Toward Accountable Care Consortium

THE ACO SPECIALIST MANUAL

A Guide To Getting The Optimum Value-Add Contributions From Each Medical Specialty In Integrated Care

ValueHealth Partners

Smith Anderson

North Carolina Medical Society
Leadership in Medicine

ACKNOWLEDGMENT

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County / Regional Medical Societies

Cleveland County Medical Society

Craven-Pamlico-Jones County Medical Society

Durham-Orange County Medical Society

Mecklenburg County Medical Society

Forsyth-Stokes-Davie County Medical Society

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Wake County Medical Society

Specialty Societies

Carolinas Chapter, American Association of Clinical Endocrinology

North Carolina Academy of Family Physicians

North Carolina Chapter of American College of Cardiology

North Carolina Chapter of the American College of Physicians

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North Carolina College of Emergency Physicians
North Carolina Council on Child and Adolescent Psychiatry
North Carolina Dermatology Association
North Carolina Neurological Society
North Carolina Obstetrical and Gynecological Society
North Carolina Orthopaedic Association
North Carolina Pediatric Society
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North Carolina Oncology Association
North Carolina Society of Pathologists
North Carolina Society of Plastic Surgeons
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North Carolina Urological Association

State Societies / Organizations

Community Care of North Carolina
Carolinas Center for Hospice and End of Life Care
North Carolina Academy of Physician Assistants
North Carolina Association of Local Health Directors
North Carolina Community Health Center Association
North Carolina Foundation for Advanced Health Programs
North Carolina Medical Group Managers
North Carolina Medical Society

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INTRODUCTION

A. The New Health Care Is a Team Game – Building upon the momentum of other growing trends toward changing payments to incentivize better population health and lower costs such as the Medicare Shared Savings Program and movement of Medicaid and commercial payers to value-based contracts, "MACRA," the Medicare Access and CHIP Reauthorization Act of 2015, will radically change America's health care delivery landscape. The transformation of the delivery model has been progressing in recent years from fee-for-service (which has had the unfortunate unintended consequence of paying more money for more, not better care) to pay-for-value (which rewards better outcomes at lower cost). However, to a large degree, the transformation has been slowly implemented. MACRA has fixed deadlines and significant financial bonuses and penalties and should not only significantly impact provider Medicare fee reimbursement, but motivate other payers to shift as well. A fundamental premise of value-based care is to achieve better health status and reduced avoidable overall costs for patient populations. This, in turn, is almost impossible to achieve if providers continue practicing in silos, within a fragmented and uncoordinated "non-system." Put another way, practicing in integrated care teams is the proverbial low-hanging fruit in the new health care to drive "value," defined for purposes of this Manual simply as achieving the highest quality at the lowest costs.

Surveys show that the majority of affected providers with substantial Medicare Beneficiary populations are either totally or mostly unfamiliar with MACRA.[1] Anecdotally, it is clear that even fewer comprehend that the now-delayed "cost" measurement upon which they will be graded within its Merit-Based Incentive Payment System ("MIPS") and the Advanced Alternative Payment Model ("Advanced APM"), components of MACRA will generally judge them on the overall costs for the patients they touch, not just their own costs. This is as radical as it is not understood. For example, as Mark McClellan, M.D., Ph.D. wrote recently, though a primary care physician receives 6-8 percent of this sum, the patients of a typical primary care physician in this country consumes roughly $10-million annually in health care costs.[2] The MACRA MIPS model clearly requires and incentivizes coordinated care across the care continuum. Under the Advanced APM category, all the qualifying models for Advanced APM call for integrated care. The impact of MACRA virtually guarantees that value-based payment will be a dominant payment model.

Other private and public payment initiatives, like accountable care organizations, continue to grow, as well. For example, the "accountable" part of "accountable care organization" denotes that all providers

[1] *HIT Consultant*, www.hitconsultant.net/2017/06/29/ama-kpmg-macra-qpp/ (June 29, 2017).
[2] McClellan, Mark, *et al., Health Care Reform and Physician-Led Accountable Care: The Paradox of Primary Care Leadership*, Brookings, www.brookings.edu/opinions/health-care-reform-and-physician-led-accountable-care-the-paradox-of-primary-care-leadership/.

are now dependent on each other, across specialties, to manage the health status and total overall costs of its patient populations. No longer is doing well as an individual enough. The bottom line is that the influence of MACRA removes all doubt that value-based care is inevitable and that thriving in such an environment, where providers are compensated based on the overall costs of their patients, requires interaction across specialties. The new health care is a team game.

For purposes of this Manual, the teams are generally termed accountable care organizations ("ACOs") or clinically integrated networks ("CINs"), but clearly can embrace any grouping of providers working jointly under value-based payment models, including single tax ID multi-specialty entities, Independent Physician Associations, and virtual networks.

B. MACRA Is Not Going Away – MACRA was passed by both chambers of Congress with strong bipartisan support.[3] Implementing regulations have now been promulgated by both the Obama and Trump administrations.[4]

C. Change Is Hard – We are moving inexorably to a team-oriented value-based payment model for integrated population health. This will require a disruptive transformation of health care delivery. Such a fundamental change is extremely difficult, and there is a natural tendency to resort back to fee-for-service business practices even once in an integrated or alternative arrangement. Additionally change is difficult even when there is universal support, which this movement has never purported to have. While adaptation is occurring at different rates around the country, the state of things described by Harold Miller in 2009 still holds true in many areas:

> "[O]ne of the problems with healthcare in the U.S. is that there is little or no coordination between primary care physicians and specialists, or between multiple specialists treating different conditions affecting the same patient. This can result in problems such as duplication of testing and conflicts between medications ordered by different physicians that lead to higher costs and poorer outcomes. Moreover, a recent study suggests that many of the visits made to specialists after initial referral are for routine or preventive care that could be more cost-effectively delivered through the patient's primary care practitioner. …
>
> "This is likely in part a result of the dysfunctional fee-for-service system in the U.S., which pays each specialist independently for whatever they choose to do, including ordering duplicative tests, but pays no one to provide coordination. In many cases, more coordinated care could be provided by having the specialist consult with the primary care physician about how the primary

[3] The Medicare Access and CHIP Reauthorization Act of 2015 ("MACRA") as passed in April 2015 with a 92-8 Senate vote, and 392-3 House of Representatives vote.
[4] During the Obama Administration, the Final Rule implemented by the law was published on October 14, 2106. During the Trump Administration, a Proposed Rule to ease administrative burdens was published on June 30, 2017.

> care practice can comprehensively manage the patient's care, rather than having the specialist separately manage a portion of the care. Here again, the fee-for-service system is a barrier, since the specialists are paid for face-to-face visits with patients, but are typically not paid when they provide advice directly to the primary care physician.
>
> "Clearly, one of the opportunities for improving the efficiency and effectiveness of healthcare in the U.S. is rationalizing the roles of primary care physicians and specialists. … [A] primary care practice will need to have a good working relationship with specialists in order to avoid overlaps and gaps in care and to achieve the best outcomes for their patients. …
>
> "The important factor will be the ACO's ability to successfully work with a comprehensive set of specialists to achieve the most coordinated, efficient care of the patients for whom the ACO is accountable."[5]

As of this writing, it may be said that CINs, ACOs, and other value-based care teams are starting to emerge from primary-care only prevention and wellness activities—ACO 1.0, as it were—to ACO 2.0, of strategically utilizing value-adding specialties to address the diagnoses and process flaws of their patient population. But, there is no question that, from a cultural standpoint, this is hard.

D. NCQA Patient-Centered Specialty Practice Program – Building upon the principles enunciated by Mr. Miller in I.C. above, this program was designed to link specialties across the spectrum in coordinated care. The NCQA states that: "Practices that become recognized will demonstrate patient-centered care and clinical quality through streamlined referral processes and care coordination with referring clinicians, timely patient and caregiver-focused case management, and continuous quality improvement." [6]

E. This Manual Is a Compilation of Single-Specialty White Papers – In what some may look back on as remarkable prescience, beginning in 2011, different medical and health care facility professional associations and societies pooled resources to develop multiple white papers to provide practical insights for the members of each respective association to optimize their contributions to, and thus their rewards from, the then new value-based care. This group, called the "Toward Accountable Care Consortium," ("TAC") now includes over 40 members. The current membership can be found at www.tac-consortium.org/about/members/. The white papers on each topic combined the "best of the best" national research on what is working elsewhere with actual examples from practicing providers and leaders for each paper assembled into "Accountable Care Workgroups" for their respective specialties. The practical insights of these Accountable Care Workgroups will be referenced regularly throughout this Manual. The white

[5] Harold Miller, *How to Create Accountable Care Organizations*, CHQPR, p. 13.
[6] NCQA, *Patient-Centered Specialty Practice Recognition*, www.ncqa.org/programs/recognition/practices/pateint-centered-specialty-practice-pcsp (downloaded December 2017).

papers included general overviews of the essential elements for any successful CIN or ACO, in value-based care, an analysis of legal issues unique to this new delivery model, merit-based shared savings strategies, and special guidance for rural health care and the use of community health resources.

But, the core activity of the TAC over the six-year period was the creation of specialty-specific guides addressing the best ways for each to contribute significantly in value-based integrated care environment. The guides are as follows:

Specialty-Specific Toolkits

- The Anesthesiologist's ACO Toolkit
- Accountable Care Guide for Cardiologists
- Accountable Care Guide for Child Psychiatry
- Accountable Care Guide for Dermatologists
- Accountable Care Guide for Emergency Medicine Physicians
- The Family Physician's ACO Blueprint for Success
- Accountable Care Guide for Gynecologists
- Accountable Care Guide for Hospice and Palliative Care
- Accountable Care Guide for Hospitalists
- Accountable Care Guide for Internal Medicine
- Accountable Care Guide for Nephrologists
- Accountable Care Guide for Neurologists
- Accountable Care Guide for Obstetricians
- Accountable Care Guide for Oncologists

- Accountable Care Guide for Ophthalmologists
- Accountable Care Guide for Orthopaedists
- Accountable Care Guide for Pediatric Care
- Accountable Care Guide for Psychiatrists
- A Guide for Optimizing the Role of Health Departments in Accountable Care
- Accountable Care Guide for Pulmonologists
- Accountable Care Guide for Radiologists
- Accountable Care Guide for Rheumatologists
- Accountable Care Guide for Urologists

General Toolkits

- The Physicians Accountable Care Toolkit
- Rural Accountable Care Guide
- Accountable Care Guide for Community Health Partners
- Accountable Care Legal Guide
- The Bundled Payment Guide for Physicians
- Distribution Based on Contribution: A Merit-based Shared Savings Distribution Model
- The Physician's CIN and ACO Contracting Guide

This undertaking required hundreds of hours of research and input by professionals. It was underwritten by in-kind contributions from numerous contributors and the generous financial support of The Physicians Foundation. The grant required that all work product be shared without charge. This *Manual* is a

distillation of these more inclusive single-specialty efforts, and you may find resorting to them useful if you need more detail or context. Unlimited free downloads of all the Toolkits, are available at http://www.tac.consortium.org/resources/.

F. How to Optimize the Role of Specialists In, and Thus the Success of, Your CIN/ACO – The pertinent substance of the compiled aforementioned white papers have been distilled into this Manual. It may represent the first-ever collection of such strategies for CINs and ACOs. It is recommended that you not just plunge into these, but follow a plan. You may consider the following approach:

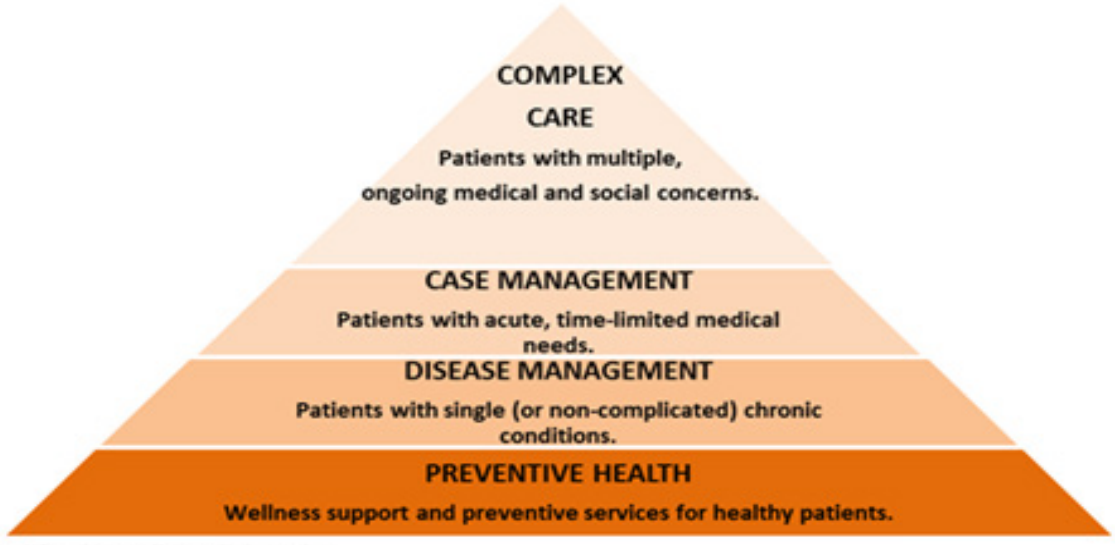
- A primary care core is essential. Not only is it the only group of specialties required under the Medicare Shared Savings Program ("MSSP"), but virtually all of the high-value initiatives identified by TAC's research—prevention, wellness, complex patient management, reduced hospitalizations, etc.—are in primary care's wheelhouse.

- Do a gap analysis. A gap analysis, sometimes called a "patient stratification," identifies the gaps in care and processes for your patient populations and the patients they impact. Where are care costs and processes less than ideal? Who are these patients? This is a huge benefit of value-based population health care versus fee-for-service where one was often relegated to reacting to individuals who self-present for care. Find out what diagnoses and which processes are amenable to improvement.

- Be strategic about which specialties to add. The gaps will reveal game plans and ideal care teams to mitigate those gaps. Armed with that knowledge, you can then select which specialists you will need and how many.

	Activity	Expected Impact	Time to Impact
Effects Within Months	Transitions of care management	Reduce readmissions	3 months
	Case management for high-risk patients with targeted conditions: diabetes, heart failure, COPD	Reduce primary admissions and ED	3-6 months
	Case management for other high-risk patients	Reduce primary admissions and ED	6-12 months
	Pharmacy management	Increase generic use	6-12 months
Effects Within 1-2 Years	Nursing home management	Reduce readmissions/primary admissions	12-18 months
	More efficient specialists and ancillary providers	Decrease cost per episode of care	12-18 months
	High-end imaging	Reduce unnecessary testing	12-18 months
Effects Within 3-5+ Years	Interventions for low-risk chronic disease patients: disease registries, chronic disease care optimization	Improved control; avoid complications	2-5 years
	Preventive care; screening; lifestyle change; wellness	Earlier identification and treatment; decrease incidence of chronic diseases	2-5+ years

Source: Geisinger



California Quality Collaborative

- Grade all specialties on performance. The subsequent chapters of this Manual will articulate the best practices of each specialty and offer metrics where they have been credibly developed. All participants in a CIN/ACO should be ranked according to highest-value. CINs/ACOs are being selected by payers in "narrow networks." Some are generating substantial performance bonusesCompetition can be keen among specialty practices to be on those CINs/ACOs' short lists for referrals as high-value specialists. Within a network, performance payments should be allocated based on relative value contributions, down to the individual physician. Chronically low-performers should be dropped from the CIN/ACO if unresponsive to remediation; in fact, CMS requires ACOs in the MSSP to take remedial action including the potential termination of chronically low performing practices.[7]

The idea is not just to assemble a bunch of specialists, but rather to form your "dream team" of handpicked people who possess the identified skillsets needed, and who "get it" and are on the same page as you on optimum behavior to maximize their role in attacking the identified gaps in care. Many CINs/ACOs have failed because they did not follow this approach—they followed the fee-for-service approach of assembling as many physicians and specialties as possible, hoping for referrals. This Manual will hopefully give you a roadmap to know how to strategically assemble that select team and the roles they can play.

G. How to Use this *Manual* – The rest of this *Manual* is divided into chapters—one for each medical specialty. Once you know the specialties involved in care of patients in your population that fall into the identified avoidable gaps, then review the strategies offered for those specialties found in their respective designated chapters. Multiple specialty strategies may be coalesced for particular disease states, such as complex patients with multiple co-morbidities.

[7] 42 Part 425.116(7)

A. ANESTHESIOLOGISTS

I. Why and How You May Want to Utilize Anesthesiologists in Your CIN/ACO

A. Perioperative Process Improvement – A clear opportunity for your ACO is to use anesthesiologists to lead perioperative process improvement. This includes primary care coordination to have the patient's diagnosis and preparation optimized, and all relevant data from the medical home presented preoperatively. The anesthesiologist can be part of the perioperative team to schedule the surgery and the transition of the patient from the outpatient to the inpatient setting.

Once in the perioperative setting, the anesthesiologist can lead development of pre-, intra-, and post-operative protocols. Members of the Accountable Care Workgroup of the North Carolina Society of Anesthesiologists, suggested a number of possible evidence-based best practice protocol steps to improve the perioperative process:

- Develop preoperative screening criteria for specific procedures and/or complex patients (i.e., morbidly obese; ESRD or HD).
- Monitor and minimize anesthesiologist-related delays.
- Monitor and minimize surgeon-controlled delays.
- Enable and incentivize anesthesiologist frontline leadership in through-put.
- Ensure SCIP initiatives met.
- Postoperative pain control protocols and best practices.
- Optimal referrals without unnecessary costs or delays.
- Health Information Technology—includes real-time critical information, decision support for best practices, which follows patient across care settings, "hardwires" ACO initiatives, and support.
- Coordination to avoid duplication of tests, delays, insufficient referrals, or compromised actions.
- Identify and correct delays in surgery because of equipment malfunction.
- Localized systems analysis to implement meaningful start time and through-put improvement.

B. Inpatient Link to Medical Home – Primary care/medical home initiatives have been the first ACO activities implemented in many areas. As the reach of these initiatives extends to the in-patient setting, anesthesiologists can be utilized in leadership roles, particularly for patients who will be having surgery. They are comfortable with systems, technology, protocols, clinical management, and working with diverse health care providers. Their role in the preoperative evaluation and handoff from the Medical Home present opportunities to become involved, if not lead. Is there a recurring frustrating type of surgical or pain procedure? Are there patterns causing frequent delays, errors, bad results, and/or gaps in care?

Strategic Note: The value of the use of anesthesiologists is amplified if they help create the outpatient/inpatient bridge. Their role in pre-operative assessment positions prepares them well for this role.

C. High-Impact Avoidable Adverse Events – In 1999, the Institute of Medicine published its landmark study entitled To Err is Human, reporting that as many as 98,000 people die each year in hospitals as a result of medical errors that could have been prevented.[8] As follow-up, the Office of Inspector General ("OIG") of the Department of Health and Human Services undertook a study entitled Adverse Events in Hospitals, issued in November of 2010.[9] This analysis surveyed the adverse events of Medicare patients, those that were avoidable, and ranked them according to the greatest harm. In the Winter of 2010/2011, the NCSA Accountable Care Workgroup reviewed these results and prioritized the avoidable adverse events over which anesthesiologists might exert the greatest reduction. These are apt for ACO targeting for the obvious health policy reasons, but also because the OIG recommended that "CMS look for opportunities to hold hospitals accountable for adoption of evidence-based practice guidelines," and CMS commented that it will "aggressively pursue" lowering the incidence of these adverse events.

ACOs are targeting for the obvious health policy reasons, but also because the OIG recommended that "CMS look for opportunities to hold hospitals accountable for adoption of evidence-based practice guidelines," and CMS commented that it will "aggressively pursue" lowering the incidence of these adverse events.

D. Complex Obese Patient Pilot ("COPP") Case Study – The COPP is an example of an initiative that can be aided by anesthesiologists. The project was good for a case study in that: (a) it meets most of the categories recommended for ACO targeting (b) it scores high using on the local project selection criteria, and (c) when reviewing this against the recommended anesthesiologist ACO initiatives above, it is clear that anesthesiologists can contribute in multiple ways.

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[8] *To Err is Human: Building a Better Health System,* Institute of Medicine (Nov. 1999).
[9] *Adverse Events in Hospitals: National Incidence Among Medicare Beneficiaries*, Department of Health and Human Services, Office of Inspector General (Nov. 2010. (27% of patients suffered adverse events or temporary harm; 44% of those were clearly or likely preventable; $4.4 billion in added costs per annum.)

What is the Complex Obese Patient Project ("COPP")?

COPP is a replicable shared savings pilot project focusing on the complex obese patient population using best practices across the continuum from diagnosis to discharge, created by a multi-disciplinary team with the goal of increasing quality, patient satisfaction, and savings for this patient population. Initial thinking has identified potential opportunities for (1) better information at the primary care diagnosis and treatment design phase, (2) better information flow along the entire continuum of care, (3) improved transition from the outpatient to the inpatient setting, (4) improved perioperative processes and outcomes, and (5) improved post-op follow up. To align incentives to create the highest quality at the lowest overall cost, an important feature of COPP would be a shared savings payment component, which would be in addition to fee-for-service payments.

Why COPP Now?

- It targets some clear disconnects in our current fragmented system. Significant savings are anticipated in high-yield areas of: prevention, chronic disease management, care transitioning, and process improvement.

- Champions from different specialties and hospital administration have been identified.

- Tackling the obesity epidemic and the cost impact of the "super-utilizers" are in the national health policy forefront.[10] It tackles this group, which is roughly 5% of the typical patient population but consumes over 50 percent of that population's total health care expenditures.

- A small pilot with champions and likely high-impact initiatives may be appropriate to spark a "spiral of success" in working together in the future to achieve greater value in health care.

  The prospects are reasonably high for there to be a meaningful shared savings pool. If this happens, it will be much easier to generate buy-in for additional successful projects.

Executive Summary

- Diagnosis and Treatment Planning. The primary care physician, preferably in the Medical Home model, will have better access to relevant data and evidence-based best practices. A complex obese patient comprehensive data template will facilitate intake and later hand-offs. This will

[10] "Two-thirds of adults and nearly one in three children are overweight or obese. … The sobering impact of these numbers is reflected in the nation's concurrent epidemics of diabetes, heart disease, and other chronic diseases. … This future is unacceptable." (Message from the Surgeon General, *The Surgeon General's Vision for a Healthy and Fit Nation*, 2010, U.S. Dept. of Health and Human Services.) See, The Hot Spotters—Can We Lower Medical Costs By Giving the Neediest Patients Better Care? (Atul Gawande, The New Yorker, January 24, 2011.) "Spending per capita for obese adults exceeded spending for adults of normal weight by about 8% in 1987, and by about 38% in 2007." (The Congressional Budget Office, *How Does Obesity in Adults Affect Spending on Health Care?*, September 8, 2010.)

build upon existing hospital diabetes and other initiatives. A multi-disciplinary Complex Obese Patient Support ("COPS") team (nutritionist, mental health professional, orthopedic pain management specialist, clinical pharmacist, case navigator, etc.) will provide real or virtual access to specialized expertise for optimum diagnosis and treatment planning.[11]

- Wellness/Lifestyle Management. Continued access to the COPS team to manage and identify co-morbidities and weight-loss techniques. Tools for patient education and engagement. Relevant decision support and clinical data follows patient through virtual-provider workstation.

- Surgery.

    - Non-Weight-Loss Surgery. These are often very difficult surgical candidates with many medications, co-morbidities, sleep apnea, and other high-risk issues. However, they often require surgeries due to poor health status. The multi-specialist team will have best practices for pre-surgical evaluation, data transfer, anesthesia-specific pre-op, cardiac evaluation, OSA screening, HTN screening, upper GI if appropriate, patient-education, airway assessment, and possible need for tracheotomy, etc. There will be enhances transition coordination with the Medical Home. The surgery would follow optimum perioperative process best practices and utilize the virtual-data workstation. Post-op and post-discharge, the patient is transitioned back to the Medical Home. The physicians have met several times to map out preliminary pathways from the initial visit to three years post-surgery follow-up.

    - Weight-Loss Surgery. Same as other surgeries, but would be recommended only if the patient is unsuccessful losing weight by all other measures after a six-month + period, the patient is otherwise a proper candidate (i.e., BMI and health status) and the surgery otherwise comports with evidence-based best practices. A special post-weight-loss-surgery patient follow-up protocol will be managed by the Medical Home physician with ongoing support from the COPS team. Currently, the surgeon usually provides medical and lifestyle management for these patients for up to three years.

- Reporting/Shared Savings. Appropriate quality, patient satisfaction, and cost-effectiveness performance metrics will be established using nationally recognized benchmarks. If the quality and satisfaction standards are met, and there are savings for this patient population enrolled with a particular payer, 50 percent of those savings would be distributed to care providers roughly in

[11] "There is little or no coordination between primary care physicians and specialists, or between multiple specialists seeing the same patient … rather than having the specialist separately manage a portion of the care." Harold Miller, *How to Create Accountable Care Organizations*, Center for healthcare Quality and Payment Reform.

proportion to their relative estimated contributions to the savings pool. Financial predictive modeling is anticipated.

Preliminary "SWOT" Analysis

- Strengths – Chances for success high—targets four of the top five recommended areas for collaborative care (prevention/wellness, chronic disease management, transitions across fragmented parts of system, and multi-specialty complex patient management. Would not likely impact the fifth area: reduced hospitalizations). Natural collaboration and transition opportunities.

- Weaknesses – Physicians lose some independence. Hospital loses some control. Hasn't been done before. Participants already are too busy. Do I trust my partners enough? Do we have an interested payer? Will this cost money? Will I lose volume?

- Opportunities – Low-risk pilot. Good way to begin building culture and skills. Existing champions. (Primary care, anesthesia, surgical, other.) Could build market share. Great potential ROI documentation for bariatric surgery. Politically consistent with health policy objectives, image, and community benefit.

- Threats – I might not get fair credit. The data and/or the money will be manipulated. Still in the fee-for-service environment. This is too early to create a precedent that might reduce hospitalization and surgical volumes even though this one won't. I have other priorities. I'm wary of shared-savings methods.

On the other hand, what is the threat of not doing this? Do we risk being unprepared when the transition hits the tipping point of value-based reimbursement?

E. Other – Please see The Accountable Care Manual for Anesthesiologists, which may be downloaded at http://www.tac-consortium.org/resources/

F. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including anesthesiologists.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. Initiative – Perioperative Process Improvement

- General
  - Measure overall improvements in operating room through-put (i.e., "wheels in, wheels out").
  - Measure reduction in anesthesiologist delays.
  - Measure shorter recovery time trend.
  - Measure improved primary care and specialist coordination to avoid duplication of tests, delays, inefficient referrals, or compromised outcomes.
  - Preoperative screening criteria by diagnosis.

- Specific Protocol Compliance Measurement
  - Preoperative readiness process.
  - Preoperative screening criteria by diagnosis.
  - On-time starts.
  - Reduce surgeon controlled delay; targeted cases with greatest time variability by surgeon.
  - Measure anesthesiologist frontline leadership.
  - Postoperative pain control process.
  - Intake process for efficient referrals—active communications with primary care physician.

C. Inpatient Link to Medical Home – Performance metrics would address success in facilitating specialist input to assist medical home physician in diagnosis; better admission and discharge communications and coordination; protocols to smooth transitions; and collecting and delivering relevant clinical data to the caregiver at the point of care across the continuum.

D. Adverse Events in Hospital – These "efficiencies" or savings, if you will, largely stem from better quality and cost savings through avoided errors. Efficiency performance metrics will, at best, be incidental to the quality protocols and metrics.

E. MACRA's Quality Payment Program MIPS Measures Relevant to Anesthesiology

MEASURE NAME	MEASURE DESCRIPTION
Anesthesiology Smoking Abstinence	The percentage of current smokers who abstain from cigarettes prior to anesthesia on the day of elective surgery or procedure
Coronary Artery Bypass Graft (CABG): Preoperative Beta-Blocker in Patients with Isolated CABG Surgery	Percentage of isolated Coronary Artery Bypass Graft (CABG) surgeries for patients aged 18 years and older who received a beta-blocker within 24 hours prior to surgical incision
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.

Perioperative Temperature Management	Percentage of patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer for whom at least one body temperature greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time
Post-Anesthetic Transfer of Care Measure: Procedure Room to a Post Anesthesia Care Unit (PACU)	Percentage of patients, regardless of age, who are under the care of an anesthesia practitioner and are admitted to a PACU in which a post-anesthetic formal transfer of care protocol or checklist which includes the key transfer of care elements is utilized
Post-Anesthetic Transfer of Care: Use of Checklist or Protocol for Direct Transfer of Care from Procedure Room to Intensive Care Unit (ICU)	Percentage of patients, regardless of age, who undergo a procedure under anesthesia and are admitted to an Intensive Care Unit (ICU) directly from the anesthetizing location, who have a documented use of a checklist or protocol for the transfer of care from the responsible anesthesia practitioner to the responsible ICU team or team member
Prevention of Central Venous Catheter (CVC) - Related Bloodstream Infections	Percentage of patients, regardless of age, who undergo central venous catheter (CVC) insertion for whom CVC was inserted with all elements of maximal sterile barrier technique, hand hygiene, skin preparation and, if ultrasound is used, sterile ultrasound techniques followed
Prevention of Post-Operative Nausea and Vomiting (PONV) - Combination Therapy	Percentage of patients, aged 18 years and older, who undergo a procedure under an inhalational general anesthetic, AND who have three or more risk factors for post-operative nausea and vomiting (PONV), who receive combination therapy consisting of at least two prophylactic pharmacologic antiemetic agents of different classes preoperatively or intraoperatively
	prophylactic pharmacologic antiemetic agents of different classes preoperatively or intraoperatively
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated

B. CARDIOLOGISTS

I. Why and How You May Want to Utilize Cardiologists in Your CIN/ACO

A. Significant Coronary Costs Which Can Be Impacted Through Integrated Population Health – According to the American Heart Association, coronary heart disease alone costs the United States $108.9-billion each year when medical costs and lost productivity are considered.[12] Yet only 27 percent of Americans recognize all the symptoms of a heart attack. The Advisory Board Company, a consultancy, reports that since 97 percent of the highest-cost Medicare patients have at least one cardiovascular condition, cardiovascular ("CV") care management strategy should extend beyond the cardiology service line but across every hospital institution.[13]

In addition to these high costs, an ACO is in position to inflect substantial reductions in cost while improving quality. For example, the Heart Function Clinic in High Point, North Carolina, caused a 69 percent decrease in hospital admissions for heart failure and 75 percent reduction in emergency department utilization for heart issues. Patient care was better, the cardiologists and patients were happier, and the savings were substantial.

Payers are recognizing cardiologists who demonstrate this leadership through preferential reimbursement and steerage. In recognition of the potential for high-value cardiologists' contributions, Blue Cross and Blue Shield of North Carolina has introduced its "Tiered Network" and cardiology practices exceeding both quality and cost thresholds are included in their preferred "skinny" network called "Tier 1."[14] Data shows that there is considerable county-to-county variability in risk adjusted congestive heart failure mortality, illustrating the substantial savings from reduced variability of care. That 18 out of 48 episodes of care eligible for the Medicare bundled payment initiative relate to cardiovascular care suggests much available "low-hanging fruit" for cardiologists in value-based payment.

B. Recommended ACO Initiatives for Cardiologists – The Cardiology Accountable Care Workgroup found that there are a number of high-impact readily achievable cardiology team contributions to quality and patient population savings, heretofore not feasible under the fee-for-service system. The cardiologists' potential to add value in integrated care is underscored by some telling statistics:

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[12] Centers for Disease Control and Prevention, Heart Disease Facts, http://www.cdc.gov/heartdisease/facts.htm.
[13] The Advisory Board Company, Cardiovascular Roundtable, *Power Up Your CV Care Management Strategy*, (Jan. 2, 2014), http://www.advisorycom/Research/Cardiovascular-Roundtable/Resources/2013/Posters.
[14] BCBSNC, Tiered Network Product (2014), http://www.bcbsnc.com/content/providers/quality-based-networks/tiered-network.htm.

- Only 1.1 percent of the population meets all seven of the American Heart Association's metrics for ideal health (smoking, BMI, exercise, diet, cholesterol, blood pressure, and HbA1c).[15]
- Cardiac-related procedures are 3 of the top 10 drivers of avoidable inpatient admissions.[16]
- ACO-like systems of care for acute ST elevation myocardial infarction (STEMI), stroke, and cardiac arrest have translated into measured quality improvement and cost reductions.[17]

For a graphic regarding cardiovascular care management strategy see: http://www.tac-consortium.org/wp-content/uploads/2014/02/27890_CR_CV_Infographic_Final.jpg.

The most promising and replicable initiatives follow:

There was consensus among the Cardiology Accountable Care Workgroup that avoiding unnecessary hospitalizations presented the proverbial "low-hanging fruit." They noted that the aforementioned American Heart Association's seven ideal health metrics and tools are very easy to use and can produce significant savings. As noted, the cardiologist-led Heart Function Clinic reduced admissions by 69 percent.

C. Cardiologist and Primary Care Partnership – One cardiologist noted that her greatest contribution to value may be as leader of a cardiac care team where "patients I never saw got the right cardiac care." The care team needs to coordinate, know their roles, practice to the top of their licenses and be supervised by a cardiologist. "Supervision" is a carefully chosen role, as cardiologists need to rationalize how they spend their time. They need to delegate, coordinate and supervise to avoid managing multiple uncoordinated tasks related to a patient's care. One Workgroup member noted that it is inevitable to "make mistakes when you get overwhelmed," by constantly getting pinged to perform unrelated delegable patient care tasks.

The team should include primary care medical homes and community public health partners. One Workgroup member noted that if supported by evidence-based best practices, "primary care physicians need to measure [such things as] hypertension without a cardiologist." Clear data feedback algorithms, standing protocols, referral guidelines and periodic team service line meetings will all benefit team coordination.

[15] http://www.lifescoreprogram.com/what-are-the-american-heart-association-metrics-for-ideal-health.
[16] The Advisory Board Company, *The Population Health Manager's Playbook for Avoidable Costs,* p. 32 (2012).
[17] Rokos, Ivan, *Creating "Turbo" Accountable Care Organizations for Time Critical Diagnoses*, Circulation: Cardiovascular Quality and Outcomes, p. 647.

This type of cardiologist/primary care partnership teaming to prevent acute cardiac events will significantly improve health status while reducing hospital admissions. This is becoming the classic ACO initiative involving many specialists, not just cardiologists. It would not be feasible under the siloed and fragmented fee-for-service model.

The cardiologists at Cornerstone Health Care ACO based in High Point, North Carolina developed a multidisciplinary Heart Function Clinic. It is a cardiologist-led collaboration including specially trained nurses, psychologists, cardiologists, dieticians and frequently their home health and nursing home providers. It is comprehensive and proactive with frequent office visits and telephone outreach to patients. It has generated the previously-mentioned 69 percent reduction in admissions and 75 percent reduction in emergency department utilization for heart issues.

The cardiologists at Piedmont Heart in Atlanta collaborated with Piedmont Healthcare to create integrated multidisciplinary teams. "Most CV physicians divide their time among making clinic visits, performing office-and-hospital-based procedures, reviewing diagnostic study results and rounding on patients. That fragmented approach preserves the individual physician 'ownership' of the patient, but it often results in inefficient time usage and does not encourage physicians to 'play to their strengths' and work as an integrated team. … [which] allows a physician to focus attention on one or two activities rather than trying to manage multiple uncoordinated tasks related to a patient's care."[18] Physician extenders are utilized extensively to the full breadth of their licenses, further relieving cardiologists of distracting tasks.

In another example, the heart and vascular institute at Summa Health System in Akron, Ohio involves not only cardiologists but also primary care physicians and radiologists in a performance-based clinical co-management agreement.[19] The Advisory Board Company urges cardiologists to "work collaboratively with PCPs to manage care; perform appropriate procedures only when necessary,"[20] and notes that coordinating with PCPs will ease the manpower concerns in coming years as the number of elderly and chronic patients grows."[21] The consulting company also recommends better referral patterns to streamline care processes.[22]

D. Emergency Department Triage and Diversion – Too often, the emergency physician is in doubt regarding a patient's chest pain, and that patient gets admitted to the hospital unnecessarily. Sometimes, the admission is a default measure simply because no physician is available to take responsibility for that patient. In the current fragmented system, the process of transition from emergency department to cardiologist to discharge planning is complex and uncoordinated, leading

[18] Molden, Michele, *At the Heart of Integration: Aligning Physicians and Administrators to Create New Value*, Frontiers of Health Services Management, Vol. 29, No. 4, (Summer 2013), pp. 12-14.
[19] The Advisory Board Company, Cardiovascular Roundtable, *Securing Physician Alignment*, slide 109 (2011).
[20] *Id.*, at slide 116.
[21] *Id.*, at slide 118.
[22] *Id.*, at slide 120-122.

to substantial inefficiencies. An ACO savings strategy is for the highest-trained cardiovascular-trained physician (cardiologist) to be involved in the decision-making and to take responsibility. Education, telemedicine access, protocols and other alternatives to live presence suggest themselves to accomplish these objectives.

- Example: ED Availability = Value. One ACO embeds a cardiologist in the hospital's emergency department to provide immediate access. The cardiologist does other things, but is instantly available. This reversal from the traditional fee-for-service practice of the emergency department contacting the cardiologist only for the highest acuity patients has generated surprisingly strong results. The key is getting an accurate early diagnosis, as the ACO's cardiologist stated, "before a lot of money has been spent." This early input allows acuity tracking to triage the low-risk patients instead of admitting them, quicker cath lab access, and avoids unnecessary CT scans and admissions. He noted another benefit in that with CT angiograms, the patient occasionally gets lots of contrast and goes into renal failure. And, once the patient has been stabilized and is ready for discharge in lieu of admission, if a physician is available to assume responsibility, an expensive admission is avoided simply by that ACO cardiologist's presence.

Obviously, a patient in an ACO with a non-acute problem should not go to the emergency department at all. A functioning primary care team also with access to the cardiologist described above, should move this patient to the appropriate cardiac care provider without resorting by default to the local emergency department at all. An ACO patient should have, in hand, an appointment with their medical home physician upon discharge.

E. Define and Develop Clinical Pathways – More clinically credible, evidence-based best practices are emerging for cardiac care. Standardized observance of them would produce meaningful savings. Members of the Cardiology Accountable Care Workgroup felt, and research supports, that reduction in variation regarding guidelines for lipid and hypertrophy management would be particularly cost-effective. The cardiologists could lead in selecting the most appropriate and impactful best practices, interpret and remediate variation issues, and communicate and educate to effectively change behavior in outliers. Outlier physicians must find the benchmarks and processes credible, trust the data and accept the feedback in order to reduce treatment variability. When that happens and the identities and data of physicians are shared, that is when one finds behavior change in an ACO.

F. Organize By Disease State or Condition – Instead of the fragmentation of provider grouping by provider specialty or hospital department, organize the multidisciplinary care team around the patient disease state or condition. Candidates for such grouping are led by: arrhythmia, acute myocardial infarction, chest pain, coronary therapeutics, general and preventive cardiology structural and valvular heart disease and vascular. Advantages include fast-tracking subspecialty depth and expertise, reduced variation in the care provided, better workflows, and ease in selection and monitoring of clinically valid metrics. It is easier to bring cardiologists of similar subspecialties together to identify best practices and metrics. A cardiovascular center for women could target cardiovascular disease in women. In the Journal of Vascular Surgery, Dr. Phillip Goodman notes that "vascular surgeons will need to continue to expand the role we play in improving the vascular health of populations at risk beyond our current procedurally-based efforts toward disease-based care." It is a good example of the new model of accountable care: integrated services across the care continuum would include evaluation, risk factor modification, nutrition counseling, exercise programs and structured individualized medical plans, with the cardiologist expertise leveraged through allied providers and administrative support. For example, Piedmont Heart in Atlanta determined, "Rather than organize by functional departments, like a traditional hospital organizational structure, Piedmont Heart physicians organized themselves along a continuum of patient care by disease state or condition." This has resulted in subspecialty depth and expertise, as each physician picks a 'major," thus reducing variation in care.

G. Harnessing Pharmacy and Supply Costs – Often the first initiative in cardiology accountable care, hospital co-management arrangements or bundled payment projects, is to agree to a common set of devices, supplies, and drugs, and negotiate a better volume discount rate. This will, of course, fail unless led by practicing cardiologists, and the savings incentives flow to all participating cardiologists. The Cardiology Accountable Care Workgroup noted savings and quality improvements through such things as "Coumadin Clinics" and active anticoagulation management safely reducing utilization of some very expensive drugs. Group sessions of patients using the same retail drug are proving cost-effective. Multiple patients come in and meet with a provider, initially a cardiologist, but then the patient is tracked by a non-physician.

H. Identifying and Managing High-Risk Patients – Ten percent of cardiology patients consume 50 percent of the cardiology dollars. ACO business intelligence can now pull data from disparate sources to reveal the cohort of incipient future high-risk/high-cost "super-utilizer" patient with multiple co-morbidities in addition to cardiac issues. Analytics can assist in structuring multidisciplinary continuity of care work flow and coordination. Special focus can be placed on this vulnerable cohort for discharge

[23] Goodman, Phillip, *Roles for Specialty Societies and Vascular Surgeons in Accountable Care Organizations*, J. Vas. Surg., pp. 875-882, (March 2012).
[24] Molden, Michele, *At the Heart of Integration: Aligning Physicians and Administrators to Create New Value*, Frontiers of Health Services Management, Vol. 29, No. 4, (Summer 2013), pp. 7-9.

planning, post-discharge follow-up, self-management and engagement tools. Again, the cardiologist should lead the design of this initiative and supervise the care management, but should not do all the work. So, on the post-acute end of cardiac care, as noted for the preventive end of the spectrum, the cardiologists' greatest value contribution may be for the patient she never sees.

I. Selection of Optimum Site of Service – This is an obvious result of adhering to evidence-based best practices in the accountable care era. But it has historically not often been within the purview of the treating cardiologist, so it is mentioned here as a separate initiative. Provision of care of equal or better quality at a lower cost is fundamental to value-based care. It is, however, going to be one of the most wrenching of the "disruptive innovations" necessary to transform our current health care delivery system. It is inevitable.

J. Leverage Impact Through Technology – The above recommendations are feasible in large, integrated environments, but what about locations where the cardiologists, emergency physicians, primary care physicians, pharmacists and other providers are far apart, say in rural areas? While fee-for-service "punished" use of available techniques and tools to allow collaboration—they would not pay for them and it took away from fee-generating opportunities—value-based payment introduces a significant "return on investment" or "ROI." Telephone, email, referral algorithms, web-portals and multidisciplinary service line meetings, real or virtual, all help bridge the distance between care team members.

K. Other – Please see The Accountable Care Manual for Cardiologists, which may be downloaded at http://www.tac-consortium.org/resources/

L. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including cardiologists.

[29] *Toward Accountable Care*, The Advisory Board Company (2010)

[30] Section 3022 of the Patient Protection and Affordable Care Act of 2010 (42 U.S.C. §§ 1395, et seq.). See also 76 Fed. Reg. 67976.

II. Metrics

A. Examples of Measures Which Serve Multiple Interests In the ACO Include:

- Preventive services measures such as influenza and pneumonia vaccination, tobacco cessation counseling.
- Ambulatory sensitive admissions for CHF and for COPD.
- Acute care indicators such as aspirin for acute MI.
- Patient safety and care transition activities such as medication reconciliation, patient receipt of transition records and fall risk assessment.
- Utilization and financial measures such as percentage of revisits to ED, pm/pm for ED care, imaging rates (CT, MRI).
- ED utilization rates.

B. Examples of Metrics More Focused on Cardiac Care Include:

1. National Cardiovascular Data Registry

NCDR Risk-Adjusted and Composite Measures and Metrics:

PCI=Percutaneous Coronary Intervention, ICD=Implantable Cardioverter Defibrillator, AMI=Acute Myocardial Infarction, CAS=Carotid Artery Stenting, CEA=Carotid Artery Endarterectomy, STEMI=ST Elevated MI, NSTEMI=Non-ST Elevated MI. [25]

Registry	Measure/Metric	
	Risk-Adjusted	**Composite**
CathPCI Registry®	PCI In-Hospital Mortality • All PCI Patients • STEMI Patients • NSTEMI Patients PCI Bleeding PCI 30-Day Readmission	Death, emergency CABG, stroke or repeat target vessel, revascularization Therapy with aspirin, P2Y12 inhibitor, and statin at discharge following PCI in eligible
ACTION Registry®-GWTG™	AMI In-Hospital Mortality AMI Bleeding	Overall Performance • AMI • STEMI • NSTEMI Overall Defect Free Care
ICD Registry™	Incidence of death or major adverse event	Therapy with ACE/ARB and beta blocker at discharge following ICD implantation in eligible patients
CARE Registry®		Reported separately for CAS and CEA Patients: • Incidence of stroke or death for symptomatic patients • Incidence of stroke or death for asymptomatic patients • Incidence of stroke, death, or MI for symptomatic patients • Incidence of stroke, death, or MI for asymptomatic patients

[25] *National Cardiovascular Data Registry*, https://www.ncdr.com/WebNCDR/home/metrics-and-measures.

2. BCBSNC Tiered Network Quality Measures

Cardiology Quality Measures

- **Beta blockers and (ACEI or ARBs) prescribed after most recent MI.**
- **Beta-blocker treatment post-MI.**
- **Beta-blocker therapy for those with heart failure.**
- **Measurement of LC function for those with heart failure.**
- **Lipid-lowering therapy for those with CAD.**
- **Lipid profile for those with CAD.**
- **Warfarin prescription for those with heart failure and atrial fibrillation**
- **Angioplasty: Potentially avoidable complications.**[26]

3. MACRA's Quality Payment Program MIPS Measures Relevant to Cardiology

Measure Name	Measure Description
Atrial Fibrillation and Atrial Flutter: Chronic Anticoagulation Therapy	Percentage of patients aged 18 years and older with a diagnosis of nonvalvular AF or atrial flutter whose assessment of the specified thromboembolic risk factors indicate one or more high-risk factors or more than one moderate risk factor, as determined by CHADS2 risk stratification, who are prescribed warfarin OR another oral anticoagulant drug that is FDA approved for

[26] BCBSNC, Tiered Network Product, http://www.babsnc.com/content/providers/quality-bnased-networks/tiered-network.htm.

	the prevention of thromboembolism
Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Preoperative Evaluation in Low Risk Surgery Patients	Percentage of stress SPECT, MPI, stress ECHO, CCTA, or CMR performed in low risk surgery patients 18 years or older for preoperative evaluation during the 12-month reporting period
Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Routine Testing After PCI	Percentage of all stress SPECT, MPI, stress ECHO, CCTA, and CMR performed in patients aged 18 years and older routinely after PCI, with reference to timing of test after PCI and symptom status
Cardiac Stress Imaging Not Meeting Appropriate Use Criteria: Testing in Asymptomatic, Low-Risk Patients	Percentage of all stress SPECT, MPI, stress ECHO, CCTA, and CMR performed in asymptomatic, low CHD risk patients 18 years and older for initial detection and risk assessment
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period
CAD: ACE Inhibitor or ARB Therapy - Diabetes or Left Ventricular Systolic Dysfunction (LVEF < 40%)	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have diabetes OR a current or prior LVEF < 40% who were prescribed ACE inhibitor or ARB therapy

Coronary Artery Disease: Antiplatelet Therapy	Percentage of patients aged 18 years and older with a diagnosis of CAD seen within a 12 month period who were prescribed aspirin or clopidogrel
Coronary Artery Disease: Beta-Blocker Therapy-Prior MI or Left Ventricular Systolic Dysfunction (LVEF <40%)	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who also have a prior MI or a current or prior LVEF <40% who were prescribed beta-blocker therapy
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Heart Failure F: ACE Inhibitor or ARB Therapy for LVSD	Percentage of patients aged 18 years and older with a diagnosis of HF with a current or prior LVEF < 40% who were prescribed ACE inhibitor or ARB therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge
Heart Failure: Beta-Blocker Therapy for LVSD	Percentage of patients aged 18 years and older with a diagnosis of HF)with a current or prior LVEF < 40% who were prescribed beta-blocker therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge
Ischemic Vascular Disease: Use of Aspirin or Another Antiplatelet	Percentage of patients 18 years of age and older who were diagnosed with AMI, CABG or PCI in the 12 months prior to the measurement period, or who had an active diagnosis of IVD during the measurement period, and who had documentation of use of aspirin or another antiplatelet during the measurement period.

Preventive Care and Screening: BMI Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	Percentage of the following patients-all considered at high risk of cardiovascular events-who were prescribed or were on statin therapy during the measurement period: Adults aged ≥ 21 years who were previously diagnosed with or currently have an active diagnosis of clinical ASCVD; OR Adults aged ≥ 21 years who have ever had a fasting or direct LDL-C level ≥ 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia; OR Adults aged 40–75 years with a diagnosis of diabetes with a fasting or direct LDL-C level of 70-189 mg/dL

Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user

AMI = acute myocardial infarction; ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; ASCVD = atherosclerotic cardiovascular disease; AF = atrial fibrillation; BMI = body mass index; CCTA = cardiac computed tomography angiography; CMR = cardiac magnetic resonance; CABG = coronary artery bypass graft; CAD = coronary artery disease; CHD = coronary heart disease; ECHO = echocardiogram; HF = heart failure; IVD = ischemic vascular disease; MPI = myocardial perfusion imaging; LVEF = left ventricular ejection fraction; LVSD = left ventricular systolic dysfunction; LDL-C = low-density lipoprotein cholesterol; MI = myocardial infarction; PCI = percutaneous coronary intervention; SPECT = single-photon emission computed tomography[27]

[27] BCMS, Quality Payment Program: Quality Measures, https://qpp.cms.gov/mips/quality-measures.

C. CHILD PSYCHIATRISTS

I. Why and How You May Want to Utilize Child Psychiatrists in Your CIN/ACO

The development of CIN/ACOs have been largely focused on adult care initiatives because they have been driven by the Medicare Shared Savings Program, which includes only adults 65 and over. But the movement of state Medicaid programs to value-based payment for integrated population health thrusts pediatric care generally, and pediatric behavioral and mental health care specifically, from being an afterthought, to the forefront of value-based care innovation and opportunity. The opportunity arising from this movement regarding increased payer attention to care management for children is leveraged even more for child psychiatry as the benefits of integration of mental and physical health are also being better recognized. However, there is a national shortage of child psychiatrists. The following prioritized strategies for CIN/ACOs are designed to maximize the aforementioned potential and minimize the provider shortage issue.

A. Integrate Physical Health and Mental Health for Children – **"The ACO payment mechanism gives health care providers a new opportunity and incentives to rebuild the health care system in a way that reverses the separation between primary care and behavioral health care. … If ACOs can effectively integrate behavioral health services into their care and connect patients to these services, they may be better positioned to reach both cost and quality benchmarks."**[28]

There was no hesitation by the Child Psychiatrists Accountable Care Workgroup to include integration of mental health and pediatric primary care as an obvious and prioritized initiative. In fact, this care model is desirable to improve care delivery and reduce both behavioral and physical health care costs in all settings. The Workgroup concurred with the conclusion of a study reported in Health Affairs, that, "ACOs could identify [integration] approaches that other providers may wish to emulate."[29] This model is also referred to as the "pediatric health home" by the American Academy of Child and Adolescent Psychiatry.

First, there is significant unaddressed need that negatively impacts quality of care and increase medical utilization. For example, just looking at depression, by age 18, 20 percent of youth have experienced at least one episode of major depression, with increased risk for suicide, school failure, substance abuse,

[28] Lewis, V., *et al.*, Health Affairs, *Few ACOs Pursue Innovative Models That Integrate Care for Mental Illness and Substance Abuse with Primary Care*, Hlth. Aff. 33, No. 10, p. 1814 (Oct. 2014).
[29] *Id.*

nicotine dependence, early pregnancy and social isolation. Long term, they are at risk for poor health and mental health episodes. However, many depressed adolescents do not receive treatment.[30]

Second, integrated care works. Primary care physicians are often the first point of contact for these patients and, if properly trained, have the opportunity to identify and guide treatment of depression. Unfortunately, the traditional fragmented approach tends to squander this opportunity, but the collaborative care model has been proven to generate "significant improvements in depressive symptoms and functional impairment."[31] One study showed that approximately 40 percent of parents of children with mental health conditions who reported a need for care coordination also reported that their need was unmet.[32]

Third, the "ROI" (or Return on Investment) through the ACO's employment of the collaborative model is quite positive. Put another way, inadequate care through lack of utilization of this best practice treatment model contributes to poor physical health outcomes and high costs.[33]

The ACO model aligns the financial and professional incentives and motivators to allow integration of mental and physical pediatric care. As the National Alliance on Mental Illness bluntly puts it in its family guide, Integration of Mental Health and Pediatric Primary Care, "As individuals, we are not fragmented, we are whole people."[34] This initiative fits the ACO targeting model for selecting the biggest bang for the buck. However, even with these major financing obstacles removed by the shared savings model, optimum integrated pediatric care still faces significant barriers. Despite the existence of guidelines, primary care and child psychiatrists often lack awareness and understanding of the possibilities. This is out of the traditional practice comfort zone for many, and there are limited shared traditions. With this Manual and those like it in the hands of physician champions, these remaining barriers can be overcome. This is a prime example of why physician leadership is so vital to ACO success.

- I Get It—We Need to Integrate, but How? Incorporating behavioral and physical care for adults and children in the ACO model is relatively new, as of the date of this Manual. However, CIN/ACOs can build on established principles of collaborative care and early ACO initiatives to fashion the structure most appropriate to your patient population, payer contract, access to skilled providers in your region, and cultural readiness.

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[30] Richardson, L., *et al.*, General Hospital Psychiatry, C*ollaborative Care for Adolescent Depression: A Pilot Study*, Gen. Hosp. Psych. 31, pp. 36-45, (Sept. 2008).
[31] *Id.*
[32] Brown, N., *et al.*, Pediatrics, *Need and Unmet Need for Care Coordination Among Children with Mental Health Conditions*, http://pediatrics.aapublications.org/content/133/2/e530.full.html.
[33] Scott, D., *et al.*, Issues Mental Health Nursing, *The High Prevalence of Poor Physical Health and Unhealthy Lifestyle Behaviors in Individuals with Severe Mental Illness*, Issues Ment. Hlth Nursing No. 9, pp. 589-97 (2011).
[34] Gruttadaro, D., *et al.*, NAMI, *Integrating Mental Health and Pediatric Primary Care*, (Nov. 2011).

- Awareness – It is essential to push the knowledge of child psychiatrists and other experts to primary care, other providers and patients. At present, there is wide variance in exposure to child and adolescent mental health training in medical schools.[35] JAMA reported, "Pediatric PCCs [primary care clinicians] often cite concerns about inadequate training and time to comprehensively address adolescent mental health needs."[36]

There are various approaches being undertaken to close this gap in knowledge. In New York, five academic child and adolescent psychiatry divisions are collaborating to provide education and consultation to primary care physicians around the state via telephone, face-to-face and tele-psychiatry modalities. They are also partnering to provide a formal "mini-fellowship" over a three-day period.

Often an ACO's options for pushing pediatric mental health care knowledge must be simpler and more pragmatic. The following approaches are recommended for consideration:

  - Incorporating child psychiatrists in all pediatric care planning.
  - Creating written ACO protocols and guidelines on collaborative child care.
  - Scheduling periodic multi-disciplinary "lunch and learn" or service-line meetings to cross-pollinate approaches and foster new shared traditions.

For more ideas on pushing knowledge to primary care, see the American Academy of Child and Adolescent Psychiatry's *Facts for Families, educational handouts, website resources, its Manual to Building Collaborative Mental Health Care Partnerships in Pediatric Primary Care, its guidelines on When to Seek Referral of Consultation with Child and Adolescent Psychiatrists, and its Strategies for System Change in Mental Health: A Chapter Action Kit.*

- Integration Models

  - Lessons from the IMPACT Model – One Child Psychiatrist Accountable Care Workgroup member stated that, "We can be leaders in primary care by supporting the institution of the IMPACT Model of collaborative care of mental disorders in primary care offices. I participate in such a program and can attest to its effectiveness in three ways: (1) medication management is more successful in this model than in usual care; (2) we are getting more people into psychotherapy; and (3) we are identifying patients with serious mental disorders who require referral to specialty care. Almost all my work is non-billable, but the ACO that employs me sees me as an important part of overall quality improvement and

[35] Gabel, S., *The Integration of Mental Health Into Pediatric Practice: Pediatricians and Child and Adolescent Psychiatrists Working Together in New Models of Care*, Commentary.
[36] Reeves, G., *et al.*, *A Practical and Effective Primary Care Intervention for Treating Adolescent Depression*, JAMA, 312, No. 8, p.798 (Aug. 27, 2014).

cost control." The IMPACT Model essentially is comprised of collaborative care among primary care, psychiatry and a case manager; outcomes measurement, such as PHQ-9 for depression; and stepped care—that is, care regularly adjusted based on clinical outcomes and an evidence-based algorithm. Consistent with our Workgroup member's experience, studies have shown the IMPACT model to improve care and lower costs, especially in patients with co-morbidities.[37]

o Lessons from ACOs – The Health Affairs survey of behavioral and physical health integration (undifferentiated between adults and children) in ACOs revealed several common models, congruent with the IMPACT Model and similar collaborative care models. Most used what they called the "primary care expansion model" and a few used the "reverse integration model." All were viewed as viable and appropriate to the circumstances of each ACO. Use the approach that works for you.

1. Primary Care Expansion Model – The goal is to empower the Patient-Centered Medical Home primary care physicians to expand their care capabilities and to know when to refer the more complex behavioral health services. They fall into one of three categories:

a. Consulting Model – A consulting service is developed for the primary care physician with local psychiatrists, usually off premises. For example, the pediatric ACO University Hospitals Rainbow Care Connection in Cleveland, Ohio, integrates behavioral health services with primary care using social workers and tele-psychiatry modalities.

b. Co-Location Model – Primary care and psychiatry share a physical space. Degrees of connectivity can vary from consultations to "warm hand-offs."

c. Embedded Model – The psychiatrist works directly with the primary care team.

Strategic Note: The ACO's incentive to lower overall patient population costs now makes it financially feasible to extend the reach of the consultation model through standing protocols, phone calls, texts and tele-psychiatry. These were not compensated in the fee-for-service system, but may well present a positive "ROI" (or Return on Investment), particularly in underserved areas. One surveyed ACO leader stated that they, like our Workgroup member's experience related in the IMPACT Model section, paid the psychiatrist his or her fee-for-service hourly rate equivalent not to schedule patients so as to be accessible for consultation.

[37] The AIMS Center, U. of Wash., "IMPACT", http://impact-uw.org.

2. Reverse Integration Model – Primary care providers are integrated into existing behavioral health programs. The relatively few ACOs using this model had Medicaid contracts, and also had large disadvantaged populations or a high burden of severe mental illness.

- Now Let's Apply This to Child Care in An ACO – In its family guide on integrating pediatric care, the National Alliance of Mental Illness states that of the various models, "There is no single right way to integrate services and supports." But it does make the general recommendation that, "for most youth, the pediatric primary care setting is the most practical location for the integrated care because most families and youth access care in primary care offices, while youth with serious mental health issues should be referred."[38] A corollary for Medicaid children for locating at the first point of contact might be the health department in some settings.

B. Co-Management of Complex Patients – Complicated mental health issues should be recognized early through the integration models outlined above, and then referred to the child psychiatrist through an organized process. After the referral, the psychiatrist helps the primary care team identify the child's clinical needs and advises on interim management issues, such as medication and crisis management. A care coordinator should be involved and should share updates with primary care on such things as current psychotropic medications and psychotherapeutic interventions. The child psychiatrist should lead discharge planning and decisions on intervention with various agencies and providers. Throughout, the primary care practice maintains a critical role in ongoing communication on the child's condition to ensure complex care coordination and family liaison.

Strategic Note: Use Co-Management Plan Agreements – Co-management agreements are important to ensure partnerships between consultants, primary care, child psychiatrists and other specialists in any ACO arrangement. Clear plans for co-management align both the approach to care and provide a framework for quality and cost-effective care. Particularly in pediatrics, specialists and specialized care teams for children with chronic and complex illnesses are often in centralized locations such as children's hospitals, geographically separated from the community where patients live. Centralization of specialty resources evolved because of the small number of children in treatment and the limited numbers of pediatric specialists. It is important to ensure patients attributed to the ACO get coordinated care through their medical home or are organized through the pediatric specialist, with communication links to the primary care physician, specialists and family. Inclusion of the family, patient, primary care physician and specialists in these decisions developing the best care structure for the patient is critical in preventing supplication of services, utilization of higher cost services (e.g., emergency departments at children's hospitals for illnesses treatable in the community) and access to care. For example, a child with diabetes may have the management of diabetes on a day-to-day basis

[38] Gruttadoro, J.D., et al., National Alliance on Mental Illness, *Integrating Mental Health and Pediatric Primary Care*, (Nov. 2011).

from a nurse or other individual at the pediatric endocrinologist's office, but routine care for well child visits and acute illnesses will be managed in the primary care medical home. Careful development of co-management agreements, formal or informal, between the specialists and primary care physicians, including the family in the planning, will allow access to care at the most appropriate site tailored to the individual child and medical needs.

C. Best Practices – Clinically-valid practices work. One member of the companion Pediatrics Accountable Care Workgroup noted that "Even in the high-cost areas, we need to use what evidence we have. Don't just throw the kitchen sink at it." Another stated simply that, "Many things can be protocolized. That translates into lower costs."

One example of evidence-based best practices may be found in the Choosing Wisely® Initiative:

- **Don't routinely prescribe an antipsychotic medication to treat behavioral and emotional symptoms of childhood mental disorders in the absence of approved or evidence supported indications.** There are both on and off label clinical indications for antipsychotic use in children and adolescents. FDA approved and/or evidence supported indications for antipsychotic medications in children and adolescents include psychotic disorders, bipolar disorder, tic disorders, and severe irritability in children with autism spectrum disorders; there is increasing evidence that antipsychotic medication may be useful for some disruptive behavior disorders. Children and adolescents should be prescribed antipsychotic medications only after having had a careful diagnostic assessment with attention to comorbid medical conditions and a review of the patient's prior treatments. Efforts should be made to combine both evidence-based pharmacological and psychosocial interventions and support. Limited availability of evidence-based psychosocial interventions may make it difficult for every child to receive this ideal combination. Discussion of potential risks and benefits of medication treatment with the child and their guardian is critical. A short- and long-term treatment and monitoring plan to assess outcome, side effects, metabolic status and discontinuation, if appropriate, is also critical. The evidence base for use of atypical antipsychotics in preschool and younger children is limited and therefore further caution is warranted in prescribing in this population.

- **Don't prescribe antipsychotic medications to patients for any indication without appropriate initial evaluation and appropriate ongoing monitoring.** Metabolic, neuromuscular and cardiovascular side effects are common in patients receiving antipsychotic medications for any indication, so thorough initial evaluation to ensure that their use is clinically warranted, and ongoing

monitoring to ensure that side effects are identified, are essential. "Appropriate initial evaluation" includes the following: (a) thorough assessment of possible underlying causes of target symptoms including general medical, psychiatric environmental or psychosocial problems; (b) consideration of general medical conditions; and (c) assessment of family history of general medical conditions, especially of metabolic and cardiovascular disorders. "Appropriate ongoing monitoring" includes re-evaluation and documentation of dose, efficacy and adverse effects; and targeted assessment, including assessment of movement disorder or neurological symptoms; weight, waist circumference and/or BMI; blood pressure; heart rate; blood glucose level; and lipid profile at periodic intervals.

- **Don't routinely prescribe two or more antipsychotic medications concurrently.**

Research shows that use of two or more antipsychotic medications occurs in 4 to 35 percent of outpatients and 30 to 50 percent of inpatients. However, evidence for the efficacy and safety of using multiple antipsychotic medications is limited, and risk for drug interactions, noncompliance and medication errors is increased. Generally, the use of two or more antipsychotic medications concurrently should be avoided except in cases of three failed trials of monotherapy, which included one failed trial of Clozapine where possible, or where a second antipsychotic medication is added with a plan to cross-taper to monotherapy.

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the *Accountable Care Manual for Child Psychologists* at www.tac-consortium.org/resources/.

E. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including child psychiatrists.

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA measures at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Child Psychiatry

MEASURE NAME	MEASURE DESCRIPTION
ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication	Percentage of children 6-12 years of age and newly dispensed a medication for attention-deficit/hyperactivity disorder (ADHD) who had appropriate follow-up care. Two rates are reported. a. Percentage of children who had one follow-up visit with a practitioner with prescribing authority during the 30-Day Initiation Phase. b. Percentage of children who remained on ADHD medication for at least 210 days and who, in addition to the visit in the Initiation Phase, had at least two additional follow-up visits with a practitioner within 270 days (9 months) after the Initiation Phase ended.
Anti-Depressant Medication Management	Percentage of patients 18 years of age and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment. Two rates are reported. a. Percentage of patients who remained on an antidepressant medication for at least 84 days (12 weeks). b. Percentage of patients who remained on an antidepressant medication for at least 180 days (6 months).
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	Percentage of patients 3-17 years of age who had an outpatient visit with a Primary Care Physician (PCP) or Obstetrician/Gynecologist (OB/GYN) and who had evidence of the following during the measurement period. Three rates are reported. - Percentage of patients with height, weight, and body mass index (BMI) percentile documentation - Percentage of patients with counseling for nutrition - Percentage of patients with counseling for physical activity

D. DERMATOLOGISTS

I. Why and How You May Want to Utilize Dermatologists in Your CIN/ACO

A. Primary Care/Dermatologist Coordination – Perhaps the most practical utilization of dermatologists in value-based care is implementation of the following proven approaches involving coordination between the ACO patient's primary care physician and the dermatologist:

1. Early detection of systemic diseases. Many diseases are identifiable by dermatologic diagnosis. If the dermatologist knows to alert the attributed patient's treating physician, and uses the ACO's digital access to their medical record to better evaluate the diagnosis, then a material number of early diagnoses can result and help to optimize treatment.

2. Dermatologists support treating primary care physicians, especially regarding skin cancer. While the incidence of skin cancer is increasing, so is the shortage of dermatologists. Primary care physicians can be better informed on indicators of skin cancer and other diseases, follow basic criteria of when to refer or when not to, and to co-manage with the dermatologist.[39] Value-based care has unleashed technological aids to this coordination, from standing protocols, telephone accessibility, to teledermatology. Teledermatology is one of the fastest-growing areas of telemedicine today, both store-and-forward and full-motion interactive video modalities.[40]

B. Site-of-Service Optimization, Especially Mohs Surgery – Moving procedures to lower-cost sites when consistent with best practice is the proverbial "low-hanging fruit" for all providers in value care, including dermatologists. One particularly viable initiative is the single visit in-office pathology, surgery and reconstruction for appropriate Mohs surgery.

C. Use of Best Practices – A core set of evidence-based guidelines for dermatologists is recommended in ACOs. This practice will improve quality, which lowers costs. The Choosing Wisely® guidelines of the American Academy of Dermatology, and "Improving Wisely" guidelines of the American College of Mohs Surgery are recommended for consideration.

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[39] Sample Basic Criteria:
*Is the differential diagnosis list long?
*Does the diagnosis involve morbidity or mortality?
*Has the patient failed initial therapy?
*Does the treatment have a significant risk of adverse effects?

[40] *Practice Manuallines for Teledermatology*, The American Telemedicine Association, December 2007.

1. Don't prescribe oral antifungal therapy for suspected nail fungus without confirmation of fungal infection.
2. Don't perform sentinel lymph node biopsy or other diagnostic tests for the evaluation of early, thin melanoma because they do not improve survival.
3. Don't treat uncomplicated, non-melanoma skin cancer less than 1 centimeter in size on the trunk and extremities with Mohs micrographic surgery.
4. Don't use oral antibiotics for treatment of atopic dermatitis unless there is clinical evidence of infection.
5. Don't routinely use topical antibiotics on a surgical wound.
6. Don't use systemic (oral or injected) corticosteroids as a long-term treatment for dermatitis.
7. Don't use the skin prick tests such as the radioallergosorbent test (RAST) for the routine evaluation of eczema.
8. Don't routinely use microbiologic testing in the evaluation and management of acne.
9. Don't routinely use antibiotics to treat bilateral swelling and redness of the lower leg unless there is clear evidence of infection.
10. Don't routinely prescribe antibiotics for inflamed epidermal cysts[41]

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the *Accountable Care Manual for Dermatologists* at: http://www.tac-consortium.org/resources/

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals. The measures in Section II.B. may be one such body of measures to consider.

[41] http://www.choosingwisely.org/societies/american-academy-of-dermatology/:

B. MACRA's Quality Payment Program MIPS Measures Relevant to Dermatology

MEASURE NAME	MEASURE DESCRIPTION
Biopsy Follow-Up	Percentage of new patients whose biopsy results have been reviewed and communicated to the primary care/referring physician and patient by the performing physician
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Melanoma: Continuity of Care - Recall System	Percentage of patients, regardless of age, with a current diagnosis of melanoma or a history of melanoma whose information was entered, at least once within a 12 month period, into a recall system that includes: A target date for the next complete physical skin exam, AND A process to follow up with patients who either did not make an appointment within the specified timeframe or who missed a scheduled appointment
Melanoma: Coordination of Care	Percentage of patient visits, regardless of age, with a new occurrence of melanoma who have a treatment plan documented in the chart that was communicated to the physician(s) providing continuing care within one month of diagnosis
Melanoma: Overutilization of Imaging Studies in Melanoma	Percentage of patients, regardless of age, with a current diagnosis of Stage 0 through IIC melanoma or a history of melanoma of any stage, without signs or symptoms suggesting systemic spread, seen for an office visit during the one-year measurement period, for whom no diagnostic imaging studies were ordered

Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Psoriasis: Clinical Response to Oral Systemic or Biologic Medications	Percentage of psoriasis patients receiving oral systemic or biologic therapy who meet minimal physician-or patient- reported disease activity levels. It is implied that establishment and maintenance of an established minimum level of disease control as measured by physician-and/or patient-reported outcomes will increase patient satisfaction with and adherence to treatment
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Tuberculosis (TB) Prevention for Psoriasis, Psoriatic Arthritis and Rheumatoid Arthritis Patients on a Biological Immune Response Modifier	Percentage of patients whose providers are ensuring active tuberculosis prevention either through yearly negative standard tuberculosis screening tests or are reviewing the patient's history to determine if they have had appropriate management for a recent or prior positive test

E. EMERGENCY PHYSICIANS

I. Why and How You May Want to Utilize Emergency Physicians in Your CIN/ACO

The Emergency Medicine Work Group found that there were significant ACO opportunities that are concrete, high-impact, and were not available in the fee-for-service setting. The fundamental differences opening the door for this change are:

- Linking with the ACO's primary care members, emergency medicine physicians are no longer as isolated in trying to coordinate for patients entering and departing their Emergency Department, but now stand at the center of a full continuum of care. The newly-available opportunities create a compelling reason any ACO should seek out, and reward, emergency physicians.

- Switching to value-based reimbursement provides strong financial support for primary care to provide access and coordination both before and after ED admission. **This is particularly important now that significantly more newly-covered patients under the Affordable Care Act are expected to seek non-emergent care through their local ED unless alternative access to primary care is made available.**

These themes are reflected in the recommended initiatives that follow. For ease of understanding, the recommended initiatives follow the care continuum. Note, however, that the Emergency Medicine ACO Work Group believes that the "biggest bang for the buck" for emergency physicians will be in controlling the transition of patients back to the ACO upon discharge.

A. Pre-Emergency Department Referral

1. Staff Alternative Urgent Care Sites and Triage Hotlines – Who better than emergency physicians to see patients with urgent but less acute conditions? Emergency physician practices should contemplate setting up and/or staffing urgent care clinics and handling after-hours referrals from the ACO member practices. One North Carolina ACO saw a direct correlation in decreased ED use with the opening of their after-hours clinic.

Similarly, nurse coordinators you train can staff an ED triage hotline, with access to an emergency physician. One study showed this practice leading to a 24 percent reduction in Levels 3, 4, and 5 acuity ED visits.[42]

The American College of Emergency Physicians notes, "Ultimately, in order to improve [ACO] care coordination, emergency medicine may need to diversify the options available for the management of inpatients. Observation units are an expanding area of growth as are ED-run follow-up clinics and call centers. …"[43]

2. Leadership on ACO ED Utilization Clinical Subcommittee – Several of the biggest opportunities to optimize ED utilization must be driven by primary care providers in the community. Heretofore, the emergency physician could have little impact on mis-referrals or default self-referrals due to lack of alternative access. The ACO setting changes all of that. If emergency physicians simply plug into an ACO's clinical team working on ED utilization, they can lead creation of the valuable continuum of care bridge missing for all these years. You are on a team now, not in a silo. Most basically, the ACO's patients must have access to care other than having to default to the ED. Under shared savings, ACO physicians are not highly financially incentivized to see these patients. They also are incentivized to provide after-hours care and make available urgent care alternative sites (perhaps run by emergency physicians as noted in V.A.1). Topics emergency physicians can help refine include:

- Urgent care clinic – access to emergency physician diagnostic support.
- Integration of data-flow so referred patient accompanied by relevant information and designation of a contact person.
- Redirection.
- Transportation issues stifling access to alternative sites.
- Education of primary care physicians on appropriate referrals.
- Referral management protocols.
- Alternative access to emergency physician diagnostic and treatment decision support (such as telephone, e-mail, video conference, telemedicine). "Patients with certain medical conditions (e.g., COPD, CHF, and cellulitis) tend to have recurrent exacerbations of their condition that lead to frequent ED utilization. By working with ACOs to determine goals of ED care including alternatives to admission, such as observation admissions or next-day

[42] The Advisory Board Company, *Is Your ED Consumed with Non-Emergent Visits?*, http://www.advisory.com/research/physician-executive-council/expert-insights/2012/is-your-ED-consumed-with-non-emergent-visits.
[43] American College of Emergency Physicians, *Accountable Care Organizations: What Do They Mean for Emergency Medicine?*, p. 4, (Sept. 2012).

community follow-up plans, EDs may be able to provide just as good, if not potentially better, care at a much lower cost."[44]

- Help develop patient education materials regarding tools available and site-of-care alternatives.

3. Increase Access by Primary Care for Complex Urgent Issues Diagnosis and Treatment Support – A RAND study recently found that office-based physicians increasingly rely on EDs to evaluate complex patients.[45] Obviously, in many cases, this evaluation function could be performed without referral of the patient to the ED and its associated costs. The primary care physician in an ACO should have better access to multiple specialties, including the emergency physician. Alternative means of accessing your knowledge, previously discussed, such as following your standard protocols on proper referral, e-mail, telephone, using taped talks by you to educate other physicians or patients, etc. seem to present efficiency and time-saving opportunities.

4. Skilled Nursing Facility Referral Management – Often a skilled nursing facility ("SNF") will not fully understand when a patient truly should be admitted to a hospital or rushed to the ED. On the other hand, the ED may not know the care capabilities of the SNF and err on the side of caution in accepting non-acute referrals. The patient is often not articulate and the transfer often lacks background information or contact person information. Prior to ED referrals from an SNF, emergency physicians can develop protocols and exercise due diligence on SNF capabilities to better manage patient referrals and treatment.

B. Intra-ED Initiatives

Emergency physicians can show value in the new health care by streamlining the care process once the patient has been referred to the ED and connecting them to the ACO care continuum. For example, at Aurora Sinai Medical Center in Milwaukee, all patients are triaged by a physician, nurse practitioner, or physician assistant. Non-emergent patient are educated about appropriate ED use to reduce unnecessary future visits and actually are scheduled for a follow-up appointment with a primary care physician. This accounted for a 23 percent reduction in annual ED visits.[46] Suggested intra-ED ACO initiatives include:

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[44] *Id.*, p. 5.
[45] RAND, *The Evolving Role of Emergency Departments in the United States* (2013).
[46] American College of Emergency Physicians, *op. cit.*

- Patient education and engagement.
- Nurse navigator in the ED.
- Low acuity fast track.
- Expedited triage.
- Check-in kiosks.
- Split-flow management.
- Containment of inappropriate hospital admissions using evidence-based best practices.
- Connection upon discharge to ACO's primary care network.

C. ED Discharge Management

Of all the significant ACO opportunities available to emergency physicians, the ones presenting themselves at the moment of discharge are the most potent. Before, and probably now if you are reading this in 2013, you often had a very frayed safety net or care network to which to connect your patient. They then sadly, and expensively, became "frequent fliers" due to the lack of access. Because of the change incentives, with an ACO network that has incorporated as many community health resources as feasible (this is required by the MSSP), you should for the first time have a place to hand off your patient, their health information, and their care plan.

1. Discharge Handoff to ACO Medical Home – Often, under fee-for-service, physicians would not accept new Medicare patients or the wait times (Boston[47]) effectively precluded realistic follow-up care. For ACO patients, it should be a goal for every one of them to walk out of the ED with a primary care appointment in hand. The ACO data system should pass along relevant medical information and your suggested chronic care plan. This sounds naïve until we remember that the cost difference between a primary care and ED visit is on the order of 10:1 and up to 40:1. Avoided hospital and intensive care admissions through meaningful follow-up only increase those savings. With primary care participating in this considerable portion of those savings, under ACOs, they have a huge incentive to take these patient hand-offs. The American College of Emergency Physicians even suggests that emergency physicians consider providing home health services to improve transitions of care.[48]

[47] The Advisory Board Company, *Is Your ED Consumed with Non-Emergent Visits?, op. cit.*
[48] American College of Emergency Physicians, *Accountable Care Organizations: What Do They Mean for Emergency Medicine?, op. cit.*, p. 4.

2. Management of Drug-Related "Frequent Fliers" – There are a number of effective strategies available in an ACO setting to address the "frequent flier" problems related to drug usage. Worse, many should never have been an ED patient ever. Multiple EDs should track patient usage, as these frequent fliers often use multiple EDs. Prescription monitoring programs help differentiate the dependent or entrepreneurial patient from the one truly experiencing severe pain for which an opiate is appropriate. The ED can involve the patient in dependency counseling, connecting the patient to pain clinics, psychiatric help, or analgesic services.

D. Awareness/Leadership/Urgency: Emergency Medicine's Role in Guiding Change

Emergency medicine physicians need to know what an ACO is, how to recognize one with a likelihood of success, and the professional opportunities and risks involved (the purposes of this *Accountable Care Manual for Emergency Physicians*). A number of leaders need to get up to speed and be catalysts for this transformative change. These champions need to act with confidence, but also with a sense of urgency. This is mentioned as a strategy in and of itself because the biggest risk of failure of the accountable care movement and either collapse of Medicare and Medicaid or default to Draconian alternatives is lack of informed physician leadership. If you do not become involved, there is a good chance that the roles of emergency medicine will be missed and, like some early ACOs, you will not be involved at all in the shared savings pool distribution. Every successful ACO starts with a few champions. Why not have one be an emergency physician? As Bert Coffer, M.D., said: "If you don't have a seat at the table, you are on the menu."

E. Avoidance of Expensive Drugs and Procedures with Marginal Value

Opportunities for improved care and cost also exist in pharmacy and procedure selection. Again, staying with the evidence base, think about the most cost-effective medications. This value-based thinking will benefit the patients clinically and financially and benefit the shared savings. *Choosing Wisely*®, an initiative of the American Board of Internal Medicine ("ABIM") Foundation, is a resource "to help physicians and patients engage in conversations to reduce overuse of tests and procedures and support physician efforts to help patients make smart and effective care choices." (See, http://wwwabimfoundation.org/initiatives/choosing-wisely.aspx.) The recommendations of the American College of Emergency Physicians to the *Choosing Wisely*® initiative can be accessed at: http://www.choosingwisely.org/doctor-patient-lists/american-college-of-emergency-physicians/.

II. Metrics

A. Overview – After determining which initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Perhaps use the following array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA Quality Payment Program MIPS Measures Relevant to Emergency Medicine

1. Quality - 50% of total score: Select 6 measures including one Outcome measure (or high priority measure if an outcome measure is not applicable) and report each on at least 60% of eligible Medicare and non-Medicare patient/visits for the entire year. Suggestions for your specialty include but are not limited to the following:

- #1 Diabetes: Hemoglobin A1c Poor Control - High Priority
- #65 Appropriate Treatment for Children with Upper Respiratory Infection (URI) - High Priority
- #66 Appropriate Testing for Children with Pharyngitis* - High Priority
- #76 Prevention of catheter-related bloodstream infections (CRBSI) – central venous catheter insertion protocol - High Priority
- #91 Acute Otitis Externa (AOE): Topical Therapy* - High Priority
- #93 Acute Otitis Externa (AOE): Systemic Antimicrobial Therapy – Avoidance of Inappropriate Use* - High Priority
- #116 Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis* - High Priority
- #130 Documentation and Verification of Current Medications in the Medical Record - High Priority
- #187 Stroke and Stroke Rehabilitation: Thrombolytic Therapy*
- #254 Ultrasound Determination of Pregnancy Location for Pregnant Patients with Abdominal Pain*
- #255 Rh Immunoglobulin (Rhogam) for Rh-Negative Pregnant Women at Risk of Fetal Blood Exposure Pain*

- #317 Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented*
- #326 Atrial Fibrillation and Atrial Flutter: Chronic Anticoagulation Therapy
- #331: Adult Sinusitis: Antibiotic Prescribed for Acute Sinusitis (Appropriate Use)* - High Priority
- #332: Adult Sinusitis: Appropriate Choice of Antibiotic: Amoxicillin Prescribed for Patients with Acute Bacterial Sinusitis (Appropriate Use)* - High Priority
- #333: Adult Sinusitis: Computerized Tomography (CT) for Acute Sinusitis (Overuse)* - High Priority
- #415 Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older* - High Priority
- #416 Emergency Medicine: Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 2 through 17 Years* - High Priority
- #419 Overuse Of Neuroimaging For Patients With Primary Headache And A Normal Neurological Examination - high Priority
- *These 13 measures (plus EHR-only measure 107) make-up the Emergency Medicine Specialty Measures Set

2. PI: Promoting Interoperability (formerly ACI) - 25 percent of total score: Replaces the Medicare EHR Incentive Program also known as Meaningful Use. A minimum of the following base measures are required if reporting this category. *Note that EHR's certified to a 2014 edition report a different set of measures.*

- Conduct security risk analysis
- ePrescribe
- Provide patient electronic access
- Send a summary of care
- Receive/accept a summary of care

3. IA: Improvement Activities - 15 percentof total score: Attest that you completed up to 2 high-weighted activities or 4 medium-weighted activities for a minimum of 90 days. Groups with 15 or fewer participants or if you are in a rural or health professional shortage area, attest that you completed 1 high-weighted or 2 medium-weighted activities for a minimum of 90 days. *There are over 90 possible*

measures to choose from. The following are suggestions only:

- Collection and use of patient experience and satisfaction data on access (**medium weighted**).
- Annual registration in the Prescription Drug Monitoring Program (**medium weighted**).
- Engagement of new Medicaid patients and follow-up (**high-weighted**).
- Engage patients and families to guide improvement in the system of care (**medium weighted**).
- Implementation of documentation improvements for practice/process improvements (**medium weighted**).
- Implementation of improvements that contribute to more timely communication of test results (**medium weighted**).

4. Other resources from CMS - MIPS Measures Guide for Emergency Medicine Clinicians: Offers a non-exhaustive sample of measures and activities for the Quality, Improvement Activities, and Advancing Care Information performance categories that may apply in 2017 to these specialists.

F. GYNECOLOGISTS

I. Why and How You May Want to Utilize Gynecologists in Your CIN/ACO

NOTE: As the contributors in value-based care are distinctly different for physicians practicing obstetrics, a separate treatment for obstetricians is found at Chapter II.I.

A. As Primary Care First Point of Contact for Many Women – Many women view their OB/GYN as their only physician or as their primary care physician. This may be by choice, but it may be by necessity, particularly in rural areas. In the Medical Economics article entitled Young Minority Women Bypass Primary Care for OB/GYN, survey results reported the following:

- More than half the women aged 18 to 40 years say their OB/GYN is the only physician they see on an annual basis.
- 68 percent of women 41 and over also saw primary care physicians.
- Roughly 40 percent of the women surveyed reported having chronic conditions such as diabetes, obesity or hypertension.[49]

One Gynecology Accountable Care Workgroup member commented that gynecologists are often the "first contact for women." In a rural area without primary care access, they will remain the primary care physician by default, but in an ACO setting with access to a primary care-led Patient Centered Medical Home ("PCMH"), primary care treatment will often be commenced, then an appropriate referral made to the PCMH. Another Workgroup member stated that, "If they are unassigned, we try to keep them in the ACO" by facilitating a physician/patient relationship within the ACO. The savings alone in avoided emergency department visits would justify this initiative. "ACOG [The American Congress of Obstetricians and Gynecologists] has long said ob-gyns have a tradition of providing preventive care to women and that the specialty knows how to provide women a point of entry to the health care system."[50] Jeffrey Cain, M.D., a former Chairman of the American Academy of Family Physicians, has stated that he expects gynecologists to start working more closely with primary care physicians as we move towards team-based care.[51]

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[49] Zimlich, R., Medical Economics, *Young Minority Women Bypass Primary Care for OB/GYN*, (March 2013).
[50] Askren, H., WomensNews, *Health Question for Women: Two Doctors or One?*, http://womensnews.org/story/medicine/121121/health-question-women-two-doctors-or-one (Nov. 26, 2012).4.
[51] *Id.*

One physician noted, "If the gynecologist is the primary care physician, he/she must provide COMPREHENSIVE primary care (*i.e.*, wellness and prevention, GYN services) AND care for simple chronic management (*i.e.*, htn, obesity, diabetics, screening, complete immunizations, etc.)" A proactive coordinated relationship with a primary care physician is recommended. This avoids a default to multiple specialist referrals, further fragmenting the patient's care.

Strategic Note: Use Co-Management Plan Agreements – When the gynecologist is assuming primary care duties, co-management plan agreements are important to ensure partnerships between gynecologists, primary care physicians and other specialists. Clear plans align the approach to care and a framework for efficient coordination of care. It creates pathways for communication, feedback and transition management. The patient should be included in the planning of these protocols. The gynecologist's presumed first option should now be coordination with the primary care practice, but with channels to the appropriate specialists on the team.

This practice will lead to a double whammy of ACO value-add contributions: First, the contact, diagnosis and referral stand to generate better care and substantial savings. Second, even "default" primary care triage and treatment by the gynecologist can access all of the mentioned high-value ACO opportunities of prevention and wellness, chronic care management, reduced hospitalizations, care transitions and multispecialty coordination of complex patients.

B. As Specialists Coordinating With the CIN/ACO Care Team – Your colleagues are often confronted and confounded by medical concerns requiring clinical expertise only within the gynecological sphere. The accountable care model opens up heretofore unavailable new possibilities to provide that expertise at the point of care and even to the patient. One Gynecology Accountable Care Workgroup member noted that simply by the ACO's gynecologists being on the same Electronic Medical Record System with the other specialties, he estimated that they opined on at least one or two questions per day, resulting in "huge cost savings." Another commended the practice of periodic lunch-and-learn sessions with referring physicians. A more targeted approach which has proven effective is to contact the top referrers exhibiting poor practices relative to evidence-based best practices. The gynecologists send them the clinically valid guidelines and monitor adherence.

Per the American Congress of Obstetrics and Gynecology, "Nearly one-third of rural women live in counties with no OB/GYN at all. Location is a serious disadvantage for these women."[52] They have higher rates of cervical cancer, receive fewer mammograms, pap smears and colorectal screenings, and are less likely to receive family planning services.[53] Given the obvious improvement in quality

[52] Am. Cong. Obst. & Gyn., *OB/GYNs Urged to Help Reduce Health Disparities for Rural Women,* http://www.acog.org/About-ACOG/News-Room/News-Releases/2009/Ob-Gyn-Urged-to-Help-Reduce-Health-Disparities-for-Rural-Women (Feb. 2009).
[53] *Id.*

of care and reduced expenditures through improved health status, if gynecological "knowledge" is pushed into a rural or other area without ready access, value-based payment such as in an ACO now unleashes new opportunities. Care will improve if the gynecologist is linked to the point-of-care provider through the ACO's health information exchange. Likewise, telemedicine and established telephone or e-mail access protocols through the ACO can help close this gap. One Workgroup member commented that, "In an ACO, you've got to be the director of female health care."

If a gynecologist sees a persistent but avoidable problem, they might proactively reach out and share the guidelines within the ACO. One example provided by the Workgroup was the decision to share guidelines with primary care physicians on when to refer a woman who is bleeding too much. "When it gets this bad, it's time to send them." This simple ACO knowledge sharing produced real results.

An ACO model mitigates the problem that current insurance may limit coverage of women's health services. Because such care will result in better quality and more savings, the ACO could compensate those services via a monthly fee.

A woman with a gynecological issue often will have other medical concerns, such as anxiety relative to an unplanned pregnancy. Many ACOs prioritize multi-disciplinary care of the high-risk, high-cost heretofore unmanaged patient—the 10 percent driving the 50 percent of total costs. Our fragmented, "siloed" fee-for-service system has repeatedly let these patients fall between the cracks. The ACO's data analysis might reveal a woman with gynecological issues who is also morbidly obese, diabetic, depressed and exhibiting cardiac issues. Shared protocols, access via technology, "lunch and learns," and other interventional collaboration efforts often result in an ACO's greatest care and financial improvements.

One study of women suffering from depression who received collaborative care displayed 50 percent fewer symptoms after one year. Multi-disciplinary teams reviewed multiple health concerns on a weekly basis.

C. Follow Evidence-Based Practices – One source of best practices is the Safety Certification in Outpatient Practice Excellence for Women's Health Program ("SCOPE") developed by the American Congress of Obstetricians and Gynecologists ("ACOG"). This program details elements comparable to the National Committee for Quality Assurance metrics. The SCOPE program is a voluntary program used for assessing the patient safety concepts and techniques in the gynecology office.

Because the women's health care profession has demonstrated experience with clinical best practices, providers in this area can lead the incorporation and development of similar initiatives for ACOs. Gynecologist guidelines and metrics can frame providing patient assessment and evaluations, prescribing and monitoring medication, serving as a liaison to medical issues, being a member of the patient centered medical home, consulting to the public health care system and acting as an advocate for the patient.

The multi-disciplinary "Choosing Wisely" Initiative is a good beginning source of guidelines:

- Don't perform routine annual cervical cytology screening (Pap tests) in women 30-65 years of age. In average risk women, annual cervical cytology screening has been shown to offer no advantage over screening performed at 3-year intervals. However, a well-woman visit should occur annually for patients with their health care practitioner to discuss concerns and problems and have appropriate screening with consideration of a pelvic examination.

- Don't treat patients who have mild dysplasia of less than two years in duration. Mild dysplasia (Cervical Intraepithelial Neoplasia [CIN 1] is associated with the presence of the human papillomavirus (HPV) which does not require treatment in average risk women. Most women with CIN 1 on biopsy have a transient HPV infection that will usually clear in less than 12 months and, therefore, does not require treatment.

- Don't screen for ovarian cancer in asymptomatic women at average risk. In population studies, there is only fair evidence that screening of asymptomatic women with serum CA-125 level and/or transvaginal ultrasound can detect ovarian cancer at an earlier stage than it can be detected in the absence of screening. Because of the low prevalence of ovarian cancer and the invasive nature of the interventions required after a positive screening test, the potential harms of screening outweigh the potential benefits.

D. Site of Service – Site of service differentials can make a big difference in costs, without a difference in care. One Workgroup member related that sharing the site-of-service financial implications was "astounding." The top identified areas to focus on were surgery, imaging, and nutrition consulting. A five-to-one price differential between hospital and clinic was used as an example for the latter. Posting site-of-service statistics naming gynecologists provided effective "social pressure."

E. Other – Please see The Accountable Care Manual for Gynecologists, which may be downloaded at http://www.tac-consortium.org/resources/.

F. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including gynecologists.

II. Metrics

A. Overview – After determining which initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Perhaps use the following array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA Quality Payment Program MIPS Measures Relevant to Gynecology

MEASURE NAME	MEASURE DESCRIPTION
Appropriate Workup Prior to Endometrial Ablation	Percentage of women, aged 18 years and older, who undergo endometrial sampling or hysteroscopy with biopsy before undergoing an endometrial ablation
Biopsy Follow-Up	Percentage of new patients whose biopsy results have been reviewed and communicated to the primary care/referring physician and patient by the performing physician
Breast Cancer Screening	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.

Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Cervical Cancer Screening	Percentage of women 21-64 years of age who were screened for cervical cancer using either of the following criteria: * Women age 21-64 who had cervical cytology performed every 3 years * Women age 30-64 who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years
Chlamydia Screening and Follow Up	The percentage of female adolescents 16 years of age who had a chlamydia screening test with proper follow-up during the measurement period
Chlamydia Screening for Women	Percentage of women 16-24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement period
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Non-Recommended Cervical Cancer Screening in Adolescent Females	The percentage of adolescent females 16-20 years of age who were screened unnecessarily for cervical cancer.
Osteoporosis Management in Women Who Had a Fracture	The percentage of women age 50-85 who suffered a fracture and who either had a bone mineral density test or received a prescription for a drug to treat osteoporosis in the six months after the fracture.

Performing Cystoscopy at the Time of Hysterectomy for Pelvic Organ Prolapse to Detect Lower Urinary Tract Injury	Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Influenza Immunization	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Proportion of Patients Sustaining a Bladder Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing any surgery to repair pelvic organ prolapse who sustains an injury to the bladder recognized either during or within 1 month after surgery
Proportion of Patients Sustaining a Bowel Injury at the time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing surgical repair of pelvic organ prolapse that is complicated by a bowel injury at the time of index surgery that is recognized intraoperatively or within 1 month after surgery
Proportion of Patients Sustaining a Ureter Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing pelvic organ prolapse repairs who sustain an injury to the ureter recognized either during or within 1 month after surgery

Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Urinary Incontinence: Assessment of Presence or Absence of Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who were assessed for the presence or absence of urinary incontinence within 12 months
Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older with a diagnosis of urinary incontinence with a documented plan of care for urinary incontinence at least once within 12 months

C. Blue Cross Measures Relevant to Gynecologists – The Blue Cross and Blue Shield of North Carolina Tiered Network utilizes administrative claims data in an effort to identify high quality, low cost providers and to help consumers make more informed choices for their medical care. They note: "Transparent methodology provides physicians with access to information on how their performance compares to their peers on nationally accepted quality measures as well as local cost efficiency benchmarks." The quality measures chosen for the obstetrics/gynecology specialty include:

- Percentage of women 40-69 years of age who had a mammogram to screen for breast cancer.
- Percentage of women 21-64 years of age who received one or more Pap tests to screen for cervical cancer.
- Percentage of women 16-20 years of age who were identified as sexually active and who had at least one test for Chlamydia during the measurement year.
- Percentage of women 21-24 years of age who were identified as sexually active and who had at least one test for Chlamydia during the measurement year.
- Percentage of hysterectomy with potentially avoidable complications
- Percentage of deliveries with a potentially avoidable complication.[54]

[54] BCBSNC, Tiered Network Product, http://www.bcbsnc.com/content/providers/quality-based-networks/tiered-network.htm.

G. HOSPITALISTS

I. Why and How You May Want to Utilize Hospitalists in Your CIN/ACO

The incorporation of hospitalists into an ACO allows for attainment of efficiencies because of hospitalists' continuous provision of patient care, rather than the periodic rounds performed by internists and other specialists.[55] "Hospitalists position themselves to manage through the entire spectrum and episodes of illness," explains R. Jeffrey Taylor, President and COO of IPC The Hospitalist Company, "That skill set and continuity of care will be crucial for ACOs."[56]

A. Hospitalist as Co-Manager

Hospitalists are tasked with the management and coordination of care throughout the inpatient experience and facilitate communication among care providers, both inside and outside the hospital. The positive impact of these skillsets is particularly significant with complex patient populations.

A study was performed at the University ofRochester School of Medicine on the effect of co-management by a geriatric hospitalist and orthopedic surgeons. The intervention was performed on older patients suffering from multiple comorbidities who are treated for a hip fracture at The Geriatric Fracture Center (GFC). In this intervention, co-management included "a strong emphasis on co-ownership, mutual respect and communication."[57]

The study included 314 patients with193 patients considered more complex, as they suffered from more comorbid conditions and dementia. The other 121 patients, who comprised the control group, received usual care. Despite being a more acute population, the intervention group experienced more favorable results throughout the entire episode of their care, such as:[58]

- Shorter times to surgery (24.1 vs. 37.4 hours)
- Fewer postoperative infections (2.3% vs. 19.8%)
- Fewer overall complications (30.6% vs. 46.3%)

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[55] Knowledge@Wharton. "Are 'Hospitalists' a Key to Saving Health Care?" *The Fiscal Times*. N.p., 26 Feb. 2014. Web. <http://www.thefiscaltimes.com/Articles/2014/02/26/Are-Hospitalists-Key-Saving-Health-Care>.
[56] Gamble, Molly. "Hospitalists and ACOs: The Perfect Fit?" *Hospitalists and ACOs: The Perfect Fit?* Becker's Hospital Review, 21 Mar. 2011. Web. <http://www.beckershospitalreview.com/hospital-physician-relationships/hospitalists-and-acos-the-perfect-fit.html>.
[57] Beresford, Larry. "ONLINE EXCLUSIVE: Co-management Business Models - The Hospitalist." *The Hospitalist*. The Society for Hospital Medicine, 1 Apr. 2011. Web.
[58] Friedman SM, Mendelson DA, Bingham KW, Kates SL. Impact of co-managed geriatric fracture center on short-term hip fracture outcomes. *Arch Intern Med.* 2009;169(18):1712-1717.

- Shorter length of stay (4.6 vs. 8.3 days)
- Lower use of physical restraint (0% vs. 14.1%)

Strategic Note: A clearly defined co-management structure should be established in order to prevent "dumping", where specialists and primary care physicians transfer responsibility of an admitted patient to hospitalists. "Dumping" forces hospitalists to shoulder all responsibility for patients during their inpatient stay, often providing care that exceeds their capabilities. This is especially important because hospitalists are put at an increased legal risk.[59] Co-management agreements should reflect an understanding of:

- Shared goals, reflecting the mission of the ACO;
- Patients' needs;
- Value proposition of hospitalists and other providers;
- Scope of hospitalists' abilities;
- Workload capacity of hospitalists;
- Resources necessary to perform assigned tasks;
- Co-management agreements should evolve with time.[60]

One suggested method is to develop metrics related to how co-management is handled in the organization. Metrics are generally an effective way to ensure that trends such as "dumping" are not developing in the hospital setting. Data should be collected at baseline, as well as continuously over time. Any identified problems should be addressed immediately in order to ensure that bad habits do not become established.

B. Hospitalist Involvement in Post-Discharge Care

In an effort to rethink their role in the clinical setting, successful hospitalists have expanded their scope beyond traditional inpatient care, in both clinical and non-clinical capacities.

[59] Beresford, Larry. "The Co-management Conundrum." The Hospitalist, Apr. 2011. Web. <http://www.the-hospitalist.org/details/article/1044707/The_Comanagement_Conundrum.html>.
[60] *Id.*

1. Clinical Role in Patient Discharge

Additional clinical roles include both pre- and post-hospitalization care, such as admission and rehabilitation. A National Taiwan University Hospital experiencing a 22 percent readmission rate after discharge from the hospitalist ward implemented a Post-Discharge Transitional Care (PDTC) program, operated by nurses and hospitalists.[61] The program consisted of the following activities for 30 days post-discharge:

- Disease-specific care plan established at discharge;
- Disease-specific indicators monitored through:
  - Patient hotline
  - Scheduled follow-up calls (days 1, 3, 7, 14 and 30);
- Hospitalist-run outpatient clinic

** There have previously been mixed responses to hospitalist-run clinics in the United States; under a fee-for-service model, many hospitals have ultimately had to subsidize these clinics. However, under the ACO model, there is much more financial incentive to provide care through this type of model.*

If a disease worsened, it was reported to the patient's hospitalist and further management was discussed, including counseling, referral to the hospitalist-run clinic or referral to the ED. Within 30 days of discharge, the intervention group had significantly lower rates of readmission (14% vs. 22%) and death (1% vs. 3%).

2. Non-Clinical Role in Patient Discharge

Hospitalists have the opportunity to play a key role in the handoff of patients after discharge, such as back to their primary care physicians. In the ACO setting, hospitals are suddenly finding themselves invested in the patient's successful transition out of the hospital, due to the fact that they are now financially penalized for readmissions within 30 days.

[61] Shu, Chin-Chung, Nin-Chieh Hsu, Yu-Feng Lin, Jann-Yuan Wang, Jou-Wei Lin, and Wen-Je Ko. "Integrated Postdischarge Transitional Care in a Hospitalist System to Improve Discharge Outcome: An Experimental Study." *BMC Medicine* 9.1 (2011): 96. Web.

There are six principles that hospitalists should follow to ensure a successful patient hand-off.

a. Communicate in an Effective, Convenient Manner – Hospitalists should find a method of communication that is most convenient for the majority of the primary care physicians with whom they have relationships; when necessary, customization of method may be necessary. Only convey information that is essential for primary care physicians to know.

b. Utilize the Knowledge of Primary Care Physicians – The opinions of primary care physicians should be incorporated into complex medical decisions and design of care. There are multiple benefits to incorporating a primary care physician's expertise regarding a specific patient. First, patients will be comforted knowing that their primary care physician's opinion has been included. Second, it is essential that one clear message regarding post-discharge instructions be communicated to the patient in order to avoid confusion. Lastly, there is a much higher chance that a primary care physician will enforce post-discharge instructions if they agree on the course of action.

c. Timeliness of Communication is Essential – Hospitalists should connect with primary care physicians in a timely manner at the following points: admission, before major medical decisions (especially those that might be irreversible) and at discharge.

d. Include the Patient – The patient should be an active part of the medical decision-making process, and the primary care physician can advise how to best facilitate patient participation.

e. Be on the Patient's Side – Hospitalists run the risk of being viewed as a "gatekeeper" of the hospital system. To overcome this impression, hospitalists need to make it clear that they are the patient's advocate.

f. Always Interact in a Polite and Gracious Manner – Even if the hospitalist's initial interactions with the primary care physician are awkward or unsuccessful, the hospitalist should still continue to be gracious and polite. All relationships have the potential to improve.[62]

Strategic Note: The Society of Hospital Medicine (SHM) has recently introduced the Post-Acute Care Toolbox, targeting patient transitions from short-term hospital stays to skilled nursing facilities. The recommendations presented in the toolbox comes from both 1) evidence-based medicine, and 2) the

[62] Goldman, Lee, Steven Z. Pantilat, and Winthrop F. Whitcomb. "Passing the Clinical Baton: 6 Principles to Guide the Hospitalist." *The American Journal of Medicine*111.9 (2001): 36-39. Web.

opinions of industry experts. For more information, please visit http://www.hospitalmedicine.org/Web/Quality___Innovation/Implementation_Toolkit/pact/Overview_PACT.aspx.

C. Hospitalist Involvement in Quality Improvement Initiatives

"One of the most important material changes we have seen is that hospital medicine has developed its own research and educational agenda and platform," explained Dr. Arora, co-chair of the Society of Hospital Medicine's Physicians in Training Committee, "The field's expanding non-clinical opportunities are emerging as another drawing card. Hospitalists are increasingly becoming involved in informatics, quality improvement and medical education, and partnering with administration in a variety of areas."[63]

For example, the University of California at San Francisco launched a high-value care initiative in the Department of Hospital Medicine in March 2012, co-led by a hospitalist and the administrator of the Division of Hospital Medicine. The initiative had three main goals:

- Identify areas of waste in the hospital (defined as areas of high cost with no associated improvement in health outcomes) using financial and clinic data;
- Utilize evidence-based interventions that promote value and quality of care;
- Drive cultural change though evidence-based cost awareness education.

Dr. Christopher Moriates, co-chair of the committee responsible for the initiative, explained, "We're not just creating these pilot programs and asking people to do more. We're really thinking through these interventions as complete packages. We're really baking it into our culture. As we address what people actually do and change the systems around…it becomes standard practice and thus more likely to be sustainable."[64]

During the first year, six projects were undertaken, including: reduce unnecessary nebulizer use, curb overuse and inappropriate use of gastric stress ulcer prophylaxis, encourage better blood utilization stewardship, improve the use of telemetry, scale back on inappropriate/repeat inpatient echocardiograms and reduce the number of ionized calcium labs. Early results have shown that the plan is working. In particularly, unnecessary nebulizer usage has decreased by more than 50 percent on a high-acuity medical ward.

[63] Darves, Bonnie. "Hospitalists on the Move." *NEJM CareerCenter.* New England Journal of Medicine, n.d. Web.
[64] Quinn, Richard. "High-Value Care Program Puts Hospital on Path to Savings." The Hospitalist, 30 July 2014. Web.

Dr. Shaun Frost, president of the Society of Hospital Medicine, predicted the future demand for hospitalists involved with quality improvement initiatives, explaining, "Young physicians interested in hospital medicine must embrace the fact that an important part of the job today is working on systems aspects of care, to improve care processes. Hospital medicine has always seen itself as a specialty whose role is to help hospitals deliver better care. But with health care reform evolving, hospitalists will have an even larger role in organizing care delivery."[65]

Strategic Note: The Society for Hospital Medicine (SHM) has joined Choosing Wisely®, an initiative through the American Board of Internal Medicine (ABIM) foundation to promote conversations between physicians and patients concerning the careful selection about medical tests and procedures. The goal of the campaign is for patients to choose care that is evidence-based, not duplicative, free from harm and absolutely necessary.[66] Five topics have been selected in the area of Adult Hospital Medicine:

1. "Don't place, or leave in place, urinary catheters for incontinence or convenience or monitoring of output for non-critically ill patients (acceptable indications: critical illness, obstruction, hospice, perioperatively for <2 days for urologic procedures; use weights instead to monitor diuresis)."

2. "Don't prescribe medications for stress ulcer prophylaxis to medical inpatients unless at high risk for GI complications."

3. "Avoid transfusions of red blood cells for arbitrary hemoglobin or hematocrit thresholds and in the absence of symptoms of active coronary disease, heart failure or stroke."

4. "Don't order continuous telemetry monitoring outside of the ICU without using a protocol that governs continuation."

5. "Don't perform repetitive CBC and chemistry testing in the face of clinical and lab stability."

To learn more about the SHM Choosing Wisely® Adult and Pediatric recommendations, as well as the Choosing Wisely® Case Study Competition, please visit http://www.hospitalmedicine.org/choosingwisely.

[65] Darves, Bonnie. "Hospitalists on the Move." *NEJM CareerCenter.* New England Journal of Medicine, n.d. Web.
[66] "About." *Choosing Wisely.* ABIM Foundation, n.d. Web.

Strategic Note: Hospitalists should pay attention to Physician Fee Schedules, which are constantly being updated to include new Current Procedural Terminology (CPT) codes that they can utilize in their expanded roles. In particular, there has been a trend of CMS focusing on developing new CPT codes in the areas of transitional care, coordination and counseling. For example, codes 99495 and 99496 have been introduced in the 2013 Physician Fee Schedule, both of which must include:

- Communication (direct contact, telephone or electronic) with the patient and/or caregiver within two business days of discharge;
- Medical decision-making of moderate complexity during the service period;
- A face-to-face visit (within 14 days of discharge for 99495 and within 7 days of discharge for 99496).[67]

While solely focusing on areas incentivized by fee schedules is not encouraged, aligning initiatives according to new developments in fee schedules can be an effective method for ensuring a smooth transition from volume- to value-based care.

D. Expanded Scope of Clinical Activities for Hospitalists

There are several additional clinical functions that can be performed by hospitalists that are strongly aligned with the principles of the ACO model. Some examples are listed below.

1. Emergency Department Triage[68]

Emergency departments (EDs) across the country face a bottleneck of patients that are waiting to be admitted to the hospital, resulting in long wait times, low patient satisfaction, and poor outcomes. One root cause of this problem is that EDs rely on input of physicians from varying departments concerning the admission of a patient. According to a pre- and post-intervention study performed at Johns Hopkins Bayview Medical Center, the use of hospitalists as triage consultants to the ED has proven to decrease admission time from approximately 2.5 hours to 20 minutes, with no significant differences in mortality rates.

[67] Bendix, Jeffrey. "Making Sense of the New Transitional Care Codes." *Medical Economics*. Modern Medicine Network, 10 Mar. 2013. Web.
[68] Howell, Eric E., Edward S. Bessman, and Haya R. Rubin. "Hospitalists and an Innovative Emergency Department Admission Process." *Journal of General Internal Medicine* 19.3 (2004): 266-68. Web

2. Emergency Department Surgery [69]

There is a nationwide shortage of surgeons available to perform acute care procedures, caused by such factors as increased specialization of surgeons, declining reimbursement, increasing malpractice liability risks, aging surgeon population, unwillingness to prioritize ambulatory surgery over elective surgery and more. The Institute of Medicine published a report entitled "Hospital-Based Emergency Care: At the Breaking Point" that cited the closing of several EDs across the country due to an insufficient surgical treatment capacity, thus limiting access of care to communities. A trial at the University of California – San Francisco revealed positive outcomes from the use of hospitalists as both surgeons and triages to specialty surgeons when necessary.

Strategic Note: Many hospital systems regard the use of hospitalists as a strategy to decrease the cost of providing care, which is strongly aligned with the goals of an ACO. One study regarding the use of hospitalists in 12 randomly selected communities detected a correlation between the varied use of hospitalists and the predominant type of reimbursement present in the market. A higher presence of hospitalists was observed in markets where payers reimbursed providers under various methods of fixed payments, such as capitation, per diem and DRG case rates. On the contrary, a lower utilization of hospitalists was noted in markets where the primary method of reimbursement was more varied, including fee-for-service components.[70]

3. Skilled Nursing Facility

Another strategy utilized by hospitals to decrease the costs of providing care to inpatients is to transition patients who are not yet ready to go into an intermediary skilled nursing facility. This tactic is especially effective for the 5 percent of patients who account for approximately 50 percent of hospital costs. Industry experts believe that hospitalists are key to the success of skilled nursing facilities (SNFs), particularly as more complex patients are transferred to these settings to decrease the total cost of care.[71]

E. Hospitalists as Public Health Managers

The Institute of Medicine has identified the three core functions of public health as assessment, assurance and policy development. Assessment is defined as the gathering and analysis of data related to population health. Assurance is ensuring the availability of high quality, necessary health

[69] Maa, John, Jonathan T. Carter, Jessica E. Gosnell, Robert Wachter, and Hobart W. Harris. "The Surgical Hospitalist: A New Model for Emergency Surgical Care. "*Journal of the American College of Surgeons* 205.5 (2007): 704-11. Web.
[70] Pham, Hoangmai H., Kelly J. Devers, Sylvia Kuo, and Robert Berenson. "Health Care Market Trends and the Evolution of Hospitalist Use and Roles." *Journal of General Internal Medicine* 20.2 (2005): 101-07. Web
[71] Pittman, David. "SNFs: New Turf for Hospitalists?" *SNFs: New Turf for Hospitalists?* MedPage Today, 24 May 2013. Web.

services to communities. Lastly, policy is developed as a way to ensure that the goals of assessment and assurance are met.

ACOs, by definition, are responsible for managing the health care of a specific patient population. Therefore, activities related to improving the overall health status of this population are highly aligned with the fundamental principles of value-based care. While hospitalists traditionally only focus on a small subset of the population – inpatients – they are well-equipped to tackle a whole host of public health and population health management-related activities. The figure below details specific initiatives within the three core functions of public health – assessment, assurance and policy – that hospitalists have successfully engaged in.[72]

Strategic Note: The involvement of hospitalists in public health and population health management may be viewed as inefficient from the hospital's perspective. By historically focusing on individual patient care, hospitalists have developed a reputation as being able to achieve improved outcomes and cost savings in the acute care setting. Therefore, the hospital might view the shift from individual to population management as uneconomical, especially because there is currently minimal reimbursement for these efforts. However, it is important to note that improved population health will ultimately lead to cost savings under the ACO model, and therefore may be considered cost effective in the long run.[73]

F. Hospitalist Involvement in Palliative Care

Recent trends have increased the amount of time that patients spend in the inpatient setting in their last six months of life, with 67 percent of Americans dying in the hospital setting.[74] The integration of hospitalists into palliative care provides several opportunities for improving the quality of care at the end-of-life. Clinic-based physicians are, by nature, unable to maintain a constant presence at a patient's bedside. Hospitalists, on the other hand, have a constant presence that has several potential benefits. First, hospitalists may be able to provide care in a more objective manner because they have not developed a long-term relationship with the patient; this can also enable hospitalists to more easily evaluate a patient's physiological impairments. Second, hospitalists' abilities to communicate with other providers within the hospital setting will allow them to better coordinate interdisciplinary care. Lastly, hospitalists can use this opportunity to develop expertise in caring for terminally ill patients, including treatment for pain, discussion of treatment options and clarifying goals of care with patients and families. Furthermore, hospitalists can educate other providers on the proper techniques for palliative care.[75]

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[72] Kisuule, Flora, Myechia Minter-Jordan, Jonathan Zenilman, and Scott M. Wright. "Expanding the Roles of Hospitalist Physicians to Include Public Health." J*ournal of Hospital Medicine* 2.2 (2007): 93-101. Web.
[73] *Id.*
[74] Muir, J. Cameron, and Robert M. Arnold. "Palliative Care and the Hospitalist: An Opportunity for Cross-fertilization." *The American Journal of Medicine* 111.9 (2001): 10-14. Web.
[75] *Id.*

One medical center in Wisconsin used tools from the Society for Hospital Medicine's Project BOOST (Better Outcomes for Older Adults through Safe Transitions) in order to improve palliative care. All patients under hospitalist care are assessed for a series of risk factors when admitted; the medical center developed protocols based on Project BOOST tools in response to certain identified risk factors. For example, the use of a Palliative Care Quality Indicators Checklist can prompt hospitalists to order palliative consult. Since the introduction of these new policies, the medical center has seen reduced readmissions, increased patient satisfaction, and increased usage of palliative consults for the target patient population. Dr. Andrew McDonagh, head of the medical center's hospitalist service, explained that "doing our job well as hospitalists will be more than just addressing medical needs but tailoring our care to the individual patient. Palliative care helps us better define appropriate care for these patients."[76]

G. Other – Please see The Accountable Care Manual for Hospitalists, which may be downloaded at http://www.tac-consortium.org/resources/

H. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including hospitalists.

II. Metrics

A. Examples of Measures that Measure Hospitalist Performance

1. Medicare – Any provider organization participating in a Medicare Shared Savings Program ACO contract holds the provider accountable for meeting 33 different quality measures. According to experts, "A conservative view of the hospitalist's role in an ACO suggests the hospitalist can influence at least half of these quality measures, ranging from preventative health to care coordination to the treatment of at-risk patients."[77] Although hospitalists do have the potential to impact the majority of these factors, they only should work to impact fewer factors. Other factors should be the responsibility of nurses or primary care physicians.

[76] Beresford, Larry. "Hospitalist/Palliative-Care Collaboration Aims to Reduce Readmissions." The Hospitalist, 31 Jan. 2012. Web.
[77] "Hospitalist Group Model for Value Based Care." Wyatt Matas, n.d. Web. <http://wyattmatas.com/hospitalist-group-model-for-value-based-care/>.

The table below depicts these 33 different quality measures:

#	Category	Quality Measure
1	Patient/ Caregiver Experience	Getting Timely Care, Appointments, and Information
2		How Well Your Doctors Communicate
3		Patients' Rating of Doctor
4		Access to Specialists
5		Health Promotion and Education
6		Shared Decision Making
7		Health Status/Functional Status
8	Care Coordination / Patient Safety	Risk Standardized, All Condition Readmissions
9		ASC Admissions: COPD or Asthma in Older Adults
10		ASC Admission: Heart Failure
11		Percent of PCPs who Qualified for EHR Incentive Payment
12		Medication Reconciliation
13		Falls: Screening for Fall Risk
14	Preventative Health	Influenza Immunization
15		Pneumococcal Vaccination
16		Adult Weight Screening and Follow-up
17		Tobacco Use Assessment and Cessation Intervention
18		Depression Screening
19		Colorectal Cancer Screening
20		Mammography Screening
21		Proportion of Adults who had blood pressure screened in past 2 years
22	At-Risk	Hemoglobin A1c Control (HbA1c) (<8 percent)

[140] "Hospitalist Group Model for Value Based Care." Wyatt Matas, n.d. Web. <http://wyat group-model-for-value-based-care/>.

23	Population Diabetes	Low Density Lipoprotein (LDL) (<100 mg/dL)
24		Blood Pressure (BP) < 140/90
25		Tobacco Non Use
26		Aspirin Use
27		Percent of beneficiaries with diabetes whose HbA1c in poor control (>9 percent)
28	At-Risk Population Hypertension	Percent of beneficiaries with hypertension whose BP <140/90
29	At-Risk Population IVD	Percent of beneficiaries with IVD with complete lipid profile and LDL control < 100mg/dl
30		Percent of beneficiaries with IVD who use Aspirin or other antithrombotic
31	At-Risk Population HF	Beta-Blocker Therapy for LVSD
32	At-Risk Population CAD	Drug Therapy for Lowering LDL Cholesterol
33		ACE Inhibitor or ARB Therapy for Patients with CAD and Diabetes and/or LVSD

2. Patient Quality Reporting System (PQRS) – The Medicare Shared Savings Program regulations state that any physician participating in an ACO will be treated as also participating in the PQRS program and will quality for PQRS incentive payments. This is highly beneficial because the hospital with help with the reporting requirements for the PQRS program.

The table below, provided by the Society for Hospital Medicine, depicts which of the PQRS measures can be impacted by hospitalists.

2014 PQRS Measures for Hospitalists*

PQRS NUMBER AND MEASURE TITLE	NQS DOMAIN	REPORTING METHODOLOGY
1: Diabetes: Hemoglobin A1c Poor Control	Effective Clinical Care	1, 2, 3, 4, 5, 6
2: Diabetes: LDL-C Control	Effective Clinical Care	1, 2, 3, 6
5: Heart Failure: ACE/ARB for LVSD	Effective Clinical Care	2, 3, 6
8: Heart Failure: Beta-Blocker for LVSD	Effective Clinical Care	2, 3, 4, 5, 6
24: Osteoporosis: Communication Post-Fracture	Communication and Care Coordination	1, 2
31: Stroke: VTE Prophylaxis	Effective Clinical Care	1, 2
32: Stroke: DC on Antithrombotic Therapy	Effective Clinical Care	1, 2
33: Stroke: Anticoagulation for AFib	Effective Clinical Care	2
35: Stroke: Screening for Dysphagia	Effective Clinical Care	1, 2
36: Stroke: Rehabilitation Services	Effective Clinical Care	1, 2
40: Osteoporosis: Management Post-Fracture	Effective Clinical Care	1, 2
47: Advance Care Plan	Communication and Care Coordination	1, 2
56: CAP: Vital Signs	Effective Clinical Care	1, 2
59: CAP: Empiric Antibiotics	Effective Clinical Care	1, 2
76: Prevention of CRBSI: CVC Insertion Protocol	Patient Safety	1, 2
117: Diabetes: Eye Exam	Effective Clinical Care	1, 2, 3, 6
119: Diabetes: Medical Attention for Nephropathy	Effective Clinical Care	1, 2, 3, 6
130: Documentation of Current Medications	Patient Safety	1, 2, 3, 6
163: Diabetes: Foot Exam	Effective Clinical Care	1, 2, 3, 6
187: Stroke: Thrombolytic Therapy	Effective Clinical Care	2
228: Heart Failure: LVF Testing	Effective Clinical Care	2

Reporting Methodology
1. Claims 2. Registry 3. EHR 4. Group Practice Reporting Option (GPRO) 5. ACO (only for ACO Participants) 6. Measures Groups

* SHM has identified these measures to be reportable by hospitalists as applicable to their practice. For more information, contact the CMS Helpdesk at 866-288-8912 or qnetsupport@hcqis.org.

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B. MACRA's Quality Payment Program MIPS Measures Relevant to Hospitalists

MEASURE NAME	MEASURE DESCRIPTION
Appropriate Workup Prior to Endometrial Ablation	Percentage of women, aged 18 years and older, who undergo endometrial sampling or hysteroscopy with biopsy before undergoing an endometrial ablation
Biopsy Follow-Up	Percentage of new patients whose biopsy results have been reviewed and communicated to the primary care/referring physician and patient by the performing physician
Breast Cancer Screening	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Cervical Cancer Screening	Percentage of women 21-64 years of age who were screened for cervical cancer using either of the following criteria: * Women age 21-64 who had cervical cytology performed every 3 years * Women age 30-64 who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years
Chlamydia Screening and Follow Up	The percentage of female adolescents 16 years of age who had a chlamydia screening test with proper follow-up during the measurement period
Chlamydia Screening for Women	Percentage of women 16-24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement period
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period

Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Non-Recommended Cervical Cancer Screening in Adolescent Females	The percentage of adolescent females 16-20 years of age who were screened unnecessarily for cervical cancer
Osteoporosis Management in Women Who Had a Fracture	The percentage of women age 50-85 who suffered a fracture and who either had a bone mineral density test or received a prescription for a drug to treat osteoporosis in the six months after the fracture
Performing Cystoscopy at the Time of Hysterectomy for Pelvic Organ Prolapse to Detect Lower Urinary Tract Injury	Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Influenza Immunization	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user

Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Proportion of Patients Sustaining a Bladder Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing any surgery to repair pelvic organ prolapse who sustains an injury to the bladder recognized either during or within 1 month after surgery
Proportion of Patients Sustaining a Bowel Injury at the time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing surgical repair of pelvic organ prolapse that is complicated by a bowel injury at the time of index surgery that is recognized intraoperatively or within 1 month after surgery
Proportion of Patients Sustaining a Ureter Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing pelvic organ prolapse repairs who sustain an injury to the ureter recognized either during or within 1 month after surgery
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Urinary Incontinence: Assessment of Presence or Absence of Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who were assessed for the presence or absence of urinary incontinence within 12 months
Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older with a diagnosis of urinary incontinence with a documented plan of care for urinary incontinence at least once within 12 months

H. NEPHROLOGISTS

I. Why and How You May Want to Utilize Nephrologists in Your CIN/ACO

A. Quarterbacks of the ESRD Team – End-stage renal disease ("ESRD") is the highest cost patient population in the entire Medicare program. With so many dollars at stake per patient, if there are effective initiatives to mitigate avoidable costs while improving the quality of care, these patients should be targeted as high-value populations for CINs and ACOs. There are effective treatments, and nephrologists are key to their success.

B. Early Identification of and Intervention for At-Risk Patients – Delaying dialysis, through (1) earlier identification of at-risk patients, and (2) use of interventions that slow further degeneration of kidney function, is the biggest 'bang for the buck' a nephrologist can make in the quality and cost of care for individual patients. Treatment of a patient for as little as six months to a year prior to dialysis dramatically decreases mortality and cost.[78] One of the physicians on the TAC Physician Advisory Committee opined that because of the "absolute evidence that early referral to nephrology is associated with marked improvement in outcomes," it is "one of the best examples we have for clinical outcomes impact from a specialty."[79]

The success of an ACO venture relies upon its ability to identify and refer such at-risk patients prior to a crisis-event. As one of the physician members of the Workgroup noted "earlier referral is key." One member of the Workgroup drew an analogy between patients with kidney damage and ante-natal care: in both instances we (1) can identify a definite approaching medical event, and (2) know that the outcome of that medical event is frequently determined by the advance care received. Nephrologists have the capacity to slow, stop or even reverse the progression of kidney disease, provided they have the opportunity to intervene in advance.[80]

Whereas, under the siloed fee-for-service model, nephrologists were very careful to avoid any impression of 'poaching' patients from referring physicians; within an ACO, incentives are aligned for greater coordination between specialists and the primary care physician. The first, fundamental step is for primary care providers to be educated and have access to simplified guidelines to direct when a referral should be made.[81]

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[78] See, *e.g.*, Kinchen KS, Sadler J, Fink N. et al., The timing of a specialist evaluation in chronic kidney disease and mortality. *Ann Intern Med* 2002; 137: 479-486; Junger P. Massy ZA, Nguyen-Khoa T. *et al.* Longer duration of predialysis nephrological care is associated with improved long-term survival of dialysis patients. *Nephrol Dial Transplant*, 2001; 16: 2357-2364; Stack AG. Impact of timing of nephrology referral and pre-ESRD care on mortality risk among new ESRD patients in the United States. *Am. J. Kidney Dis.* 2003; 41: 310-318.

[79] Grace Terrell, M.D., grace.terrell@cornerstonehealthcare.com; email to Melanie Phelps, *et al.*, (Feb. 23, 2015).

[80] Rettig, RA, Norris K, Nissenson AR: Chronic Kidney Disease in the United State: A Public Policy Imperative, *Clin J Am Soc Nephrol* 3, 1902 – 1910, 2008.

[81] *Id.*

The systemic use of urinalysis screening to identify and refer such patients is one way to accomplish this. Nephrologists also have an important role in educating primary care physicians on best practices to avoid further kidney damage, most specifically through the avoidance of non-steroid anti-inflammatory drugs.[82] Your savings are higher for the health problems you avoid—in other words, for the patients you do not see—than for the problems you personally treat.

Examples:

Consolidate clinical guidelines for dissemination to and referral by primary care physicians to ne phrologists during routine check-ups.

Lunch and Learn segments focusing on early chronic kidney disease recognition and intervention.[83]

Regular "Case Study" emails to primary care physicians, outlining examples of cases of when to make a referral and what information to include in that referral.

C. Nephrologist-Led Primary Care Teams for Complex Patients – The level of coordination and transition management of complex high-risk patients is both one of the greatest failings of the fee-for-service system and one of the greatest opportunities under accountable care.[84] These patients commonly comprise around 10 percent to 20 percent of the patient population, yet consume 50 percent to 70 percent of the total costs. Because this management yields significant overall contributions to the Triple Aim, they are considered "low-hanging fruit" by ACOs. The ACO model provides the opportunity to formalize and reward nephrologists' existing leadership in treating complex patients and coordinating care across multiple specialties.[85] Nephrologists are ideally suited to serve leadership roles in such efforts:

The nephrologist – a central provider for patients with chronic kidney disease, end stage renal disease, or kidney transplants – assumes a critical position in addressing the primary care needs of these patients, who tend to require frequency of contact. A care coordination role has emerged for the nephrology health care team due to the extensive co-morbidities of these patients as well as to the interdisciplinary models in dialysis and transplantation involved in their care.[86]

[82] Epstein M. Non-steroidal anti-inflammatory drugs and the continuum of renal dysfunction. *J Hypertens* 2002; 20 [Suppl 6].
[83] Retting RA, Norris K, Nissenson, AR, Chronic Kidney Disease in the United States: A Public Policy Imperative, *Clin J Am Soc Nephrol* 3: 1902 -1920 (2008).
[84] As one example, a member of the Workgroup identified the impact reliable transportation can have on improving care and reducing hospitalizations. This correlation between (1) access to a dialysis center through such reliable transportation and (2) reduction of hospitalizations was demonstrated forcefully by the anecdotal observation of an annual increase in admissions around the Christmas holidays of around 10%, reportedly attributable to the change in scheduling and the interruption in a patient's support network of family and friends.
[85] *Accountable Care Organizations and ESRD: The time has come* Am. J. Kidney Dis. 2012; 59(5); 724-733.
[86] *The Future Nephrology Workforce: Will there be one?* CJASN, 2011 available at http://cjasn.asnjournals.org/content/6/6/1501.full

A patient's care team needs to coordinate, know their roles, practice to the top of their licenses, and be supervised by a nephrologist. "Supervision" is a carefully chosen role, and one with which nephrologists have ample experience.

Assembling the team for systematized care of a complex patient population presents structural and logistical difficulties; however, CIN/ACOs can rely on nephrologists' existing expertise in coordination of complex care, and build on established principles of collaborative care and early ACO initiatives to fashion the structure most appropriate to your patient population, payer contract, access to skilled providers in your region and cultural readiness.

> [N]ephrologists regularly work with varied members of the care team (e.g., dieticians, social workers, nurses, and patient care technicians) and other physicians (e.g., vascular surgeons, endocrinologists, cardiologists, and general practitioners) to coordinate the care of dialysis patients. Functioning as de facto principal care physicians, collaborating with other subspecialties, balancing multiple clinical opinions and competing co-morbid conditions, directing care teams that have weekly direct contact with patients, leading interdisciplinary teams, and directing quality management efforts are key roles of the ACO primary care physician that nephrologists already perform.

- Engage in Palliative Dialysis – *The field of nephrology is shifting from an exclusive focus on increasing survival to one that provides greater attention to quality of life. There is an opportunity to integrate the advances of palliative medicine into the comprehensive treatment of those patients.* [87]

A discussion on the site and nature of service is particularly important when considered in the context of patient-centered care for palliative dialysis. As Dr. Lewis Cohen, Director of the Renal Palliative Care Initiative, noted, "The tradition in nephrology – as in medicine in general – has been to view death as an enemy to be overcome by any means. A generational shift has taken place, with some balance now being provided by interest in quality of life."[88] This increasing appreciation for quality of life and the importance of advance planning by an informed patient supplied with the necessary support system to implement those decisions has engendered support for the development of clinical guidelines for palliative dialysis.[89]

There are many patients who simply need some dialysis to avoid uremic symptoms and avoid fluid overload and heart failure. And, as one of our Workgroup members noted, this objective – when

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[87] Cohen LM, Moss AH, Weisbord SD, Germain MJ, *Renal Palliative Care*, J Palliat. Med., 2006 Aug; 9(4): 977-92.
[88] *Nephrologists Expand the Use of Palliative Care in ESRD*, Renal & Urology News, April 1, 2010.
[89] The Renal Palliative Care Institute (RPCI) based out of the Baystate Medical Center in Massachusetts is one example of such an initiative. Founded in part through a 2003 grant from the Robert Wood Johnston Foundation, and recipient of the 2003 Circle of Life Award, honoring innovations in palliative and end-of-life care, RPCI fosters collaboration between families, physicians, nurses and social workers in developing and implementing protocols in end-of-life care. See www.promotingexcellence.org/baystate.

considered in the context of the patient's choice – should be kept in mind. Currently, dialysis treatment plans, reflecting the structure and expectations of the Quality Incentive Program, are typically treated in an "all or nothing" approach. The protocol is to "chase phosphorus, albumin, and adequacy in patients" where such ideal numbers will not improve life expectancy or quality to any appreciable degree.[90] Instead, nephrologists could further refine existing protocols for this subset of patients, offering an easier, more comfortable treatment, shorter times, less rigorous dietary restrictions and even fewer than the standard three treatments a week.

Barriers, however, continue to exist to the institution of such a more tailored approach. The most notable obstacle being the current metrics under which dialysis facilities are graded and compensated. These metrics "punish" facilities for the withdrawal or reduction of dialysis, despite evidence that such a one-dimensional assessment may not accurately reflect clinical best practices or the best interests of patients.[91] The question of how to quantify the quality of care for ESRD continues to be a difficult one; however, the realignment and restructuring introduced with an ACO presents an important opportunity as it equips nephrologists – as advocates for their patients – with new resources and alliances to address this problem.

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the *Accountable Care Manual for Nephrologists* at http://www.tac-consortium.org/resources/

E. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including nephrologists.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA Quality Payment Program measures at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

[90] *Id.* (Quoting Dr. Moss, Professor of Medicine and Director of the Center for Health Ethics & Law at West Virginia University, "One major catalyst in the decision to rework the dialysis-withholding/withdrawal guideline is the fact that more than half a dozen studies demonstrate that select patients may live just as long with medical management alone as with dialysis.") *See also*, Michael Germain, *Supportive Care for the Renal Patient* (Oxford University Press, 2010).
[91] *See e.g. "What's wrong with the 5-star rating system for the renal community,"* M Krishnan, Nephrology News & Issues, July 16, 2014; See also, www.promotingexcellence.org/baystate .

B. MACRA's Quality Payment Program MIPS Measures Relevant to Nephrology

MEASURE NAME	MEASURE DESCRIPTION
Adult Kidney Disease: Blood Pressure Management	Percentage of patient visits for those patients aged 18 years and older with a diagnosis of chronic kidney disease (CKD) (stage 3, 4, or 5, not receiving Renal Replacement Therapy [RRT]) with a blood pressure < 140/90 mmHg OR >= 140/90 mmHg with a documented plan of care
Adult Kidney Disease: Catheter Use at Initiation of Hemodialysis	Percentage of patients aged 18 years and older with a diagnosis of End Stage Renal Disease (ESRD) who initiate maintenance hemodialysis during the measurement period, whose mode of vascular access is a catheter at the time maintenance hemodialysis is initiated
Adult Kidney Disease: Catheter Use for Greater Than or Equal to 90 Days	Percentage of patients aged 18 years and older with a diagnosis of End Stage Renal Disease (ESRD) receiving maintenance hemodialysis for greater than or equal to 90 days whose mode of vascular access is a catheter
Adult Kidney Disease: Referral to Hospice	Percentage of patients aged 18 years and older with a diagnosis of ESRD who withdraw from hemodialysis or peritoneal dialysis who are referred to hospice care
Age Appropriate Screening Colonoscopy	The percentage of patients greater than 85 years of age who received a screening colonoscopy from January 1 to December 31
Appropriate Follow-up Imaging for Incidental Abdominal Lesions	Percentage of final reports for abdominal imaging studies for asymptomatic patients aged 18 years and older with one or more of the following noted incidentally with follow-up imaging recommended: Liver lesion <= 0.5 cm Cystic kidney lesion < 1.0 cm Adrenal lesion <= 1.0 cm
Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%)	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9.0% during the measurement period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.

Pain Assessment and Follow-Up	Percentage of visits for patients aged 18 years and older with documentation of a pain assessment using a standardized tool(s) on each visit AND documentation of a follow-up plan when pain is present
Pain Brought Under Control Within 48 Hours	Patients aged 18 and older who report being uncomfortable because of pain at the initial assessment (after admission to palliative care services) that report pain was brought to a comfortable level within 48 hours
Referral for Otologic Evaluation for Patients with Acute or Chronic Dizziness	Percentage of patients aged birth and older referred to a physician (preferably a physician specially trained in disorders of the ear) for an otologic evaluation subsequent to an audiologic evaluation after presenting with acute or chronic dizziness
Urinary Incontinence: Assessment of Presence or Absence of Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who were assessed for the presence or absence of urinary incontinence within 12 months

I. NEUROLOGISTS

I. Why and How You May Want to Utilize Neurologists in Your CIN/ACO

A. Coaching to Improve Primary Care and EMT Diagnosis, Referral, and Co-Management – Our analysis has shown that movement in the accountable care era from fragmented care to coordinated care for patients with neurological issues presents significant opportunity to increase the quality of care and reduce the costs of care and suffering of these patients. As one neurologist stated, "With the intent of ACOs in improving 'health care' as opposed to 'sick care,' there should be an intense focus on working with primary care providers." Neurologists are natural educators and consultants. They are key resources to primary care physicians on their support team for patients with neurological issues.

Opportunities across disease states were found to exist in areas of coaching to improve primary care diagnosis and referral, teleconferencing, integration of treatment protocols with primary care, including urgent care centers, and increased availability to patients. Extending knowledge further "upstream," the neurologist, as educator, is going to be particularly helpful to patients through such things as group teleconferences, webinars and web-based videos. Neurologists will add value through more engagement along the more active end of the continuum when patients are hospitalized, with active participation on the hospital's medical staff.

These multidisciplinary teams can be virtual, but also concrete in the form of "Stroke Clinics," "Headache Clinics," or like the Geisinger Clinic's "Neurosciences Institute."

Another manifestation of this extension of knowledge by neurologists is the strategic opportunity represented by allied provider care navigators and coordinators. These may be employees of the Patient-Centered Medical Home of the ACO, but work at the direction of neurologists, at such things as supporting access to non-physician/institute resources for patients with dementia; epilepsy compliance to reduce ED visits or hospitalizations; patient self-management and management of stroke-inducing hypertension and diabetes.

In summary, the neurologists' skill sets of teaching and consulting when used across the care continuum and aided by technology, seem to present proverbial "low-hanging fruit" opportunities for neurologists in the accountable care era. Occurring in every strategic initiative, this represents the singular most promising accountable care theme for neurologists. Important singularly, this recurring core strategy is even more potent cumulatively.

B. Sharing of Stroke Primary and Secondary Prevention Best Practices

Prevention – Two Stages

1. Primary Prevention

Education and Training: An important component in a neurology strategy within your ACO is education and training of primary care providers, care coordinators, and ACO patients with one or more major risk factors for stroke. Such education and training can help proactively to prevent the occurrence of a first stroke, and could be coordinated through a stroke prevention and treatment clinic. The neurology group could provide training materials as well as a neurologist/teacher to lead the training. This training would have a double focus – both upstream – on primary care providers/ care coordinators and on at-risk patients. Training materials and sessions would aim (1) to sensitize primary care providers to recognize leading indicators or risk factors for potential stroke as well as to appropriate proactive follow up measures once these indicators are identified and (2) to make the dangers of stroke concrete for at-risk patients as well as to equip them effectively to take charge of their own care. Additionally, the neurology group would coordinate with the patient care coordinators at the ACO to help develop protocols for the early identification of risk factors and combinations of risk factors, assessment of the level of risk, and appropriate, proactive follow up measures. Consultation could be available on an ongoing basis.[92] These efforts are complimentary to the ACO's initiatives regarding diabetes, hypertension, mental health and obesity management. The relevant metrics here would be relatively straightforward, measuring the improvement in occurrences of primary stroke and in major stroke risk factors, say, over six month intervals following above interventions.

2. Secondary Prevention/Ongoing Treatment

The single best predictor of stroke is a previous stroke. An estimated 30 percent of survivors of an initial ischemic stroke (which accounts for 87 percent of all strokes) will have a subsequent stroke within 5 years. Eighteen percent of these strokes will be fatal. Stroke also carries with it a serious risk of (1) cardiac involvement, with 5 percent of stroke survivors suffering a heart attack within a year, and (2) depression, with an estimated 40 percent of stroke patients experiencing depression with the year following the stroke.

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[92] The risk factors for stroke are well-known, and include high blood pressure, high cholesterol, diabetes, atrial fibrillation, carotid artery disease, and diet/smoking/ alcohol consumption. High blood pressure is the single most important modifiable risk factor for stroke. It is estimated that high blood pressure affects 65 million Americans, and that number appears to be growing. Despite the efficacy of antihypertensive therapy and the ease of diagnosis and monitoring, a large proportion of the population still has undiagnosed or inadequately treated hypertension. Blood pressure must be regularly monitored and high blood pressure must be aggressively treated, especially for those patients with additional stroke risk factors. For patients with diabetes, tight control of high blood pressure and high cholesterol are the most effective ways of preventing stroke. Atrial fibrillation is another significant risk factor. Patients over 65 years of age should be screened for atrial fibrillation. Patients with atrial fibrillation should be risk-stratified using predictive indices for stroke risk. Treatment is targeted to a given risk profile if a given atrial fibrillation patient, and ranges from aspirin for low risk patient to warfarin to high risk patients who can receive it safely. [Sources: Guidelines for the primary prevention of stroke; Secondary stroke prevention; A Review of the Use of Telemedicine Within Stroke Systems of Care; Prevention of Stroke: Canadian best practices.]

Secondary stroke prevention is well suited to a model of care that aims at preventing long-term morbidity and mortality because (1) patients who suffer an initial stroke are easily identified and (2) risk modification strategies can significantly decrease the likelihood of recurrence. With a stroke prevention and treatment team or clinic overseen by a neurologist, stroke patients would have a ready source for follow-up care, reducing both recurrence and hospital readmission. In conjunction with primary care providers, such a team or clinic could also provide services for other high-risk patients and/or offer guidance and consultation services to the primary care providers for these patients. For patients who have already suffered stroke, the follow up would be more intensive and broad-ranging, encompassing aggressive follow-up for high blood pressure (e.g., with diuretics or ACE inhibitors), high cholesterol (e.g., with statins), and other risks factors; counseling on lifestyles changes such as diet, exercise, cessation of tobacco smoking, and moderation of alcohol consumption. For patients for whom more intensive care is deemed necessary, the team or clinic would employ nurses proactively to reach out to patients both to engage them in their own recovery and to ensure prompt and regular follow-ups. Neurologists would provide patient educational services and content, leveraging technology. Neurologists would play a leading role in the emerging demand for preventive stroke services by making risk factor modification a part of the neurological examination and by providing long-term follow-up and appropriate care in a stroke prevention clinic.[93] In addition to the measures outlined for the prevention of primary stroke, patients who have already suffered from stroke would be enrolled in a specialized program for stroke prevention lead by physicians and nurses. Again, the relevant metrics here would be relatively straightforward, measuring the improvement in occurrences of secondary stroke and in major stroke risk factors, say, over six month intervals following above specialized interventions.

C. Sharing of Standards for Diagnosis, Treatment, and Referral Regarding Epilepsy – Epileptic seizures can be caused by almost anything that affects the brain, but is characteristically due to a spectrum of seizure syndromes and disorders that range in their severity and treatment outcomes. In March 2012, the Institute of Medicine released its landmark study, *Epilepsy Across the Spectrum: Promoting Health and Understanding,* the first authoritative independent appraisal of epilepsy in the United States. The study makes it clear that there are significant gaps in provision of high quality health care for many Americans burdened with epilepsy and its associated health problems. Optimal treatment is complex and must be tailored for each patient.

[93] Guidelines for the primary prevention of stroke; Secondary stroke prevention, Mayo clinic

Epilepsy is the fourth most common neurological disorder in the United States — after migraine, stroke and Alzheimer disease. An estimated 2.2 million Americans have epilepsy, with 150,000 new U.S. cases diagnosed every year; about one in 26 people will develop epilepsy at some time in their lives. The estimated US annual direct medical care cost of epilepsy is $9.6 billion, according to the report.[94] Virtual or concrete "Epilepsy Centers" improve care, lower costs and are ideal for accountable care. Each center would be well integrated into the health system and locality that it is a part of as well as into the network of centers. Strong ties and partnerships with state health departments and other health care providers, particularly those focused on other neurological disorders, could expand the reach of coverage to people with epilepsy who are in rural and underserved areas through use of telemedicine, outreach clinics, and other relevant mechanisms. People with epilepsy and their families, as well as researchers and health care providers, could also benefit from the compilation and analysis of quality, outcomes, and health services data provided by all centers in the network.[95]

Even without the existence of a fully-functioning epilepsy center, ACO opportunities exist for neurologist leadership in (1) patient education to dispel the stigma blocking people from coming forward; (2) educating primary and emergency care providers on the "mimickers of epilepsy" and standards of diagnosis, treatment, and referral, optimizing care in Emergency Departments and reducing stays in hospitals; (3) streamlining diagnosis to reduce hospitalization; (4) training of epilepsy nurses and EEG technologists; (5) tele neurology; and (6) expedition of mental health involvement to rein in avoidable hospitalization and diagnostic costs of pseudo-seizures.

Ideally, the expertise of ACOs' multidisciplinary teams involved in managing complex epilepsy should include psychiatry, psychology, counseling, social work, occupational therapy, neuroradiology, clinical nurse specialists, neurophysiology, neurology, neurosurgery and neuroanaesthesia. Through technology, could this be made available to ACOs statewide from a central leveraging center? Teams should have MRI and video telemetry facilities available to them. The neurosurgeon in the multidisciplinary team should have specialist experience of and/or training in epilepsy surgery and have access to invasive electrencephalography recording facilities. Information should be provided to children, young people and adults and families and/or care givers as appropriate about the reasons for considering surgery. Metrics for this disease state could include measuring improvements in diagnosis and reduction in hospital stays for epileptic patients.

[94] http://www.aan.com/elibrary/neurologytoday/?event=home.showArticle&id=ovid.com:/bib/ovftdb/00132985-201205030-00001
[95] Institute of Medicine – Report on Epilepsy

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the Accountable Care Manual for Neurologists at http://www.tac-consortium.org/resources/

E. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including nephrologists.

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA Quality Payment Program measures at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Neurology

MEASURE NAME	MEASURE DESCRIPTION
Amyotrophic Lateral Sclerosis (ALS) Patient Care Preferences	Percentage of patients diagnosed with Amyotrophic Lateral Sclerosis (ALS) who were offered assistance in planning for end of life issues (e.g., advance directives, invasive ventilation, hospice) at least once annually
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Dementia: Caregiver Education and Support	Percentage of patients, regardless of age, with a diagnosis of dementia whose caregiver(s) were provided with education on dementia disease management and health behavior changes AND referred to additional resources for support within a 12 month period
Dementia: Cognitive Assessment	Percentage of patients, regardless of age, with a diagnosis of dementia for whom an assessment of cognition is performed and the results reviewed at least once within a 12 month period
Dementia: Counseling Regarding Safety Concerns	Percentage of patients, regardless of age, with a diagnosis of dementia or their caregiver(s) who were counseled or referred for counseling regarding safety concerns within a 12 month period
Dementia: Functional Status Assessment	Percentage of patients, regardless of age, with a diagnosis of dementia for whom an assessment of functional status is performed and the results reviewed at least once within a 12 month period
Dementia: Management of Neuropsychiatric Symptoms	Percentage of patients, regardless of age, with a diagnosis of dementia who have one or more neuropsychiatric symptoms who received or were recommended to receive an intervention for neuropsychiatric symptoms within a 12 month period

Dementia: Neuropsychiatric Symptom Assessment	Percentage of patients, regardless of age, with a diagnosis of dementia and for whom an assessment of neuropsychiatric symptoms is performed and results reviewed at least once in a 12 month period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Documentation of Signed Opioid Treatment Agreement	All patients 18 and older prescribed opiates for longer than six weeks duration who signed an opioid treatment agreement at least once during Opioid Therapy documented in the medical record.
Epilepsy: Counseling for Women of Childbearing Potential with Epilepsy	All female patients of childbearing potential (12 - 44 years old) diagnosed with epilepsy who were counseled or referred for counseling for how epilepsy and its treatment may affect contraception OR pregnancy at least once a year
Evaluation or Interview for Risk of Opioid Misuse	All patients 18 and older prescribed opiates for longer than six weeks duration evaluated for risk of opioid misuse using a brief validated instrument (e.g. Opioid Risk Tool, SOAPP-R) or patient interview documented at least once during Opioid Therapy in the medical record
Opioid Therapy Follow-up Evaluation	All patients 18 and older prescribed opiates for longer than six weeks duration who had a follow-up evaluation conducted at least every three months during Opioid Therapy documented in the medical record
Overuse Of Neuroimaging For Patients With Primary Headache And A Normal Neurological Examination	Percentage of patients with a diagnosis of primary headache disorder whom advanced brain imaging was not ordered
Parkinson's Disease: Cognitive Impairment or Dysfunction Assessment	All patients with a diagnosis of Parkinson's disease who were assessed for cognitive impairment or dysfunction in the last 12 months
Parkinson's Disease: Parkinson's Disease Medical and Surgical Treatment Options Reviewed	All patients with a diagnosis of Parkinson's disease (or caregiver(s), as appropriate) who had the Parkinson's disease treatment options (e.g., non-pharmacological treatment, pharmacological treatment, or surgical treatment) reviewed at least annually

Parkinson's Disease: Psychiatric Symptoms Assessment for Patients with Parkinson's Disease	All patients with a diagnosis of Parkinson's disease who were assessed for psychiatric symptoms (e.g., psychosis, depression, anxiety disorder, apathy, or impulse control disorder) in the last 12 months
Parkinson's Disease: Rehabilitative Therapy Options	All patients with a diagnosis of Parkinson's Disease (or caregiver(s), as appropriate) who had rehabilitative therapy options (e.g., physical, occupational, or speech therapy) discussed in the last 12 months
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Quality of Life Assessment For Patients With Primary Headache Disorders	Percentage of patients with a diagnosis of primary headache disorder whose health related quality of life (HRQoL) was assessed with a tool(s) during at least two visits during the 12 month measurement period AND whose health related quality of life score stayed the same or improved
Stroke and Stroke Rehabilitation: Discharged on Antithrombotic Therapy	Percentage of patients aged 18 years and older with a diagnosis of ischemic stroke or transient ischemic attack (TIA) who were prescribed antithrombotic therapy at discharge

Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user

J. OBSTETRICIANS

I. Why and How You May Want to Utilize Obstetricians in Your CIN/ACO

A. Care Management for High-Risk Patients – High-risk patients most often become high-cost patients. As such, they require special attention. Obstetricians are in a unique position to minimize the incidence of complex high-cost newborns through prenatal care and focused attention on high-risk pregnancies, and also to mitigate the impact of high-risk births through coordination of care. With some training and appropriate data collection, staff could learn to identify high-risk patients and pay special attention to their needs. Rather than simply following up with these patients, staff should coordinate their overall care. For example, if a patient's obstetrician recommends a neurology consult, then staff should help set up the appointment and follow up with the patient. As the patient's de facto PCP, the obstetrician is specially equipped to oversee this important care coordination. Further, because pregnant mothers represent more than one patient, OBs have a special responsibility to oversee their care coordination. In an ACO setting, data analytics information identifying high-risk patients can be obtained early enough to avoid or mitigate catastrophic costs and acute care needs.

Such coordination will be especially important for premature babies, low birth weight births and high-risk pregnancies. Premature babies often have many medical conditions and complications that need attention, and obstetricians in your ACO should coordinate their care to achieve optimal results. Further, mothers of premature babies sometimes need coordinated care as well.

In North Carolina, the Pregnancy Medical Home Program provides pregnancy care management programs to manage high-risk patients. Obstetricians conduct a prenatal risk assessment, high-risk pregnancies are identified, they receive comprehensive care management, and obstetricians conduct post-partum assessments, including depression screening and connecting mothers to primary care. As a **concrete example**, one physician working within the Pregnancy Medical Home Program stated that he had at his fingertips pathways, best practices, and feedback on C-sections and post-natal visits. Most importantly, "We know outliers—we have the data," he said.

B. Embracing the Duality of the OB/GYN as Primary Care Physician and Specialist – ACOs are founded upon coordination and integration, and primary care physicians ("PCPs") are specially positioned to direct and oversee these processes. PCPs are already primed to manage patients with multiple medical conditions, and such care management is essential to the ACO model. As hospitals and physician groups create ACOs, they will look to the experience and leadership of PCPs. This process is especially relevant to OB/GYNs, who are both specialists and PCPs.

Editor's Note: The particular value-care roles of gynecologists as PCPs and specialists are addressed in the separate Chapter II.A. of this Manual.

Many OB/GYNs consider themselves PCPs, and many women view their OB/GYN as their PCP. For large numbers of women, the only doctor they see on a regular basis is their OB/GYN. This phenomenon has been furthered by developments in family medicine. In fact, family medicine training no longer is required to cover contraceptives, IUD insertion, or pregnancy counseling, and this will only increase the number of women looking to their OB/GYNs for primary care. In turn, OB/GYNs act as a gateway to other specialized care. This type of patient management is critical to the functioning of your ACO.

It must be noted that the PCP/specialist duality is a complicated matter. For example, few OB/GYNs will have a patient referred to them as a PCP; they will be referred as specialists. However, therein lies a distinct advantage for OB/GYNs and their ACOs: women will seek their guidance in their PCP capacity regarding specialist referrals, while they also will receive specialist referrals from other PCPs. So the PCP/specialist duality, though complicated, actually may serve as an important asset to your ACO.

It is important for ACOs to realize the benefits of giving leadership roles to PCPs, including OB/GYNs. It is just as important for OB/GYNs to take those leadership roles. We learned several lessons from the 1990s, but one of the most critical was the danger of top-down health protocols. To stand by is to let hospitals and payers dictate the future to physicians. As noted, fuller development of strategies for the physician practicing gynecology will be made in a separate ACO strategic white paper devoted to gynecological care.

The OB/GYN Accountable Care Workgroup and the Pediatric Accountable care Workgroup independently determined that closer coordination was truly a "low-hanging fruit" opportunity for population management and value-based payment. As a **concrete example**, one OB/GYN

Accountable Care Workgroup member reported that his practice refers to the family's pediatrician at 36 weeks of pregnancy whenever the mother is on methadone. "The baby might need them." Another **concrete example** offered by the Pediatricians Accountable Care Workgroup was to refer certain families to the OB/GYN for family planning and prenatal care.

C. Patient and Physician Engagement – In a value-based health system, the overall health of the patient is critical, but it is not a one-way effort from physician to patient. The patient must be actively involved in her own care. Obstetricians should strive to increase engagement in care on both sides of the relationship. Patient engagement adds great value to medical care, but it has been underutilized in the fee-for-service model.

In an environment where patient engagement is low, a patient could miss an appointment due to a scheduling conflict or forgetfulness. Her doctor, operating in a volume-based system, might not follow up with any urgency. The patient could then experience a medical emergency and be transported to the emergency department for care. She might give birth prematurely. An ACO could add considerable value to the care of a patient by either preventing the missed appointment or by following up with the patient quickly to reschedule. It has been repeatedly shown that following up with patients after a visit helps patients stay engaged in their medical care, leading to better results. For pregnant women, patient engagement can lead to fewer costly birth complications and a reduction in any number of health issues for mother and child.

To increase patient engagement, your ACO might provide more staff—or rearrange current staff duties—to better understand their life circumstances and barriers to health care, and to communicate with patients before and after visits. Communication should be through various means, including phone calls, emails, and standard mail. Staff should ensure that patients are following the advice given during their visit and answer questions that patients may have. You should also consider "e-visits," where you can offer limited consultation to patients who find travel difficult and who may not need any sort of physical examination. E-visits might be especially beneficial to pregnant women who are experiencing unusual pain and discomfort.

Strategic Note: Hiring and/or training staff and nurses to implement the above strategies seems daunting. This Manual does not advocate immediate changes, however, neither in this section nor in others suggesting change. Small changes in the right direction can help your ACO add value to its practice, and administrative changes can be achieved in small steps.

D. Follow National Guidelines – Reducing hospitalizations is a key strategy for ACOs, as hospitalization is quite costly. Two ways to reduce hospitalizations are care coordination and patient engagement, discussed above. Still another way to reduce hospitalizations is to follow national guidelines regarding obstetrical care. Recent years have seen revisions in recommendations for hysterectomies, C-sections, elective deliveries, nulliparous issues, breastfeeding, antenatal steroids, and procedures for reducing newborn bloodstream infections.

There are several nationally recognized bodies of guidelines to review for illustration purposes. The following two sets of guidelines are part of the multidisciplinary "Choosing Wisely" Initiative:

1. The American College of Obstetricians and Gynecologists

- **Don't schedule elective, non-medically indicated inductions of labor or cesarean deliveries before 39 weeks 0 days gestational age.** Delivery prior to 39 weeks 0 days has been shown to be associated with an increased risk of learning disabilities and a potential increase in morbidity and mortality. There are clear medical indications for delivery prior to 39 weeks 0 days based on maternal and/or fetal conditions. A mature fetal lung test, in the absence of appropriate clinical criteria, is not an indication for delivery.

- **Don't schedule elective, non-medically indicated inductions of labor between 39 weeks 0 days and 41 weeks 0 days unless the cervix is deemed favorable.** Ideally, labor should start on its own initiative whenever possible. Higher Cesarean delivery rates result from inductions of labor when the cervix is unfavorable. Health care practitioners should discuss the risks and benefits with their patients before considering inductions of labor without medical indications.

- **Don't perform routine annual cervical cytology screening (Pap tests) in women 30-65 years of age.** In average risk women, annual cervical cytology screening has been shown to offer no advantage over screening performed at 3-year intervals. However, a well-woman visit should occur annually for patients with their health care practitioner to discuss concerns and problems and have appropriate screening with consideration of a pelvic examination.

- **Don't treat patients who have mild dysplasia of less than two years in duration.** Mile dysplasia (Cervical Intraepithelial Neoplasia [CIN 1] is associated with the presence of the human papillomavirus (HPV) which does not require treatment in average risk women. Most women with CIN 1 on biopsy have a transient HPV infection that will usually clear in less than 12 months and, therefore, does not require treatment.

- **Don't screen for ovarian cancer in asymptomatic women at average risk.** In population studies, there is only fair evidence that screening of asymptomatic women with serum CA-125 level and/or transvaginal ultrasound can detect ovarian cancer at an earlier stage than it can be detected in the absence of screening. Because of the low prevalence of ovarian cancer and the invasive nature of the interventions required after a positive screening test, the potential harms of screening outweigh the potential benefits.

2. Society for Maternal-Fetal Medicine

- **Don't do an inherited thrombophilia evaluation for women with histories of pregnancy loss, intrauterine growth restriction (IUGR), preeclampsia, and abruption.** Scientific data supporting a causal association between either methylenetetrahydrofolate reductase (MTHFR) polymorphisms or other common inherited thrombophilias and adverse pregnancy outcomes, such as recurrent pregnancy loss, severe preeclampsia and IUGR, are lacking. Specific testing for antiphospholipid antibodies, when clinically indicated, should be limited to Lupus anticoagulant, anticardiolipin antibodies, and beta 2 glycoprotein antibodies.

- **Don't place a cerclage in women with short cervix who are pregnant with twins.** Women with a short cervical length who are pregnant with twins are at very high risk for delivering preterm, but the scientific data, including a meta-analysis of data published on this issue, shows that cerclage in this clinical situation not only is not beneficial, but may in fact be harmful, i.e., associated with an increase in preterm births.

- **Don't offer noninvasive prenatal testing (NIPT) to low-risk patients or make irreversible decisions based on the results of this screening test.** NIPT has only been adequately evaluated in singleton pregnancies at high risk for chromosomal abnormalities (material age 35, positive screening, sonographic findings suggestive of aneuploidy,

translocation carrier at increased risk for trisomy 13, 18 or 21, or prior pregnancy with a trisomy 13, 18, or 21). Its utility in low-risk pregnancies remains unclear. False positive and false negative results occur with NIPT, particularly for trisomy 13 and 18. Any positive NIPT result should be confirmed with invasive diagnostic testing prior to a termination of pregnancy. If NIPT is performed, adequate pretest counseling must be provided to explain the benefits and limitations.

- **Don't screen for intrauterine growth restriction (IUGR) with Doppler blood flow studies.** Studies that have attempted to screen pregnancies for the subsequent occurrence of IUGR have produced inconsistent results. Furthermore, no standards have been established for the optimal definition of an abnormal test, best gestational age for the performance of the test or the technique for its performance. However, once the diagnosis of IUGR is suspected, the use of antenatal fetal surveillance, including umbilical artery Doppler flow studies, is beneficial.

- **Don't use progestogens for preterm birth prevention in uncomplicated multifetal gestations.** The use of progestogens has not been shown to reduce the incidence of preterm birth in women with uncomplicated multifetal gestations.

The OB/GYN Accountable Care Workgroup offered the following common sense recommendations from the national literature:

- The immediate availability of contraception to help increase the interval between pregnancies and to prevent unwanted pregnancies particularly in high-risk patients with multiple co-morbidities.

- Ensuring that high-risk obstetrical patients deliver in an appropriate level facility (perinatal regionalization).

- Minimizing labor elective induction in nulliparous patients to reduce the Cesarean section rate.

E. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the Accountable Care Manual for Obstetricians at http://www.tac-consortium.org/resources/.

F. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including obstetricians.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Perhaps use the following array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

B. Examples of Metrics to Measure Obstetrical Performance:

- Cesarean section rates.
- Elective induction for patient or obstetrician convenience.[96]
- ICU and NICU usage and costs.
- Preterm births.
- Nulliparous term singleton vertex.
- Low birth weight rates.
- Anesthesia complication rates.
- Prenatal substance exposure rates.
- Infant and mother mortality rates.
- AHRQ's birth trauma rate.
- Laboratory costs.
- Imaging costs.
- Pharmaceutical costs.
- Hospitalization rates.
- Post-partum health.

[96] Gryenigen, V., et al., Obstetrics & Gynecology, Health Care Reform; Will Quality Remodeling Affect Obstetrician-Gynecologists in Addition to Patients?, Vol. 117, No. 5, p. 1169 (May 2011). "It is anticipated that patient requests to be induced because of fatigue or obstetricians scheduling inductions for patient convenience will be prohibited by value-based purchasing and accountable care organizations."

- Hospital readmission reduction.
- Electronic information exchange.
- Prophylactic antibiotics for Cesarean delivery.[97]
- 17-P utilization.
- Post-partum:
  - Post-partum depression assessment.
  - Family planning.
  - Coordination with PCPs for mother and child.
- Entry of patients into prenatal care prior to 14 weeks.
- Use of antenatal corticosteroids.
- Use of long-acting reversible contraception on selected patient populations.

"[W]ell-designed quality measures in surgery, cardiology and infertility have catalyzed changed, improved care and reduced gaps in quality. We argue that the same can be done in obstetrics."[98]

[97] Janakiraman, V., et al., Obstetrics & Gynecology, *Quality in Obstetric Care: Measuring What Matters*, Vol. 116, No. 3, p. 731 (Sept. 2010).
[98] *Id.,* p. 732.

C. MACRA's Quality Payment Program MIPS Measures Relevant to Obstetrics

MEASURE NAME	MEASURE DESCRIPTION
Appropriate Workup Prior to Endometrial Ablation	Percentage of women, aged 18 years and older, who undergo endometrial sampling or hysteroscopy with biopsy before undergoing an endometrial ablation
Biopsy Follow-Up	Percentage of new patients whose biopsy results have been reviewed and communicated to the primary care/referring physician and patient by the performing physician
Breast Cancer Screening	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Cervical Cancer Screening	Percentage of women 21-64 years of age who were screened for cervical cancer using either of the following criteria: * Women age 21-64 who had cervical cytology performed every 3 years * Women age 30-64 who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years
Chlamydia Screening and Follow Up	The percentage of female adolescents 16 years of age who had a chlamydia screening test with proper follow-up during the measurement period
Chlamydia Screening for Women	Percentage of women 16-24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement period
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred

Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Non-Recommended Cervical Cancer Screening in Adolescent Females	The percentage of adolescent females 16-20 years of age who were screened unnecessarily for cervical cancer
Osteoporosis Management in Women Who Had a Fracture	The percentage of women age 50-85 who suffered a fracture and who either had a bone mineral density test or received a prescription for a drug to treat osteoporosis in the six months after the fracture
Performing Cystoscopy at the Time of Hysterectomy for Pelvic Organ Prolapse to Detect Lower Urinary Tract Injury	Percentage of patients who undergo cystoscopy to evaluate for lower urinary tract injury at the time of hysterectomy for pelvic organ prolapse
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2

Preventive Care and Screening: Influenza Immunization	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Proportion of Patients Sustaining a Bladder Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing any surgery to repair pelvic organ prolapse who sustains an injury to the bladder recognized either during or within 1 month after surgery
Proportion of Patients Sustaining a Bowel Injury at the time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing surgical repair of pelvic organ prolapse that is complicated by a bowel injury at the time of index surgery that is recognized intraoperatively or within 1 month after surgery
Proportion of Patients Sustaining a Ureter Injury at the Time of any Pelvic Organ Prolapse Repair	Percentage of patients undergoing pelvic organ prolapse repairs who sustain an injury to the ureter recognized either during or within 1 month after surgery

Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Urinary Incontinence: Assessment of Presence or Absence of Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who were assessed for the presence or absence of urinary incontinence within 12 months
Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older with a diagnosis of urinary incontinence with a documented plan of care for urinary incontinence at least once within 12 months

K. ONCOLOGISTS

I. Why and How You May Want to Utilize Oncologists in Your CIN/ACO

A. Avoidable Costs Signal Opportunity – a combination of high costs and a high degree of avoidability of those costs presents significant opportunity for oncologists in accountable care. A February 2012 report by United Healthcare revealed substantial unjustified variation in oncology care delivery, including a 10:1 variation in imaging for metastatic patients, wide differences in end-of-life advanced care planning, a 2:1 cost variation in treatment of Stage 1 ER-neg EHR-2-unexpressed breast cancer and wide variance on symptom management and access that led to differences in ED and hospitalization costs.[99]

Recent data supports the significant value-add upside available for involving oncologists in ACOs: WellPoint reports that 26 percent of oncology admissions are related to symptoms of treatment-related toxicity, led by dehydration, neutropenia or fever, pain, anemia, infection and DVT. They found widespread variation in use of CSF with chemotherapy, and that imaging was often repeated unnecessarily with 90 percent of use not consistent with national guidelines. They reported a 20-fold variation in cost for equally effective treatments.[100]

Predictive models indicate a total potential ACO cancer care savings of 6.7 percent to 13.5 percent derived from the following areas:

- Chemotherapy pathway adherence 1.0% to 3.0%
- Avoidable Emergency Department utilization 0.6% to 1.1%
- Avoidable hospital admissions 4.0% to 7.0%
- Diagnostics (imaging, lab) 0.2% to 0.5%
- End-of-life diagnostic planning 0.9% to 1.9%

With the average cancer cost of $1.3-million/1,000 Medicare lives, a Medicare ACO with 17,000 lives and a 12 percent savings rate would yield $2.5-million in savings related to better cancer care.[101]

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[99] Deline, Marisa, The Advisory Board Company Oncology Roundtable, *The New Rules of Oncology Service Line Growth*, slide 10, (2012).
[100] Blair, Kelly, 2013 Cancer Center Business Summit, *Innovative Cancer Care Initiative # 2: The Oncology ACO*, (November 2013).
[101] Barkley, Ronald, Cancer Center Business Summit, *Oncologist-Hospital Alignment for Accountable Cancer Care: Hospital/Health System, Community Oncology and ACOs*, (November 2013).

Table 1. Calculation of ACO Cancer Cost Savings Potential

Variable	Per 1,000 Population
Cancer incidence rate (>age 65)	21
Average cancer cost per patient	$80,000
Average cancer cost per population	$1,680,000
Potential cancer cost savings rate	10%
Potential cancer cost savings	$168,000
"Average size" ACO annual savings (per 15,000 Medicare "lives") = $2,520,000	

B. Initiatives

1. Multidisciplinary Team Care Models

While this may fairly be viewed as a means to an end for initiatives discussed below and not an end in itself, it so leverages oncologist influence to address the looming manpower shortage and drives key initiatives, it is best highlighted separately.

One oncologist, who is a member of a multispecialty ACO, described their team as follows: It is comprised of an oncologist medical director, a psychologist, an oncological pharmacist, a nutritionist, a chaplain, an embedded internist and a social worker. The psychologist developed an excellent questionnaire tool to see what people's needs actually are. (Cancer patients chronically under-report needs.) The use of the tool prompts good responses and assists the team in anticipating

and addressing needs early. For example, the social worker may help with insurance or home incompatibility issues, the dietician may recommend Ensure, and the chaplain end-of-life advance care planning. Comprehensive care improves quality and lowers costs. Workflow is improved, further enhancing savings. In this transition phase from fee-for-service to value-based payment, it was noted that this approach "pays for itself" because the oncologist actually can see more patients while also guiding more comprehensive best practice care.

Another oncologist, who specializes in breast cancer treatment, formed a multidisciplinary and multispecialty clinic around women's health.

Within the Team Care Model, all noted the advantage of having a well-trained nurse practitioner or oncological pharmacist host live teaching sessions for patients with similar diagnoses or who are taking the same drug. For example, the latter realizes savings because it allows use of less expensive drugs but which have higher chances of nausea or complications if not properly taken by the patient.

2. Patient Engagement

Because of the complexity and intensity of cancer treatment with its associated increased chances for error on one hand and opportunities for informed patient self-management on the other, deep patient engagement is especially critical. "Under accountable care, engaging patients and families as partners in care will be an essential strategy for achieving the best possible patient outcomes while also reducing costs to the health system."[102]

a. Assessment for Oral Therapy

While patient orientation is applicable to all patients and families, patients who are prescribed oral therapies face additional risks and therefore require a more concerted approach to education and engagement. Managing an oral regimen requires patients to take on significant responsibilities, including the acquisition of the drug, following often complex dosing schedules, and reporting symptoms and side effects to their care team in a timely way. Studies have found that patients' failure to take their prescriptions appropriately leads to unnecessary side effects and complications, suboptimal patient outcomes and higher overall health care costs. Oncologists need to make a careful initial assessment regarding whether a patient is a good candidate for oral therapies to help avoid these potential complications and additional costs.

[102] The Advisory Board Company Oncology Roundtable, *Redesigning Cancer Care Delivery for the Era of Accountability*, p. 76 (2012).

Distinguishing Patients Who Are Able to Take on Responsibility for Oral Therapies

Ideal Candidates	Poor Candidates
✓ Understand importance of specific therapy to their disease	✗ Lack a support system at home
✓ Are able to make the commitment to comply with treatment regimen	✗ Are already taking multiple non-cancer drug therapies
✓ Can swallow pills or liquids	✗ Have emotional or psychological issues, especially depression
✓ Are able to manage drug costs	✗ Have cognitive, memory, or visual impairment
✓ Have good communication skills or a committed caregiver who can communicate on their behalf	✗ Have a history of missed appointments
	✗ Have a poor relationship with provider
	✗ Have a poor understanding of impact of therapy
	✗ Have daily routines that would be disrupted by regimen

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b. Meaningful Patient Involvement and Continuous Education

Given the complexity of oncology care, cancer programs should seek to engage patients as partners at their first interaction and to reinforce key messages throughout the care continuum. As a starting point, many providers have found that it is helpful to provide explicit instructions to patients about their role and responsibilities relative to their cancer treatment. The Mayo Clinic's cancer center, for instance, offers a new patient orientation via an orientation booklet and DVD. The DVD, which is 12 minutes long, provides an introduction to the cancer center, as well as its philosophy of care, physical layout and resources.[104] The video also encourages patients to take an active role in their care. The Mayo Clinic has found that this introduction leads to better patient use of available resources, lower patient anxiety and greater patient involvement. While other, more time intensive methods (such as classes and drop-in sessions) were tried, they were ultimately unsuccessful because of high drop-off rates.[105]

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[103] *Id., at p.* 76.
[104] Mayo Clinic:
Orientation DVD Components (12 minutes long)
-Welcome to cancer center
-Introduction to philosophy of care
-Orientation to physical layout
-Encourages patient participation
-Patient testimonials
-Identifies sources for obtaining education and support information
[105] The Advisory Board Company Oncology Roundtable, *Redesigning Cancer Care Delivery for the Era of Accountability*, p. 78 (2012).

c. Medication Management: Prescribing and Educating

Drugs administered in an infusion center are routinely subject to multiple checks by the pharmacy and nursing staff. Despite the fact that oral drugs carry many of the same, if not more, risks as infused drugs, the prescribing process usually works very differently. According to a survey of National Cancer Institute-designated cancer centers, just 24 percent require physicians to indicate the patient's diagnosis on the script and just 21 percent of cancer centers perform double checks on oral drug orders, leaving patients at risk of dangerous errors. Instituting multiple checks as well as a patient education session on the prescribed medications can reduce errors and improve patient outcomes and satisfaction.

d. Medication Management: Technological Aids

Providing detailed, personalized counseling is an essential step for ensuring patients have the information they need to manage their oral therapies safely, but patients also need ongoing support to remember to take their drugs as prescribed. Fortunately, there are many easy-to-use, low-cost tools designed to help patients adhere to their medication schedules. For example, "my Community Pillbox" is a smart phone application designed to help patients remember to take their medication. Patients upload their medication schedules to their phones. As they take their medications, they check off each one. If a patient forgets to take a scheduled dose, the screen displays an exclamation mark, indicating a missed medication. If questions arise, the application links to information about each drug and also includes contact information for the patient's providers. Currently the application is available to patients at no cost. Another example, Vitality Glow Cap is a programmable cap which can be attached to any standard pill bottle. When it is time for a patient to take a scheduled dose, the cap begins to glow. If a dose is missed, the cap alerts the patient by beeping. If the bottle remains unopened for a specified period of time, the cap can e-mail or phone the patient or a family member. Each cap costs $5 and can be used repeatedly.

3. Triage Nursing: Reducing Hospitalizations And Emergency Department Utilization

According to the Oncology Roundtable of the consulting company, The Advisory Board Company, addressing avoidable emergency department visits is one of the greatest "opportunities for driving value in cancer care."[106] Cancer and its treatments produce numerous and often debilitating symptoms, side

[106] The Advisory Board Company Oncology Roundtable, *Redesigning Cancer Care Delivery for the Era of Accountability*, p. 17 (2012).

effects and complications. Although these issues reduce patients' quality of life, and if left unchecked, can ultimately result in poorer patient outcomes, patients often do not report them to their care team. One analysis conducted by researchers at the Cleveland Clinic found that during a typical clinic visit, cancer patients voluntarily report one symptom to their care team. However, when the researchers conducted a systematic assessment, the median number of symptoms experienced by patients was ten. Notably, these symptoms were often significant or even debilitating. These data are concerning both because they suggest that patients are suffering unnecessarily and because uncontrolled symptoms can develop into more serious complications leading to emergency department (ED) visits and hospitalizations. The ED is a suboptimal site of care for cancer patients for multiple reasons. First, ED clinicians often feel ill-equipped to manage cancer patients. Second, cancer patients often have compromised immune systems, and they may be more likely to be exposed to pathogens in the ED. Third, the ED is more expensive than other treatment settings; the UNC researchers estimate that treating cancer patients' uncontrolled symptoms in the clinic setting would reduce costs by 50 percent. The Team Care concept can be used to educate the patient to ED alternatives, raise awareness of access to the Team through the triage nurse hotline, and address non-cancer issues. It would enhance continuity of care and keep the feedback loop intact.

To address this problem, Consultants in Medical Oncology & Hematology ("CMOH"), a private practice in Drexel Hill, Pennsylvania, developed a comprehensive nurse-led phone triage system. Patients can call with questions about test results, symptoms and other care needs. The phone is answered by a clinic nurse who addresses patients' concerns by following a set of algorithms based on Oncology Nursing Society guidelines. The phone triage line, which received approximately 3,500 calls in 2010, operates from 7:00 a.m. to 6:00 p.m. on weekdays. After 6:00 p.m., calls are redirected to an answering service, which can connect patients to on-call physicians. The physicians have remote access to the practice's EMR, allowing them to access patient records and follow the same symptom management algorithms used by the nurses. At CMOH, 75 percent of patient concerns can be managed with instructions for at home self-care. Another 10 percent of patients are scheduled to come in for an office visit within 24 hours, and just 7 percent are referred to the ED. The success of the phone triage system depends not only on the clinic's management of phone calls but also on patient participation. To that end, CMOH's patients are instructed from the start of their cancer treatment that they need to play an active role in their care, ask questions, express concerns, and immediately report all symptoms to the care team. This message is reinforced with patients by the physicians and staff at regular intervals. The data suggest that CMOH's phone triage system has enabled the practice to identify and address patients' symptoms before they become crises. Between 2005 and 2010, CMOH experienced steady

declines in their number of ED visits per patient per year. In 2010, they had an average of just one ED visit per patient. Similarly, inpatient admissions also declined dramatically. Notably, both of these gains were achieved despite overall growth in CMOH's patient volumes.

4. Advanced Planning for Survivorship and End-of-Life Care

Under the fee-for-service system, cancer survivors are often lost in transition and disregard oncologists' recommendations. Off-loading follow-up from oncologists to oncology nurse practitioners and primary care providers creates savings while stemming the oncologist shortage. Survivorship strategies fit well into the aforementioned Team Care approach.

Studies have shown that when patients' end-of-life care preferences are known and followed, patients live longer and die happier. Such patient-centered care also reduces costs by avoiding aggressive—and expensive—treatment for patients who do not wish such treatment. Currently, our medical system is focused on performing aggressive interventions at any cost—if hospitals have the resources, they will use them. This aggressive treatment is the default for patients who do not make their end of life preferences known. Currently, only one out of three adult Americans have advance directives, which lay out these preferences. Oncologists can play a central role in encouraging patients and their families to discuss and make end of life plans in advance. Medical Orders for Scope of Treatment ("MOST") and Physician Orders for Life Sustaining Treatment ("POLST") can be useful documents for seriously ill patients possibly nearing death.

5. Unleash the Power of Data

Rapid advances of health care technology will provide powerful business intelligence analytics to identify and treat otherwise high-risk/higher cost patients, have decision support at the point of care, and communicate real-time across the cancer Care Team, among other attributes. Public reporting of oncologists' quality of care will become common. With oncologists in front of this trend, it can be used to lower overall costs without defaulting to lower oncologist incomes. As Atul Gawande, M.D. stated, "In cystic fibrosis, a decision was made to make outcomes data public. There was a risk that sites would drop out of the program, but that didn't happen. Instead, providers started to devour the data. The poorly performing sites made visits to the high performers. They began to unlock the secrets. This is what happens when data is made public."[107]

[107] American Society of Clinical Oncology, *Shaping the Future of Oncology: Envisioning Cancer Care in 2030*, p. 13 (2012).

6. Reduce Unjustified Variation in Care

The Oncology Accountable Care Workgroup suspected that there is widespread unjustified variation in care, thus suggesting that the development of evidence-based best practices and monitoring of adherence will reap quality and cost improvements.

Examples: Choosing Wisely® Guidelines – The American Society of Clinical Oncology ("ASCO") is one of nine specialty societies participating in the Choosing Wisely® campaign directed to curb use of common tests and treatments not supported by clinical evidence. ASCO was specific that its participation was driven by the goal of ensuring that all cancer care is "high-value" care. The list includes:

- Computed tomography ("CT") scans should be limited in asymptomatic patients following curative-intent treatment for aggressive lymphoma.
- Inferior vena cava filters should not be routinely used in patients with acute venous thromboembolism.
- Do not transfuse more than the minimum number of red blood cell units necessary to relieve symptoms of anemia or to return a patient to safe hemoglobin range (7-8 g/dL in stable non-cardiac inpatients).
- Do not test for thrombophilia in adults with venous thromboembolism occurring in the setting of major transient risk factors such as surgery, trauma or prolonged immobility.
- Do not administer plasma or prothrombin complex concentrates for non-emergent reversal of vitamin K antagonists (i.e., outside the setting of major bleeding, intracranial hemorrhage or anticipated emergent surgery).
- Avoid unnecessary anticancer therapy, including chemotherapy, in patients with advanced solid-tumor cancers who are unlikely to benefit, and instead, focus on symptom relief and palliative care.

- For early-stage breast cancer and prostate cancer that are at low risk of spreading, do not use advanced-imaging technologies (positron emission tomography (PET), CT, and radionuclide bone scans) for determining the cancer's spread.

- For individuals who have completed curative treatment for breast cancer, and who have no symptoms of recurrence, advanced imaging tests (PET, CT, and radionuclide bone scans) and routine blood tests for certain biomarkers (CEA, CA 15-3, CA 27-29) should not be used to screen for cancer recurrences.

- Avoid administering white blood cell stimulating factors to patients who have a very low risk for febrile neutropenia (less than 20 percent).

7. Use Technology to Extend Tecum Care Reach

Whether across the hall, across town or across the county, technology can aid the operation and work flow of seamless cancer care teams described in this chapter. Referral protocols, telephone, email, teleconference access to primary care and allied providers and web-driven instruction videos and portals can all allow you to provide value-adding knowledge at the point of care. This not only promotes better quality through more timely access to critical diagnostic or treatment clinical input, but can generate savings from avoiding unnecessary referrals and admissions. Use of technology in such a manner was penalized by the fee-for-service system, but will be handsomely rewarded under value-based care. Rural patients will not be deprived of the benefits of collaborative care.

8. Examples of Application of These Initiatives

The Oncology ACO in Florida identified 226 patients, with a baseline annual cost of $23,054,596.00, or $102,295.00 per patient. It is comprised of Baptist Health of South Florida and the Advanced Medical Specialties practice. The medical oncologists were the primary care physicians for the cancer patient. They targeted patients with the most common cancers (breast, digestive system, leukemia and lymphoma, female and male reproductive and respiratory) with three or more E&M services the prior year. They used the CMS and Quality Oncology Practice Initiative ("QOPI") metrics. The targeted initiatives were (a) patient education and the patient experience (understanding one's illness, appropriate setting of goals, focus on symptomatic control, allying with key health care surrogates), (b) chemotherapy spend control through strict adherence to pathways, and chemotherapy education, (d)

better utilization of hospice and palliative care services, (d) ED use management through education, access, palliative care and transition management, and (e) process improvement through hospital embedded care navigators and flow design for surgery, anesthesia, imaging and radiation therapy.

The "lessons learned" they reported were to pick committed partners, the importance but complexity of data, that signing the contract is the beginning, not the end, and that the oncologist practice becomes the de facto medical home for the patients. They intend to connect across the care continuum with the rest of the clinically integrated network at the health system.[108]

WellPoint is promoting an "Oncology Medical Home" with three key components: (1) Adherence to Pathways, with emphasis on chemotherapy and supportive care and on using USON Level 1 pathways where appropriate, (2) Coordination of Care and Disease Management, with coordination with other specialists, proactive telephone support by nurse coordinators, and evaluation of acute events in the office and not emergency department, and (3) End-of-Life Care, with coordination with hospice. Their lessons learned over three years are that standardization and development of appropriate metrics takes time. They noted the tension with the oncology FFS business model being tied to the delivery of chemotherapy.[109]

C. Other – Please see The Accountable Care Manual for Oncologists, which may be downloaded at http://www.tac-consortium.org/resources/

D. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including oncologists.

II. Metrics

A. Overview - After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Perhaps use the array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

[108] Samuels, Marc, 2013 Cancer Center Business Summit: Transforming Oncology Through Innovation, *Innovative Cancer Care Initiative # 2*: *The Oncology ACO*, http://www.cancerbusinesssummit.com/program.htm, (November 2013).
[109] Blair, Kelly, 2013 Cancer Center Business Summit, *Innovative Cancer Care Initiative # 2: The Oncology ACO*, http://www.cancerbusinesssummit.com/program.htm, (November 2013).

B. MACRA's Quality Payment Program MIPS Measures Relevant to Oncology

MEASURE NAME	MEASURE DESCRIPTION
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.

HER2 Negative or Undocumented Breast Cancer Patients Spared Treatment with HER2-Targeted Therapies	Proportion of female patients (aged 18 years and older) with breast cancer who are human epidermal growth factor receptor 2 (HER2)/neu negative who are not administered HER2-targeted therapies
KRAS Gene Mutation Testing Performed for Patients with Metastatic Colorectal Cancer who receive Anti-epidermal Growth Factor Receptor (EGFR) Monoclonal Antibody Therapy	Percentage of adult patients (aged 18 or over) with metastatic colorectal cancer who receive anti-epidermal growth factor receptor monoclonal antibody therapy for whom KRAS gene mutation testing was performed
Oncology: Medical and Radiation - Pain Intensity Quantified	Percentage of patient visits, regardless of patient age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy in which pain intensity is quantified
Oncology: Medical and Radiation - Plan of Care for Pain	Percentage of visits for patients, regardless of age, with a diagnosis of cancer currently receiving chemotherapy or radiation therapy who report having pain with a documented plan of care to address pain
Oncology: Radiation Dose Limits to Normal Tissues	Percentage of patients, regardless of age, with a diagnosis of breast, rectal, pancreatic or lung cancer receiving 3D conformal radiation therapy who had documentation in medical record that radiation dose limits to normal tissues were established prior to the initiation of a course of 3D conformal radiation for a minimum of two tissues
Patients with Metastatic Colorectal Cancer and KRAS Gene Mutation Spared Treatment with Anti-epidermal Growth Factor Receptor (EGFR) Monoclonal Antibodies	Percentage of adult patients (aged 18 or over) with metastatic colorectal cancer and KRAS gene mutation spared treatment with anti-EGFR monoclonal antibodies

Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Proportion Admitted to Hospice for less than 3 days	Proportion of patients who died from cancer, and admitted to hospice and spent less than 3 days there
Proportion Admitted to the Intensive Care Unit (ICU) in the Last 30 Days of Life	Proportion of patients who died from cancer admitted to the ICU in the last 30 days of life
Proportion Not Admitted To Hospice	Proportion of patients who died from cancer not admitted to hospice

Proportion of Patients who Died from Cancer with more than One Emergency Department Visit in the Last 30 Days of Life	Proportion of patients who died from cancer with more than one emergency department visit in the last 30 days of life
Proportion Receiving Chemotherapy in the Last 14 Days of Life	Proportion of patients who died from cancer receiving chemotherapy in the last 14 days of life
Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients	Percentage of patients, regardless of age, with a diagnosis of prostate cancer at low (or very low) risk of recurrence receiving interstitial prostate brachytherapy, OR external beam radiotherapy to the prostate, OR radical prostatectomy, OR cryotherapy who did not have a bone scan performed at any time since diagnosis of prostate cancer
Radical Prostatectomy Pathology Reporting	Percentage of radical prostatectomy pathology reports that include the pT category, the pN category, the Gleason score and a statement about margin status
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Trastuzumab Received By Patients With AJCC Stage I (T1c) - III And HER2 Positive Breast Cancer Receiving Adjuvant Chemotherapy	Proportion of female patients (aged 18 years and older) with AJCC stage I (T1c) - III, human epidermal growth factor receptor 2 (HER2) positive breast cancer receiving adjuvant chemotherapy who are also receiving trastuzumab

L. OPHTHALMOLOGISTS

I. Why and How You May Want to Utilize Ophthalmologists in Your CIN/ACO

- The pupils provide the body's best window to blood vessels and nerves, and many diseases exhibit manifestations in and around the eyes. The ability to detect and access to an ACO's electronic data registry places ophthalmologists in position to be an ACO's early warning system and care coordinators, especially for diabetic patients.

- "Like plastic surgeons and dermatologists, a great many ophthalmologists have experience with retail medicine through noninsurance-covered services like Lasik, cosmetic blepharoplasty, and eyeglasses. This extra experience in the importance of driving down costs and improving patient satisfaction in a true health care market may be useful in demonstrating how to improve outcomes for others in an ACO less adept at this way of thinking about health care. Additionally, the need to coordinate screening for diabetic retinopathy with primary care through better information exchange is an enormous opportunity for ophthalmologists."[110]

A. Disease Management and Connecting with the Primary Care Team – Diabetes management and making appropriate referrals for patients who may have chronic diseases but may not currently work with a primary care provider. The ophthalmologist can serve as a touch-point in the patient's care and ensure through proper follow-up that the patient ultimately is also connected with their primary care team. Examples of conditions ophthalmologists can identify for appropriate referral and follow-up are hypertension, diabetes, brain tumors, sleep apnea, thyroid disease and cancers.

B. Use of Best Practices – A useful source of core best practices may be found in the recommendations of the American Academy of Ophthalmology to the Choosing Wisely® program sponsored by the ABIM Foundation:

1. "Don't perform preoperative medical tests for eye surgery unless there are specific medical indications.
2. Don't routinely order imaging tests for patients without symptoms or signs of significant eye disease.

[110] Grace Terrell, MD, President, Cornerstone Health Care.

3. Don't order antibiotics for adenoviral conjunctivitis.
4. Don't routinely provide antibiotics before or after intravitreal injections.
5. Don't place punctal plugs for mild dry eye before trying other medical treatments."[111]

Additionally, the American Academy of Ophthalmology's Preferred Practice Patterns identify useful best practices for ophthalmologists.[112]

C. Optimize Site-of-Service – Providers are encouraged to seek to move procedures to lower-cost facilities or outpatient sites when consistent with best practices. Particular opportunity exists for providing alternatives to the Emergency Department, which has a pronounced patient engagement aspect, discussed below. For example, when a patient presents at an Emergency Department with double vision, the patient will likely need to undergo a series of expensive tests to rule out a variety of causes. However, if seen in the ophthalmologists' office, the specialized expertise of the clinician can rule out certain conditions and thereby reduce the number of tests that may need to be completed. One way this can be accomplished is by offering after-hours access for patients to avoid potentially unnecessary Emergency Department use. Additionally, ophthalmologists should focus on avoidance of expensive in-hospital procedures when the same procedure can be done in a less expensive setting with the same or better quality outcomes, such as a physician's office or Ambulatory Surgical Center.

D. Drug Management – An ophthalmologist's use of best practices in determining the best drug for treatment may lead to cost reductions. For example, when treating macular degeneration, comparative effectiveness research[113] has shown that treatment of age-related macular degeneration (AMD) in cases of severe, or "wet," as of 2016, AMD, with both Lucentis and Avastin produce similar outcomes on visual acuity. However, the costs of these drugs vary greatly, with Lucentis costing approximately $2,000.00 per dose while Avastin costs $50.00 per dose.

E. Use of Telehealth – With the onset of a multitude of telehealth technology options entering the market, many ophthalmologists are well equipped to increase access to care and improve the patient experience by its use. For example, some ophthalmologists are now studying the accuracy and reliability of using telehealth for diagnosing and screening diabetic retinopathy and macular edema with some success.[114] Particularly, when a patient has comorbidities such as diabetes and hypertension, the effectiveness of telehealth in these cases may produce cost savings as well as a better patient experience and increased patient engagement and adherence.[115]

[111] http://www.choosingwisely.org/societies/american-academy-of-ophthalmology/.
[112] http://www.aao.org/guidelines-browse?filter=preferredpracticepatterns.
[113] Comparison of AMD Treatments Trials (CATT), the National Eye Institute (2006).
[114] Accuracy and Reliability of Teleophthalmology for Diagnosing Diabetic Retinopathy and Macular Edema: A Review of the Literature, John D. Whited. D*iabetes Technology & Therapeutics*. February 2006: 102-111.
[115] Effectiveness of Home Telehealth in Comorbid Diabetes and Hypertension: A Randomized, Controlled Trial. Bonnie J. Wakefield, John E. Holman, Annette Ray, Melody Scherubel, Margaret R. Adams, Stephen L. Hillis, Gary E. Rosenthal. T*elemedicine and e-Health*. May 2011: 254-261.

F. Other – Please see *The Accountable Care Manual for Ophthalmologists*, which may be downloaded at http://www.tac-consortium.org/resources/

G. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including ophthalmologists.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. Examples of Possible Ophthalmology Performance Measures – Ophthalmologists can consult the 19 IRIS® Clinical Quality Registry measures approved by the Centers for Medicare & Medicaid Services (CMS).[116]

C. MACRA's Quality Payment Program MIPS Measures Relevant to Ophthalmology

MEASURE NAME	MEASURE DESCRIPTION
Adult Primary Rhegmatogenous Retinal Detachment Surgery: No Return to the Operating Room Within 90 Days of Surgery	Patients aged 18 years and older who had surgery for primary rhegmatogenous retinal detachment who did not require a return to the operating room within 90 days of surgery
Adult Primary Rhegmatogenous Retinal Detachment Surgery: Visual Acuity Improvement Within 90 Days of Surgery	Patients aged 18 years and older who had surgery for primary rhegmatogenous retinal detachment and achieved an improvement in their visual acuity, from their preoperative level, within 90 days of surgery in the operative eye

[116] http://www.aao.org/practice-management/regulatory/pqrs-measure-specifications.

Age-Related Macular Degeneration (AMD): Counseling on Antioxidant Supplement	Percentage of patients aged 50 years and older with a diagnosis of age-related macular degeneration (AMD) or their caregiver(s) who were counseled within 12 months on the benefits and/or risks of the Age-Related Eye Disease Study (AREDS) formulation for preventing progression of AMD
Age-Related Macular Degeneration (AMD): Dilated Macular Examination	Percentage of patients aged 50 years and older with a diagnosis of age-related macular degeneration (AMD) who had a dilated macular examination performed which included documentation of the presence or absence of macular thickening or hemorrhage AND the level of macular degeneration severity during one or more office visits within 12 months
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Cataract Surgery with Intra-Operative Complications (Unplanned Rupture of Posterior Capsule Requiring Unplanned Vitrectomy)	Percentage of patients aged 18 years and older who had cataract surgery performed and had an unplanned rupture of the posterior capsule requiring vitrectomy
Cataract Surgery: Difference Between Planned and Final Refraction	Percentage of patients aged 18 years and older who had cataract surgery performed and who achieved a final refraction within +/- 1.0 diopters of their planned (target) refraction

Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery	Percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and no significant ocular conditions impacting the visual outcome of surgery and had best-corrected visual acuity of 20/40 or better (distance or near) achieved within 90 days following the cataract surgery
Cataracts: Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures	Percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and had any of a specified list of surgical procedures in the 30 days following cataract surgery which would indicate the occurrence of any of the following major complications: retained nuclear fragments, endophthalmitis, dislocated or wrong power IOL, retinal detachment, or wound dehiscence
Cataracts: Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery	Percentage of patients aged 18 years and older who had cataract surgery and had improvement in visual function achieved within 90 days following the cataract surgery, based on completing a pre-operative and post-operative visual function survey
Cataracts: Patient Satisfaction within 90 Days Following Cataract Surgery	Percentage of patients aged 18 years and older who had cataract surgery and were satisfied with their care within 90 days following the cataract surgery, based on completion of the Consumer Assessment of Healthcare Providers and Systems Surgical Care Survey
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred

Diabetes: Eye Exam	Percentage of patients 18-75 years of age with diabetes who had a retinal or dilated eye exam by an eye care professional during the measurement period or a negative retinal exam (no evidence of retinopathy) in the 12 months prior to the measurement period
Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care	Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed with documented communication to the physician who manages the ongoing care of the patient with diabetes mellitus regarding the findings of the macular or fundus exam at least once within 12 months
Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy	Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed which included documentation of the level of severity of retinopathy and the presence or absence of macular edema during one or more office visits within 12 months
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Preventive Care and Screening:	Percentage of patients aged 18 years and older seen

Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Primary Open-Angle Glaucoma (POAG): Optic Nerve Evaluation	Percentage of patients aged 18 years and older with a diagnosis of primary open-angle glaucoma (POAG) who have an optic nerve head evaluation during one or more office visits within 12 months
Primary Open-Angle Glaucoma (POAG): Reduction of Intraocular Pressure (IOP) by 15% OR Documentation of a Plan of Care	Percentage of patients aged 18 years and older with a diagnosis of primary open-angle glaucoma (POAG) whose glaucoma treatment has not failed (the most recent IOP was reduced by at least 15% from the pre-intervention level) OR if the most recent IOP was not reduced by at least 15% from the pre-intervention level, a plan of care was documented within 12 months
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user

M. ORTHOPAEDISTS

I. Why and How You May Want to Utilize Orthopaedists in Your CIN/ACO

Orthopaedics is one of the few clinical areas projected to grow in revenue over the next 10-15 years. It is also ideally suited to episode payment initiatives due to the relatively bounded nature of key procedures. Thus, orthopaedics has been at the epicenter of the bundled payment movement. The predicted "ACO 2.0" evolution includes multiple bundled payment initiatives intertwined in the ACO's full continuum of care strategy.[117]

A. Device and Supplies Cost Reductions – Standardization of implants, devices, and supplies tends to lead to cost reductions through volume discounting and manpower efficiencies.

B. Compress Unjustified Variability Contrary to Evidence-Based Best Practice – Starting with the orthopaedist subcommittee of the ACO Clinical Committee, determine among peers the clinically-valid, severity-adjusted best practices you agree to follow. Monitor the variability of ACO physicians against those standards and report to the group, with individual identifiers, on a regular basis. It is common that accomplished peers are surprised at the degree of variability and the associated avoidable costs and complications. The selection of best practices must be determined by peers to achieve buy-in.

A useful source of core best practices may be found in the recommendations of the American Academy of Orthopaedic Surgeons to the Choosing Wisely® program sponsored by the ABIM Foundation:

"1. Avoid performing routine post-operative deep vein thrombosis ultrasonography screening in patients who undergo elective hip or knee arthroplasty. Since ultrasound is not effective at diagnosing unsuspected deep vein thrombosis (DVT) and appropriate alternative screening tests do not exist, if there is no change in the patient's clinical status, routine post-operative screening for DVT after hip or knee anthroplasty does not change outcomes or clinical management.

[117] Navigant Issue Brief, *The Future of Accountable Care Organizations*, Summer 2014.

2. Don't use needle lavage to treat patients with symptomatic osteoarthritis of the knee for long-term relief. The use of needle lavage in patients with symptomatic osteoarthritis of the knee does not lead to measurable improvements in pain, function, 50-foot walking time, stiffness, tenderness, or swelling.

3. Don't use glucosamine and chondroitin to treat patients with symptomatic osteoarthritis of the knee. Both glucosamine and chondroitin sulfate do not provide relief for patients with symptomatic osteoarthritis of the knee.

4. Don't use lateral wedge insoles to treat patients with symptomatic medial compartment osteoarthritis of the knee. In patients with symptomatic osteoarthritis of the knee, the use of lateral wedge or neutral insoles does not improve pain or functional outcomes. Comparisons between lateral and neutral heel wedges were investigated, as were comparisons between lateral wedged insoles and lateral wedged insoles with subtalar strapping. The systematic review concludes that there is only limited evidence for the effectiveness of lateral heel wedges and related orthoses. In addition, the possibility exists that those who do not use them may experience fewer symptoms from osteoarthritis of the knee.

5. Don't use post-operative splinting of the wrist after carpal tunnel release for long-term relief. Routine post-operative splinting of the wrist after the carpal tunnel release procedure showed no benefit in grip or lateral pinch strength or bowstringing. In addition, the research showed no effect in complication rates, subjective outcomes, or patient satisfaction. Clinicians may wish to provide protection for the wrist in a working environment or for temporary protection. However, objective criteria for their appropriate use do not exist. Clinicians should be aware of the detrimental effects including adhesion formation, stiffness, and prevention of nerve and tendon movement."[118]

Strategic Note: The current fragmented fee-for-service model makes it difficult to coordinate across specialties for such problems as chronic back pain. Primary care physicians, anesthesiologist pain specialists, and orthopaedists in an ACO, however, are incentivized to collaborate and develop a uniform, evidence-based approach.

Paul Levin, M.D., Vice Chairman of the Department of Orthopaedic Surgery at Montefiore Medical Center in New York City, stated, "If you look at the management of acute low back pain care in the U.S.,

[118] http://www.aaos.org/news/aaosnow/oct13/cover3.asp.

it's widely recognized that it's over treated with no benefit to the patient and associated with that is an excessive use of expensive medical services. We've already embarked on this mission over the past year, even before we were officially an ACO program. The primary focus is on the education of primary care physicians and insuring rapid access to a spine specialist when the primary care provider believes it is warranted. Lectures are delivered at the primary care sites reviewing evidence-based guidelines, red flags, and the basics of performing an appropriate history and physical examination of the patient with acute low back pain. If you talk to the PCPs, they are most excited about gaining a comfort level in caring for these patients and streamlining the process for orthopaedic evaluation."[119]

C. Optimize Site-of-Service – Seek to move procedures to lower-cost facilities or outpatient sites when consistent with best practices. Particular opportunity exists for providing alternatives to the Emergency Department, which has a pronounced patient engagement aspect, discussed below. The Orthopaedists Accountable Care Workgroup emphasized that active optimization of site-of-service was truly "low-hanging fruit." They emphasize this as a straightforward way of achieving early savings.

D. Workflow Management – This is sometimes called "care redesign." Freed from the fragmentation of the fee-for-service system, work to optimize patient flow and provider coordination across the continuum of care. Better scheduling and pre-op readiness will generate savings.

E. Patient Engagement – Patient education is essential for success. Patients need to know when it is appropriate to present to an Emergency Department. A detailed patient handbook and journal are recommended. Better physician-patient communications is the best way to engage a patient. The hospitalist can coordinate better with the primary care providers. A transition health coach or "Patient Navigator" can actively follow up, including home visits. Tom Hunt, Executive Administrator of MidAmerica Orthopaedics in Chicago, suggests that, "Orthopaedic surgeons can specifically focus on realizing the greatest savings within ACOs by decreasing hospital length of stays, readmissions, and use of the emergency room. If the surgeon and his or her team can be sure they have preoperative, intraoperative, and discharge planning organized before their patient arrives at the hospital, length of stay will be controlled and discharge will be timely."[120]

F. Post-Acute Care Management – Patient engagement, discharge planning, active follow up and communication, managing complex high-risk, high-cost care with post-acute care providers, have been shown to present significant opportunities for care improvement, reduced complications and readmissions, and cost savings.

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[119] Dydra, L., *Where Orthopedic Surgeons Fit In ACOs: Experts Weigh In,* Becker's Spine Review, *(Oct. 2012),* http://www.beckerspine.com/orthopedic-spine-practices-improving-profits/item/13549-where-orthopedic-surgeons-fit-in-acos-e-experts-weigh-in.html

[120] *Id.*

G. "Push" Knowledge Upstream to Medical Home – Barbara Bergin, M.D., an orthopaedic surgeon with Texas Orthopaedics, Sports and Rehabilitation Associates in Austin, commented that, "Orthopaedics is almost a primary care field of practice. We don't just do surgery. Believe it or not, the majority of our practices are actually centered on the conservative treatment of musculoskeletal disorders and not doing surgery. … We're one of the specialties an ACO…is going to seek out for maximum efficiency and control of the patient's medical care."[121]

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Start with available measure sets from various sources as a "menu" and then tailor, prioritize, and weight them to fit your incentivization goals.

B. Examples of Possible Orthopaedic Performance Measures

- Avoidance of expensive in-hospital procedures when the same thing can be done in a less expensive setting, such as a physician's office.
- Preventive services measures including early detection and screening for conditions such as lower back pain and musculoskeletal injuries.
- Implementation of ACO integrated care protocols.
- Open line of communication between primary care and orthopaedic care team.
- Establishment of baseline care plans for total joint replacement and assessment of patient performance against the plans.
- Effective, efficient, evidence-based supply chain management.
- Creating informed decisions for patients and families re: pain management, home health, rehab, and other recovery-related services.

[121] *Id.*

C. MACRA's Quality Payment Program MIPS Measures Relevant to Orthopaedists

MEASURE NAME	MEASURE DESCRIPTION
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Functional Status Assessment for Total Hip Replacement	Percentage of patients 18 years of age and older with primary total hip arthroplasty (THA) who completed baseline and follow-up patient-reported functional status assessments
Functional Status Assessment for Total Knee Replacement	Percentage of patients 18 years of age and older with primary total knee arthroplasty (TKA) who completed baseline and follow-up patient-reported functional status assessments
Osteoarthritis (OA): Function and Pain Assessment	Percentage of patient visits for patients aged 21 years and older with a diagnosis of OA with assessment for function and pain
Patient-Centered Surgical Risk Assessment and	Percentage of patients who underwent a non-emergency surgery who had their personalized risks of postoperative complications assessed by their surgical team prior to surgery using a clinical data-based, patient-specific risk calculator and who received

Communication	personal discussion of those risks with the surgeon
Perioperative Care: Selection of Prophylactic Antibiotic - First OR Second Generation Cephalosporin	Percentage of surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic who had an order for a first OR second generation cephalosporin for antimicrobial prophylaxis
Perioperative Care: Venous Thromboembolism (VTE) Prophylaxis (When Indicated in ALL Patients)	Percentage of surgical patients aged 18 years and older undergoing procedures for which venous thromboembolism (VTE) prophylaxis is indicated in all patients, who had an order for Low Molecular Weight Heparin (LMWH), Low- Dose Unfractionated Heparin (LDUH), adjusted-dose warfarin, fondaparinux or mechanical prophylaxis to be given within 24 hours prior to incision time or within 24 hours after surgery end time
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user

Rheumatoid Arthritis (RA): Assessment and Classification of Disease Prognosis	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have an assessment and classification of disease prognosis at least once within 12 months
Rheumatoid Arthritis (RA): Functional Status Assessment	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) for whom a functional status assessment was performed at least once within 12 months
Rheumatoid Arthritis (RA): Glucocorticoid Management	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have been assessed for glucocorticoid use and, for those on prolonged doses of prednisone
	>= 10 mg daily (or equivalent) with improvement or no change in disease activity, documentation of glucocorticoid management plan within 12 months
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Total Knee Replacement: Identification of Implanted Prosthesis in Operative Report	Percentage of patients regardless of age undergoing a total knee replacement whose operative report identifies the prosthetic implant specifications including the prosthetic implant manufacturer, the brand name of the prosthetic implant and the size of each prosthetic implant
Total Knee Replacement: Preoperative Antibiotic Infusion with Proximal Tourniquet	Percentage of patients regardless of age undergoing a total knee replacement who had the prophylactic antibiotic completely infused prior to the inflation of the proximal tourniquet

Total Knee Replacement: Shared Decision-Making: Trial of Conservative (Non-surgical) Therapy	Percentage of patients regardless of age undergoing a total knee replacement with documented shared decision-making with discussion of conservative (non-surgical) therapy (e.g., non-steroidal anti-inflammatory drug (NSAIDs), analgesics, weight loss, exercise, injections) prior to the procedure
Total Knee Replacement: Venous Thromboembolic and Cardiovascular Risk Evaluation	Percentage of patients regardless of age undergoing a total knee replacement who are evaluated for the presence or absence of venous thromboembolic and cardiovascular risk factors within 30 days prior to the procedure (e.g. history of Deep Vein Thrombosis (DVT), Pulmonary Embolism (PE), Myocardial Infarction (MI), Arrhythmia and Stroke)
Use of Imaging Studies for Low Back Pain	Percentage of patients 18-50 years of age with a diagnosis of low back pain who did not have an imaging study (plain X-ray, MRI, CT scan) within 28 days of the diagnosis.

N. PEDIATRICIAN

I. Why and How You May Want to Utilize Pediatricians in Your CIN/ACO

The development of Advanced Payment Models (APM) has been focused on adult care initiatives because they have been driven by the Medicare Shared Savings Program, which focuses on adults over 65. But the movement of state Medicaid programs to value-based payment for integrated population health thrusts pediatric care generally, and pediatric behavioral and mental health care specifically, from being an afterthought to the forefront of value-based care innovation and opportunity. The opportunity arising from this movement regarding increased payer attention to care management for children is leveraged even more for child psychiatry as the integration of mental and physical health are also being recognized. Movement towards a family-centered pediatric ACO will benefit millions of children. Nationally, pediatricians provide a majority of all office visits for children enrolled in Medicaid. As of 2016, Medicaid provided health insurance to over 30 million children.[122]

A. Optimization of Pediatricians in Care for Children Depends on Recognition of the Distinctly Different Attributes Needed for High-Value Contributions

CHILDREN ARE NOT SMALL ADULTS

	ADULT	CHILDREN
Primary Care	Treatment and management of chronic diseases; "sickness care"	Focus on prevention including immunizations and checkups
Admission Diagnoses	Heart disease, diabetes, pneumonia, stroke	Newborn births, mood disorders, asthma, injury
Physiology Variation	Adult; elderly adults generally most expensive	Infants, children, adolescents, and some adults; 1st year of life especially critical

[122] *Congressional Budget Office, "Detail of Spending and Enrollment for Medicaid for CBO's March 2016 Baseline,"* March 2016.

POPULATION CHARACTERISTICS COMPARED

TIER	ADULTS	CHILDREN
Highest Cost Patients	Multiple chronic conditions such as heart disease and diabetes. With better management, patients can drop to the middle tier—often elderly.	Prematurity. Rare and complex congenital or genetic diseases. Good management can keep them out of the ED and hospital, but their conditions are generally life-long.
Chronic Disease	Large population with varying degrees of disease control, big opportunity for cost savings.	Relatively small population with 1 or 2 chronic conditions such as asthma or ADHD.
Healthy Patients	Depending on whom you ask, 60%-75% of patients.	Most kids, with focus on prevention, growth & development.

The HIMSS ACO Task Force noted the following unique attributes of care for children:

- "Kids' unique medical needs and social environment necessitate care from pediatric-trained physicians and child-specific community resources such as schools.
- It is essential to select performance metrics that are meaningful to pediatrics and that accurately measure the quality of pediatric care.
- Population characteristics and scarce subspecialists require a regional vs. local provider base.
- Technology needs to include functionality to support pediatric care.
- Children with medical complexity usually have many subspecialists and rely on community resources and will need special care throughout their lives.
- The family is generally responsible for a child's health care, rather than the patient him- or herself.
- Federal leadership provided by Medicare is lacking in Medicaid, but states have begun working with providers to form Medicaid ACOs.

- A largely healthy population means that a larger number of patients is needed to show significant cost savings."[123]

B. Family-Centered "Pediatric Medical/Health Homes" Linked to Specialty Care for Complex Conditions – The family-centered medical home is the foundation of a primary care-driven integrated delivery system that is anchoring the ACO. There must be sufficient pediatric primary and specialty care pediatricians for the number of children managed by the ACO. In many parts of the country, medical homes or tightly integrated relationships between children's hospitals, pediatricians and specialty care pediatricians may be the foundation for a network that can be strengthened further within the architecture of an ACO with strong pediatric capabilities.[124] The pediatric community's experience with care coordination, not only in the management of children with complex conditions but also in the daily encounters with children who may need short-term and intermediate care coordination, also supports the concept of a pediatric ACO value-adding contribution.[125] Finally, social determinants such as integrating community resources, oral and mental health into the ACO's delivery and payment structure is essential, because so much of a child's health and safety is affected by social determinants, and because some of the most common major chronic care conditions children and adolescents experience are oral and mental health problems. For example, the pediatric ACO, University Hospitals Rainbow Care Connection, in Cleveland, Ohio, integrates behavioral health services with primary care using social workers and tele-behavioral health. For more detail on integrating with behavioral health and community health resources, see TAC's *Accountable Care Manual for Psychiatrists and Accountable Care Manual for Community Health Partners* at http://www.tac-consortium.org/resources/accountable-care-guide-for-commuity-healh-partners.

According to research in New Orleans, families of children and youth with special health care needs in an underserved population experienced enhanced services from nurse care coordinator support.[126] In short, fewer unmet needs for services ensue when primary care clinicians are sensitive to the culture and needs of children and youth with special health care needs and their families and incorporate levels of care coordination in care delivery.[127] Care coordination conducted as a standard of pediatric practice resulted in increased family satisfaction with the quality of care and also decreased barriers to care.[128] A 2011 study in children and youth with special health care needs and their families who received care coordination and individualized care plans via a Medicaid managed care plan study reported improved satisfaction with mental health services and specialized therapies and participants were observed to

[123] HIMSS ACO Task Force, *Pediatric ACOs*, (April 2014).
[124] *Accountable Care Organizations (ACOs) and Pediatricians: Evaluation and Engagement*, Am. Acad. of Pediatrics, http://www.aap.org/en-us/professional-resources/practice-support/Pages/Accountable-Care-Organizations-and-Pediatricians-Evaluation-and-Engagement.aspx (last visited Feb. 25, 2015).
[125] *Id.*
[126] *Patient- and Family-Centered Care Coordination: A Framework for Integrating Care for Children and Youth Across Multiple Systems*, Counsel on Children with Disabilities and Medical Home Implementation Project Advisory Comm., http://pediatrics.aappublications.org/content/133/5/e1451.full.html#ref-list-1 (last visited Feb. 26, 2015).
[127] *Id.*
[128] *Id.*

have a decline in unmet needs, improved satisfaction with specialty care, and improved ratings of child health and family functioning.[129]

C. Specific Strategies for Premature Infants – "In a population of pretty healthy people, children, we see the avoidable costs for premature deliveries as an area of savings opportunity."[130] This subset of children often becomes long-term chronic high-risk, high-cost patients. Fortunately, there are a number of straightforward proven initiatives to promote better health and reduce costs, particularly readmissions. Value-based payment for population management, such as in ACOs, has the potential to unleash these practices by making them financially feasible.

- Protocolize Neonatal Hospital Care – Neonatologist Docia Hickey, M.D. noted that "set protocols in the hospital make a lot of difference." Especially beneficial is protocolized team care in the delivery room. Protocols can be instituted for feeding, monitoring oxygen levels, minimizing touching, keeping the infant calm, use of the ventilator, central line care and removal, and minimizing interventricular hemorrhage ("IVH"), chronic lung disease, and central line infections. The children should be screened for IVH and retinopathy of prematurity ("ROP"), initially and during follow up.

- Home Care/Case Management – Significant benefits have resulted when a case manager is assigned to premature infants upon discharge. One Pediatric Accountable Care Workgroup member recounted particular success when former neonatology nurses were enlisted as case managers. The management specifically included home health. The babies were on monitors in all cases. This practice resulted in the ability to discharge infants at lower weights, earlier, and the significant reduction in readmission rates.

- Participate in National Database – Participation in a national database for premature infants allows you to benchmark yourself. According to our Workgroup, it is recommended to review statistics, stratified according to gestational age, for mortality, IVH, ROP, central line infections, and rate of readmissions.

- Follow-Up Clinic – For an ACO with a large neonatal population, a follow-up clinic is suggested.

In summary, a specific neonatal strategy is a "no brainer" for ACOs with a patient population including children because of the above proven, cost-effective strategies. However, these are strategies unique

[129] *Id.*
[130] Telephone interview with Pediatrics Accountable Care Workgroup member, neonatologist Docia Hickey, M.D., on September 10, 2014

to this population. It can truly be said that just **as children are not simply small adults, premature infants are not simply small children.**

D. Increased Focus on Asthma Care – A randomized controlled study of a pediatric outreach program reported by Greineder DK demonstrated that a 75 percent reduction in hospitalizations among children aged 1-15 years with asthma who participated in a comprehensive asthma outreach program.[131] The program was focused on ensuring that patients kept scheduled appointments, monitored their asthma, and took maintenance medications.[132] Reduced hospitalizations along with significant reductions in emergency department use and out-of-health-plan use including referrals, home care and durable medical equipment contributed to an estimated direct savings of $7.69 to $11.67 for every dollar spent on the intervention.[133] Montefire Medical Center, New York ACO, invests heavily in school-based health care centers, which reduces admissions for pediatric asthma tenfold and helps reduce teenage pregnancy by 47 percent.[134]

E. Standardized Evidence-Based Best Practices and Data-Driven Research – Health information technology can play a pivotal role in care coordination. Tracking and monitoring patients via the use of patient registries can support care coordination activities and functions and improve patient safety. The Data Resource Center for Child and Adolescent Health (DRC) supports efforts to improve pediatric health care and quality by providing population-based child health from various national surveys that can be easily accessed through the DRC website.

Advantages of the DRC website include: (1) National standardization which allows for consistent measurement and reporting across states and geographic areas within states. Standardization of measurement is critical to allowing comparison across states and subgroups of children; (2) comparison across a wide array of demographic and health status subgroups of children and youth, including race/ethnicity, presence of a special health care need, household income, etc.; (3) many topics relevant to national health goals for children are validly reported by parents and are not possible to access using other information systems, such as billing, administrative, clinical or medical records; (4) an array of resources on how to use these data at the national, regional, state and local level; (5) the role of evidence-based medicine in impacting patient care is noted among one of the expectations of the Patient Protection and Affordable Care Act.[135] As the principal clinical partner for the Texas A&M Health Science Center College of Medicine, Scott & White has embraced research and is data-driven in achieving the quality outcomes that help manage cost and care.[136]

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[131] Michael Mellon, MD and Bhash Parasuraman, PhD, *Pediatric Asthma: Improving Management to Reduce Cost of Care,* http://ns.amcp.org/data/jmcp/Review-130-141.pdf (last visited Feb. 26, 2015).
[132] *Id.*
[133] *Id.*
[134] *Faces of Public Health: NY State Health Commissioner Nirav Shah*, Robert Wood Johnson Foundation (Apr. 3, 2013, 10:15AM), http://www.rwjf.org/en/blogs/culture-of-health/2013/04/faces_of_public_heal.html.
[135] *Pediatric Health Care Quality Measurement and Improvement*, Data Res. Ctr. for Child & Adolescent Health, http://www.childhealthdata.org/browse/qualityportal (last visited Feb. 25, 2015)
[136] Steve Allen, MD, MBA, *Medicaid and Pediatric Accountable Care Organizations: A Case Study,* Accountable Care News Vol. 1, Num. 5, (Dec. 2010), http://www.network-health.org/uploadedFiles/About_Us/Newsroom/In_the_News/Accountable%20Care%20News%20-%20December%202010(1).pdf.

- Pediatric Data is Different. One Pediatrics Accountable Care Workgroup member commented, "One of the things we're finding in our experience is that we have to pull out pediatrics as a population; otherwise, the analytics are skewed." Adult data should focus on chronic disease management, sickness care, heart disease, diabetes, frail complex elderly care, with more widespread health concerns as a percent of the population. In contrast, data for population management for children should include well visits, immunizations, family communication, asthma, newborns, complex congenital or genetic diseases, and higher percentage of overall good health. Pediatric-appropriate data capture is tied to the need for unique performance metrics appropriate for pediatric care, for the purpose of data collection and measurement is to evaluate performance against clinically valid and appropriate structure, process, and outcome goals desired that are reflected in the set of metrics chosen. Both are essential, and they are intertwined.

- Evidence-Based Best Practices Work. One Pediatrics Accountable Care Workgroup member noted, "Even in high-cost areas, we need to use what evidence we have. Don't just throw the kitchen sink at it." Another shared experience with the benefit of evidence-based approaches to premature infants, to reduce length of stay and improve others. "Many things can be protocolized. That translates into lower costs." Coordinated care for children is in its infancy. Consequently, evidence-based best practices are just now emerging and principles-based guidelines are being initiated, starting the lifecycle toward becoming evidence-based. One example of evidence-based practices may be found in the suggestions of the American Academy of Pediatrics found in the Choosing Wisely® Initiative[137] :

    1. Antibiotics should not be used for apparent viral respiratory illnesses (sinusitis, pharyngitis, bronchitis). Although overall antibiotic prescription rates for children have fallen, they still remain alarmingly high. Unnecessary medication use for viral respiratory illnesses can lead to antibiotic resistance and contributes to higher health care costs and the risks of adverse events.

    2. Cough and cold medicines should not be prescribed or recommended for respiratory illnesses in children under four years of age. Research has shown these products offer little benefit to young children and can have potentially serious side effects. Many cough and cold products for children have more than one ingredient, increasing the chance of accidental overdose if combined with another product.

[137] Choosing Wisely®, Am. Acad. of Ped., http://www.choosingwisely.org/doctor-patient-lists/american-academy-of-pediatrics/ (downloaded June 2014).

3. Computed tomography (CT) scans are not necessary in the immediate evaluation of minor head injuries; clinical observation/Pediatric Emergency Care Applied Research Network (PECARN) criteria should be used to determine whether imaging is indicated. Minor head injuries occur commonly in children and adolescents. Approximately 50 percent of children who visit hospital emergency departments with a head injury are given a CT scan, many of which may be unnecessary. Unnecessary exposure to x-rays poses considerable danger to children, including increasing the lifetime risk of cancer because a child's brain tissue is more sensitive to ionizing radiation. Unnecessary CT scans impose undue costs to the health care system. Clinical observation prior to CT decision-making for children with minor head injuries is an effective approach.

4. Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure. CT scanning is associated with radiation exposure that may escalate future cancer risk. MRI also is associated with risks from required sedation and high cost. The literature does not support the use of skull films in the evaluation of a child with a febrile seizure. Clinicians evaluating infants or young children after a simple febrile seizure should direct their attention toward identifying the cause of the child's fever.

5. Computed tomography (CT) scans are not necessary in the routine evaluation of abdominal pain. Utilization of CT imaging in the emergency department evaluation of children with abdominal pain is increasing. The increased lifetime risk for cancer due to excess radiation exposure is of special concern given the acute sensitivity of children's organs. There also is the potential for radiation overdose with inappropriate CT protocols.

6. Don't prescribe high-dose dexamethasone (0.5 mg/kg per day) for the prevention or treatment of bronchopulmonary dysplasia in pre-term infants. High-dose dexamethasone (0.5 mg/kg per day) does not appear to confer additional therapeutic benefit over lower doses and is not recommended. High doses also have been associated with numerous short- and long-term adverse outcomes, including neurodevelopmental impairment.

7. Don't perform screening panels for food allergies without previous consideration of medical history. Ordering screening panels (IgE tests) that test for a variety of food allergens without previous consideration of the medical history is not recommended. Sensitization (a positive test) without clinical allergy is common. For example, about 8 percent of the population tests

positive to peanuts, but only approximately 1 percent are truly allergic and exhibit symptoms upon ingestion. When symptoms suggest a food allergy, tests should be selected based upon a careful medical history.

8. Avoid using acid blockers and motility agents such as metoclopramide (generic) for physiologic gastroesophageal reflux (GER) that is effortless, painless, and not affecting growth. Do not use medication in the so-called "happy-spitter." There is scant evidence that gastroesophageal reflux (GER) is a causative agent in many conditions though reflux may be a common association. There is accumulating evidence that acid-blocking and motility agents such as metoclopramide (generic) are not effective in physiologic GER. Long-term sequelae of infant GER is rare, and there is little evidence that acid blockade reduces these sequelae. The routine performance of upper gastrointestinal (GI) tract radiographic imaging to diagnose GER or gastroesophageal disease (BERD) is not justified. Parents should be counseled that GER is normal in infants and not associated with anything but stained clothes. GER that is associated with poor growth or significant respiratory symptoms should be further evaluated.

9. Avoid the use of surveillance cultures for the screening and treatment of asymptomatic bacteriuria. There is minimal evidence that surveillance urine cultures or treatment of asymptomatic bacteriuria is beneficial. Surveillance cultures are costly and produce both false positive and false negative results. Treatment of asymptomatic bacteriuria also increases exposure to antibiotics, which is a risk factor for subsequent infections with a resistant organism. This also results in the overall use of antibiotics in the community and may lead to unnecessary imaging.

10. Infant home apnea monitors should not be routinely used to prevent sudden infant death syndrome (SIDS). There is no evidence that the use of infant home apnea monitors decreases the incidence of SIDS; however, they might be of value for selected infants at risk for apnea or cardiovascular events after discharge, but should not be used routinely. Editorial note by Pediatric Accountable Care Workgroup: Consider adding congestion and neonatal to the list of conditions for which home monitoring is of value.

G. Incorporate Community-Based Resources – Children are never cared for in isolation. The family, community and educational system in which they live are natural extensions of accountable care principles that allow us to redefine the health care ecosystem. Schools, churches, healthy food choices and daycares should be included in pediatric accountable care strategies.

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA Quality Payment Program measures at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Pediatrics

MEASURE NAME	MEASURE DESCRIPTION
Acute Otitis Externa (AOE): Systemic Antimicrobial Therapy - Avoidance of Inappropriate Use	Percentage of patients aged 2 years and older with a diagnosis of AOE who were not prescribed systemic antimicrobial therapy
Acute Otitis Externa (AOE): Topical Therapy	Percentage of patients aged 2 years and older with a diagnosis of AOE who were prescribed topical preparations
ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication	Percentage of children 6-12 years of age and newly dispensed a medication for attention-deficit/hyperactivity disorder (ADHD) who had appropriate follow-up care. Two rates are reported. a. Percentage of children who had one follow-up visit with a practitioner with prescribing authority during the 30-Day Initiation Phase. b. Percentage of children who remained on ADHD medication for at least 210 days and who, in addition to the visit in the Initiation Phase, had at least two additional follow-up visits with a practitioner within 270 days (9 months) after the Initiation Phase ended.
Appropriate Testing for Children with Pharyngitis	Percentage of children 3-18 years of age who were diagnosed with pharyngitis, ordered an antibiotic and received a group A streptococcus (strep) test for the episode
Appropriate Treatment for Children with Upper Respiratory Infection (URI)	Percentage of children 3 months-18 years of age who were diagnosed with upper respiratory infection (URI) and were not dispensed an antibiotic prescription on or three days after the episode

Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk
Childhood Immunization Status	Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DTaP); three polio (IPV), one measles, mumps and rubella (MMR); three H influenza type B (HiB); three hepatitis B (Hep B); one chicken pox (VZV); four pneumococcal conjugate (PCV); one hepatitis A (Hep A); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday
Chlamydia Screening for Women	Percentage of women 16-24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement period
Follow-Up After Hospitalization for Mental Illness (FUH)	The percentage of discharges for patients 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner. Two rates are reported: The percentage of discharges for which the patient received follow-up within 30 days of discharge. The percentage of discharges for which the patient received follow-up within 7 days of discharge
HIV/AIDS: Pneumocystis Jiroveci Pneumonia (PCP) Prophylaxis	Percentage of patients aged 6 weeks and older with a diagnosis of HIV/AIDS who were prescribed Pneumocystis jiroveci pneumonia (PCP) prophylaxis
HIV/AIDS: Sexually Transmitted Disease Screening for Chlamydia, Gonorrhea, and Syphilis	Percentage of patients aged 13 years and older with a diagnosis of HIV/AIDS for whom chlamydia, gonorrhea, and syphilis screenings were performed at least once since the diagnosis of HIV infection
Immunizations for Adolescents	The percentage of adolescents 13 years of age who had the recommended immunizations by their 13th birthday

Medication Management for People with Asthma	The percentage of patients 5-64 years of age during the measurement year who were identified as having persistent asthma and were dispensed appropriate medications that they remained on for at least 75% of their treatment period
Preventive Care and Screening: Influenza Immunization	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	Percentage of patients aged 12 years and older screened for depression on the date of the encounter using an age appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the positive screen
Primary Caries Prevention Intervention as Offered by Primary Care Providers, including Dentists	Percentage of children, age 0-20 years, who received a fluoride varnish application during the measurement period.
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents	Percentage of patients 3-17 years of age who had an outpatient visit with a Primary Care Physician (PCP) or Obstetrician/Gynecologist (OB/GYN) and who had evidence of the following during the measurement period. Three rates are reported. - Percentage of patients with height, weight, and body mass index (BMI) percentile documentation - Percentage of patients with counseling for nutrition - Percentage of patients with counseling for physical activity

C. Pediatric Measures List – Community Care of North Carolina is a care coordination organization administering the North Carolina Medicaid population, over half of whom are children. It developed measures specific to pediatric care that may be found at https://www.communitycarenc.org/quality-improvement/performance-measures/

O. PRIMARY CARE – FAMILY PRACTICE, GENERAL INTERNAL MEDICINE, AND OTHER DISCIPLINES THAT PROVIDE PRIMARY CARE AS PART OF THEIR SCOPE OF PRACTICE

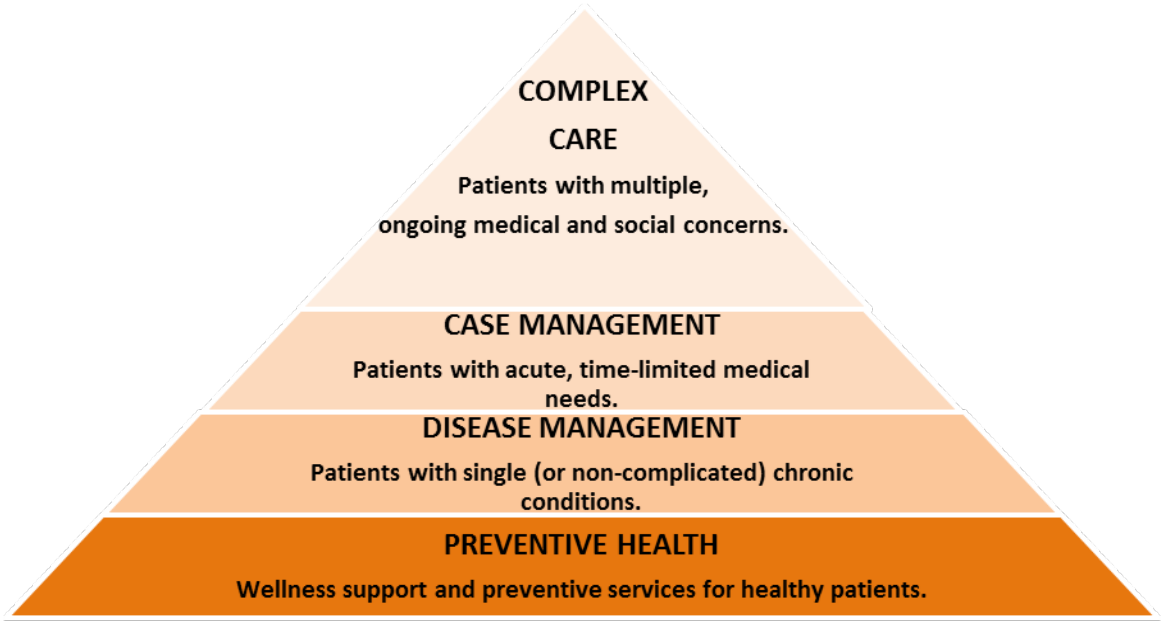
I. Why and How You May Want to Utilize Primary Care Physicians in Your CIN/ACO

Any ACO strategy for any physician subspecialty begins with determining if there are high-impact, value-add contributions for patients they manage. Because primary care can impact all five of the high-impact target areas in population management: (1) prevention, (2) chronic care management, (3) reduced hospitalizations, (4) care transitions and (5) multispecialty coordination of complex patients, it is no wonder that internal medicine and the other primary care subspecialties are the only ones required by law to be included in all MSSP ACOs.

A. Overview – If primary care is in the "sweet spot" for all the high-value areas for value-based care, what do you prioritize? An October 2014 study of high-performing ACOs found the following key attribute present: "All three organizations are building on past efforts to redesign and strengthen primary care."[138] Although there are unique attributes and strengths of each of the primary care subspecialties, the commonalities predominate of opportunities for high-value contributions, and thus all primary strategies are collected in this chapter.

B. The Primary Care Physician as PCMH Quarterback – Primary care should head the patient-centered medical home to unleash its potential in the ACO setting. Unlike in fee-for-service, primary care's concerns now are all the patients attributed to you in your ACO's defined patient population(s), not just the ones presenting to your office. That population should be evaluated and stratified according to diagnosis and severity. As the graphic below illustrates, separate ACO strategies unfold for each category of patient.

[138] *Id.*



California Quality Collaborative

Once the ACO provides the population stratification, the primary care physician and the PCMH team can create proactive care management opportunities. Additional "face time" with patients during the initial visit pays dividends in compliance and rapport. Medication reconciliation and patient education and self-management tips can be introduced. One Workgroup member explained that this was a much more enjoyable way to practice. "Figure out what buttons to push for which patient and which resources to bring to them."

The high-risk complex patient receives special attention. Some others may be grouped for prevention/ wellness/lifestyle management; some for management of their chronic diseases, and perhaps others for access to behavioral health, community health resources, transition management, or post-acute care management.

Strategic Note: Utilize "wellness visits" strategically. CMS reimburses for this smart value-building activity.[139] One Workgroup member in a large multispecialty, single tax identification number ACO commented that they have protocolized this population assessment methodology and found that it was

[139] The Wellness CPT codes are: G0402 IPPE Initial Preventative Physical Exam, G0438 Initial Annual Wellness, and G0439 Subsequent Annual Wellness.

also "a big source of revenue for us." Further, the CMS MSSP attribution calculations of assigning patients to the physician rendering the plurality of primary care services are notoriously fickle. The wellness visit is a good way to add a primary care "touch." Fee-for-service chronic care management and related codes also promote and compensate value-based care management by primary care. They are often a good on-ramp to promote behavior change and provide value-based care compensation to pay for ACO infrastructure costs.[140]

Strategic Note: Unleash the value of care coordinators. In the first several years of ACO operation, the high value of nurse care coordinators almost always catches the ACO by surprise. Once the patient population care management plans have been determined, care coordinators usually play key roles. For example, one Workgroup member stated simply, "Figure out exactly what the patient's needs are and then pass that on to the care navigator. It could be as simple as helping the patient to stop eating Little Debbies at night." Regardless of the care plan, the one-on-one staff reinforcement increases compliance and self-management substantially. Nurse navigators who follow up with a home visit or telephone call post-discharge have proven especially valuable in avoiding readmissions. Patients with chronic diseases are assigned care coordinators. The transition/coordination role for complex high-risk patient care is even higher. One primary care ACO member estimated that the "ROI," or return on investment, for a nurse care coordinator is at least three-to-one. Another commented that the coordinators handled a lot of routine care, allowing the physician to practice at the top of his or her license and to actually increase fee-for-service compensation by being able to code for more severe and complex services. The Workgroup internists could not overemphasize the benefit of care coordinators.

- Disease Management. Many patients will be appropriate for disease management, such as for diabetes, congestive heart failure, asthma, and COPD.

- OK, but how do I know if our disease management protocol works? The more common protocols are publically available. They should be collected and vetted by the Clinical Committee of the ACO, of which a primary care physician, preferably an internist, should be a member. For example, the nonprofit Community Care of North Carolina ("CCNC") has honed disease management initiatives for a number of years and has posted them publically, including:

  - Asthma Management
  - COPD

[140] Bobbitt, J., *Family Practice News*, How to Harness Value-Based Care Codes, (May 15, 2018).

- Diabetes Quality Initiative
- Heart Failure Program
- Pharmacy Initiative
- Pregnancy Medical Home[141]

• Transition Management – Since the fee-for-service system is reactive, based on the patient self-selecting to see a physician or go to the emergency department, it is inevitable that effective transition management will be lacking when it comes to proactive coordination/transition/communication approach for patient transition among providers and facilities. The PCMH and the ACO's specialists can ameliorate this concern. One example is pre-operation evaluation and transition for a patient anticipating an inpatient procedure. Pre-anesthesia testing ("PAT") coordination among primary care physicians, anesthesiologists and surgeons has been shown to dramatically reduce the number of costly cancellations and the number of tests ordered.[142] It has been said that coordinating care across our fragmented system is the number one savings opportunity for ACOs. **"The best bet for achieving returns from integration is to prioritize initiatives specifically targeting waste and inefficiency caused by fragmentation in today's delivery system, unnecessary spending allotted to substandard clinical coordination, aggravated by the complexity of navigating episodes of care, and unwanted variation in clinical outcomes driven by lack of adherence to best clinical practice."**[143]

Strategic Note: Take advantage of transition support codes. As with wellness visits, CMS will pay for certain care transition activities. CMS has figured out that the payback in improved care is well worth the investment. One ACO physician mentioned that coding for this ACO strategic value-add initiative resulted in over $250,000.00 per physician in increased Medicare payments in one year. One Workgroup member noted that her practice protocolized this process utilizing trained staffers. This greatly benefitted their ACO population management, but also generated additional fee-for-service revenues. "We've used that money to expand our wellness and coordination programs," she said, "including hiring a nutritionist and more care navigators, and to expanding group education meetings." The point is not the reimbursement, but that this is an intelligent incentivization to induce the right kind of population management behavior. Medicare has begun paying physicians and their staffs for 30 days of transition care management—the time spent following up with patients after their discharge from an inpatient hospital setting or nursing facility. It covers coordination as the patient transitions back into the home or assisted living environment. This service is covered by two new Current

[141] Community Care of North Carolina, http://www.commumitycarenc.com/population-management.
[142] Perrin Jones, M.D.; pjones@plecticsms.com; email to Melanie Phelps, et al., (March 4, 2015).
[143] The Advisory Board Company, *Toward Accountable Care*, (2010).

Procedure Terminology ("CPT") Codes—99495 and 99496. They both require face-to-face visits after discharge, which do not have to be at the practice.

- Group Visits are Great – The Workgroup members strongly recommend group patient visits. One staffer can manage, and the benefits of patient engagement, self-management capability, medication reconciliations, and lifestyle improvement are "high impact," they report.

- Integrate with Behavioral Health – "Accountable care organizations ("ACOs") may be well-positioned to increase the focus on managing behavioral health conditions … through integration of behavioral health treatment and primary care."[144] There is no clinical debate over the health delivery benefits of integrating mental and physical health care. As the National Alliance on Mental Illness puts it plainly in its family guide, Integration of Mental Health and Primary Care, "As individuals, we are not fragmented, we are whole people."[145] The separation has largely been driven by the checkered fee-for-service payment system and to a lesser degree, a lack of shared traditions. The ACO model finally removes the financial disincentives to work together. "The ACO payment mechanism gives health care providers a new opportunity and incentives to rebuild the health care system in a way that reverses the separation between primary care and behavioral health care. … If ACOs can effectively integrate behavioral health services into their care and connect patients to these services, they can be better positioned to reach both cost and quality benchmarks."[146]

The integration scheme will vary according to circumstances, but will develop along one of these general paths:

  - Awareness – There is wide variance today in knowledge and awareness of potential synergies among the disciplines. Psychiatrists and internists can close the gap in an ACO by having joint planning and periodic "lunch and learn" sessions. Written protocols and guidelines can be developed.

  - Four Models – ACOs incorporating primary care and behavioral health employed one of four models: (1) consulting; (2) co-location; (3) embedded or (4) for Medicaid contracts with large disadvantaged populations, reverse integration (primary care physicians are integrated into existing behavioral health programs.[147] One psychiatrist practicing in an ACO environment commented that, "I participate in such a program and can attest to its effectiveness in three ways [medication management, earlier diagnosis and identification and referral of severe mental

[144] Lewis, V., et al., Health Affairs, *Few ACOs Pursue Innovative Models That Integrate Care for Mental Illness and Substance Abuse With Primary Care*, Hlth. Aff., No. 10, p. 1808, (Oct. 2014).
[145] Grattadago, D., et al., NAMI, *Integrating Mental Health and Primary Care*, (Nov. 2011).
[146] Lewis, V., et al., Health Affairs, *Few ACOs Pursue Innovative Models That Integrate Care for Mental Illness and Substance Abuse With Primary Care*, Hlth. Aff., No. 10, p. 1814, (Oct. 2014).
[147] *Id.*

disorders]. Almost all of my work is non-billable, but the ACO that employs me sees me as an important part of overall quality improvement and cost control."[148]

- Integrate with Community Resources – Dennis Weaver, M.D. commented that, "At its most basic, population health means actively working to keep your community healthy. When you think about it that way, it makes you wonder, 'Who or what is influencing the health of individuals in my community the most?' To date, population health care strategy has focused mainly on the role health care providers themselves play as the main influencers of health outcomes. But the reality is that we are not the only ones influencing the health status of the people we serve … [Health] systems will need to engage with organizations that impact the health determinations in your community and influence individual's behavior when they're between provider visits."[149] Many patients do not receive certain clinical preventative services, cannot access the medical system, and need help in self-management. Coordinating with external non-clinical organizations such as local health departments and community- and faith-based organizations can mitigate these problems. The MSSP requires ACOs to engage with community health resources. The benefits of such collaboration will be even more pronounced in inner-city and rural medically underserved areas. The Internal Medicine Accountable Care Workgroup recommends accessing the Agency on Aging for an inventory of available resources.

Remember, it is no longer just about the patient who shows up at your office, but your responsibility and opportunity now extends to your entire patient population. You can reach them so much better by integrating with community health resources. ACO president, Grace Terrell, M.D., makes it clear: "Community partnerships MATTER MORE THAN PRACTICALLY ANYTHING in the world of value-based care."[150] For more information, refer to the *Accountable Care Manual for Community Health Partners*, found at www.tac.consortium.org/resources/.

- Utilize ED Avoidance Techniques – The gap analysis of a population's health as compared to the ideal invariably reveals overutilization of the emergency department ("ED") for non-emergency services. Under pure fee-for-service, there are few adverse financial consequences for this, and it was a lot easier for providers to let this happen. Now, the ACO receives up to 50 percent of the savings through mitigation of inappropriate ED utilization. Simple measures have proven successful, such as extended hours, weekend hours, and walk-in urgent care clinics. A nurse triage "hotline" and embedded health professionals in the ED have also proven to be successful.

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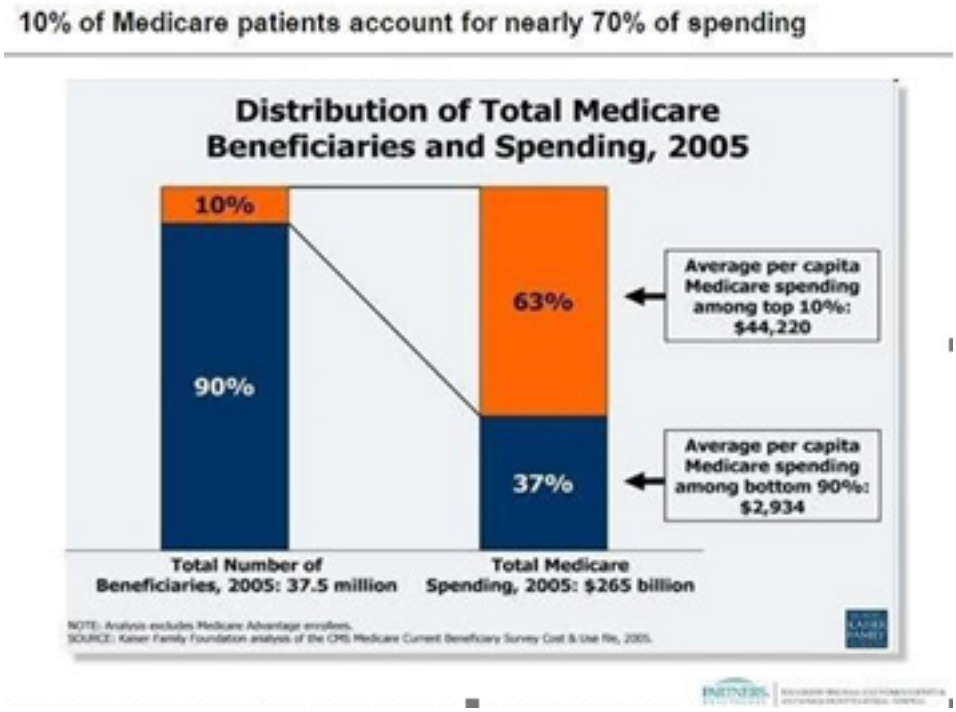
[148] Interview with Arthur Kelley, M.D.
[149] Weaver, D., The Advisory Board Company, *Who Really Influences a Population's Health? (Hint: It's Not Just Providers)*, Adv. Bd., Care Transformation Center Blog, http://www.advisory.com/research/caretransformationcenter/care.transformation.center.blog/2014/07/sw-what-really-influences-population-health, (July 30, 2014).
[150] Email from Grace Terrell, M.D. to the TAC Physician Advisory Committee.

C. Primary Care Physician as Complex Patient Care Management Coach – The level of coordination and transition management of complex high-risk patients is both one of the greatest failings of the fee-for-service system and one of the greatest opportunities under accountable care. These patients commonly comprise around 10 percent to 20percent of the patient population, yet consume 50 percent to 70 percent of the total costs.



Because this management yields significant overall contributions to the Triple Aim, they are considered "low-hanging fruit" by ACOs. Primary care physicians are ideally suited to serve leadership roles in such efforts. They can be logical extensions of the PCMH concept with more intensity of multispecialty site-of-service coordination and care navigators/community outreach involvement.

The process begins with the aforementioned population stratification. Patients with certain diagnoses, severity of illnesses and levels of resource utilization are assigned for structure intervention.

The October 2014 Commonwealth Fund study of common attributes of high-performing ACOs found the following:

"Care management of patients with costly, complex needs. All study sites have invested resources in deploying care managers, outreach workers, or virtual care teams to engage with and help improve outcomes for patients with complex needs or at risk of incurring high costs. All stress an individualized approach to identify and address unmet needs through in-person or telephone visits. For example, care teams that may include social workers as well as pharmacists and care coordinators have been deployed by urban safety-net clinics affiliated with Health Share and by Hill Physicians Medical Group to help address the psychosocial and clinical factors that play a role in improving patients' health and treatment adherence. Marshfield Clinic embedded nurse care coordinators in all its primary care clinics to help patients avoid unnecessary hospital use, with the expectation that shared savings would help fund this infrastructure. It subsequently discontinued the program because it was partially duplicating a service offered by its health plan and because the program's cost was not sustainable without support from other payers. The clinic retains a care management program serving heart failure patients, and is reconfiguring primary care teams to take over the care coordination responsibilities."[151]

Other complex patient "best practices" of the high-performing ACOs revealed by the study included: (1) virtual care teams of pharmacists, social workers and case managers help primary care physicians manage the clinical and psychosocial needs of this population; (2) physicians are embedded in skilled nursing facilities to prevent avoidable hospital and emergency department admissions; (3) care coordination nurses navigate care and provide individualized care management; and (4) nurses receive electronic alerts when patients visit an emergency department or are discharged.

One of our Accountable Care Workgroup members added that, "This is a much more enjoyable way to practice." Having navigators, nutritionists, mental health and access to specialist input brings the right resources to the patient (and treating internist) at the right time and at the right place. Early and accurate intervention is enhanced and offsite physical referral needs are diminished. Discharge planning and post-acute care coordination for these complex patients pay dividends. The skillsets of internists make them particularly suited to serve as team leaders. We are moving from fragmented care to team-oriented integrated care. Because of their concentration in adult medicine training, including particularly for elderly complex patients, primary care physicians are the most appropriate group to serve as a team leader who brings the disparate parts together.

Strategic Note: The better home health, rehab and skilled nursing providers can be identified, and made aware of the transition and coordination protocols. According to the Accountable Care Workgroup, they had no problem getting them onboard because, as one member noted, "They love the

[151] V. A. Lewis, C. H. Colba, R. Tierney, et al., *Few ACOs Pursue Innovative Models That Integrate Care for Mental Illness and Substance Abuse with Primary Care*, Health Affairs, Oct. 2014 33(10):1808-16.

referrals." This is an example that the primary care physician, PCMH, and ACO can exercise value-based "narrow network" steering similar to those used by payers. Use your care coordinators to give you feedback on who are the best post-acute care providers.

Strategic Note: As noted, take advantage of chronic care management codes. Eligible patients are those with multiple chronic conditions, often your identified high-risk patient. The assessment of medical, mental and social needs care coordination and transition management should all be part of your ACO's high-risk patient management playbook.

D. Reduced Unjustified Variability Against Best Practices – Primary care physicians in top practices are inevitably surprised with the variability in treatment approaches, outcomes and costs for even common services, such as diabetes management. Population health shifts the culture from "I know I deliver high-quality care because I was well trained," and the available scheduled time and memory of the physician; to standardized care following peer-vetted, clinically-valid evidence-based best practices.

An example of evidence-based best practices recommended by the American College of Physicians ("ACP") may be found in the Choosing Wisely® Initiative:

- **Don't obtain screening exercise electrocardiogram testing in individuals who are asymptomatic and at low risk for coronary heart disease.** In asymptomatic individuals at low risk for coronary heart disease (10-year risk <10 percent) screening for coronary heart disease with exercise electrocardiography does not improve patient outcomes.

- **Don't obtain imaging studies in patients with nonspecific low back pain.** In patients with back pain that cannot be attributed to a specific disease or spinal abnormality following a history and physical examination (e.g., nonspecific low back pain), imaging with plain radiography, computed tomography (CT) scan, or magnetic resonance imaging (MRI) does not improve patient outcomes.

- **In the evaluation of simple syncope and a normal neurological examination, don't obtain brain imaging studies (CT or MRI).** In patients with witnessed syncope but with no suggestion of seizure and no report of other neurologic symptoms or signs, the likelihood of a central nervous system (CNS) cause of the event is extremely low and patient outcomes are not improved with brain imaging studies.

- **In patients with low pretest probability of venous thromboembolism (VTE), obtain a high-sensitive D-dimer measurement as the initial diagnostic test; don't obtain imaging studies as the initial diagnostic test.** In patients with low pretest probability of VTE as defined by the Wells prediction rules, a negative high-sensitivity D-dimer measurement effectively excludes VTE and the need for further imaging studies.

- **Don't obtain preoperative chest radiography in the absence of a clinical suspicion for intrathoracic pathology imaging studies.**

- **Don't obtain preoperative chest radiography in the absence of a clinical suspicion for intrathoracic pathology.** In the absence of cardiopulmonary symptoms, preoperative chest radiography rarely provides any meaningful changes in management or improved patient outcomes.

Another example may be found in the following list published on the ACP website:

- **Nonsurgical Management of Urinary Incontinence in Women.** Urinary incontinence contributes to high medical spending in the United States. Approximately $19.5-billion was spent on UI care in 2004, and UI accounts for six percent of nursing home admissions for elderly women, costing around $3-billion. Physicians should utilize non-drug treatments as much as possible for UI. Kegel exercises for stress UI, bladder training for urgency UI, and Kegel exercises with bladder training for mixed UI are effective, have few side effects, and are less expensive than medications. Although various drugs can improve UI and provide complete continence, adverse effects often lead many patients to stop taking their medication.

- **Diagnosis of Obstructive Sleep Apnea in Adults.** Prior to diagnosis, patients with obstructive sleep apnea (OSA) have higher rates of health care use, more frequent and longer hospital stays, and greater health care costs than after diagnosis. Assessing patients for OSA in the absence of daytime sleepiness or treating individuals with low apnea-hypopnea index (AHI) scores is low-value care because the evidence indicated that it does not improve clinical outcomes.

- **Screening Pelvic Examination in Adult Women.** Screening pelvic examination exposes adult, asymptomatic, average risk, non-pregnant women to unnecessary and avoidable harms, including anxiety, embarrassment and discomfort, and may even prevent some women from getting needed medical care. False positive findings can lead to unnecessary tests or procedures, adding additional unnecessary costs to the health care system.

- **Treatment of Anemia in Patients with Heart Disease.** Current evidence does not support the benefit of liberal blood transfusions in patients with asymptomatic anemia and heart disease. Therefore, ACP does not support the liberal use of blood transfusions in the management of mild to moderate anemia in patients with cardiovascular disease. The probability that transfusion may be beneficial is higher in patients with lower hemoglobin levels (<7 g/dL) and lower in less anemic patients (hemoglobin >10 g/dL)(67). ACP does not support the use of ESAs for treating patients with mild to moderate anemia and heart disease because the harms outweigh the benefits for these patients.

- **Screening, Monitoring and Treatment of Stage 1-3 Chronic Kidney Disease.** ACP found no evidence that screening for chronic kidney disease in patients without risk factors improves clinical outcomes. In the absence of any known benefits, ordering screening laboratory studies is not going to have any impact on the clinical outcomes of the patient and will add unnecessary costs to the health care system due to increased medical visits and unnecessary tests.

- **Obstructive Sleep Apnea.** Physicians should stress the importance of compliance with treatments, especially CPAP. Doctors should weigh patient preferences and the likelihood of therapy adherence against costs before initiating CPAP.

- **Inpatient Glycemic Control.** High blood glucose is associated with poor outcomes in hospitalized patients, and use of intensive insulin therapy (IIT) to control hyperglycemia is a common practice in hospitals. But the recent evidence does not show a consistent benefit and even shows harms associated with the use of IIT.

- **Screening for Prostate Cancer.** Men between the ages of 50 and 69 should discuss the limited benefits and substantial harms of the prostate-specific antigen test with their doctor before undergoing screening for prostate cancer.

- **Diagnostic Imaging for Low Back Pain.** [See Choosing Wisely® list above.]

- **Oral Pharmacologic Treatment of Type 2 Diabetes Mellitus.** On the basis of the evidence reviewed in this paper, ACP has found strong evidence that in most patients with Type 2 diabetes in whom lifestyle modifications have failed to adequately improve hyperglycemia, oral pharmacologic therapy with metformin (unless contraindicated) is an effective management strategy. It is cheaper than most other pharmacologic agents, has better effectiveness, and is associated with fewer adverse effects; of note, it does not result in weight gain.

- **Screening for Colorectal Cancer.** Currently, no evidence shows that screening more frequently than recommended improves patient outcomes or reduces cancer-related deaths. On the other hand, screening more frequently than recommended can contribute substantially to avoidable health care costs.

- **Upper Endoscopy for Gastroesophageal Reflux Disease.** Upper endoscopy is commonly used in the diagnosis and management of gastroesophageal reflux disease (GERD). Evidence demonstrates that it is indicated only in certain situations and inappropriate use generates unnecessary costs and exposes patients to harm without improving outcomes.

E. Other – Please see The Accountable Care Manual for Internal Medicine, which may be downloaded at http://www.tac.consortium.org/resources/.

F. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including internists.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MSSP and MACRA Quality Payment Program measures, the latter at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Primary Care Medicine

MEASURE NAME	MEASURE DESCRIPTION
Adult Sinusitis: Antibiotic Prescribed for Acute Sinusitis (Overuse)	Percentage of patients, aged 18 years and older, with a diagnosis of acute sinusitis who were prescribed an antibiotic within 10 days after onset of symptoms
Adult Sinusitis: Appropriate Choice of Antibiotic: Amoxicillin With or Without Clavulanate Prescribed for Patients with Acute Bacterial Sinusitis (Appropriate Use)	Percentage of patients aged 18 years and older with a diagnosis of acute bacterial sinusitis that were prescribed amoxicillin, with or without clavulanate, as a first line antibiotic at the time of diagnosis
Adult Sinusitis: Computerized Tomography (CT) for Acute Sinusitis (Overuse)	Percentage of patients aged 18 years and older, with a diagnosis of acute sinusitis who had a computerized tomography (CT) scan of the paranasal sinuses ordered at the time of diagnosis or received within 28 days after date of diagnosis
Adult Sinusitis: More than One Computerized Tomography (CT) Scan Within 90 Days for Chronic Sinusitis (Overuse)	Percentage of patients aged 18 years and older with a diagnosis of chronic sinusitis who had more than one CT scan of the paranasal sinuses ordered or received within 90 days after the date of diagnosis
Annual Hepatitis C Virus (HCV) Screening for Patients who are Active Injection Drug Users	Percentage of patients, regardless of age, who are active injection drug users who received screening for HCV infection within the 12 month reporting period

Anti-Depressant Medication Management	Percentage of patients 18 years of age and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on an antidepressant medication treatment. Two rates are reported. a. Percentage of patients who remained on an antidepressant medication for at least 84 days (12 weeks). b. Percentage of patients who remained on an antidepressant medication for at least 180 days (6 months).
Atrial Fibrillation and Atrial Flutter: Chronic Anticoagulation Therapy	Percentage of patients aged 18 years and older with a diagnosis of nonvalvular atrial fibrillation (AF) or atrial flutter whose assessment of the specified thromboembolic risk factors indicate one or more high-risk factors or more than one moderate risk factor, as determined by CHADS2 risk stratification, who are prescribed warfarin OR another oral anticoagulant drug that is FDA approved for the prevention of thromboembolism
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	The percentage of adults 18-64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription
Breast Cancer Screening	Percentage of women 50-74 years of age who had a mammogram to screen for breast cancer.
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Colorectal Cancer Screening	Percentage of adults 50-75 years of age who had appropriate screening for colorectal cancer.
Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period

Diabetes: Eye Exam	Percentage of patients 18-75 years of age with diabetes who had a retinal or dilated eye exam by an eye care professional during the measurement period or a negative retinal exam (no evidence of retinopathy) in the 12 months prior to the measurement period
Diabetes: Foot Exam	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a foot exam (visual inspection and sensory exam with mono filament and a pulse exam) during the measurement year
Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%)	Percentage of patients 18-75 years of age with diabetes who had hemoglobin A1c > 9.0% during the measurement period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Documentation of Signed Opioid Treatment Agreement	All patients 18 and older prescribed opiates for longer than six weeks duration who signed an opioid treatment agreement at least once during Opioid Therapy documented in the medical record.
Elder Maltreatment Screen and Follow-Up Plan	Percentage of patients aged 65 years and older with a documented elder maltreatment screen using an Elder Maltreatment Screening tool on the date of encounter AND a documented follow-up plan on the date of the positive screen
Evaluation or Interview for Risk of Opioid Misuse	All patients 18 and older prescribed opiates for longer than six weeks duration evaluated for risk of opioid misuse using a brief validated instrument (e.g. Opioid Risk Tool, SOAPP-R) or patient interview documented at least once during Opioid Therapy in the medical record

Falls: Plan of Care	Percentage of patients aged 65 years and older with a history of falls that had a plan of care for falls documented within 12 months
Falls: Risk Assessment	Percentage of patients aged 65 years and older with a history of falls that had a risk assessment for falls completed within 12 months
Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	Percentage of patients aged 18 years and older with a diagnosis of heart failure (HF) with a current or prior left ventricular ejection fraction (LVEF) < 40% who were prescribed ACE inhibitor or ARB therapy either within a 12 month period when seen in the outpatient setting OR at each hospital discharge
Hepatitis C: Screening for Hepatocellular Carcinoma (HCC) in Patients with Cirrhosis	Percentage of patients aged 18 years and older with a diagnosis of chronic hepatitis C cirrhosis who underwent imaging with either ultrasound, contrast enhanced CT or MRI for hepatocellular carcinoma (HCC) at least once within the 12 month reporting period
Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antiplatelet	Percentage of patients 18 years of age and older who were diagnosed with acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous coronary interventions (PCI) in the 12 months prior to the measurement period, or who had an active diagnosis of ischemic vascular disease (IVD) during the measurement period, and who had documentation of use of aspirin or another antiplatelet during the measurement period.
One-Time Screening for Hepatitis C Virus (HCV) for Patients at Risk	Percentage of patients aged 18 years and older with one or more of the following: a history of injection drug use, receipt of a blood transfusion prior to 1992, receiving maintenance hemodialysis, OR birthdate in the years 1945-1965 who received one-time screening for hepatitis C virus (HCV) infection
Opioid Therapy Follow-up Evaluation	All patients 18 and older prescribed opiates for longer than six weeks duration who had a follow-up evaluation conducted at least every three months during Opioid Therapy documented in the medical record

Osteoarthritis (OA): Function and Pain Assessment	Percentage of patient visits for patients aged 21 years and older with a diagnosis of osteoarthritis (OA) with assessment for function and pain
Osteoporosis Management in Women Who Had a Fracture	The percentage of women age 50-85 who suffered a fracture and who either had a bone mineral density test or received a prescription for a drug to treat osteoporosis in the six months after the fracture
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Influenza Immunization	Percentage of patients aged 6 months and older seen for a visit between October 1 and March 31 who received an influenza immunization OR who reported previous receipt of an influenza immunization
Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	Percentage of patients aged 12 years and older screened for depression on the date of the encounter using an age appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the positive screen
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user

Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling	Percentage of patients aged 18 years and older who were screened for unhealthy alcohol use using a systematic screening method at least once within the last 24 months AND who received brief counseling if identified as an unhealthy alcohol user
Statin Therapy for the Prevention and Treatment of Cardiovascular Disease	Percentage of the following patients-all considered at high risk of cardiovascular events-who were prescribed or were on statin therapy during the measurement period: Adults aged >= 21 years who were previously diagnosed with or currently have an active diagnosis of clinical atherosclerotic cardiovascular disease (ASCVD); OR Adults aged >=21 years who have ever had a fasting or direct low-density lipoprotein cholesterol (LDL-C) level >= 190 mg/dL or were previously diagnosed with or currently have an active diagnosis of familial or pure hypercholesterolemia; OR Adults aged 40-75 years with a diagnosis of diabetes with a fasting or direct LDL-C level of 70-189 mg/dL
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older with a diagnosis of urinary incontinence with a documented plan of care for urinary incontinence at least once within 12 months

P. PSYCHIATRISTS

I. Why and How You May Want to Utilize Psychiatrists in Your CIN/ACO

A. Background: Psychiatry's Potential to Add Value

1. Psychiatric Illness as a Co-Morbidity – The inclusion of the psychiatrist in the ACO team follows from the data about the prevalence of psychiatric disease and psychiatric co-morbidity with other illness, most commonly cardio-respiratory and metabolic disease. National Institute of Mental Health data states that one quarter of adults suffer from a psychiatric illness in a given year and that some of these illnesses begin in childhood and adolescence. A Robert Wood Johnson synthesis of the data finds that co-morbidity "is the rule rather than the exception" in high cost cases.[152]

Studies have found that when asthma, cardiovascular disease and diabetes have co-morbid psychiatric and substance abuse diagnoses, the cost of such care can double or triple, and

the ability to deliver quality clinical outcomes is compromised. Data about post-myocardial infarction ("MI") deaths routinely shows mortality is increased with co-morbid clinical depression.[153]

In current primary care settings, it has been found that the majority of care visits are due to psychosocial issues. Patients may present with "physical" complaints but which are triggered by mental health or substance abuse conditions. The ACO approach accepts the premise that treatment for general physical care must be integrated with mental health and substance abuse treatment by a team that embraces the care of the whole person.[154]

There are many studies that show the benefit of psychiatric involvement in specific populations in the primary care setting, most notably depression, and this is achieved through collaborative care. These results are found within several current collaborative care models such as the Impact Model, MacArthur Foundation approach and the Respect Model. The work of the psychiatrist covers a range of activities from direct provider to supervisor to teacher. Additional information can be found at http://impact-uw.org/.

[152] Druss, B.G., Mental Disorders and Medical Co-Morbidity, www.rwjf.org/en/research-publications
[153] Irvine, J., et al., Depression and Risk of Sudden Cardiac Death After Acute Myocardial Infarction: Test for the Confounding Effect of Fatigue, *Psychosomatic Medicine* 61:729-737 (1999).
[154] Collins, C., *et al.*, Evolving Models of Behavioral Health Integration in Primary Care, www.milbank.org/publications/milbank-reports

2. Select Most Appropriate Collaborative Care Model – There are several examples of ways in which psychiatry can be involved in collaborative care.

Stepped Care (from Impact Model of Collaborative Care)[155] – Psychiatrists can serve as part of a team that includes primary care physicians and care managers. Treatment can be adjusted based on clinical outcomes and according to an evidence-based algorithm.

- Aim for a 50 percent reduction in symptoms within 10-12 weeks.

- If patient is not significantly improved at 10-12 weeks after the start of a treatment plan, change the plan. The change can be an increase in medication dosage, a change to a different medication, addition of psychotherapy, a combination of medication and psychotherapy, or other treatments suggested by the team psychiatrist.

Systematic Screening for Psychiatric Illness in Primary Care – Psychiatrists can help to develop a screening program in the primary care setting with use of evidence-based tools.

- Depression Screening as part of routine primary care practice—Evidence basis for use of PHQ-9 as part of systematic focus on screening for depression with subsequent algorithm for intervention.

- Substance Abuse screening as part of routine primary care practice.

- Screening for Depression in high-risk groups—post MI, post stroke, Diabetes Mellitus—Evidence that risk for depression is higher in these populations and outcomes can be improved with adequate intervention.

Development of Treatment Guidelines Based on Primary Care Population Statistics, including, but not limited to the following:

- Guidelines for treatment of common psychiatric disorders within primary care practices such as anxiety, depression, attention deficit disorders.

- Guidelines for the process of referral to specialty psychiatric resources, including substance abuse facilities, when it is no longer appropriate to treat complex disorders in whole or in part within the primary care practice.

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[155] C. Boyd, B. Leff, C. Weiss, J. Wolff, R. Clark, and T. Richards, *Full Report: Clarifying Multimorbidity to Improve Targeting and Delivery of Clinical Services for Medicaid Populations*, Center for Health Care Strategies, Inc., (December 2010). For the full analysis and corresponding materials, visit www.chcs.org.

- Primary care practices with high utilization of atypical antipsychotics—make sure use is appropriate to diagnosis and alternatives are utilized when indicated.

- Guidelines for choosing the most cost-effective and clinically appropriate medication based on patient profile.

Choosing Wisely®, an initiative of the American Board of Internal Medicine ("ABIM") Foundation, is a resource "to help physicians and patients engage in conversations to reduce overuse of tests and procedures, and support physician efforts to help patients make smart and effective care choices." (http://www.abimfoundation.org/Initiatives/Choosing-Wisely.aspx.)

The recommendations of the American Psychiatric Association to the Choosing Wisely® initiative can be accessed at: http://www.choosingwisely.org/doctor-patient-lists/american-psychiatric-association/. They include, among other suggestions, rethinking the use of atypical antipsychotics as a first-line intervention for insomnia in adults.

Access to Psychiatric Care

- Develop close relationships between psychiatry and primary care, including on-site collaboration, phone consultation, and availability, office-based consultation with referral back to primary care for ongoing management.

- Telepsychiatry is a medium to increase psychiatric access, especially in rural settings, but has applicability across settings.

B. Other – Please see The Accountable Care Manual for Psychiatrists, which may be downloaded at http://www.tac-consortium.org/resources/

C. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including psychiatrists.

II. Metrics

A. Overview – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Psychiatry

MEASURE NAME	MEASURE DESCRIPTION
ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication	Percentage of children 6-12 years of age and newly dispensed a medication for attention-deficit/hyperactivity disorder (ADHD) who had appropriate follow-up care. Two rates are reported. a. Percentage of children who had one follow-up visit with a practitioner with prescribing authority during the 30-Day Initiation Phase. b. Percentage of children who remained on ADHD medication for at least 210 days and who, in addition to the visit in the Initiation Phase, had at least two additional follow-up visits with a practitioner within 270 days (9 months) after the Initiation Phase ended.
Adherence to Antipsychotic Medications For Individuals with Schizophrenia	Percentage of individuals at least 18 years of age as of the beginning of the measurement period with schizophrenia or schizoaffective disorder who had at least two prescriptions filled for any antipsychotic medication and who had a Proportion of Days Covered (PDC) of at least 0.8 for antipsychotic medications during the measurement period (12 consecutive months)

Adult Major Depressive Disorder (MDD): Coordination of Care of Patients with Specific Comorbid Conditions	Percentage of medical records of patients aged 18 years and older with a diagnosis of major depressive disorder (MDD) and a specific diagnosed comorbid condition (diabetes, coronary artery disease, ischemic stroke, intracranial hemorrhage, chronic kidney disease [stages 4 or 5], End Stage Renal Disease [ESRD] or congestive heart failure) being treated by another clinician with communication to the clinician treating the comorbid condition
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Depression Remission at Six Months	Adult patients age 18 years and older with major depression or dysthymia and an initial PHQ-9 score > 9 who demonstrate remission at six months defined as a PHQ-9 score less than 5. This measure applies to both patients with newly diagnosed and existing depression whose current PHQ-9 score indicates a need for treatment. This measure additionally promotes ongoing contact between the patient and provider as patients who do not have a follow-up PHQ-9 score at six months (+/- 30 days) are also included in the denominator

Depression Remission at Twelve Months	Patients age 18 and older with major depression or dysthymia and an initial Patient Health Questionnaire (PHQ-9) score greater than nine who demonstrate remission at twelve months (+/- 30 days after an index visit) defined as a PHQ-9 score less than five. This measure applies to both patients with newly diagnosed and existing depression whose current PHQ-9 score indicates a need for treatment.
Depression Utilization of the PHQ-9 Tool	Patients age 18 and older with the diagnosis of major depression or dysthymia who have a Patient Health Questionnaire (PHQ-9) tool administered at least once during a 4-month period in which there was a qualifying visit
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Follow-Up After Hospitalization for Mental Illness (FUH)	The percentage of discharges for patients 6 years of age and older who were hospitalized for treatment of selected mental illness diagnoses and who had an outpatient visit, an intensive outpatient encounter or partial hospitalization with a mental health practitioner. Two rates are reported: The percentage of discharges for which the patient received follow-up within 30 days of discharge. The percentage of discharges for which the patient received follow-up within 7 days of discharge
Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan	Percentage of patients aged 12 years and older screened for depression on the date of the encounter using an age appropriate standardized depression screening tool AND if positive, a follow-up plan is documented on the date of the positive screen

Q. PULMONOLOGISTS

I. Why and How You May Want to Utilize Pulmonologists in Your CIN/ACO

· With a pulmonologist's (1) diagnostic skills, (2) experience balancing multiple medical concerns and competing co-morbid conditions, and (3) experience leading interdisciplinary teams, pulmonologists bring helpful skillsets to successful ACO population management.

· With pulmonary diseases imposing significant and growing economic burden on the US health care system, a pulmonologist's specialized expertise is critical to improving under diagnosis and for developing options that reduce deleterious and costly exacerbations.

· The ability to access an ACO's electronic data registry places pulmonologists in position to be an ACO's early warning system and care coordinator, especially for patients with Chronic Obstructive Pulmonary Disease ("COPD").

• Pulmonologists can use their experience in chronic care management to drive significant outcome improvements and reduce population costs in accountable care.

A. Accurate Diagnosis of Chronic Obstructive Pulmonary Disease – For pulmonologists, the 'low hanging fruit' and the area where the practice can make the greatest impact is in how it addresses management of COPD of a population. COPD is a progressive disease impacting over 11 million Americans.[156] The disease is frequently untreated until later stages of progression, and is classified (along with the larger grouping of Chronic Lower Respiratory Disease) as the third leading cause of death in the United States in 2013.[157] As an irreversible, progressive disease, frequently found with multiple co-morbidities (common culprits including heart disease, diabetes and depression), effective treatment of COPD is predicated on an accurate diagnosis followed by appropriate disease management.

Despite its widespread prevalence, COPD is under-diagnosed. Results from a 2000 Centers for Disease Control and Prevention ("CDC") report indicate that roughly 24 million people appeared to have COPD, but the disease was only diagnosed in about half of them.[158] However, over-diagnosis is

[156] American Lung Association: "Learn about COPD" http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/copd/learn-about-copd
[157] http://www.medicalnewstoday.com/articles/282929.php
[158] http://medicaleconomics.modernmedicine.com/medical-economics/RC/tags/business-health/copd-exploring-value-care.

a concern as well, there can be multiple reasons for shortness of breath. Input from pulmonologists will enable the ACO to appropriately identify patients within the early stages of COPD to optimize outcomes. For example, family physicians often rely on symptoms and chest X-rays to make a COPD diagnosis whereas studies have demonstrated that spirometry services can be incorporated into family medicine practice with acceptable levels of technical adequacy and accurate interpretation that the results influence management of patients previously diagnosed with COPD.[159] As expressed by the Workgroup, spirometry is essential for both diagnosis and for determining the severity of disease. As the gold standard for diagnosing COPD, the use of spirometers is not as common as it should be in primary care physician offices.[160] The prevalence of COPD and its role in driving avoidable health care costs means that practicing physicians have much to gain by adopting strategies for properly diagnosing and developing effective interventions for this chronic disease.[161]

B. Coordination and Collaboration with the Primary Care Team – Larger market forces and regulatory policy actions are encouraging team approaches to primary care, which can be very helpful in addressing chronic health conditions. Effective treatment of pulmonary diseases is predicated on management. There are opportunities for pulmonologists to contribute to better primary care for patients managing certain diseases which may manifest in certain lung-related issues or problems.

With a pulmonologist working in a systemized care approach with the primary care provider as part of an ACO, early and accurate intervention is enhanced and offsite physical referral needs are diminished. Discharge planning and post-acute care coordination for these complex patients pay dividends. As pointed out by a member of the TAC Consortium Physician Advisory Committee, care coordination in transitions of care from the hospital to the home setting is a crucial component of decreasing the risk of readmission. As this is already the way pulmonologists practice themselves, the ACO provides the opportunity to remove some of the frustrations many pulmonologists expressed in terms of the 'too many hand-offs' of a patient, leading to duplicative processes and missed opportunities.

C. Use of Best Practices – Core best practices are articulated within guidelines, classification, and statements provided by the Global Initiative for Chronic Obstructive Lung Disease (GOLD), the American Thoracic Society (ATS), the European Respiratory Society (ERS), and the American College of Chest Physicians (CHEST). An example of a useful source of core best practices provided below may be found in the recommendations of the American College of Chest Physicians and American Thoracic Society to the Choosing Wisely® program sponsored by the ABIM Foundation:

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[159] Yawn, BP, Enright PL, Lemanske RF, et. al. Spirometry can be done in family physicians' offices and alters clinical decisions in management of asthma and COPD. Chest 2007; 132:1162-1168.
[160] http://medicaleconomics.modernmedicine.com/medical-economics/RC/tags/business-health/copd-exploring-value-care.
[161] *Id.*

1. "Don't perform computed tomography (CT) surveillance for evaluation of indeterminate pulmonary nodules at more frequent intervals or for a longer period of time than recommended by established guidelines.

2. Don't routinely order imaging tests for patients without symptoms or signs of significant lung disease. Don't routinely offer pharmacologic treatment with advanced vasoactive agents approved only for the management of pulmonary arterial hypertension to patients with pulmonary hypertension resulting from left heart disease or hypoxemic lung diseases (Groups II or III pulmonary hypertension).

3. For patients recently discharged on supplemental home oxygen following hospitalization for an acute illness, don't renew the prescription without assessing the patient for ongoing hypoxemia.

4. Don't perform chest computed tomography (CT angiography) to evaluate for possible pulmonary embolism in patients with a low clinical probability and negative results of a highly sensitive D-dimer assay.

5. Don't perform CT screening for lung cancer among patients at low risk for lung cancer."

Additionally, in a recent US Preventive Services Task Force special communication, the Task Force concluded with moderate certainty that screening for COPD in asymptomatic persons has no net benefit and therefore recommended against such screening in such patients. The recommendation was based on the evidence of both the benefits and harms of the service and an assessment of balance without considering the costs of providing the service. The special communication included a recognition that clinical decisions involve more consideration than evidence alone and therefore prompts clinicians to understand the evidence but to individualize decisions to the specific patient or situation.[162]

D. Patient and Family Education and Communication – The quality and integrity of long term care for chronic illnesses, such as COPD, depends upon a patient's informed participation and the ability to articulate priorities and decisions in advance of crisis-events. Allowing patients to be part of the care plan development helps ensure their ongoing engagement and investment in their health care needs. In addition, patient adherence to a care plan and self-management help drive down health care costs.

[162] *JAMA*, 2016:315(13):1343-1344.doi:10.1001/jama.2016.3274

Patient-centered care also emphasizes patient and family education as a means of achieving patient-centered goals of care and preventing unnecessary or unwanted care. The ACO model provides opportunities for pulmonologist to receive greater institutional support and recognition for their contribution in helping patients to articulate their health goals and priorities. Providers can initiate and/or facilitate these sometimes challenging, time consuming, and yet vital discussions around goals of care.

A continuum of self-management for COPD patients provided by a trained health professional can significantly reduce the utilization of health care services and improve health status.[163] This approach to care can be implemented within normal practice.

In COPD, as in any chronic disease, day-to-day care responsibilities fall most heavily on patients and their families. Interventions to improve outcomes of chronic disease and/or reduce hospital readmissions have been developed on the basis of self-management principles.[164] One study showed that patients with COPD who received an education intervention with supervision and support based on disease-specific self-management principles had a better outcome than the usual care group with respect to hospital admissions, emergency department and unscheduled family physician visits, and health-related quality of life. These differences, especially those on health care utilization, are important and worth considering. These benefits to the health system could potentially add to the patients' quality of life by avoiding institutionalization.[165]

E. Drug Management – Use of best practices and effectiveness evidence in determining the best drug for treatment may lead to cost reductions. Medication adherence by patients and effective internal protocols within a provider system to ensure safety and optimization of pharmaceuticals. An ACO's use of a pulmonologist will likely have an impact on prescribing trends as payers and providers alike see chronic lung disorders as a treatment arena ripe for improvements in both cost savings and health outcomes. Your ACO can create an environment where pulmonologists are more conscious of long-term consequences of each prescribing decision by linking their reimbursement to the achievement of goals such as reducing hospital admissions as well as saving on prescription drug costs. Appropriate management requires a recognition that the prescription and use of more medications earlier in the course of treatment may lead to fewer hospitalizations.

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[163] Reduction of Hospital Utilization in Patients With Chronic Obstructive Pulmonary Disease A Disease-Specific Self-management Intervention. Jean Bourbeau, Marcel Julien, François Maltais, et al. *Arch Intern Med.* 2003;163(5):585-591
[164] *Id.*
[165] *Id.*

F. Optimize Site-of-Service – Providers are encouraged to seek to move procedures to lower-cost facilities or outpatient sites when consistent with best practices. Particular opportunity exists for providing alternatives to the Emergency Department, which has a pronounced patient engagement aspect. For example, the cost for treatment or maintenance of pulmonary disease with an Emergency Department as the first option is both very expensive to the system and often provides less optimal results than if seen in the pulmonologists' office. One way this can be accomplished is by offering after-hours access for patients to avoid potentially unnecessary Emergency Department use. Additionally, pulmonologists should focus on avoidance of expensive in-hospital procedures when the same procedure can be done in a less expensive setting with the same or better quality outcomes, such as a physician's office or Ambulatory Surgical Center

G. Use of Telehealth – With the onset of a multitude of telehealth technology options entering the market, pulmonologists may find the use of telehealth technology to increase access to care and improve the patient experience. Telemedicine possibilities for patients with COPD include medical consultations, in-home patient monitoring, and remote rehabilitation. Teleconsultations have been used successfully, saving time and travel costs for patients with only a few subsequently requiring face-to-face visits. Despite many reports, the impact of telemonitoring on the detection of exacerbations, reductions in health care utilization, and cost savings is equivocal. As emerging evidence from preliminary trials of tele-rehabilitation for the pulmonary patient is encouraging, it may represent a useful tool for increasing access and building capacity, especially in remote areas.[166]

Broad functions of telehealth interventions for COPD include the ability:

- to monitor vital signs or biological health data (e.g., oxygen saturation),
- to monitor symptoms, medication, or other non-biologic endpoints (e.g., exercise adherence),
- to provide information (education) and/or other support services (such as reminders to exercise or positive reinforcement), and
- to establish a communication link between patient and provider.[167]

Additionally, as previously discussed spirometry is an important tool for diagnosis and management of respiratory diseases. A web-based application was tested for development of high-quality spirometry

[166] Telemedicine in COPD: time to pause. Goldstein RS, O'Hoski S. Chest. 2014 May;145(5):945-9.
[167] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3384362/.

skills in community/primary-care settings. Researchers examined the efficacy, acceptability and usability of a web-based application covering three main functions: 1) accessibility to educational material for continuous professional development; 2) remote support for quality assurance of tests performed by non-experts; and 3) remote assistance for lung function interpretation. This research indicated sustained benefit of online intervention by increasing high-quality spirometry tests, and professionals acknowledged the usefulness of a web-based tool for remote assistance with interpretation of the results as well as to increase non-expert professionals' skills for performing high-quality forced spirometry in primary care.[168]

H. Prevention and Tobacco Cessation – Pulmonologists can be a critical part of the care team working on patient education and prevention such as urging patients to quit smoking, to follow up with their primary care provider where necessary. As a specialty, pulmonologists have decades of experience in promoting adaptive behavior in patients across populations. In roughly 85 percent of those whom COPD has been diagnosed, cigarette smoking is a primary cause.

According to Jeffrey Cain, MD, president of the American Academy of Family Physicians, doctors also need to adjust their own views of tobacco use and look at it as a chronic rather than acute problem. "Tobacco use is much more like a rheumatoid arthritis that tends to flux and flare," he says. "We have to think of this as an ongoing management issue. So even though the patient in front of you may not have changed at this visit, if you're using the stages-of-change model, giving them effective counseling even in early stages helps move people forward."[169] Pulmonologist have been at the forefront of the movement to address public-health epidemics. As the vanguard in this area, they are highly valuable to ACOs for this soft skill in communicating to patients individually and across populations.

I. Other – Please see The Accountable Care Manual for Pulmonologists, which may be downloaded at http://www.tac-consortium.org/resources/

J. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including pulmonologists.

II. Metrics

A. Match Metrics to Plans – After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended

[168] http://breathe.ersjournals.com/content/10/3/198.
[169] http://medicaleconomics.modernmedicine.com/medical-economics/RC/tags/business-health/copd-exploring-value-care.

that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Use available measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Pulmonology

MEASURE NAME	MEASURE DESCRIPTION
Appropriate Testing for Children with Pharyngitis	Percentage of children 3-18 years of age who were diagnosed with pharyngitis, ordered an antibiotic and received a group A streptococcus (strep) test for the episode
Appropriate Treatment for Children with Upper Respiratory Infection (URI)	Percentage of children 3 months-18 years of age who were diagnosed with upper respiratory infection (URI) and were not dispensed an antibiotic prescription on or three days after the episode
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	The percentage of adults 18-64 years of age with a diagnosis of acute bronchitis who were not dispensed an antibiotic prescription
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Controlling High Blood Pressure	Percentage of patients 18-85 years of age who had a diagnosis of hypertension and whose blood pressure was adequately controlled (<140/90mmHg) during the measurement period
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.

Elder Maltreatment Screen and Follow-Up Plan	Percentage of patients aged 65 years and older with a documented elder maltreatment screen using an Elder Maltreatment Screening tool on the date of encounter AND a documented follow-up plan on the date of the positive screen
Falls: Plan of Care	Percentage of patients aged 65 years and older with a history of falls that had a plan of care for falls documented within 12 months
Falls: Risk Assessment	Percentage of patients aged 65 years and older with a history of falls that had a risk assessment for falls completed within 12 months
Medication Reconciliation Post-Discharge	The percentage of discharges from any inpatient facility (e.g. hospital, skilled nursing facility, or rehabilitation facility) for patients 18 years and older of age seen within 30 days following discharge in the office by the physician, prescribing practitioner, registered nurse, or clinical pharmacist providing on-going care for whom the discharge medication list was reconciled with the current medication list in the outpatient medical record. This measure is reported as three rates stratified by age group: Reporting Criteria 1: 18-64 years of age Reporting Criteria 2: 65 years and older Total Rate: All patients 18 years of age and older
Optimal Asthma Control	Composite measure of the percentage of pediatric and adult patients whose asthma is well-controlled as demonstrated by one of three age appropriate patient reported outcome tools and not at risk for exacerbation
Pain Assessment and Follow-Up	Percentage of visits for patients aged 18 years and older with documentation of a pain assessment using a standardized tool(s) on each visit AND documentation of a follow-up plan when pain is present
Pain Brought Under Control Within 48 Hours	Patients aged 18 and older who report being uncomfortable because of pain at the initial assessment (after admission to palliative care services) that report pain was brought to a comfortable level within 48 hours
Use of High-Risk Medications in the Elderly	Percentage of patients 66 years of age and older who were ordered high-risk medications. Two rates are reported. a. Percentage of patients who were ordered at least one high-risk medication. b. Percentage of patients who were ordered at least two different high-risk medications.

R. RADIOLOGISTS

I. Why and How You May Want to Utilize Radiologists in Your CIN/ACO

A. Diagnostic Direction – Radiologists regularly support your CIN/ACO, primary care, and other referring physicians across a wide spectrum of disease states. As part of this systematic diagnostic support, many radiology practices have useful technologies, such as data-mining capabilities with voice recognition. In a CIN/ACO context, radiologists can be an important part of the consultation to manage a variety of medical conditions, particularly the most appropriate use of imaging studies to limit unnecessary referrals and procedures.[170] The benefit of such guidance will increase as value-based care models will elevate the role of allied providers.

Relatedly, their experience with widespread decision support, radiologists are good candidates to participate in the design and implementation of the CIN/ACO information and decision support infrastructure.

B. Standardization of Image Management Best Practices – The fee-for-service system has fostered over-referral of high-cost and low-value imaging services, even when there are multiple high-value imaging services available. Radiologists are in the best position to manage an ACO's imaging within a tight band of evidence-based best practices. The increased quality and savings stand to be significant if this initiative is deployed. ACOs usually start with radiologist education, then nonbinding review, then binding authorization, once efficiency is shown. In a show of leadership, the American College of Radiology ("ACR") has developed "The ACR Appropriateness Criteria,"[171] which are evidence-based guidelines to assist referring physicians and others in making the most appropriate and effective imaging or treatment decision for a given clinical showing. There are 186 topics and over 900 variants in the February 2013 version, which are posted on the National Guidelines Clearinghouse ("NGC") website: http://www.guideline.gov/; search "ACR Appropriateness Criteria." The NGC is an initiative of the Agency for Healthcare Research and Quality ("AHRQ").

Choosing Wisely®, an initiative of the American Board of Internal Medicine ("ABIM") Foundation (http://www.abimfoundation.org/Initiatives/Choosing-Wisely.aspx) that focuses on encouraging physicians and patients to think about tests and procedures that may be unnecessary, places a strong emphasis on

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[170] *Strategies for Radiologists in the Era of Health Reform and Accountable Care Organizations*, Journal of the American College of Radiology, Vol. 8, No. 5, p. 310 (May 2011).
[171] The Advisory Board Company, *A Growing Mandate—The Role of Radiology in the Care Continuum*, at slide no. 62; (Nov. 2012).

imaging. The ACR's recommendations on the Choosing Wisely® initiative can be accessed at: http://www.chosingwisely.org/doctor-patient-lists/american-college-of-radiology/. The Choosing Wisely® campaign now receives input from twenty-four (24) medical societies, each of which puts out a list that highlight low-value, overused tests. Nearly every society included at least one imaging study on their list. Examples include imaging for lower back pain, MRI for syncope, and unnecessary prostate cancer imaging for older men. On the other hand, existing evidence suggests high cost-effectiveness for the following: CCTA for mild-moderate chest pain patients, pre-operative MRI, spectroscopy for prostate cancer patients undergoing prostatectomy, and CT colonoscopy for men over 60 who refuse traditional colonoscopy.

1. Radiologist Imaging Management—Case Study – The following example illustrates radiologists' value-adding leadership in establishing a best practice and educating ordering physicians. It also shows the benefit of transparently showing outliers and documenting benefits. Vanderbilt University Medical Center engaged its radiologists to review literature regarding use of CT for head trauma patients in the emergency department. They found that such scans do not affect treatment decisions. A mandatory radiologist non-binding consult was instituted with all referring physicians who have ordered such imaging. CT head trauma orders declined by more than 50 percent. This success helped the department later get to the point that radiologist recommendations be binding.[172]

Take-Away – The radiologist's value in this non-interpretive context is clear. This type of best practice consult, monitor and measure progression can be repeated for many imaging scenarios and contrasts sharply with the siloed economic pressure under the fee-for-service system in which interpretation of images predominates.

2. Utilization Management Assisted by Decision Support – Radiologists can guide appropriate utilization in an ACO using tools such as computerized order entry ("OE") and through implementation of decision support ("DS") protocols in close collaboration and consultation with referring physicians. State-of-the-art DS systems incorporate evidence-based guidelines, such as the ACR's appropriateness criteria, to assist referring physicians and other providers to select the most appropriate imaging studies for given clinical conditions. The use of such systems can reduce costs and radiation exposure through the elimination of unnecessary imaging studies as well as untoward complications resulting from unnecessary interventions based on inappropriate imaging. The most effective systems provide real-time clinical guidance by basing the decision algorithm on patient complaints, actual clinical data or diagnosis input by physicians. The system both recommends potentially useful imaging

[172] The Advisory Board Company, *A Growing Mandate—The Role of Radiology in the Care Continuum,* at slide # 62, (Nov. 2012).

studies, rates their appropriateness, and indicates the resulting level of radiation exposure. These systems can track imaging of multiple physicians, providing valuable feedback to reduce unwarranted variation in care. The consulting firm, The Advisory Board, suggests that, "Imaging expertise on efficiency and productivity should be shared with other [hospital] departments to improve radiology's image as a valuable collaborator."[173] The ACR goes further and states that, "A radiologist-managed OE/DS system should be central to the decision-support 'hub' of an ACO,"[174] predicting financial rewards to radiologists when this happens. Many believe that this will drive the quality and efficiency that preauthorization has not done successfully.

3. Expert Consultation – Radiologists not only can introduce and educate referring physicians on the best practice guidelines, but also can provide ongoing consultation for cases that are unusual or for which the DS system does not offer clear guidance. By providing effective imaging advice, radiologists increase quality, decrease costs, and save time—a referring physician's most precious resource. One ACO found significant efficiencies through the simple practice of monthly multispecialty service line meetings to discuss unusual cases and best practices, including referral management.

4. Guideline Management – Job one still is radiologist-led intra-ACO adherence to a tight band of best practices, with as many reduced to written guidelines as possible, but clinically valid guidelines will generate the additional benefit of reducing the urge to order unnecessary images due to fear of malpractice liability. Also, if self-referral for imaging is allowed within the ACO, adherence to guidelines must be closely monitored. Working with referring physicians, radiologists can set up imaging algorithms for common clinical problems, including the ACR appropriateness criteria. This can be plugged into the DS system.

C. Other – Please see *The Accountable Care Manual for Radiologists*, which may be downloaded at: http://www.tac-consortium.org/resources/

D. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including radiologists.

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[173] *Id.* At slide # 30

[174] *Strategies for Radiologists in the Era of Health Reform and Accountable Care Organizations*, Journal of the American College of Radiology, Vol. 8, No. 5., p. 311 (May 2011).

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA measures in Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Radiology

MEASURE NAME	MEASURE DESCRIPTION
Appropriate Assessment of Retrievable Inferior Vena Cava (IVC) Filters for Removal	Percentage of patients in whom a retrievable IVC filter is placed who, within 3 months post-placement, have a documented assessment for the appropriateness of continued filtration, device removal or the inability to contact the patient with at least two attempts
Appropriate Follow-up Imaging for Incidental Abdominal Lesions	Percentage of final reports for abdominal imaging studies for asymptomatic patients aged 18 years and older with one or more of the following noted incidentally with follow-up imaging recommended: Liver lesion <= 0.5 cm Cystic kidney lesion < 1.0 cm Adrenal lesion <= 1.0 cm

Nuclear Medicine: Correlation with Existing Imaging Studies for All Patients Undergoing Bone Scintigraphy	Percentage of final reports for all patients, regardless of age, undergoing bone scintigraphy that include physician documentation of correlation with existing relevant imaging studies (e.g., x-ray, MRI, CT, etc.) that were performed
Optimizing Patient Exposure to Ionizing Radiation: Appropriateness: Follow-up CT Imaging for Incidentally Detected Pulmonary Nodules According to Recommended Guidelines	Percentage of final reports for computed tomography (CT) imaging studies of the thorax for patients aged 18 years and older with documented follow-up recommendations for incidentally detected pulmonary nodules (e.g., follow-up CT imaging studies needed or that no follow-up is needed) based at a minimum on nodule size AND patient risk factors
Optimizing Patient Exposure to Ionizing Radiation: Computed Tomography (CT) Images Available for Patient Follow-up and Comparison Purposes	Percentage of final reports for computed tomography (CT) studies performed for all patients, regardless of age, which document that Digital Imaging and Communications in Medicine (DICOM) format image data are available to non-affiliated external healthcare facilities or entities on a secure, media free, reciprocally searchable basis with patient authorization for at least a 12-month period after the study
Optimizing Patient Exposure to Ionizing Radiation: Count of Potential High Dose Radiation Imaging Studies: Computed Tomography (CT) and Cardiac Nuclear Medicine Studies	Percentage of computed tomography (CT) and cardiac nuclear medicine (myocardial perfusion studies) imaging reports for all patients, regardless of age, that document a count of known previous CT (any type of CT) and cardiac nuclear medicine (myocardial perfusion) studies that the patient has received in the 12-month period prior to the current study
Optimizing Patient Exposure to Ionizing Radiation: Reporting to a Radiation Dose Index Registry	Percentage of total computed tomography (CT) studies performed for all patients, regardless of age, that are reported to a radiation dose index registry that is capable of collecting at a minimum selected data elements
Optimizing Patient Exposure to Ionizing Radiation: Search for Prior Computed Tomography (CT) Studies Through a Secure, Authorized, Media-Free, Shared Archive	Percentage of final reports of computed tomography (CT) studies performed for all patients, regardless of age, which document that a search for Digital Imaging and Communications in Medicine (DICOM) format images was conducted for prior patient CT imaging studies completed at non-affiliated external healthcare facilities or entities within the past 12-months and are available through a secure, authorized, media-free, shared archive prior to an imaging study being performed

Optimizing Patient Exposure to Ionizing Radiation: Utilization of a Standardized Nomenclature for Computed Tomography (CT) Imaging Description	Percentage of computed tomography (CT) imaging reports for all patients, regardless of age, with the imaging study named according to a standardized nomenclature and the standardized nomenclature is used in institution's computer systems
Radiation Consideration for Adult CT: Utilization of Dose Lowering Techniques	Percentage of final reports for patients aged 18 years and older undergoing CT with documentation that one or more of the following dose reduction techniques were used: Automated exposure control Adjustment of the mA and/or kV according to patient size Use of iterative reconstruction technique
Radiology: Exposure Dose or Time Reported for Procedures Using Fluoroscopy	Final reports for procedures using fluoroscopy that document radiation exposure indices, or exposure time and number of fluorographic images (if radiation exposure indices are not available)
Radiology: Inappropriate Use of "Probably Benign" Assessment Category in Screening Mammograms	Percentage of final reports for screening mammograms that are classified as "probably benign"
Radiology: Reminder System for Screening Mammograms	Percentage of patients undergoing a screening mammogram whose information is entered into a reminder system with a target due date for the next mammogram
Radiology: Stenosis Measurement in Carotid Imaging Reports	Percentage of final reports for carotid imaging studies (neck magnetic resonance angiography [MRA], neck computed tomography angiography [CTA], neck duplex ultrasound, carotid angiogram) performed that include direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis measurement

S. RHEUMATOLOGISTS

I. Why and How You May Want to Utilize Rheumatologists in Your CIN/ACO

A. Co-Management of RA – Rheumatoid arthritis ("RA") and its frequent co-morbidities are often chronic, complex, and expensive conditions. The new collaborative nature of integrated population health, contrasted with the fragmented fee-for-service delivery paradigm, presents high-value opportunities for better diagnosis, treatment, and monitoring of those patients with RA.

- **Rheumatologists' Empowerment of Primary Care for Early Diagnosis and Treatment –** Early diagnosis and treatment avoids disabilities that compromise their ability to perform activities related to daily living. Appropriate and timely application of disease-modifying therapy can reduce that potential and slow the progression of joint damage.[175] Yet, in our traditional siloed system, primary care physicians are often unaware of incipient RA symptoms, do not have access to a rheumatologist, and do not know when to refer or co-manage the patient. They are often uncomfortable managing RA with disease-modifying anti-rheumatic drugs.[176] In the CIN/ACO setting, the systemic barriers are removed, and rheumatologists can provide diagnostic information through written materials or "lunch-and-learn" sessions. They can establish ready access via telephone, email, or telemedicine. General indicators of when to refer and when to co-manage can be established. The rheumatologist should agree to coordinate with the primary care medical home and the rest of the care team. In the treatment of RA, it is important to monitor disease progression, adverse events, and changes in the patient's general health. This is another element of care appropriate for co-management, with the primary care team including this awareness in its regular laboratory testing, infection monitoring, and routine screening. The patient's care plan and engagement strategy should include integrated behavioral health strategies, an understanding of community resources available, such as transportation, and a drug management reconciliation, compliance, efficiency to cost and number of expensive medications.

B. Best Practices – While there are multiple resources that provide clinically developed and proven best practice guidelines, one example of a useful source of core best practices may be found in the recommendations of the American College of Rheumatology to the Choosing Wisely® program sponsored by the ABIM Foundation and is included below:

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[175] Kosinski, M., Kujawski, S.C., Martin, R., *et al., Health-Related Quality of Life in Early Rheumatoid Arthritis: Impact of Disease and Treatment Response*, American Journal of Managed Care, 2002; 8:231-240.
[176] http://ww.ncbi.nim.nih.gov/pmc/articles/PMC3334638/.

1. **"Don't test ANA sub-serologies without a positive ANA and clinical suspicion of immune-mediated disease.** Tests for anti-nuclear antibody (ANA) sub-serologies (including antibodies to double-stranded DNA, Smith, RNP, SSA, SSB, Scl-70, centromere) are usually negative if the ANA is negative. Exceptions include anti-Jo1, which can be positive in some forms of myositis, or occasionally, anti-SSA, in the setting of lupus or Sjögren's syndrome. Broad testing of autoantibodies should be avoided; instead the choice of autoantibodies should be guided by the specific disease under consideration.

2. **Don't test for Lyme disease as a cause of musculoskeletal symptoms without an exposure history and appropriate exam findings.** The musculoskeletal manifestations of Lyme disease include brief attacks of arthralgia or intermittent or persistent episodes of arthritis in one or a few large joints at a time, especially the knee. Lyme testing in the absence of these features increases the likelihood of false positive results and may lead to unnecessary follow-up and therapy. Diffuse arthralgias, myalgias or fibromyalgia alone are not criteria for musculoskeletal Lyme disease.

3. **Don't perform MRI of the peripheral joints to routinely monitor inflammatory arthritis.** Data evaluating MRI for the diagnosis and prognosis of rheumatoid arthritis are currently inadequate to justify widespread use of this technology for these purposes in clinical practice. Although bone edema assessed by MRI on a single occasion may be predictive of progression in certain RA populations, using MRI routinely is not cost-effective compared with the current standard of care, which includes clinical disease activity assessments and plain film radiography.

4. **Don't prescribe biologics for rheumatoid arthritis before a trial of methotrexate (or other conventional non-biologic DMARDs).** High quality evidence suggests that methotrexate and other conventional non-biologic disease modifying antirheumatic drugs (DMARD) are effective in many patients with rheumatoid arthritis (RA). Initial therapy for RA should be a conventional non-biologic DMARDs unless these are contraindicated. If a patient has had an inadequate response to methotrexate with or without other non-biologic DMARDs during an initial 3-month trial, then biologic therapy can be considered. Exceptions include patients with high disease activity and poor prognostic features (functional limitations, disease outside the joints, seropositivity or bony damage), where biologic therapy may be appropriate first-line treatment.

5. Don't routinely repeat DXA scans more often than once every two years. Initial screening for osteoporosis should be performed according to National Osteoporosis Foundation recommendations. The optimal interval for repeating Dual-energy X-ray Absorptiometry (DXA) scans is uncertain, but because changes in bone density over short intervals are often smaller than the measurement error of most DXA scanners, frequent testing (e.g., <2 years) is unnecessary in most patients. Even in high-risk patients receiving drug therapy for osteoporosis, DXA changes do not always correlate with probability of fracture. Therefore, DXAs should only be repeated if the result will influence clinical management or if rapid changes in bone density are expected. Recent evidence also suggests that healthy women age 67 and older with normal bone mass may not need additional DXA testing for up to ten years provided osteoporosis risk factors do not significantly change."[177]

C. Optimize Site-of-Service – Providers are encouraged to seek to move procedures to lower-cost facilities or outpatient sites when consistent with best practices. Particular opportunity exists for providing alternatives to the Emergency Department, which has a pronounced patient engagement aspect, discussed below. For example, when a patient presents at an Emergency Department with pain associated with Rheumatoid Arthritis, the patient will likely need to undergo a series of expensive tests to rule out a variety of causes. However, if seen in the Rheumatologists' office, the specialized expertise of the clinician can rule out certain conditions and thereby reduce the number of tests that may need to be completed. One way this can be accomplished is by offering after-hours access for patients to avoid potentially unnecessary Emergency Department use. Additionally, Rheumatologists should focus on avoidance of expensive in-hospital procedures when the same procedure can be done in a less expensive setting with the same or better quality outcomes, such as a physician's office or Ambulatory Surgical Center. Practice based infusion therapy is typically less expensive than when performed in a hospital out-patient facility.

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the *Accountable Care Manual for Rheumatologists* at: http://www.tac-consortium.org/resources/

E. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including rheumatologists.

[177] http://www.choosingwisely.org/societies/american-college-of-rheumatology/.

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. With the MACRA measures in Section II.B. below as a start, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Rheumatology

MEASURE NAME	MEASURE DESCRIPTION
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred

Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan	Percentage of patients aged 18 years and older with a BMI documented during the current encounter or during the previous six months AND with a BMI outside of normal parameters, a follow-up plan is documented during the encounter or during the previous six months of the current encounter Normal Parameters: Age 18 years and older BMI => 18.5 and < 25 kg/m2
Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Rheumatoid Arthritis (RA): Assessment and Classification of Disease Prognosis	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have an assessment and classification of disease prognosis at least once within 12 months
Rheumatoid Arthritis (RA): Functional Status Assessment	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) for whom a functional status assessment was performed at least once within 12 months

Rheumatoid Arthritis (RA): Glucocorticoid Management	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have been assessed for glucocorticoid use and, for those on prolonged doses of prednisone >= 10 mg daily (or equivalent) with improvement or no change in disease activity, documentation of glucocorticoid management
Rheumatoid Arthritis (RA): Periodic Assessment of Disease Activity	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have an assessment and classification of disease activity within 12 months
Rheumatoid Arthritis (RA): Tuberculosis Screening	Percentage of patients aged 18 years and older with a diagnosis of rheumatoid arthritis (RA) who have documentation of a tuberculosis (TB) screening performed and results interpreted within 6 months prior to receiving a first course of therapy using a biologic disease-modifying anti-rheumatic drug (DMARD)
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Tuberculosis (TB) Prevention for Psoriasis, Psoriatic Arthritis and Rheumatoid Arthritis Patients on a Biological Immune Response Modifier	Percentage of patients whose providers are ensuring active tuberculosis prevention either through yearly negative standard tuberculosis screening tests or are reviewing the patient's history to determine if they have had appropriate management for a recent or prior positive test

T. UROLOGISTS

I. Why and How You May Want to Utilize Urologists in Your CIN/ACO

A. Site-of-Service – As the following excerpt shows, an unexpected finding by the Urology Accountable Care Workgroup of practicing urologists in the development of *The Accountable Care Manual for Urologists* was the prioritization of mindful site-of-service selection for urologists:

What is the least expensive site of treatment consistent with best practices? This applies for both acute and sub-acute. Many benefits in value-based care are hard to measure—like the infection that did not happen. But an equally effective treatment in a lower cost setting is readily measurable. The Urology Accountable Care Workgroup recommends such things as: (1) outpatient access to the ACO's same day clinic in lieu of referral to the emergency department, (2) select procedures in an office-based setting in lieu of an ambulatory surgery center, and (3) utilize ambulatory surgery centers in lieu of hospitalization, all as clinically appropriate.

One Urology Accountable Care Workgroup member noted that, "This is the number one way subspecialists can help ACOs bend the cost curve, without question." For years, when a patient came in who was not scheduled, the mantra was 'send him to the ER.'" One ACO instituted a same-day clinic and found a direct correlation between the opening of the same-day clinic and reduced ER usage.

Site-of-service guidelines must be built upon urologist-vetted and approved evidence-based best practices. Implementing site-of-service guidelines might be more difficult, however, in states with certificate of need ("CON") laws.

B. Standardization Around Best Practices – To find the biggest "bang for the buck," look for the diagnoses with the highest avoidable costs for patients seen by urologists. This is not the same as the ones with the highest urology fees involved, as the greatest savings urologists drive will likely be in things like avoided hospitalization, infections, readmissions, inappropriate referrals or misdiagnoses.

Practice variation is another factor to consider. As one urologist put it, "This is a shift from what we've seen before—six partners treating six different ways. The name of the game is avoiding variability." Urologists determine the best way particular diagnoses should be addressed across the continuum and the urologist's optimum role in that treatment.

The Urology Accountable Care Workgroup suggests that in practice, the relative adherence to the practice guidelines be closely monitored and be transparent. Ideally, associated costs and savings also will be tracked. One Workgroup member stated, "If you're an outlier, you're in trouble. That's when we'll see behavior change." Next, urologists should look for those high-cost events that can most effectively have the quickest and easiest impact. Lastly, be biased towards the ones with existing nationally-recognized metrics, as they can be implemented most rapidly.

Applying these screens, the Urology Accountable Care Workgroup suggests that urologists consider whether any of the American Urological Association's ("AUA") Clinical Practice Guidelines meet those criteria for their local situations. The AUA Guidelines provide evidence-based guidance with an explicit clinical scope and purpose (http://www.auanet.org/education/aua-guidelines.cfm).

Examples from the extensive offering include:

- Bladder cancer
- Interstitial cystitis/bladder pain syndrome
- Incontinence
- Prostate cancer
- Renal cancer

Urology Accountable Care Workgroup members also noted that opportunities exist to decrease use of ancillary services such as imaging, laboratory services and pathology. While many decisions are based on individual patient needs, broad considerations include use of CT scans vs. plain films, indications for biopsy and number of biopsies, PSA screening into advanced age and repeated testosterone testing.

C. Coordination Across Specialties – Remember, the highest impact may be in influencing the patient and primary care physician through "upstream" education and navigation and the coordinated care of high-cost, chronically ill patients with comorbidities. Urologists have found the AUA Guidelines

useful here as well. Examples are asymptomatic micro-hematuria, erectile dysfunction, initial management of benign prostatic hypertrophy and PSA screenings for advanced-age men.

Practically speaking, urologists in ACOs have found monthly care continuum meetings to be valuable for coordinating implementation of clinical protocols across specialties and settings. These meetings provide a means for urologists to: (1) push knowledge "upstream;" (2) advise when and where primary care should refer; and (3) communicate information needed at the time of referral. For example, using the AUA Guidelines as reference, discussion of asymptomatic hematuria treatment identified a knowledge gap in care, which led to education of the primary care physicians regarding initial evaluation and appropriate imaging. Research suggests that communication with primary care physicians can result in high-value outcomes, better diagnosis, and treatment design. To increase adherence, the Geisinger Clinic's ACO embeds as much of the agreed-upon clinical protocol support as possible into their electronic health record ("EHR") system so that it is available at the point of care across the continuum.

This coordination can be aided through access via telephone, email, video conferencing, and telemedicine consults.

D. Other – For more detail on the above-prioritized initiatives and information on others, please refer to the *Accountable Care Manual for Urologists* at: http://www.tac-consortium.org/resources/.

E. PCSP Standards – The NCQA Patient-Centered Specialty Practice standards regarding care team and patient coordination are recommended generally for all specialists, including urologists.

II. Metrics

A. Overview– After determining the initiatives involving this specialty that are most appropriate for your CIN/ACO, to incentivize the desired behavior and outcomes, it is recommended that clinically-valid metrics track adherence to the chosen activities and accomplishment of the desired results. Starting with the MACRA measures at Section II.B. below, use the available array of measures from various sources as a "menu" from which to start, and then tailor, prioritize, and weight them to fit your incentivization goals.

B. MACRA's Quality Payment Program MIPS Measures Relevant to Urology

MEASURE NAME	MEASURE DESCRIPTION
Biopsy Follow-Up	Percentage of new patients whose biopsy results have been reviewed and communicated to the primary care/referring physician and patient by the performing physician
Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan
Closing the Referral Loop: Receipt of Specialist Report	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred
Documentation of Current Medications in the Medical Record	Percentage of visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications using all immediate resources available on the date of the encounter. This list must include ALL known prescriptions, over-the-counters, herbals, and vitamin/mineral/dietary (nutritional) supplements AND must contain the medications' name, dosage, frequency and route of administration.
Patient-Centered Surgical Risk Assessment and Communication	Percentage of patients who underwent a non-emergency surgery who had their personalized risks of postoperative complications assessed by their surgical team prior to surgery using a clinical data-based, patient-specific risk calculator and who received personal discussion of those risks with the surgeon

Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Percentage of patients aged 18 years and older seen during the reporting period who were screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure (BP) reading as indicated
Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user
Prostate Cancer: Adjuvant Hormonal Therapy for High Risk or Very High Risk Prostate Cancer	Percentage of patients, regardless of age, with a diagnosis of prostate cancer at high or very high risk of recurrence receiving external beam radiotherapy to the prostate who were prescribed adjuvant hormonal therapy (GnRH [gonadotropin-releasing hormone] agonist or antagonist)
Prostate Cancer: Avoidance of Overuse of Bone Scan for Staging Low Risk Prostate Cancer Patients	Percentage of patients, regardless of age, with a diagnosis of prostate cancer at low (or very low) risk of recurrence receiving interstitial prostate brachytherapy, OR external beam radiotherapy to the prostate, OR radical prostatectomy, OR cryotherapy who did not have a bone scan performed at any time since diagnosis of prostate cancer
Tobacco Use and Help with Quitting Among Adolescents	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user
Urinary Incontinence: Assessment of Presence or Absence of Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who were assessed for the presence or absence of urinary incontinence within 12 months
Urinary Incontinence: Plan of Care for Urinary Incontinence in Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older with a diagnosis of urinary incontinence with a documented plan of care for urinary incontinence at least once within 12 months

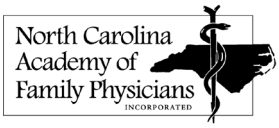
III. HOW TO DEVELOP A MULTISPECIALTY MERIT-BASED SHARED SAVINGS MODEL

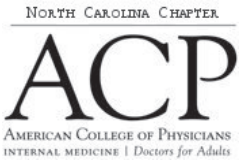
[TO BE ADDED IF COMMERCIALLY PUBLISHED]

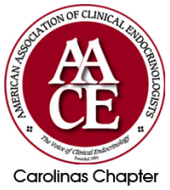
IV. ACO SPECIALIST AFFILIATION OPTIONS

[TO BE ADDED IF COMMERCIALLY PUBLISHED]

ACKNOWLEDGMENT







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