

AGENDA

HCA Advanced Imaging Management (AIM) Work Group

Monday, June 22nd, 2009

1:00 pm – 5:00 pm

Dial In: (309) 946-5000; Access Code: 9461464

In Person: Uniform Medical Plan, Room Rainer Room

Workgroup Members: Steve Hill, Chair, Health Care Authority; Craig Blackmore, MD, Health Technology Clinical Committee; Robert Bree, MD, WA State Radiology Society; Brian Wicks, MD, WA State Medical Society; Fred Mann, MD, Hospital Association; Susie Dade, Puget Sound Health Alliance; Robert Karl, MD, WA Health Care Forum; Mark Whitaker, MD, Association of WA Health Plans; Gary Franklin, MD, Department of Labor & Industries; Jeff Thompson, MD, Department of Social & Health Services; Nancy Fisher, MD, Health Care Authority; Andrew Oliveira, MD, Multi-State Health Carrier and Lisa Plymate, MD, Primary Care Provider.

Project Lead: Leah Hole-Curry, JD.

Staff: Denise Santoyo and Nate Rozeboom

Purpose: A legislatively created work group charged with identifying evidence based tools applicable to advanced imaging purchasing by state agencies.

1 Chair Intro / Overview (10 minutes)

- Ref: Workplan / Charter

2 Staff Staff Reports (25 minutes)

- Ref: AIM Solution Description and Staff Guidelines Review Report

3 Agency Agency Recommendation (10 minutes)

- Ref: AMDG Recommendation

4 All Committee Discussion (3 hours)

5 Chair Wrap Up (15 minutes)

Advanced Imaging Management Workgroup Charter May 2009

Project Name	Advanced Imaging Management
Department / Program	Health Technology Assessment (HTA)
Project Goal	Implement 2009 legislative directive to establish a workgroup to identify evidence based guidelines for advanced imaging.
Workgroup Chair	Steve Hill, HCA Administrator
Workgroup Members	Craige Blackmore, MD, Health Technology Clinical Committee; Robert Bree, MD, WA State Radiology Society; Brian Wicks, MD, WA State Medical Society; Fred Mann, MD, Hospital Association; Susie Dade, Puget Sound Health Alliance; Robert Karl, MD, WA Health Care Forum; Mark Whitaker, MD, Association of WA Health Plans; Gary Franklin, MD, Department of Labor & Industries; Jeff Thompson, MD, Department of Social & Health Services; Nancy Fisher, MD, Health Care Authority; Andrew Oliveira, MD, Multi-State Health Carrier and Lisa Plymate, MD, Primary Care Provider
Workgroup Staff	Leah Hole-Curry
Start Date	May 2009
End Date	July 2010

1 WORKGROUP OVERVIEW

1.1 Purpose

Washington state is leading efforts to use evidence based medicine to make health policy and coverage decisions. A new legislatively created workgroup is charged with identifying evidence based tools applicable to advanced imaging purchasing by state agencies.

1.2 Background

Impressive advances in imaging lead to enhancement in ability of physician to diagnose and treat disease. Several national studies and reports have documented a dramatic rise in the use of imaging, particularly advanced imaging: MRI, PET, CT, and cardiac nuclear services. However, the expansion in scanning has led to increased costs by government and other payers, but has not necessarily led to better health care or reduced mortality.

Common issues include unnecessary duplication of imaging, inappropriate use of tests for certain diagnosis; inferior equipment; experimental or investigational use; use by untrained practitioners; referral to physician owned imaging centers; and defensive medicine practices.

Authorizing Legislation - ESHB 2105

Section 1 – Definitions

Section 2 - HCA convene workgroup to identify evidence based guidelines, explore feasibility of use by all payors

Section 3 – Requires state agencies to implement in direct purchased care

Section 4 – All Medicare accreditation requirements apply to all state providers

2 WORKGROUP SCOPE

2.1 Identify evidence based best practice

- Identify evidence-based best practice by July 1, 2009
 - A. Guidelines or protocols
 - B. and decision support tools to implement the guidelines or protocols
- Applicable to advanced imaging services
- For implementation by direct state purchasing agencies by Sept 1, 2009

2.2 Report to legislature and Governor

- Prepare a report to the legislature and Governor on 2.1

2.3 Explore feasibility of expanding to all WA payors

- Explore the feasibility of applying recommendation of 2.1 to all payors
- For reimbursement of advanced imaging services by January 1, 2011

Workgroup expires on July 1, 2010

3 WORKGROUP REPORT DELIVERABLES

Successful workgroup completion:

3.1 Workgroup Report by July 1, 2009

A. Identify State Advanced Imaging purchasing high priority issues:

- High variability and cost
- Issues of safety or efficacy

B. Recommendations on State agency purchasing:

- i. Evidence based guideline or protocols applicable to advanced imaging generally and each advanced imaging identified in A, if any
- ii. Criteria for decision support tools and utilization management/utilization review supporting (i)
- iii. Guiding principles for implementation by state agencies
 - Communications, deployment, phasing, consistency

3.2 Workgroup Report by July 1, 2010

A. Recommendations on expansion to all payors

Report on the feasibility of applying recommendations in 3.1 to all state payors.

4 WORKGROUP GUIDING PRINCIPALS

Improve health and patient safety through purchasing evidence based, effective imaging with proven value.

- Guidelines must meet highest standards of evidence and guideline development
- Identify principles for advanced imaging areas with no current evidence based guidelines
- Ensure least costly, most effective imaging is ordered and paid
- Improve health safety through reduction in unnecessary radiation exposure and other risks
- Reduce unwarranted variation in practice through uniform policies and practices across state agencies (and potentially all payors within state)
- Promote consistency through uniform policies
- Reduce provider administrative burden through uniform policies and incentives for providers practicing within identified guidelines
- Utilize implementation tools with highest quality standards
- Provide for ability to upgrade to adapt to new evidence, etc.
- Include and emphasize educational support for providers and patients

5 WORKGROUP CONSTRAINTS

Timelines are short and not flexible

Workgroup resource limitations

- No funding was allocated for legislation so workgroup must operate within existing resources
- Workgroup members are not compensated
- HCA resources are limited to part-time staff

Recommendations for state agencies and all payors

- Implementation funding not provided
- Implementation not required by law for all payors
- Best practice implementation requires participation of providers



Advanced Imaging Management AIM Workgroup

Decision Support Tools Staff Summary Report

June 19, 2009

Developed By:
Nate Rozeboom, RN, HCA Intern
Leah Hole-Curry, HCA Project Lead
Denise Santoyo, HCA Project Staff

Background

Washington state is leading efforts to use evidence based medicine to make health policy and coverage decisions. A new legislatively created workgroup is charged with:
“identify evidence based best practice guidelines or protocols applicable to advanced diagnostic imaging services and any decision support tools available to implement the guidelines or protocols.” Sec.2(1).

Summary

“Decision support tools” available to implement the evidence based best practice guidelines or protocols are not legislatively defined and could include a range of products from implementation criteria attached to a guideline to computer programs using evidence based criteria, to review services that use evidence based criteria.

The workgroup invited organizations that provide advanced imaging related criteria or products to provide brief materials and presentations at the June 2, 2009 meeting, summarized below. Additionally, Appendix A includes relevant excerpts from an information request conducted by OHSU.

Overview

A summary of the different decision support tool components as well as a listing of the Organizations are included in Table1, below. In general there were two “program models”: which will be referred to in this report as Clinical Decision Support and Benefits Management Systems. Aside from the table description, the “do it yourself” purchase of criteria is not further detailed.

Both program models use a computer program that requires relevant patient information and proceeds through a series of questions/criteria related to imaging method, disease and/or medical condition. Both program models indicate that they are evidence based and most cite ACR Appropriateness Criteria as a primary basis. The computer programs differ among vendors and models in specifics such as: display, order of arranging (e.g. by modality or condition); level of detail; alternatives. It is beyond the scope of this report and possible only by direct comparison of mostly proprietary algorithms to ascertain differences in individual criteria and whether those criteria, rigor of evidence level for each criteria, and “stringency” of the criteria.

The clinical decision support was originally purposed to support a provider at point of care in clinical decision making and is generally installed and connected to a provider’s electronic medical record, though some are web accessed. The benefit management system was originally purposed to support payors in determining medical appropriateness and fit within benefit design and is generally installed and connected to a payor’s utilization or claims support process, though some are web accessed. Both models now have been extended to be accessible to both payors and providers and allow different access and reporting that would support both business functions. Depending on the model, additional services to support the computer program are bundled or can be added on.

A primary distinction is the degree and method by which a payor’s reimbursement policy is enforced, which generally is through voluntary education in the clinical decision support model and through prior authorization (permission) in the benefits management model. However, both models can now accommodate these processes.

Table 1: Decision Support Tools

#	Support Tool Type	Description	Attributes	Model Example
	Criteria, algorithms, protocols	Produced with guidelines or based on others' guidelines. Can include decision trees; criteria; algorithms; or protocols for clinical decision making	<ul style="list-style-type: none"> • Electronic or paper documents/web pages • Purchase or publicly available developed by public and private orgs • for use by provider, payor or health care organization 	Milliman Ambulatory Care guidelines (inc. outpatient radiology)
	Clinical decision support systems (CDDS) (also called radiology order entry)	Interactive computer programs designed to assist providers with medical decision making that are based on rules or logic modules (including evidence based guidelines).	<ul style="list-style-type: none"> • Installed in provider offices or accessed by providers through the web • Software purchase or license/subscription fee • Used by provider to decide on treatment/diagnostic • Most also provide reports to providers 	Nuance (RadPort -MGH) Medicalis Innovent Oncology
	CDDS – plus database	Same as above plus additional software for aggregating and reporting	<ul style="list-style-type: none"> • Same as above plus • Decision support tool may include inquiry number for tracking or notification • Information and reports from multiple providers available to payor(s) 	ICSI HTDI Model using Nuance software Medicalis

#	Support Tool Type	Description	Attributes	Model Example
	Benefits management systems (also called Radiology Benefit management systems)	Interactive computer program designed to assist health plans in deciding appropriateness, medical need, or efficiency of health care procedure based on rules or logic criteria (including evidence based guidelines) under a health benefit plan.	<ul style="list-style-type: none"> • Installed in payor organization (or contracted vendor) accessed through web • Software or license purchase • Used by payor to manage utilization and for reporting • Provider may access via web and use to review payment criteria or obtain permission 	CareCore National; MedSolutions
	Benefit management Services (also called utilization management or review)	Evaluation of appropriateness, medical need or efficiency of health care services for a health plan based on criteria (including evidence based guidelines). Often bundled with benefit management system. Services can include: <ul style="list-style-type: none"> • Audit or retrospective review for adherence to criteria • Provider education • Provider incentive systems • Prior notification processing • Prior authorization processing • Related services for updates, call center, appeals, reports, etc 	<ul style="list-style-type: none"> • Often bundled with system or embedded in system (see above) • Services provided by contract, typically on per member per month basis, some offer at risk component; some per review or other basis 	Qualis CareCore National; MedSolutions

Appendix A – Excerpts from OHSU conducted RFI on Imaging Services

Oregon Health Sciences University (OHSU), as part of a state funded consortia called MED (Medicaid Evidence-Based Decisions) Project, conducted a request for information (RFI) from radiology benefit management companies in 2007. An excerpt of the findings is included below.

Four major vendors, AIM, HealthHelp, NIA, and CareCorp responded, and Milliman responded offering its guidelines for payors to implement. A summary is provided for the “turnkey” imaging management service which includes: 1.) screening telephone calls or web based requests from providers, 2.) assessing clinical appropriateness, 3.) obtaining additional clinical information and consultation with the requesting physician (as appropriate), 4.) issuing an authorization or denial (*See below) and 5.) providing reports on PA service and results. Several vendors agree to support the health plan with appeals resulting from the PA program. All maintain a phone center and a web based portal. In addition to PA services, all provide services to assess the capabilities and quality of the radiology provider network; and some provide claims auditing services.

*Some vendors offer two or three levels of intervention. These levels of intervention include:

1. Notification –requests are tracked and the payer notified of the performance and appropriateness of the services being ordered; approvals and denials are not issued
2. Prior consultation—requests are reviewed against clinical guidelines and the ordering physician is educated on the appropriate imaging test; no denials are issued
3. Prior authorization—requests are reviewed against clinical guidelines, the ordering physician is educated on appropriate imaging; a denial is issued if needed

Evidence Supporting Criteria

All of the vendors call their criteria “evidence based”. One vendor does not describe how their clinical guidelines were formulated or the evidence supporting the guidelines. The guidelines for all of the other vendors are the result of a literature review plus published guidelines by major medical organizations¹ and “regionally accepted practice protocols”. Guidelines are developed by internal medical staff and reviewed by external experts. Medical directors of the health plan customers have an opportunity to approve the criteria for the PA program of their company. Expert opinion plays a strong role in the evidence base for all vendors. The quality of the evidence supporting the pre-authorization criteria is difficult to assess without looking at the criteria and supporting guidelines. The process described by the vendors (the creation of guidelines by a small group of internal medical staff with outside review and the lack of detail about the literature search and literature evaluation process) are worrisome.

¹ Cited medical organizations include, American College of Radiology, Royal College of Radiology, American Institute of Ultrasound in Medicine, Society of Nuclear Medicine, American Academy of Neurology, American Academy of Orthopedic Surgery, American Medical Association, American College of Cardiology.

Reports

All of the vendors issue reports to the health plan customers. These fall into several categories:

1. Service parameters—number of phone calls, length of average phone call, length of wait time, etc.
2. Utilization reports—number of studies requested and performed, number and percentage of approvals and denials, number of RN and physician consultations, etc.
3. Modality reports—number of studies ordered and approved by modality
4. Ordering physician reports by individual and by specialty—number and types of studies ordered by physicians, approval/ denial rates by specialty
5. Cost savings analysis

Pricing

<u>Vendor</u>	<u>PMPM</u> (per member per month)
Vendor 1	no pricing given
Vendor 2	\$0.19- 0.25
Vendor 3	\$0.24- 0.28
Vendor 4	\$0.15- 0.21
Guidelines only	\$0.11 PMPY

Projected Savings

All of the vendors state that savings vary from plan to plan. An additional caveat is that all vendors create a trend analysis prior to the start of the PA program; they calculate savings based on the pre-existing trend (for example, if imaging expenses were increasing at 20% annually, the base line for savings calculations would be 120% of expenses at the beginning of the program rather than 100%). Vendor 1 estimated savings from a PA program of 15-25% with savings of 30-40% for a program including PA, facility management and claims audits; they give return on investment estimates of 6:1 to 12:1. Vendor 2 gives examples with cost savings of 25-50%. Vendor 3 estimates net savings of \$2.03 PMPM (15-20%); return on investment is approximately 7:1.

Strategies

All of the vendors provide toll free phone numbers to call and a web based interface for ordering physicians to communicate with the PA vendor. All of the vendors provide education to the ordering physician community prior to the initiation of the PA program. The aim of these two components is to reduce resistance to the PA program from the ordering physicians. Each of the vendors uses a proprietary set of guidelines to screen the appropriateness of the requested imaging studies. The criteria used and the evidence base are discussed below. All vendors used a three tiered approach to screening. The first level is staffed by non-medical clerical personnel who input the demographic and clinical information provided by the physician. If the information is adequate and the study requested appropriate, the study is approved immediately. If the requested study does not meet screening criteria at this level, the request is reviewed by RNs, LPNs or RTs who gather more history and try to approve the request at the second level. If the request is thought to be inappropriate at the second level, the request is reviewed by a physician reviewer who may consult with the requesting physician. Denials can only be

issued by physician reviewers. More than 70% of requests are approved at the first level. Nurse reviewers review 15-30% and physician reviewers review 4-10%. The consultation process results in changed orders or voluntary withdrawals in 3-6%. Denials typically make up less than 3% of requests. All vendors have provisions for urgent cases with retrospective instead of prospective review. The health plan purchaser can choose which services to include in the PA program. For instance, the PA program could include all radiology services or only CT, MR, nuclear medicine and ultrasound. All vendors initiate their programs with an analysis of current imaging utilization to provide a baseline and trend analysis.

Summary

Five responses are submitted. Four responses are for turnkey PA programs and one is for outpatient clinical care guidelines. There are many similarities between the four PA vendors. There are very few differences of importance. All of the vendors provide an integrated decision support system to manage radiology utilization. The evidence basis of the criteria is of concern for all of the vendors.



Advanced Imaging Management Workgroup

Guidelines Review Staff Report

June 19, 2009

Developed By:
Nate Rozeboom, RN, HCA Intern
Leah Hole-Curry, HCA Project Lead
Denise Santoyo, HCA Project Staff

1 OVERVIEW

1.1 Purpose

Washington State Health Care Authority is leading efforts to use evidence based medicine to make health policy and coverage decisions. A new legislatively created workgroup, Advanced Imaging Management (AIM), includes representatives of various provider, payor, and health system quality organizations in the state of Washington and is charged with identifying evidence based tools applicable to advanced imaging purchasing by state agencies.

This report is prepared by HCA staff to assist the AIM workgroup in a key task identified in the legislation and workgroup charter: identify evidence based best practice guidelines or protocols applicable to advanced imaging. It provides a group of identified guidelines and an initial review based on the guidelines review checklist approved by the workgroup. This information and the principals adopted by the AIM workgroup will assist the workgroup to develop recommendations for state agency health care purchasers related to Advanced Imaging.

The AIM Workgroup reviewed the last available year of utilization data for the three health purchasing agencies direct purchasing, Department of Social and Health Services (Medicaid), Health Care Authority (Public Employee Health Plan), and Labor and Industries (Workers Compensation). The following topics were selected based on utilization and relevance to workgroup mandate. (e.g. a high percent of excluded advanced imaging related to therapeutic use of PET for cancer, ultrasound, and mammography). A total of eight areas were identified (MRI and CT Brain were later combined).

Table 1. WA State Purchasing High Priority Advanced Imaging

	All Agency Paid (annual)	All Agency Unit	Per Unit Cost
MRI Cervical Subtotal	\$5,030,759	9,142	\$550
MRI Lumbar Subtotal	\$11,920,418	19,194	\$621
MRI Upper Joint Subtotal	\$7,974,280	13,084	\$609
MRI Lower Joint Subtotal	\$8,165,721	14,070	\$580
MRI Brain Subtotal	\$6,327,112	10,447	\$606
MRI Subtotal	\$39,418,291	65,937	\$598
CT Brain	\$2,421,023	13,762	\$176
CT Abdomen/Pelvis	\$10,477,615	39,259	\$267
Cardiac Nuclear Subtotal	\$3,316,845	17,264	\$192
PET Oncology Subtotal	\$1,789,879	997	\$1,795
AI High Priority Total	\$57,423,652	137,219	\$600
All Agency All Radiology (Professional Bills)	\$115,398,090	809,439	
All Agency Non-Xray Radiology (Professional Bills)	\$102,699,465	472,235	
Advanced Imaging - High priority % of non-xray professional	56%		29%

1.2 Search Methods

All workgroup members and stakeholders were invited to submit guidelines for the review. The primary additional source was a search of the National Guidelines Clearinghouse (NGC) which is a comprehensive database of evidence-based clinical practice guidelines and related documents sponsored by the Agency for Healthcare Research and Quality (AHRQ).

The NGC does not have an advanced imaging category, but for basic context, the “diagnosis” category, which lists all diagnostic interventions, contains 1,324 guidelines. Systematic, itemized searches were conducted the eight high priority advanced imaging topic identified by the workgroup. In general, search criteria were broad and included the relevant imaging topic; date range for production or update within five years; and use of some evidence process in development. Please see Appendix B for individual search criteria and results. Each search resulted in an average of 30 guidelines with a total of 250 potentially relevant guidelines. These searches also identified the guidelines provided by stakeholders.

Search results were then reviewed and further narrowed based on relevance and duplication. An example of relevance would be that including “MRI” in key terms resulted in guidelines that contained the word “MRI” but were not necessarily related to the other key word such as “knee” or “upper joint”.

Regarding duplication, during the search process it became apparent that many searches resulted in guidelines from a handful of the same guideline developers. For instance, the American College of Radiology (ACR), the Work Loss Data Institute, and the American Academy of Orthopedic Surgeons (AAOS) were very prominent guideline developers in many of these searches. Most organizations use the same methodology and include or reference an organizational methods statement applicable to all of their guidelines, used to streamline and standardize their process.

Because our staff inquiry is primarily focused on the rigor of guideline development and evidence quality, it isn't necessary to review each of the individual ACR guidelines for instance, because ACR has a standard methodology document which does not vary and thus the rating for Section 1 did not change. However, due to the prominence of ACR in advanced imaging, staff did review at least one ACR guideline per high priority topic. Important to this workgroup, this provides a mechanism to apply a standardized evidence filter at a relatively high level (the organization's methodology), to initially narrow the guidelines for eventual consideration or recommendation for agency implementation. The final number of guidelines included and reviewed is 32. See Appendix A for individual checklists.

1.3 Review and Rating Process

Resources: The AIM Workgroup approved a guidelines review checklist that is based on a longer tool developed by AGREE, an international guidelines collaboration which includes participation by US' AHRQ. www.agreecollaboration.org AGREE is dedicated to defining quality for guideline development, reporting, and assessment. Staff also

referenced a series of articles “Rating the Quality of Evidence and Strength of Recommendations” published in the British Medical Journal and developed by GRADE (Grading of Recommendations Assessment, Development, and Evaluation) Working Group available at: http://www.gradeworkinggroup.org/about_us.htm. GRADE is also an international collaboration with US participation and focuses on “common, sensible, and transparent” approach to grading the quality of evidence and strength of recommendations.

Using the checklist provides a structured base of information for workgroup members to compare the development process and evidentiary basis of identified guidelines. HCA staff was tasked with reviewing identified guidelines against checklist sections 1 and 2. To prioritize work due to the limited timeframe, the staff focused on section 1-Primary Criteria - which are questions related to guideline development rigor. As time permitted and for those with fair or good Section 1 ratings, Section 2 was also completed. Section 2 addresses whether guideline scope and stakeholder involvement are defined.

1.4 Primary Criteria

Rigor of development (Section 1) relates to the process used to gather and synthesize the evidence, the methods to formulate the recommendations, and editorial independence. The guideline/ organization must be explicit about the search and selection of evidence, the rating or strength of that evidence, and how that graded evidence is correlated to guideline recommendations. Additionally, the guideline/ organization must state funding sources and conflicts of interests of members.

Note that the questions focus on transparency but do not impose any specific quality of evidence requirement. This is key to our ability to understand and follow the basis for both the evidence cited and the recommendations. High quality, evidence based guidelines describe search terms and inclusion criteria and their ability to maximize the number of relevant studies; have explicit study quality ratings linked to evidentiary hierarchy (study design) and study implementation (limitations, directness of evidence, etc); and clearly identify the linkage between the evidence ratings and recommendations.

In our review, numerous guidelines received a Poor rating because they did not meet AGREE standards in clearly describing their search and study selection. Without this information, a potential user does not know whether all relevant studies were included and what the basis for a selected (or excluded) study is.

Note that a guideline developed with poor evidentiary rigor may still contain some individually reasonable or well supported recommendations, however because of the development limitations, which of the recommendations are properly supported is not ascertainable. The reverse is also true: guidelines developed with excellent evidentiary rigor may still contain recommendations that are not appropriate for the workgroup’s purpose. This initial sort identifies the organizations using comprehensive, unbiased, and clearly defined evidence standards. Secondary criteria can assist in assessing whether the context, scope, usability, and important outcomes are addressed such that the guideline would be applicable to the workgroup’s task of identifying guidelines for use by state agency purchasers.

1.5 Secondary Criteria

Sections 2, 3 As noted above, a review of the guidelines against the secondary criteria are beyond the scope of this report, but a brief description is included here. Scope and purpose are focused on whether the overall aim of the guideline, the specific clinical questions, and the target patient populations are described. Describing these attributes is important for a potential user to assess a guideline's breadth and context. Many reviewed guidelines are developed by provider specialty organizations focused on particular clinical conditions and tests. Well described and focused guidelines are informative, but narrow scope may limit applicability to the broad workgroup goals.

Stakeholder Involvement focuses on information about the composition, discipline and relevant expertise of the guideline development group and involvement of target users and patients to address perspectives and usability. Clarity and presentation addresses issues such as the language and format of the guideline to promote its usability, including concrete and precise descriptions, evidence linkage, relevant options, and dissemination. Finally, applicability pertains to the likely organizational, behavioral and cost implications of the topic of the guideline. This may require information about practice changes, patient acceptance, measurements, resource use and changes in practice type, specialty, location, education requirements, and shifts or changes in cost.

The GRADE series of papers also includes a paper specific to diagnostic tests and strategies that provides additional recommendations to ensure a comprehensive and transparent approach for diagnostic recommendations, including the central concept that test results are surrogates for patient-important outcomes.

1.6 Summary Results

Results of the review have been tabulated and are summarized in Table 2, below. The table has been sorted alphabetically by the eight high priority areas identified by the AIM workgroup (checklists and search documents follow same order).

- A total of 32 guidelines were reviewed.
- 23 guideline development organizations are represented with most being provider / specialty societies.
- There were at least 3 and up to 6 guideline reviews completed for each high priority area, except CT of the abdomen/pelvis which resulted in only one unduplicated, relevant guideline, even with an additional hand search.
- For the three questions in the Section 1, rigor of development, set on a scale of Good, Fair, Poor:
 - 13 guidelines rated at least two "Good" and one Fair.
 - Of the 13, 5 guidelines had all "Good" ratings.
 - These 13 higher scored guidelines are spread over six of the eight high impact areas.

Table 2: Guideline Review Summary Results

#	High Priority AI Topic	Guideline Developer	Title	1.1 Rigor of Evidence	1.2 Rigor of Recommendation	1.3 Editorial Independence
1	Abdomen / Pelvis - CT	American College of Radiology (ACR)	Left Lower Quadrant Pain	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
2	Abdomen / Pelvis - CT	American College of Radiology (ACR)	Renal Trauma	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
3	Brain -MRI / CT	American Academy of Neurology (AAN)	Headache; Non-acute	<i>Good</i>	<i>Good</i>	<i>Fair</i>
4	Brain -MRI / CT	American College of Radiology (ACR)	Headache	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
5	Brain -MRI / CT	American College of Emergency Physicians	Neuro imaging and decision making in adult mild traumatic brain injury in the acute setting	<i>Good</i>	<i>Good</i>	<i>Good</i>
6	Brain -MRI / CT	Scottish intercollegiate Guidelines Network	Diagnosis and Management of headache in Adults	<i>Good</i>	<i>Good</i>	<i>Good</i>
7	Brain -MRI / CT	European Federation of Neurological Societies	Diagnosis and Treatment of Brain metastases	<i>Good</i>	<i>Good</i>	<i>Fair</i>
8	Brain -MRI / CT	New Zealand Guidelines Group (NZGG)	Traumatic Brain Injury: diagnosis, acute management and rehabilitation	<i>Good</i>	<i>Good</i>	<i>Good</i>
9	Cardiac Nuclear	American College of Cardiology (ACR) Appropriateness Criteria	Single-Photon Emission Tomography Myocardial Perfusion Imaging	<i>Poor</i>	<i>Fair</i>	<i>Fair</i>
10	Cardiac Nuclear	Am. Heart Association; Am. Stroke Association Stroke Council; Clinical Cardiology Council; Cardiovascular Radiology & Intervention Council	Early Management of adults with ischemic stroke	<i>Poor</i>	<i>Fair</i>	<i>Fair</i>
11	Cardiac Nuclear	European Society of Cardiology	Diagnosis and Treatment of Chronic Heart Failure	<i>Poor</i>	<i>Fair</i>	<i>Fair</i>
12	Cardiac Nuclear	American Heart Association (AHA) & American College of Cardiology (ACC)	Diagnosis and Management of chronic heart failure in the adult	<i>Poor</i>	<i>Good</i>	<i>Fair</i>
13	Cardiac Nuclear	National Heart Foundation of Australia, Cardiac Society of Australia and NZ	Guidelines for prevention, detection and management of chronic heart failure in Australia	<i>Poor</i>	<i>Poor</i>	<i>Good</i>
14	Cervical - MRI	American College of Radiology (ACR)	Chronic Neck Pain	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
15	Cervical - MRI	Work Loss Data Institute	Neck and Upper back (acute & chronic)	<i>Good</i>	<i>Fair</i>	<i>Good</i>

Table 2: Guideline Review Summary Results

#	High Priority AI Topic	Guideline Developer	Title	1.1 Rigor of Evidence	1.2 Rigor of Recommendation	1.3 Editorial Independence
16	Cervical - MRI	Canadian Protective Chiropractic Association	Diagnostic Imaging practice guidelines for musculoskeletal complaints in adults, and evidence-based approach	<i>Poor</i>	<i>Fair</i>	<i>Fair</i>
17	Lower Joint-MRI	American College of Radiology (ACR)	Acute Trauma to the Knee	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
18	Lower Joint-MRI	American Academy of Orthopaedic Surgeons	Treatment of Osteoarthritis of the Knee	<i>Good</i>	<i>Good</i>	<i>Fair</i>
19	Lower Joint-MRI	University of Michigan Health System	Knee Pain or Swelling: Acute or Chronic	<i>Poor</i>	<i>Poor</i>	<i>Fair</i>
20	Lower Joint-MRI	Institute for Clinical Systems Improvement (ICSI)	Diagnosis and Treatment of Adult Degenerative Joint Disease (DJD)/Osteoarthritis (OA) of the Knee	<i>Poor</i>	<i>Poor</i>	<i>Fair</i>
21	Lumbar - MRI	American Academy of Occupational and Environmental Medicine	Low Back Disorder	<i>Poor</i>	<i>Good</i>	<i>Good</i>
22	Lumbar - MRI	American College of Radiology (ACR)	Appropriateness Criteria: Low Back Pain	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
23	Lumbar - MRI	North American Spine Society (NASS)	Diagnosis and treatment of degenerative lumbar spinal stenosis	<i>Good</i>	<i>Good</i>	<i>Fair</i>
24	Lumbar - MRI	American College of Physicians and American Pain Society	Diagnosis and treatment of low back pain	<i>Good</i>	<i>Good</i>	<i>Good</i>
25	Oncology - PET	Association of Comprehensive Cancer Care Centres	Non-small Cell Lung Cancer	<i>Poor</i>	<i>Good</i>	<i>Good</i>
26	Oncology - PET	National Institute for Clinical Excellence (NICE)	Diagnosis and Treatment of Lung Cancer	<i>Good</i>	<i>Good</i>	<i>Fair</i>
27	Oncology - PET	American College of Chest Physicians	Management of small cell lung cancer	<i>Good</i>	<i>Good</i>	<i>Good</i>
28	Oncology - PET	Cancer Care Ontario	Diagnostic Imaging in the Assessment of Metastatic/ Recurrent Ovarian Cancer	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
29	Oncology - PET	Scottish Intercollegiate Guidelines Network	Management of patients with lung cancer	<i>Good</i>	<i>Good</i>	<i>Fair</i>
30	Oncology - PET	National Comprehensive Cancer Network	Non-small Cell Lung Cancer	<i>Poor</i>	<i>Good</i>	<i>Good</i>
31	Upper Joint - MRI	American College of Radiology (ACR)	Appropriateness Criteria: Shoulder Trauma	<i>Poor</i>	<i>Fair</i>	<i>Poor</i>
32	Upper Joint - MRI	American Academy of Orthopaedic Surgeons	Clinical guideline on diagnosis of carpal tunnel syndrome	<i>Good</i>	<i>Fair</i>	<i>Good</i>

From: Agency Medical Directors' Group (AMDG)
To: Steve Hill
Subject: AMDG Recommendations for a Radiology Management Solution

Background:

The issues within the HB2105 decisions can be summarized: should we have a tightly managed (through utilization review) or an open (voluntary, decision aid based) radiology benefit. The matrix below highlights those differences.

AMDG Recommendations: **Mandatory utilization review** to balance the need for access to quality imaging services, but with radiology management based on best evidence. We would recommend the following actions:

1. Use of imaging guidelines that are based on the best available evidence, and that are transparent and readily available to all providers. Guidelines that are based primarily on consensus of expert opinion would not meet this bar.
2. Use of prospective utilization review (prior authorization, PA) with decision support tools on a limited number of high variation, high cost advanced imaging services (e.g. MRI of the head, spine, limbs and PET).
3. Contract with a vendor that has
 - a) Web-based decision support
 - b) CARFor NCQA accredited PA services
 - c) The ability to use WA tailored evidence-based imaging guidelines
 - d) Uses physicians with an unrestricted WA license for peer-to-peer review of appealed cases
 - e) Provides robust data quarterly sufficient to conduct program evaluation
 - f) Is focused on quality improvement
 - g) Has the flexibility to use both PA and notification for “gold card” physicians to reduce provider burden
 - h) Design of the program should consider “at risk” contracting to ensure an ROI of at least 3:1

- i) Cost analysis of the PA program should allow determination of the cost/review or the cost PMPM.
 - j) Include an incentive of less or no PA for good performance (i.e. gold card) that shows low risk to the payer and improved administrative simplification for the provider
4. Continue to monitor utilization trends related to emerging advanced imaging services that may be a source of high variation or cost-ineffective services. Utilize the WA State Health Technology Assessment Program to determine coverage for emerging advanced imaging services of questionable efficacy, safety, or cost-effectiveness.
 5. The State agencies should evaluate, in a timely manner, the effects of the programmatic elements suggested here for implementation.
 6. Following appropriate evaluation of the State's advanced imaging review program, the WA state purchasing agencies should determine:
 - a) the cost-effectiveness of the program
 - b) whether accreditation/certification of providers of advanced imaging services and the equipment used for advanced imaging services is necessary
 - c) whether stricter rules regarding self-referral to advanced imaging are necessary
 7. Decision support tools have little evidence to support a business case. However, decision support tools may assist agencies in tracking variation of prescribing. At this time the AMDG recommends decision support use primarily in the context of prior authorization.