to participate or restricting the member's involvement in the development process (as described in the following paragraphs).

The relevance and severity of an intellectual bias can be difficult to objectively identify and measure. MET or project facilitators and chairs will mitigate intellectual bias as much as possible.

Identifying Relationships Considered Conflicting That Preclude Work Group Involvement

Although some relationships may be appropriately managed with the mitigation techniques described in this section, others constitute conflicts of interest incapable of being managed and inconsistent with the AANI's goal of producing an independent measure set. Relationships that render an individual ineligible to serve on a measure Work Group include any of the following:

- Serving on a speakers bureau on behalf of an affected company in industry (this is a compensated role as a presenter for which any of the following circumstances are met: the company has a contractual right to dictate or control the content, the company created the slides/presentation for the speaker, or the presenter is expected to act as the company's agent or spokesperson for the primary purpose of disseminating company or product information)
- Being employed, or having been employed during the year before Work Group appointment, by a company in industry
- Holding significant ownership interest (shares greater than $50,000 in value or an equity interest in a privately held company greater than five percent) in an affected company

In addition, QMS may choose not to appoint an individual as a lead author if the individual has any of the following relationships to the issues or products being assessed: having any stock or stock ownership, being compensated for expert testimony, being a pioneer or having any substantial direct or indirect compensation or other relationship that QMS deems as creating a conflict.

Understanding Work Group Composition and Responsibilities

The AANI requires that a majority (51 percent) of the members of a measure Work Group be free of conflicts of interest relevant to the subject matter of the measure.

If the Work Group has a chair/co-chair, the AANI requires the chair (or at least one chair if there are co-chairs), to be free of financial conflicts of interest relevant to the subject matter of the measure, and to remain free of such conflicts for at least one year after the measurement set is published. If a project does not have a chair, the lead author of the measurement set's executive summary must be free of financial conflicts of interest relevant to the subject matter of the measure, and remain free of such conflicts for at least one year after the measure is published.

Work Group members must update their Relationship Disclosure Form *AAN.com/AAN-Resources/Details/about-the-aan/relationships-andconflicts-of-interest-policy/* at least annually but also promptly at any time a relationship changes. All relationships that existed during the development of the measure will be disclosed as described in the following paragraphs. The AANI prohibits measure developers from speaking about the measure they authored or serving as an expert witness about the measure on behalf of a company in industry, if that company could be positively or negatively affected by care provided in adherence with the measure, for a period of one year after the AANI's publication of the measure. For measures of broad scope, Work Group members should not all be affiliated with the same institution or study group. If there is a recognized, credible controversy regarding the chosen measure topic, both perspectives should be represented on the Work Group.

The QMS reserves the right to make changes to the Work Group composition at any time to ensure balance and avoid bias.

Managing Conflicts for Measure Reviewers

AANI measures will be reviewed and approved only by committee and board members who do not have a conflict of interest, as determined by the Reviewing Authority in accordance with the AANI's Relationships & Conflicts of Interest Policy.

Disclosing Conflicts at Publication

The AANI's Relationships and Conflicts of Interest Policy and this section of the Quality Measurement Manual will be cited in the published measurement set, along with the relevant relationship disclosures of the Work Group members. In addition, to promote further transparency, a summary of all disclosed relationships is included in final measurement sets as an appendix.

Identifying Violations of Conflict of Interest Policy for Measures

An AANI measure developer's or reviewer's failure to accurately, honestly and fully complete the Relationship Disclosure Form or adhere to the responsibilities described in this section of the manual may face sanctions by the AANI, including any or all of the following:

- Exclusion from developing future AANI measures
- Exclusion or removal from participation on AAN boards, committees, subcommittees, work groups, task forces, guideline or quality measurement Work Groups, or other AAN positions
- Disciplinary action under the AAN's Disciplinary Action Policy at *AAN.com/membership/professionalism-and-disciplinary-program*

Measure Concepts Drafted and Refined

Evidence Identification to Support Development of Measures

The measure development process takes evidence-based guideline recommendations and uses them to support measure concepts. The measurement set is not a new guideline recommendation; rather, it is a way to operationalize existing recommendations for implementation into practice. The evidence behind AANI quality measures is not limited only to AANI guidelines, but also includes guidelines developed by other organizations and individuals as well as systematic reviews, meta-analyses, and clinical trials.

Staff, in conjunction with a medical librarian, conduct a comprehensive search to identify published guidelines, extant measures, and consensus recommendations from five years prior to current year or in the case of the standing Work Group search is conducted from the time of the last search to present date, using the PubMed, MEDLINE, EMBASE, and the Cochrane Library. The medical librarian assists Work Group leadership in identifying appropriate search terms, key words, search filters, and databases. The librarian conducts the searches on at least three major databases (MEDLINE®, Web of Science, EMBASE®, etc.). Staff reviews the results to ensure that the measures, guidelines, and consensus papers pertinent to the search are identified. All results are compiled into an Endnote® library. The literature search results are kept on file at the AANI. The following data are captured:

- Date(s) searches were conducted
- Search terms/strategy used
- Database(s) searched
- Date ranges included in search
- Explicit description of the inclusion and exclusion criteria

Appropriate Work Group experts review the selected abstracts and further refines the literature base according to relevance. To ensure that each measure has a solid base in current evidence, the AANI has implemented a set of requirements for the type and strength of literature that can be used. Case series and case reports cannot be used to support a measure.

Literature Requirements

1. Guidelines
Meets the below criteria:

- **a.** The clinical practice guideline contains systematically developed statements including recommendations
- **b.** The clinical practice guideline was not created or funded by a pharmaceutical/industry organization
- **c.** The clinical practice guideline is based on a systematic review of evidence as demonstrated by documentation of each of the following features in the clinical practice guideline or its supporting documents
  - **i.** An explicit statement that the clinical practice guideline was based on a systematic review.
  - **ii.** A synthesis of evidence from the selected studies, e.g., a detailed description or evidence tables.
  - **iii.** A summary of the evidence synthesis (see 3d above) included in the guideline that relates the evidence to the recommendations, e.g., a descriptive summary or summary tables.
- **d.** The clinical practice guideline or its supporting documents contain an assessment of the benefits and harms of recommended care and alternative care options.
- **e.** The guideline is the most recent version published.

2. Systematic Reviews
Meet the AGREEII requirements:

- **a.** Scope and Purpose
  - **i.** The overall objective(s) of the systematic review are specifically described
  - **ii.** The health questions covered by the systematic review are specifically described
  - **iii.** The population to whom the guideline is meant to apply is specifically described (PICO formatted questions: Patient, Intervention, Co-intervention, Outcome)
- **b.** Rigor of development
  - **i.** Systematic methods were used to search for evidence
  - **ii.** The criteria for selecting the evidence are clearly described
  - **iii.** The strengths and limitations of the body of evidence are clearly described
- **c.** The views of the funding body have not influenced the content of the systematic review
- **d.** COIs for authors have been recorded

3. Clinical Trials
No case series or case reports allowed.

Measure Specification

Appendix C includes the current AANI measure specification template. Measure concepts are drafted by Work Group members and technical specifications included following finalization. Following the introductory webinar, Work Group members are encouraged to draft proposed measure concepts for the work group to review. Draft measure concepts include the following components:

- Measure Title: Specificity to disease state should be given to reduce confusion when possible (e.g., Falls for Patients with Multiple Sclerosis versus Falls Rate or Falls Assessment)
- Measure Description
- Eligible Population
  - Eligible Providers
  - Care Setting: Outpatient, inpatient, or emergency department, etc.
  - Ages
  - Triggering Event
  - Diagnosis
- **Denominator:** specifies the target population and time period. This is accomplished by referring back to the case definition used in the studies that led to the high-level recommendations. The definition should include inclusion criteria, such as the diagnosis, diagnostic subgroup and acuity of diagnosis, age ranges, and other positive selection factors.
- **Numerator:** specifies action needed to meet the measure
- Required and Allowable Exclusions and Justification:
  - A required exclusion is a factor supported by the clinical evidence that removes a patient from inclusion in the measure population. For example, if the denominator

indicates the measure is for all patients aged zero to 18 years of age, a patient who is 19 years of age is excluded. A required exclusion prevents the patient from entering the denominator population.

  - An allowable exclusion is a factor supported by the clinical evidence that removes a patient from the denominator population and prevents them from entering the numerator population. An example of an allowable exclusion is a patient refusal to complete a validated screening tool on a depression assessment measure. This patient would be removed from the denominator.
  - Exclusion rationale

- Measure Scoring: Usually recorded as percentage or proportion
- Interpretation of Score: Typically a higher score reflects better quality of care. Occasionally, inverse measures are created where a lower score is indicative of better quality of care. Example: Percentage of patients prescribed a dopamine-blocking medication. A lower score indicates higher quality of care.
- Measure Type: See above *page 4* for further details
- Level of Measurement: provider, practice, or system
- Risk Adjustment: See *Appendix D* AANI Statement on Comparing Outcomes of Patients. Outcome measures will address risk adjustment. The denominator should incorporate dimensions of risk for the outcome, where applicable and must minimize the potential for gaming or affect patient access to neurological care. To alleviate data burden, AANI measures should seek to avoid complex risk adjustment methodologies. (*Appendix D*)
- For Process Measures, the Relationship to Desired Outcomes: A brief statement of the relationship to the desired outcome (for process measures only), which should provide evidence linking the process to improved outcomes.
- Opportunity to Improve Gap in Care: Evidence supporting variation in care that can be improved through measurement.
- Measure Harmonization: A Work Group may recommend the creation of a measure that may be similar to an existing measure. The measure specifications will address steps taken to harmonize the AANI measure with existing measures, as well as the rationale for development of a separate measure. As illustrated below in Table 2, a measure harmonization matrix, the AANI will not create measures in direct conflict with other measures. When possible, AANI will partner with measure developers to include neurological conditions in existing and endorsed measures, as appropriate.

Table 2.

	Same numerator focus	Different numerator focus
Same denominator	Competing measures. AANI refrains from developing measure	Related measures. Efforts taken to harmonize.
Different denominator	Related measures. Efforts taken to harmonize.	No competition. No need to harmonize. AAN develops measure.

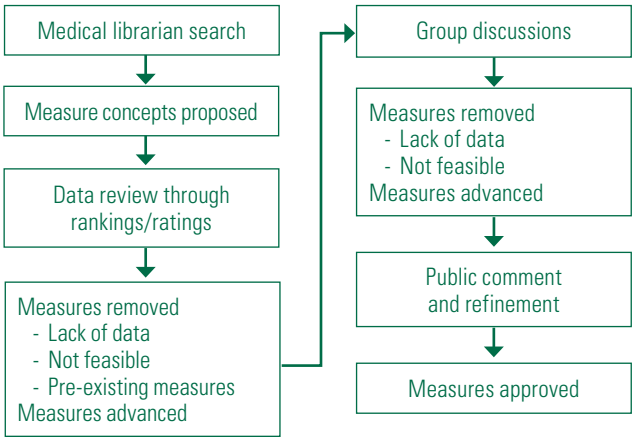
- **References:** The evidence-base guidelines will be cited in each individual Measure Specification.
- e-Specifications are released once finalized and available online with individual measure specifications

Refining Candidate Measures

Work Group members review and then rate or rank these concepts for validity, feasibility, and gaps in care. (Figure 3.) This results in winnowing down to measures with a strong evidence base, demonstrated link to improved outcomes, and demonstrated opportunity to address a gap in care to be reviewed during Work Group meetings. At the time of orientation, facilitators will inform Work Group members that at most three measures will be approved through the development process. Facilitator will actively encourage the Work Groups to winnow possible measure concepts to six for discussion that may be feasible and meaningful. During meetings, members engage in an interactive discussion to review and edit up to six candidate measures specifications and rationale. Following measure discussion, Work Group members vote to approve, not approve or abstain for each measure. A simple majority is required to approve a measure. If approved the measure is included in the draft measurement set for public comment. A modified Delphi process may be used to reach measure consensus if the Work Group has concerns regarding the level of evidence, link to health outcomes, existence of a gap in care, or other measure specification concerns.

The AANI recognizes that some legacy sets such as dementia management, stroke and stroke rehabilitation, and Parkinson's disease have multiple measures widely adopted in accountability programs and preventing reduction to a measurement set of three. These Work Groups will be encouraged to maintain meaningful measures used in the public domain or those currently undergoing testing. Measures found to not be eSpecifiable, not linked to improved outcomes, or excessively burdensome to collect should be retired.

Figure 3.



Measure Prioritization

Work Groups are encouraged to reduce the overall number of measures developed focusing on areas with strong evidence, feasible data elements, and opportunity to address practice variation. The reason

for this change is a result of concerns that multiple measures pose a burden on providers to report, and an increased focus to equitably distribute measure testing resources. CMS and NQF have moved to require measure testing data prior to use or endorsement of measures. To meet external program needs, the AANI will focus on creating smaller measure sets. It is impossible for one measurement set to meet the needs of all patients and providers impacted by a disease. Work Groups must focus on areas where variation in practice exist despite strong guideline statements to support a standard of care. QMS will continue to evaluate the potential to use measure testing data in advance of measure specifications release to winnow down measure concepts, but this will require advances in the field and creation of a nimble testing process.

Currently, the AANI does not require outcome measures be included in each measurement set, however, the AANI does require that each Work Group consider outcome concepts during their process. Following discussion, if an outcome concept is not approved, an explanation shall be provided in the measure specifications and manuscript why an outcome measure was not approved.

QMS continues to evaluate the changing measurement landscape and places value in continuing to develop measures for quality improvement only. QMS notes creation of measures for the AANI ties directly to the mission, vision, and values, as well as strategic plan and such measures continue to have value for providers. QMS also notes an awareness that quality improvement measures may evolve into accountability measures at future updates.

Work Groups are encouraged to prioritize measures that can be e-specified into eMeasures.

For patient reported outcome performance measures (PRO-PM) Work Groups can provide a gamut of PRO tools or instruments for use in quality improvement specifications, however, for use in accountability programs Work Groups should identify one tool only. When a PRO-PM is submitted for use in an accountability program the AANI will submit specifications with only one tool. Applicability to the National Quality Strategy (NQS) Domains is provided for measures during technical specification for use in CMS programs. Table 3 details CMS criteria. (More information on the NQS can be found at *AHRQ.gov/workingforquality/* Accessed on August 29, 2017.) These criteria replace the previously utilized high-priority areas of care coordination, safety, appropriateness/overuse, and quality improvement collaborative. The previous priority areas have extensive overlap with the NQS Domains and continue to be important drivers to meaningful measures.

Table 3.

National Quality Strategy Domain	Capture or reflect
Person and Caregiver-centered Experience	a. the experience of each person and their family; or b. the extent to which the person and their family are engaged as partners in their care
Patient Safety	a. structures or processes that are designed to reduce risk in the delivery of care; or b. an outcome that results from the presence or absence of structures or processes designed to reduce risk in the delivery of care.
Communication and Coordination of Care	a. the promotion of effective communication and coordination of care; or b. the communication and coordination of care
Community/ Population Health	a. working with communities, a community being defined as a group of people who have a common characteristic such as geographic proximity, race, ethnicity, age, occupation, or other similar bonds (but is distinct in that the denominator is community based rather than utilization based—those seeking care); b. a practice to enable healthy living, an intervention to improve the health behaviors or health of a group of individuals; or c. measurement of a process focused on primary prevention of disease or general screening—examples include immunizations, smoking cessation, and age-based colon cancer screening
Efficiency and Cost Reduction	a. measures focused on the appropriateness of care; or b. measures focused on the affordability of care for individuals, families, employers, or governments
Effective Clinical Care	measures not otherwise categorized in the above described domains

QMS & Axon Registry Review for Feasibility

Staff coordinates review of up to six approved measure specifications with a small subset of QMS members and Axon Registry volunteers prior to public comment. This ad hoc review group is charged with prioritizing measures that can be e-specified, directly measure outcomes, and directly link to improved health care outcomes. eMeasures are prioritized given they reduce data collection burden and can be tested with greater ease. Registry feedback is focused on identifying feasibility concerns that would prevent collection of data, reduction of ambiguity in measure specifications, and harmonization with measure components similar to those being collected in the Axon Registry. QMS facilitator(s) review this feedback and inform the work group of decisions reached.

Public Comment and Revisions

Staff posts up to six approved measures on the AAN website for a minimum 21-day public comment period permitting interested individuals, groups, outside organizations, and stakeholders to comment and suggest changes to the measures. Staff sends a public comment notification to the AAN leadership, key subcommittees, sections, and membership. All relevant patient advocacy organizations, associations, large group health employers, and insurer representatives are also contacted and encouraged to engage their members in the public comment period. After the public comment period, the leadership team will review each comment and consider measure revisions to improve clarity or modify content. Facilitators will guide Work Groups to a final measurement set of at most three measures, with an exception for legacy sets with measures widely used in accountability programs or that have been demonstrated to be reliable, valid, and feasible. Public comments, as well as, QMS and Registry Subcommittee feedback will be used to assist in reduction of measures. Public comments and edits made to the measures in response, will be summarized in the final executive summary publication.

Approval and Endorsement

After the measurement set is revised post public comment period, the Work Group votes to approve a finalized version. A simple majority is required for approval. The measurement set, the comments, the response to those comments, and changes to the measurement set are submitted to QMS for review and approval (simple majority); facilitators who were non-voting members of the Work Group can and are encouraged to vote at the QMS approval stage. If approved by QMS, the measurement set goes to the Quality Committee and the AANI Board of Directors for approval. If not approved by QMS, Quality Committee, or AANI Board, the measurement set will be returned to the Work Group for further action that may include modification or termination of further development. If a measurement set is developed in partnership with another organization, simultaneous Board of Director approval is sought. Upon approval from the AANI Board, the measurement set is final.

Executive Summary

An executive summary of the measurement set is prepared to publish in *Neurology*® and/or partnering organization journals. The leadership team will be asked to draft the manuscript. Work Group members may be approached to participate in drafting the manuscript, if a member of the leadership team is not able or declines this role. The first author of the manuscript will be the individual who has written the majority of the manuscript. The manuscript highlights the final measures and rationales, and discusses how providers can implement the measures in practice. The manuscript will link to the full measurement set. All papers submitted to *Neurology* undergo a separate peer review in accordance with the customs and practices of the editorial Board. Editorial decisions are final. Following publication, staff will coordinate dissemination activities.

In some instances, the Work Group members, QMS members, and Quality Committee members may disagree substantially with requested changes received from *Neurology* peer review that cannot be resolved with manuscript revisions. In cases of disagreement, the QMS chair, a methodologist representative from MET, and *Neurology*® editor-in-chief will convene a meeting to discuss whether the disagreement warrants publication of a report or editorial companion piece on the pertinent area(s) of controversy. If these individuals determine such a report is needed, the Work Group generates a discussion section or editorial content for inclusion in the final publication to highlight the point of disagreement. The *Neurology* journal may choose to write a separate editorial or companion document for simultaneous publication that articulates how the areas of controversy related to the quality measures affect the field.

Undertaking Dissemination

At a minimum, the following steps are taken to promote a measurement set release:

- Published in *Neurology* journal
- Posted on the AAN website
- Announced by email to all AAN members or a subset of members (e.g., AAN Neuromuscular Section)
- Announced in *AANnews*® and *AANe-news*™
- Posted on AAN social media channels

QMS, AAN quality staff, or AAN communications staff may undertake additional dissemination and implementation efforts. These may include strategic outreach to clinicians, patients, and the public. AAN communications staff may launch a media publicity campaign, including tactics such as issuing a press release. QMS and AAN staff may develop tools for clinical audiences, including implementation tools, quality improvement resources, or clinician summaries. Tools for patients also may be developed.

Responding to Correspondence

Because staff coordinate the journal submission and publication process, they receive any related letters to the editor. For any letters received, developers and facilitators should work together to draft a response letter. The response letter is reviewed internally by AAN staff before its submission to the journal. For correspondence that addresses the development process, QMS leadership will also review the response.

Periodic Review and Update

At a minimum, every three years the measurement set undergoes a full topic search for new evidence. (See "Work Group Formation" above) QMS convenes an evidence review group (i.e., content experts, facilitators, and staff) to make recommendations on updating a measurement set. Chairs who previously demonstrated strong leadership skills will be asked if they are available to lead the evidence review. This group will review the previously used literature search criteria and update search terms as needed and will use the same evidence-base search process described above to identify relevant guidelines and evidence. Following a review of the evidence base (see graphic below), the evidence review group will make a recommendation to reaffirm, partial update, full update, or retire the measurement set. The appropriate AAN section executive leadership team reviews the recommendation and provides their own input. QMS will vote for approval (a simple majority) on the recommendation. Figure 4 summarizes recommendations that can be made.

In 2019, it was agreed that the size of the current AAN-developed measure portfolio prevented measure testing due to cost and may potentially restrict the ability to nimbly respond to scientific advances. It was agreed to parse out reviews through the triennial reviews and encourage work groups to winnow down the large measurement sets. Agreed to following revisions in process:

- At triennial reviews would ask evidence review group to review performance rates if known and evaluate which measures are being utilized.
  - Work groups and facilitators would be asked to limit sets to three measures (with exception for legacy sets), prioritizing continued development and maintenance of measures utilized in accountability or registry programs.
  - Review those measures not being utilized and determine which can be retired to focus resources on testing and use of measures that are feasible and meaningful. Work groups should be encouraged to retire process measures if there is no link to improved patient outcomes.
- QMS will also rapidly retire measures based on testing data as well if testing data demonstrates feasibility, reliability, and/or validity concerns.

Reaffirmation

Following evidence review, if the recommendation is made to reaffirm a measurement set, the decision is forwarded to QMS for approval. No further review by Quality Committee and the AANI Board of Directors is warranted. The AANI will update dissemination information, including the *AAN.com* website to reflect the date of reaffirmation approval.

Update

Following evidence review, if the recommendation is made for partial a partial or full update, the decision is forwarded to QMS for approval. QMS will approve a measure development project and use the development process outlined above to update the measurement set.

Retirement

Following evidence review, if the recommendation is made to retire, the decision is forwarded to QMS for approval. If approved for retirement by QMS, the retirement decision will be shared with the Quality Committee and the AANI Board of Directors as an informational item.

QMS may determine to retire measures following review of testing data without review by a work group or evidence review group due to concerns a measure is not feasible, not valid, or not reliable.

Figure 4.

Reaffirm

- Recommend QMS reaffirm with no changes made to the set.
  - There has been no new literature published or changes to the literature that would indicate a need for new process or outcome measures, OR
  - There is new literature that supports the current process or outcome measures.
- Following AANI governance vetting, measure dissemination activities may occur if warranted.

Update

- Recommend QMS update select measures and/or develop new outcomes measures.
  - Partial update may occur if the existing measures remain relevant and supported by literature BUT there is new literature that indicates the potential to develop one or two new outcome measures to supplement the existing measurement set.
  - Full update may occur if there are reliability, validity, feasibility, and/or evidence concerns. The majority of measures warrant attention and review.
- Measure concepts are developed using process outlined above.
- Draft measures undergo public comment review and measures are vetted by AANI governance.

Retire

- Recommend QMS retire measures.
  - There is new literature that refutes or does not support all or select processes or outcomes in the set,
  - There is testing data indicating measures are not reliable, valid, or feasible, OR
  - There is no longer a gap in care for all or select measures or evidence measures are not meaningful in practice.
- Leadership team has option of recommending to retire select measures, the full set, or to conduct a full update. Retirement recommendations are reviewed with appropriate AAN section leadership and organizations that participated in development are asked to comment on this recommendation.

AANI Measure Testing and Evaluation Process

The AANI is currently unable to test all measures it develops due to the significant costs associated with testing. Testing preference will be given to outcome measures and measures that can be e-specified. Measures that have a high likelihood of being endorsed or incorporated into accountability programs will also be given priority. The AANI is slated to begin internal testing of measures with Axon Registry data in 2019. The AANI will test measures for reliability, validity, and feasibility, and has developed a measure testing protocol with gold standard methods as described in quality improvement literature. This is an overview of practical steps involved in measure testing.

Reliability

Reliability relates to the overall consistency of a measure and includes a review of:

- Data collection methodology, an analysis of data submitted and consultation with data abstractors
- Measure specification precision
  - Able to query denominator to whom the measure applies in data set
  - Able to identify those who achieved the specific measure focus in data set
  - Distribution of missing data in data set
  - Measure time window can be captured (12-month retrospective)
  - Analysis of exclusion clarity and ability to find in data set
  - Analysis of definition clarity
  - Code lists with descriptors are accurate
  - Scores are able to be computed from data set
- Inter-rater/abstractor or intra-rater/abstractor reliability (site-to-site comparisons of results above)

Validity

Validity is the extent to which a measure measures what it is intended to measure and includes a review of:

- Data collection methodology, an analysis of data submitted
- Calculation of scores across sites for each measure
  - Identify gaps in care across sites for each measure and calculate statistical significance of the gaps
  - Analysis of exclusions (frequency, rates)
- Justification for no risk adjustment/stratification
  - For each measure, stratify results by payer type, race/ethnicity, gender, geographic area
  - This stratification occurs to evaluate specific treatment gaps that might be occurring based on payer type, race/ethnicity, gender, or geographic area

Feasibility

Feasibility is the extent to which a measure is capable of being implemented in practice and includes a review of:

- Data collection methodology, a consultation with data abstractors
  - Data can be implemented and are available or could be captured without undue burden
  - Data availability
  - Frequency

The AANI has historically limited testing to measure data obtainable through an EHR. This will change with AANI access in 2019 to Axon Registry data in a big data platform. The AANI will apply measure logic to EHR data collected from Axon Registry participants in an effort to improve practice quality and care.

AANI Measure Dissemination and Implementation Process

For each measure, a description and instructions are provided for how the measure is intended to be captured and reported. (See *Appendix C*) The AANI develops technical specifications for measures for inclusion in:

- Electronic Health Record (EHR) Data
- Chart Review
- Registry

The AANI is committed to development of EHR usable data measures. However, the Work Group may develop measures that cannot be e-specified. In such cases, registry and chart review may be recommended. The AANI stopped developing administrative claims specifications in 2014 following the announcement that the American Medical Association is no longer supporting CPT-II code development, as CPT-II codes are vital to claims specifications.

The AANI is in the process of creating code value sets as well as the logic required for electronic capture of the quality measures with EHRs. A listing of the quality data model elements, code value sets, and measure logic (through the CMS Measure Authoring Tool) for appropriate measures will be made available when it is possible.

Implementation of Measures

The AANI will draft measure implementation tools to support quality improvement efforts for neurology practices and notify the public of measurement release in multiple formats that may include social media, *AAN.com,* or webinars.

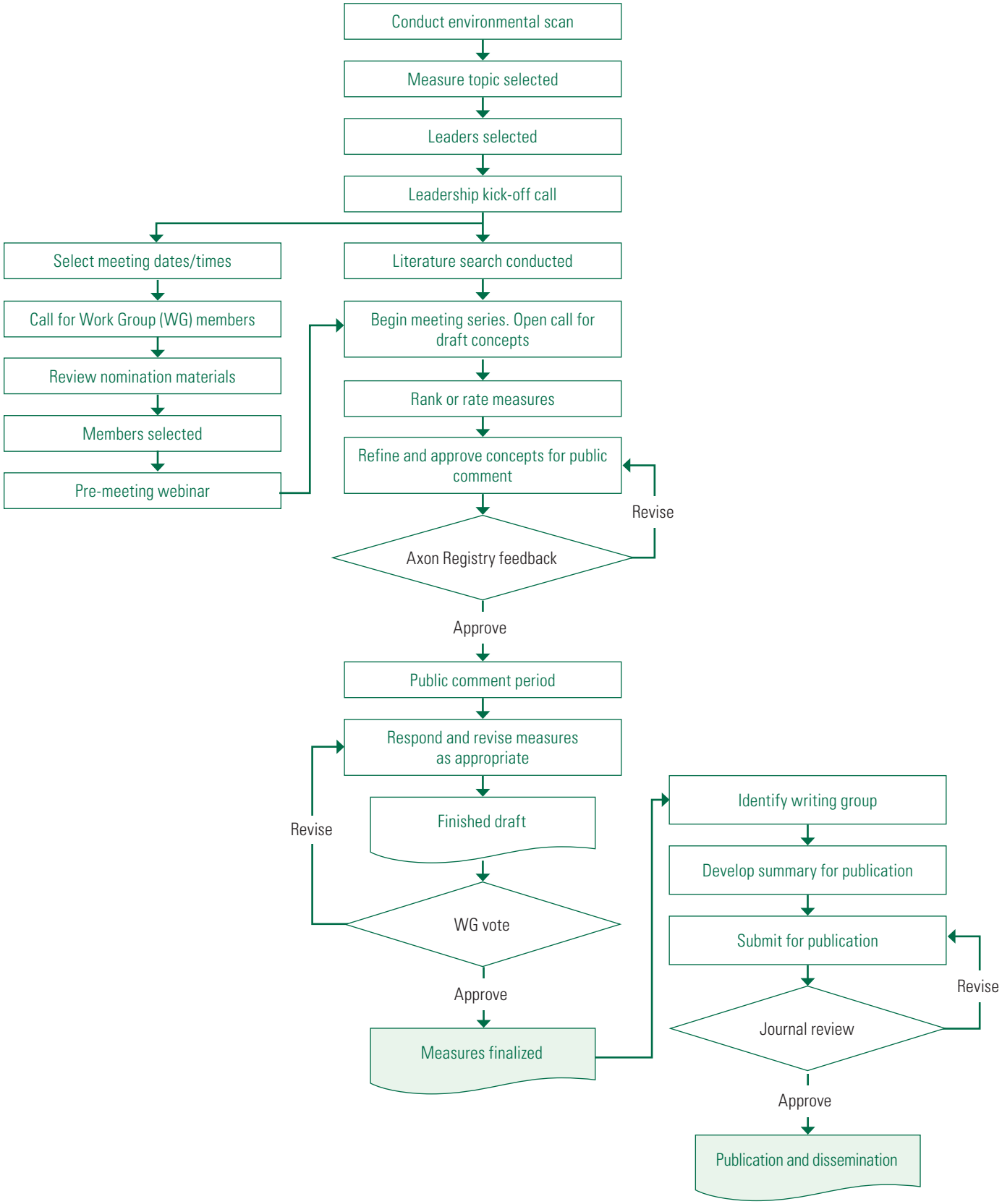
Disclaimer

The following disclaimer must appear in all published documents:

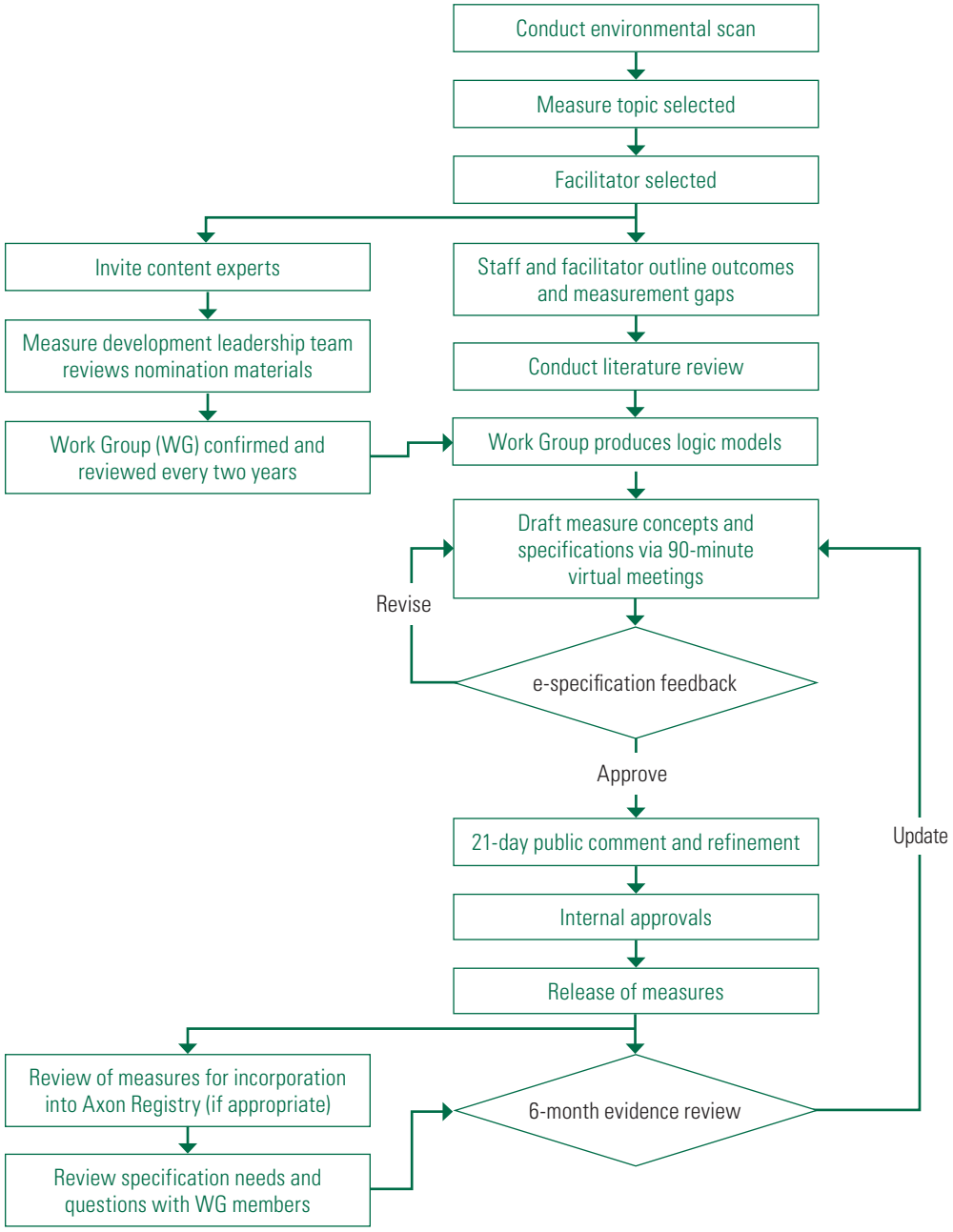
Quality measures published by the American Academy of Neurology Institute and its affiliates are assessments of current scientific and clinical information provided as an educational service. The information: 1) should not be considered inclusive of all proper treatments, methods of care, or as a statement of the standard of care; 2) is not continually updated and may not reflect the most recent evidence (new evidence may emerge between the time information is developed and when it is published or read); 3) addresses only the question(s) or topic(s) specifically identified; 4) does not mandate any particular course of medical care; and 5) is not intended to substitute for the independent professional judgment of the treating provider, as the information does not account for individual variation among patients. In all cases, the selected course of action should be considered by the treating provider in the context of treating the individual patient.

Use of the information is voluntary. AANI provides this information on an "as is" basis, and makes no warranty, expressed or implied, regarding the information. AANI specifically disclaims any warranties of merchantability or fitness for a particular use or purpose. AANI assumes no responsibility for any injury or damage to persons or property arising out of or related to any use of this information or for any errors or omissions.

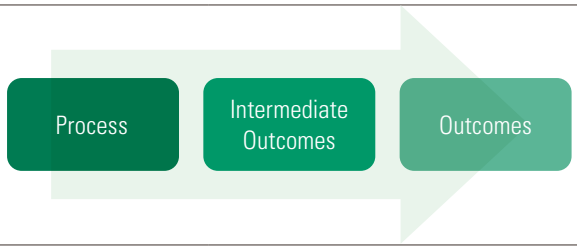
Appendix A: Process Map



Appendix B: Pilot Standing Work Group Process Map



Appendix C: Measure Specification Template

Measure Title		
Description		
Measurement Period		
Eligible Population	Eligible Providers	Medical Doctor (MD), Doctor of Osteopathy (DO), Physician Assistant (PA), Advanced Practice Registered Nurse (APRN)
	Care Setting(s)	[Outpatient, Inpatient, ED or Urgent Care, Residential (SNF, home care)]
	Ages	
	Event	
	Diagnosis	
Denominator	[Target population and time period]	
Numerator	[Action needed to meet the measure]	
Required Exclusions		
Allowable Exclusions	[Condition that should remove a patient, procedure, or unit of measurement from the denominator ONLY if the numerator criteria are not met.]	
Exclusion Rationale	[Explanation of exclusions]	
Measure Scoring		
Interpretation of Score		
Measure Type	[Process, Outcome]	
Level of Measurement	Individual Provider, Practice, System	
Risk Adjustment		
For Process Measures Relationship to Desired Outcome		
Opportunity to Improve Gap in Care	[Documented evidence of deviation (or observed patterns of deviation) in care from established norms or standards of care. Gaps in care may be manifested by underuse, overuse, or misuse of health services.]	
Harmonization with Existing Measures	[Work Group may recommend the creation of a measure that may be similar to an existing measure. Work Group should address steps taken to harmonize with existing measures or rationale for development of a separate measure.]	
References		

Flow Chart Diagram

Measure Codes

Code System	Code	Code Description

Appendix D: Statement on Comparing Outcomes

AANI Statement on Comparing Outcomes of Patients

Why this statement: Characteristics of patients can vary across practices and differences in those characteristics may impact the differences in health outcomes among those patients. Some examples of these characteristics are: demographics, co-morbidities, socioeconomic status, and disease severity. Because these variables are typically not under the control of a clinician, it would be inappropriate to compare outcomes of patients managed by different clinicians and practices without accounting for those differences in characteristics among patients. There are many approaches and models to improve comparability, but this statement will focus on risk adjustment. This area continues to evolve (1), and the AAN will revisit this statement regularly to ensure accuracy, as well as address other comparability methods (2) should they become more common.

AAN quality measures are used primarily to demonstrate compliance with evidence-based and consensus-based best practices within a given practice as a component of a robust quality improvement program. The AAN includes this statement to caution against using certain measures, particularly outcome measures, for comparison to other individuals/practices/hospitals without the necessary and appropriate risk adjustment.

What is risk adjustment? Risk adjustment is a statistical approach that can make populations more comparable by controlling for patient characteristics (most commonly adjusted variable is a patient's age) that are associated with outcomes but are beyond the control of the clinician. By doing so, the processes of care delivered and the outcomes of care can be more strongly linked.

Comparing measure results from practice to practice: For process measures, the characteristics of the population are generally not a large factor in comparing one practice to another. Outcome measures, however, may be influenced by characteristics of a patient that are beyond the control of a clinician.(3) For example, demographic characteristics, socioeconomic status, or presence of comorbid conditions, and disease severity may impact quality of life measurements. Unfortunately, for a particular outcome, there may not be sufficient scientific literature to specify the variables that should be included in a model of risk adjustment. When efforts to risk adjust are made, for example by adjusting socioeconomic status and disease severity, values may not be documented in the medical record, leading to incomplete risk adjustment.

When using outcome measures to compare one practice to another, a methodologist, such as a health researcher, statistician, actuary, or health economist, ought to ensure that the populations are comparable, apply the appropriate methodology to account for differences or state that no methodology exists or is needed.

Use of measures by other agencies for the purpose of pay-for-performance and public reporting programs: AAN measures, as they are rigorously developed, may be endorsed by the National Quality Forum or incorporated into Centers for Medicare & Medicaid Services (CMS) and private payer programs.

It is important when implementing outcomes measures in quality measurement programs that a method be employed to account for differences in patients beyond a clinician's control such as risk adjustment.

References and Additional Reading for AANI Statement on Comparing Outcomes of Patients

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