INSTITUTE FOR HEALTHCARE IMPROVEMENT

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SUMMARY REPORT: 90-DAY R&D PROJECT

Appropriate Use of Specialty Care Services, Part III

April 2009

Executive Summary:

The intent of this work is to improve the appropriate use of specialty care services by focusing on two of the nine National Priorities Partnership (NPP) areas of overuse: unwarranted diagnostic procedures and unwarranted procedures.[1]

Four primary drivers have been identified through selected review of the literature, online reports of experience, and interviews: engage physicians to optimize consensus; engage patients in shared decision making; improve processes of care; and ensure care coordination. The four drivers together address the particular challenges of systems and cultural change in the use of specialty care services. These drivers are intended to guide the work on improving the appropriate use of specialty care services.

The next phase of this work will be to prototype with organizations.

I. Research and Development Team: Roger Resar initial 90 day period and John Whittington and Neil Baker in the subsequent periods

II. Intent:

The ability to identify and use appropriate specialty health care for individuals is crucial. The intent of this 90-day project is to focus on two of the nine National Priorities Partnership (NPP)[1] areas of overuse: unwarranted diagnostic procedures and unwarranted procedures. The NPP has identified a list of procedures under these two areas that are overused. This project is aimed at developing tools, techniques, and approaches to improve the use of these services.

III. Background:

The annual cost for health care in the United States is about $2.2 trillion,[2] with up to 30 percent of the total health care dollars thought to be wasted.[3] Addressing the waste could save up to $700 billion per year. Waste in health care has traditionally been described as overuse, misuse and underuse, though the distinction between misuse and overuse can be difficult. There is growing evidence that a significant portion of the care received is not necessary, unwarranted, and frequently harmful.

The National Priorities Partnership of the National Quality Forum (NQF) has set a series of goals for health care, one of which is: By 2015, to reduce wasteful and inappropriate care for the top ten targeted areas by 50 percent.[1] IHI's work on specialty waste aligns well with this goal. A subcommittee of the National Priorities Partnership, chaired by Bernard Rosof, has identified nine areas of waste to target.

- Inappropriate medication use

- Unnecessary laboratory tests
- Unwarranted maternity care interventions
- Unwarranted diagnostic procedures
- Unwarranted procedures
- Unnecessary consultations
- Preventable emergency department visits and hospitalizations
- Inappropriate non-palliative services at the end of life
- Potentially harmful preventive services with no benefit

During our research and development work we have selected two of the nine areas of overuse for our focus in this project. We have a separate 90-day project that is targeting preventable emergency department overuse.

- Unwarranted diagnostic procedures: Targeting cardiac computed tomography (non-invasive coronary angiography and coronary calcium scoring); lumbar spine MRI prior to conservative therapy, without red flags; uncomplicated chest/thorax CT screening; bone or joint x-ray prior to conservative therapy, without red flags; chest x-ray preoperatively, on admission, or routine monitoring; and endoscopy
- Unwarranted procedures: Targeting spine surgery; percutaneous transluminal coronary angioplasty (PTCA)/Stent; knee or hip replacement; coronary artery bypass graft (CABG); hysterectomy; and prostatectomy

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The following list illustrates factors that contribute to the overuse of care:

1. Lack of high-quality shared decision making with patients
2. Inadequate primary care
3. Inadequate health care coordination
4. Limited focus on primary prevention
5. Increased number of specialty physicians
6. Increased use of new technology before improving reliable utilization of old technology
7. Marketing of health care (i.e., latest treatments, specialists, procedures, equipment, medication, etc.)
8. Increased clinical variation

IV. Description of Work to Date:

As part of this 90-day project, interviews were done to gather information on the strategies currently being used or postulated to reduce specialty waste. Interviews with the individuals listed below surfaced approaches currently being tested and implemented in organizations to reduce waste in specialty practice.

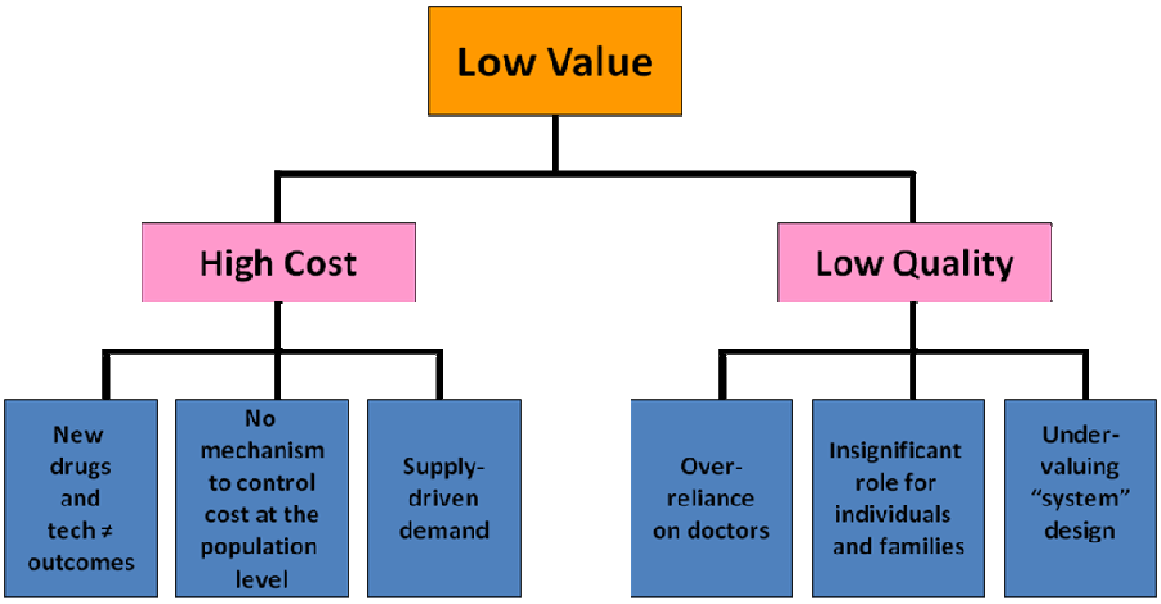
Contact	Organization	Specialty Area Experience
JoAnn Schottinger MD	KP	Radiology,Ortho,OBGYN,Oncology
Joe Siemienczuk MD	Providence(Oregon)	Specialty Referrals, Radiology
Virginia Calega MD	Highmark(Blue Cross Blue Schield)	Radiology
Dan Nelson MD	Health Partners(Minnesota)	Radiology, Laboratory
Jeff Weilburg MD	Partners(Boston)	Radiology
John Brush MD	American College Cardiology	Cardiology

Bernard Rosof MD	Chair of the subcommittee of the National Priorities Partnership	
George Isham MD	Medical Director and Chief Health Officer, HealthPartners	
Harlan Krumholtz MD	Yale	Cardiology
Gail Amundson MD	Quality Quest	
Meighan Girgus	American Heart Association-National Center	
Janet Wright MD	ACC	
Beth Averbeck MD	Health Partners	Primary Care
Robert Haralson MD	American Academy of Orthopedic Surgeons	Orthopedics
David Arterburn MD	Health Partners	Shared decision making
Susan Edgman-Levitan PA	Mass General	Shared decision making
Robert C Hendel MD	ACC	ACC Appropriateness Criteria

V. Results of the 90-Day Scan:

In thinking about health systems we believe the diagram that was created by Tom Nolan for our work on the Triple Aim (see Figure 1) illustrates some of the reasons we have for overuse of specialized care.

Figure 1. Drivers of a Low-Value Health System



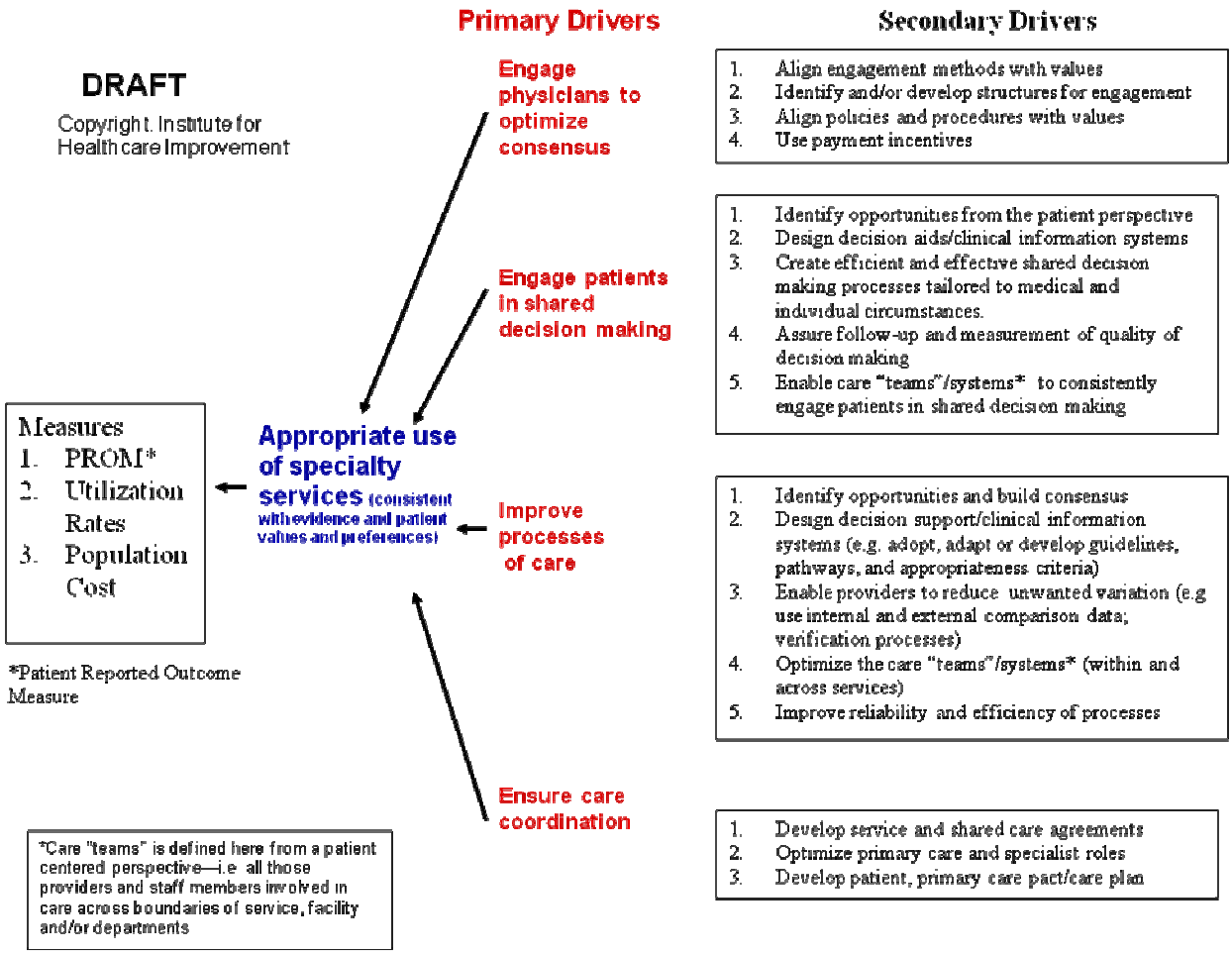
A brief explanation of this diagram is necessary. The three drivers of cost are new drugs and technology, no population budget, and supply-driven demand. The new drugs and technology are marketed with limited consideration of their potential impact on the health of the population. The studies that support their use are done in an ideal manor with a very specific population. After the technology is introduced it is applied in a more relaxed manor to a much larger population than was included in the study. Since there is no budget that needs to be managed for the population, there is no need to consider the effectiveness of this approach versus alternative approaches. The supply of both physician services and the amount of technology available impacts the use of these services. One organization looked at 300 PET scans and asked the doctors who ordered the scan if any changes were made in therapy. Only 10 scans out of the 300 actually influenced any decisions.

The low quality driver in this diagram is made up of three components: over-reliance on doctors, diminished role for patients and families, and undervaluing the fact of health care system design. Over-reliance on doctors means that the present design of the system puts too much burden on the physicians. Instead of having doctors as the single point of contact for health care, there needs to be a team that they work with to support the care they provide. Health care design has been about admonishing doctors to work harder and remember more. This approach emphasizes the individual over the system, which leads to fragmented care. Lastly we have not considered a strong role for the individual and the family in improving the health care system.

Draft Driver Diagram for Appropriate Use of Specialty Services

The driver diagram depicted in Figure 2 describes a way to improve the system. It attempts to address some of the present shortcomings. Four primary drivers have been identified through selected review of the literature, online reports of experience, and interviews. The drivers have had initial validation in a virtual meeting with experts in March 2009. The success of these drivers in impacting outcomes may be limited by the larger context of health care policy, financing, and reimbursement. However, the focus of this model is on the factors over which delivery systems have potential for substantial influence.

Figure 2. Draft Diagram for Appropriate Use of Specialty Services



The four primary drivers are not mutually distinct. They are overlapping and are likely to be required to work in concert to ensure appropriate care for each patient, as well as to optimally impact population costs and outcomes. In effect, these four drivers are essentially one: the nature and quality of decisions that patients and providers make regarding health care interventions. Such decisions are at the heart of reducing costs: 83 percent of health care costs are due to clinical care as opposed to non-clinical costs such as administrative costs.[1]

Ensuring the appropriateness of decisions will not occur through education, commitment and trying harder, but through changing the systems that support them.[2] In addition, shifting to the more patient-centered, collaborative approach of shared decision making from the traditional model of interaction is a significant cultural change.[3] The four drivers together address the particular challenges of systems and cultural change in the use of specialty care services. These challenges include potentially complex medical circumstances, often with limited evidence and the simultaneous engagement of multiple disciplines and service each with a unique set of values and preferences.

Engage Physicians to Optimize Consensus

"In human systems, especially in improvement, everything depends on the ability to have a civil conversation. No conversation. No gains." [4]

Partnering with physicians, in general, and specialists, in particular, is fundamental to achieving appropriate use of specialty services. Certainly overuse and cost issues are apparent at the population level but, at the individual patient level, the question is always "appropriate" use. When there is a wide range of variation, there may be certain physicians who are underusing a particular procedure.

Specialists can have strong beliefs in the indications they follow for procedures—Wennberg [5] has identified practice patterns or "surgical signatures" that drive utilization. Taking on cost outside of the context of "appropriateness" can easily be perceived as blame and questioning professional integrity. As Matt Handley from Group Health Cooperative described in the March 2009 virtual meeting, they have accepted a relatively slow pace in engaging their specialty service lines—"it is easy to spoil relationships with onerous tactics."

Additional barriers to engagement include the supply-driven nature of utilization[5] and the financial stakes that are involved. Economic and professional boundary disputes have been documented in national conversations [6] and can put local conversations at risk.

Even with all of these barriers, engagement, done well, can lead to unexpectedly fast and significant changes. At the Palo Alto Medical Foundation (PAMF), Managed Care Medical Director Lawrence Shapiro, MD, takes an approach that acknowledges the issue of overutilization and cost but focuses on "appropriateness" and the meaning of variation. He engages specialists in a process of inquiry around their data, treating them as the experts and carefully avoiding any labeling of data as "good" or "bad." Some specialty groups have responded quickly—the ENT physicians in one group created consensus "best practice" criteria for the use of nasal endoscopy for chronic sinusitis and saved $250,000 within eight months. After eight months, there was still considerable variation in utilization across providers, but nearly all had reduced utilization.

At PAMF, an urologist with high utilization of one procedure relative to his colleagues commented, "I am doing this because this is the way I was trained. Doesn't everyone do this?" After seeing the comparison data, his rates of utilization dramatically decreased. This example underscores the risk and the opportunity. If this specialist had been engaged initially as a "suspect physician" doing something "wrong," then an opportunity for transformation could have been missed. Needless barriers might have been created for future change. Not all situations are as quickly transformative as this example. But, the pathway for unexpected gains is made more likely through maintaining clear intentions and adapting words to context. Several organizations that we interviewed took great care even in naming their initiatives for appropriate use of specialty services.

Examples:

- Matt Handley, Group Health Cooperative: Group Health has started an initiative they call "Content of Care" designed specifically to address decisions made by clinicians with patients. They identify opportunities by cost and then apply evidence-based processes to

develop, adapt, or adopt decision aids and guidelines. Specialists have been engaged through open sharing of evidence and data. They have had some successes in shared decision making across five major procedures (350K patients), including joint replacement, hysterectomy, low back surgery, and transurethral prostatectomy TURP. They have used the HealthPartners' work on high-end imaging as well as the Foundation for Informed Medical Decision Making DVDs. Decision quality is evaluated based on how often patients' treatment choices are in line with their general preferences. They are using a standard analytic package that looks at frequency of procedures and variation.

- Lawrence Shapiro and Laurel Trujillo, Palo Alto Medical Foundation: As described above, they have taken a continuous learning approach which engages specialists in ongoing meetings to collaboratively analyze data on practice variation. This work is being done in a system-wide approach in 20 different specialties. At this point they have commitments from 50 percent of services to engage in projects on variation reduction and they expect 100 percent to be involved in the next several months. .

- David Share, Blue Cross Blue Shield of Michigan: They have identified 80 physician organizations across the state, including primary care physicians (PCPs) and specialists, and engage them to take collective accountability for a population (even though it is open access, not HMO). They have designed an incentive program through the physician organizations. One physician organization, for example, recognized a high rate of nuclear cardiology. The health plan did not create enforcement policies and procedures. Instead, the physicians reviewed the data and took responsibility. Consultations with cardiologists together were reduced by 75 percent within a year. They were rewarded as part of the incentive program. In addition they have a heavy focus, with incentives on reengineering practice, on the primary care medical home.

Engage Patients in Shared Decision Making

Shared decision making is at the heart of appropriate use of specialty services because the surgical procedures cited by NPP are "preference sensitive." "Preference sensitive" care is described as such because there are multiple tradeoffs that impact the patient's quality and/or length of life. There is no clear "best option" and decisions have to be made based on the patient's values and preferences. This is in contrast to "effective care" in which the benefits so outweigh the risks, based on evidence, that it is generally agreed that most patients should receive it. The substantial opportunity to reduce costs and improve appropriateness of care is with preference sensitive care.[5]

Shared decision making is defined as "the collaboration between patients and caregivers to come to an agreement about a health care decision…The caregiver offers the patient information that will help him or her participate in decisions about medical care, understand the likely outcomes of various options, and think about what is personally important about the risks and benefits of each option."[7]

Shifting to shared decision making from the more traditional expert/authoritative model of medicine is a large cultural change in health care.[8] There are strong indications from multiple studies of significant gaps in the necessary components of interaction between providers and patients for shared decision making in both primary and specialty care. In one study in primary care, on average, participatory decision making occurred in about 25 percent of office visits.[9] In

another study of 1,057 patient encounters with 124 primary care and general and orthopedic surgeons, only 1.5 percent of the time was there an assessment of patient understanding.[10] Closing the loop, that is, having the patient repeat back what was heard to ensure understanding, occurred in about 12 percent of primary care office visits during which a new concept was raised by the physician.[11] Where closing the loop occurred, intermediate outcomes were on average higher than when this did not occur.

In a 2001 study in Canada, Hawker and colleagues demonstrated a disparity between the potential need for arthroplasty, based on examination, and patients' willingness to undergo the procedures, based on answers to a questionnaire. In geographic areas with high utilizations rates of the procedure, the potential need based on examination was 36.1/1,000 but only 15 percent of patients were definitely willing to undergo the procedure, yielding an estimated need from the patient's point of view of 5.4/1,000.

Further evidence for a gap in shared decision making in health care derives from studies comparing use of decision aids to usual care.[12,13] "Decision aids are tools that help with health care decisions. These tools help people understand the likely outcomes of the options they face and think about their values as they relate to the risks and benefits of each option. They may be videotapes, audiotapes with workbooks, booklets, CD-ROMs, or Web sites."[7]

In 55 randomized controlled trials,[12] decision aids were found to be better than usual care in terms of the following:

- Increased patient knowledge
- Improvement in patients' realistic perceptions of the chances of benefits and harms
- Lowered scores for decisional conflict
- Reduced proportion of patients who were passive in decision making
- Reduced proportion of patients who remained undecided post intervention
- Improved agreement between a patient's values and the option that is actually chosen

There is also evidence from eight randomized controlled trials (RCTs) comparing decision aids to usual care in major elective surgery of a 25 percent relative reduction in rate of surgeries, with no impact on patient satisfaction or health outcomes (RR 0.75, 95% CI 0.64 – 0.94).[12] The range of absolute reduction in rates in these studies was 5 percent to 28 percent, with an average reduction across the eight studies of 9.3 percent.

These RCTs must be considered "efficacy" as opposed to "effectiveness" studies—some of the interventions are supported by research resources and do not appear to be easily replicable in real-world settings. Also, some studies, including two of the eight RCTs, have shown a trend toward an increase in surgery rates. Effects of decision aids on rates of surgery may vary according to condition and baseline rates of surgery in a community and other factors, according to experts at the March 2009 virtual meeting and other evidence.[12]

There is a rich variety of resources for decision aids available to support implementation, including the Foundation for Informed Medical Decision Making (FIMDM),[14] the Ottawa Health Research Institute,[15] and the Center for Shared Decision Making at Dartmouth-Hitchcock Medical Center.[7]

There are multiple organizations currently implementing decision aids, including 10 primary and specialty care demonstration projects sponsored by FIMDM. To our knowledge, there are not yet published results of impact on costs or decision quality for this work. In general, the persons we interviewed as part of this 90-day project have found patient response to be enthusiastic in their settings, but with less broadly positive response from physicians. Each of the settings has had the experience of certain specialty services which have quickly agreed to implement decision aids, but have had a slower process and even strong pushback with others (e.g., one service described decision aids as "cookbook medicine"). Such differences appear to depend on local circumstances rather than on specific specialty—for example, at one organization interviewed, orthopedics in one site had quick uptake versus resistance in another site. It appears that the challenges in cardiology may be higher, in general, partly because of the fast pace of movement from diagnostics to intervention (as noted by participants in the March 2009 virtual meeting).

There are nuances to the implementation of decision aids that need to be sorted out in research and improvement testing:[13,16]

- The best timing of decision aids relative to integration with the physician interaction may vary according to condition and patient circumstances. For example, in their study of decision aids at Kaiser Permanente, Barrett and colleagues[17] speculate that increased choice of laminectomy in patients with low back pain could have partially been the result of use of the decision aid after the meeting with the surgeon rather than before.
- The best approaches to embedding decision aids in workflow appear to vary across settings, but are based on a consistent set of principles or key changes (see the section below on Improve Processes of Care).
- The best approaches to follow-up with different decision aids are unclear.
- Type and length of training for providers are not well established or tested.
- Measures of decision quality that are feasible for use in everyday practice are being tested.[18]

There has been documentation of barriers to implementation from the point of view of providers,[13,16,19] which point to concerns about time constraints, lack of familiarity, concerns about training, etc.

Examples:

- Susan Edgman-Levitan, Massachusetts General Hospital: Mass General has been working with their primary care physicians to use their electronic medical record to prescribe the use of decision support tools. The physician is able to use an order entry tool to "prescribe" decision support via DVD for certain conditions. These DVDs are then mailed to the patient and family to be viewed at home. The hospital has been doing this for several years and can show the impact that this work has had on patient decision making, including the following findings: 82 percent of providers are very positive about the decision aids; 74 percent of providers report no change in length of consultation; >75 percent of patients across conditions report strongly agree/agree that important knowledge is offered; and a rate of 38 percent (96/253) of patients changed their decision about procedures or prevention testing after the using decision aid.

- Nan Cochran, White River Junction VA Hospital (with Dartmouth-Hitchcock Medical Center): Their implementation of decision aids (DAs) has been in progress for three years, with over 2,000 decision aids now viewed. Decision aids are built into the process of care and distributed in three different ways. For the advance directive and PSA screening DA, a health tech screens the patient prior to the visit and automatically orders the DA if the patient is eligible. For the chronic condition decision aids focused on preference sensitive care, the clinician prescribes them at the visit and they are given to patients by clinic staff. The patient is also given a questionnaire to send back and their knowledge, values, and choice (if made) results are summarized and "fed forward" to the clinician. For congestive heart failure and diabetes, the decision aids, which are more of a chronic disease self-management tool, are sent out one month prior to the next scheduled visit with their clinician. Patient registries have been developed to identify all appropriate patients. Patients are very positive about the decision aids. The providers have been slow to adopt the DAs and have varying concerns. They cite time as a major factor that prevents them from remembering to order them. They sometimes feel their autonomy is being stepped on since they think they already do shared decision making, when this is not actually the case. Also, it is difficult for the PCPs to view all of the decision aids and they are uncomfortable prescribing them when they don't know the content. A summary sheet is being developed for each DA to address this last concern. This summary tool will be introduced as part of the training in shared decision making and risk communication for medical and orthopedic residents and faculty that will begin in the summer of 2009.

- David Arterburn, Group Health Cooperative: Group Health has been working on implementing decision aids within specialty care for the last 1.5 years, with over 400 decision aid “viewings.” As part of a grant, they are looking at costs and quality but do not have results at present. Some specialty service lines such as orthopedics and women’s health get quickly involved. Orthopedics sees this as an opportunity to have the “right” cases referred. The decision aids are built into the referral process. Scheduling staff are trained to screen for such visits. A nurse or physician assistant does a pre-visit review a week before the visit to make sure everything is order. The exact methods of embedding decision aids in the process of care vary across locations. About half the patients view decision aids online and half prefer DVDs that are mailed to them. Patients give highly positive ratings. Providers were concerned about the time length of these viewable DAs as a barrier to patients (i.e., each DA is 30 to 45 minutes in length), but this has not been the case. Patients report viewing them several times and with family members. A goal is to feed forward information on patient knowledge and values assessed after the decision aid but this is not standardized as yet. They have not yet implemented decision quality measurement tools, which are still being developed through FIMDM.

Improve Processes of Care

Improving the health care system to support appropriate decision making depends on understanding the component processes of the system and their relationships. Either the processes themselves or their relationships can be opportunities for improvement.[20] Key changes for process improvement have been identified in quality improvement, in general, [20] and adapted for clinical care in outpatient settings.[21-23]

In health care, improving processes will generally consist of identifying opportunities and building consensus on which improvements to implement. The opportunities are often chosen from areas that show gaps between current and optimal outcomes based on evidence (e.g., for "effective care"), or from areas where there is wide clinical variation (e.g., for "preference sensitive care"). Through engaging physicians, guidelines, pathways, and appropriateness criteria can be established and then embedded into workflow through such means as standardized roles and tasks, standard order sets, reminders, and alerts. Mapping the patient journey can be an effective way to define a process that engages staff and physicians across boundaries of practice, service, and facility.[24]

Redesigned processes in conjunction with optimization of the care team should improve the reliability and efficiency of processes and, in turn, improve outcomes and reduce unwarranted variation. Historically, the development of guidelines or appropriateness criteria alone was seen as sufficient for clinical change. This flawed belief has been underscored by IHI's work in the area of reliability science: education (e.g., about criteria or guidelines), training, and performance feedback alone do not usually achieve high process reliability; human factors such as stress, complexity, fatigue, and limitations of memory are impediments to process improvement. Reliability principles and strategies have been adapted by IHI for certain work in inpatient settings[25] and, with further adaptation, appear promising to help with process improvement in outpatient settings.[26]

Key changes for improving processes of care have been part of the case studies mentioned previously. For example:

- Palo Alto Medical Foundation identified unwarranted variation and engaged specialists, who then developed appropriateness criteria.
- At the White River Junction VA, decision aids are now included as standard orders. The jobs of health technicians have been standardized to include an assessment and implementation of these orders based on criteria prior to the physician visit.

While rapid impact on costs and utilization may occur in some situations, in other cases process improvement will have additional complexities that need to be addressed. For example, in the United States, cardiologists often make the decision to move to angioplasty or bypass at the time of angiography (according to some participants in the March 2009 virtual meeting). There is limited opportunity to intervene with decision support or decision aids. In one RCT [27] on revascularization, there was a 29 percent reduction in use of the procedure when decision aids were used versus usual care. However, this study was done in Canada where angiograms and angioplasty are done separately.

In addition, a choice not to utilize surgery as a result of appropriateness criteria may lead to the increased need to embed alternative interventions into the process of care within primary care. In the example of low back pain,[28] clinicians would have to make a shift away from the hope for a "magic bullet" to a commitment to ongoing engagement with the patient as a partner in care. Providers and staff would need to engage in activating patients in self-management, tailoring intensity of support, engaging community resources, etc. In such situations, the intensity of follow-up and self-management support will have to be taken into consideration for resource planning.[29]

Especially where systems are not integrated and there is an external payer, the question arises as to when and how to use "enforcement procedures" such as prior authorization and denials. While certain utilization restrictions have become "hugely unpopular,"[30] there appears to be increasing use again perhaps with more attention to physician engagement. In 2006, 40 percent of large US corporations had radiology benefit management programs in place with considerably more planning to implement such programs. These programs have been able to reduce growth trends from a range of 25 percent to 100 percent.[31]

Utilization management or "verification" processes, based on information from organizations we interviewed, have the following characteristics:

- Requests for services are matched against pre-designed criteria or guidelines.
- Some organizations will include the possibility of denials, while others emphasize only the communication to the physician as the strength of the connection to guidelines or criteria.
- Electronic environments are critical to provide the speed needed for the rapid turnaround.
- Although verification itself was not usually voluntary, the strength of the connection to criteria was seldom questioned.
- Payment incentives and bonuses are used by some systems, but not all.

Examples:

- Patrick Courneya, Health Partners: He described growth in high-end imaging (CT, MRI) that was approaching 20 percent. Through a collaborative process that involved the Institute for Clinical Systems Integration (ICSI) and others in the Minneapolis community, they deployed the American College of Radiology criteria (see www.acr.org) into the electronic medical record for primary care doctor to use. This does not prevent doctors from ordering any image, but it helps them make better choices. The process has dramatically decreased the growth of high-end imaging from 20 percent to a flat rate.

- John Brush, MD, American College of Cardiology: The American College of Cardiology has attempted to address the problem of overuse by developing a series of documents called "Appropriateness Criteria" (see www.acc.org) for imaging and invasive procedures. They are currently in a pilot with United Healthcare. Since data has emerged from trials there has been a reduction of stent use through self-regulation by the profession without any overt change in regulation. There is a suggestion that the profession does have some capacity to self-correct despite financial inducements to keep doing more.

- JoAnn Schottinger, Kaiser Permanente. With the new three-year follow-up guidelines for PAP smears, clinicians at Kaiser Permanente were still doing annual exams. When asked individually, they all felt they were following the guidelines. Using the electronic medical record they verified which patients were eligible for the three-year follow-up exams. Of those eligible patients, they discovered that 50 percent were receiving annual exams. By identifying those patients eligible for three-year follow-up using the guidelines, they were able to show the individual OBGYN providers their variation. The chair of the department, who was supporting the project, was surprised to learn that he had more variation on the high end than the rest of the department members. Measurements of the variation are made

monthly and fed back to the providers in the department. Just by providing the feedback information they were able to reduce by 18 percent the annual exam rate, and because they had more time slots available they were also able to increase their total screening rate by 5 percent.

- Kaiser Permanente Radiology Utilization Action Team: The action team is a partnership between radiologists and PCPs. When an inappropriate test is ordered by primary care, there is a consultation by the radiologist. As a result of this person-to-person approach of guidance and education, Kaiser Permanente has saved $5M and they are now spreading this process throughout the system.

- Virginia Mason: The hospital developed a lean process for back pain and reduced the use of services, but only for Aetna plan members. It was a bit of a win-lose for the hospital. Four years after Virginia Mason started the program back pain patients had an average of 4.68 treatment visits, lost 3.98 days of work, and got a 61.15 percent functional improvement. By comparison, the Virginia Mason Puget Sound regional network of providers' average 10.34 patient visits, lost 12.02 days of work, and had 54.3 percent functional improvement.

- Virgina Calega, MD, Highmark: Their current program is active only with advanced imaging at this time (PET, CT, MRI). The process began with a privileging process during which credentials to perform the study with the proper equipment were ensured. The next process was a notification phase in which providers voluntarily submitted requests for services (electronically, using a web-based program). The last phase was a fully implemented non-voluntary prior authorization. The verification step alone resulted in a change from a 20 percent to 30 percent yearly increase in studies to a 4 percent to 8 percent decline.

- Joe Siemienczuk, MD, Providence Healthcare: The organization set up a three-level process. Using the electronic health record, a referral to specialty care from a PCP is reviewed by a medical assistant against criteria. If criteria are not met, a seasoned nurse reviews the referral. If the nurse does not resolve the request, a physician reviews the request. This all occurs within hours. No referral is ever denied without being reviewed by a physician. These referrals include PCP to specialty and specialty to themselves for return visits. The verification process alone saved $4M in one year for the organization.

Ensure Care Coordination

Care coordination in specialty care will focus on the relationship between primary care physicians and specialty physicians. Gaps in consistent communication across boundaries of service can be significant. In a study from Johns Hopkins, 50 percent of Medicare patients with serious chronic conditions who were seeing multiple providers reported receiving different diagnoses for the same condition, and 60 percent of their caregivers at home reported that they received conflicting advice.[32]

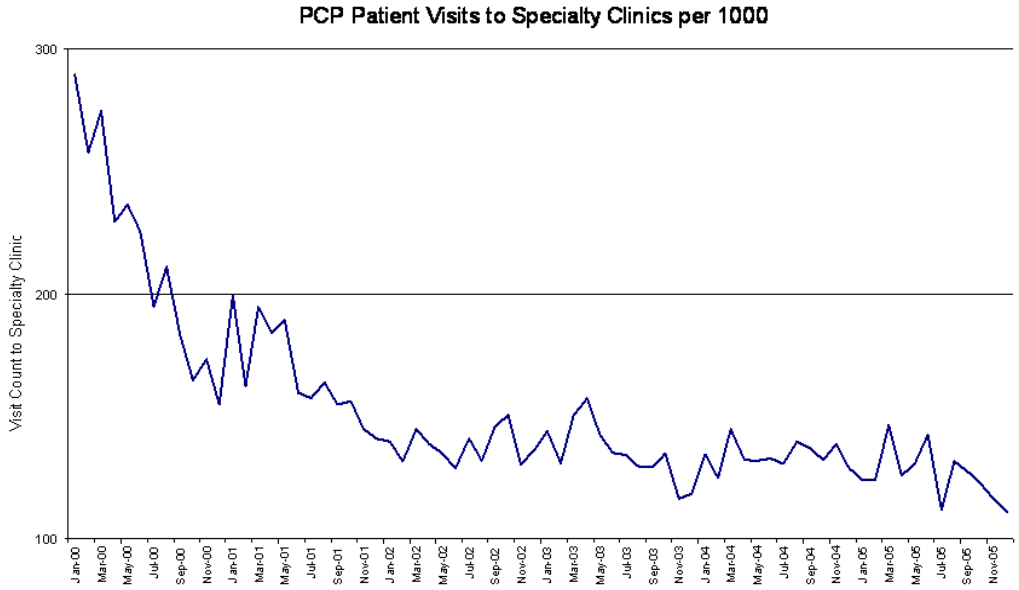
There has been relatively extensive testing and implementation of service and shared care agreements in some organizations, including the following key changes for service agreements (derived from Doug Eby, MD; Catherine Tantau; Poulos and Antonsen[33]):

- Write signed, detailed agreements between disciplines, departments, practices, and services (e.g., include primary care, specialists, and any ancillary services not within those departments such as a separate renal care clinic)
- Define referral agreements, including work-up requirements and communication
- Define guaranteed availability to each other and for customers
- Define methods of communication, problem solving, and ongoing improvements
- Develop standardized tools for communication and referral processes and embed them into processes of care
- Develop mechanisms for determining the effectiveness and reliability of the implementation of service agreements, including measures, regular meetings across services, etc.
- Define levels of responsibility and decision and communication processes (the consulting role vs. co-management roles vs. a primary management role)

Examples:

- Doug Eby, MD, Southcentral Foundation: The organization asked primary care doctors and specialists to work together to develop service level agreements that specify services each group would provide to the other. This change from an implicit understanding of these relationships to an explicit contract led to improved care coordination between these specialties, and there is evidence of impact on utilization (see Figure 3 below which is a graph from Southcentral Foundation).

Figure 3. Southcentral Foundation



The Use of IT

Information technology played a part in the deployment of shared decision making as illustrated by the work at Massachusetts General. The use of the electronic medical recorded acted as both a means of distributing the DVD's and for documenting in the medical record that this information was shared. Group Health is using information technology in their work on shared decision-making.

Health Partners developed decision aids for their electronic medical record (EMR) using appropriateness criteria created by the American College of Radiology. Group Health deployed the same tool in their EMR.

Business Case Questions

Controlling the growth of spending on specialized care that has minimal or equivocal impact on health is important for individuals in society. The increased cost translates into ever higher insurance premiums. Integrated health systems like Group Health and Kaiser that can control cost and produce better health and health experience stand to gain a competitive market edge. The same thing could be said for a health insurance that can improve health and health experience and manage the cost of specialty services. Employers who are self insured should be attracted to the opportunity to control their specialty cost better.

VII. Conclusions and Recommendations:

There is a significant opportunity to reduce unnecessary specialty services which will lead to reduced cost and better care .A model that focuses on engaging physicians, shared decision making, care coordination and improving the processes of care was shared. This model has been tested in part by many organizations but what we need to do know is to test the whole model by a number of organizations.

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VI. Open Questions:

1. What organizations will be motivated by this work?
2. What components might be missing from the model?

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