Washington State Health Care Authority
Health Technology Assessment

Program Overview

Josh Morse, Program Director
Health Technology Assessment
January 16, 2015

Program Updates

Today:

- Functional Neuroimaging for Primary Degenerative Dementia or Mild Cognitive Impairment
- Appropriate Imaging for Breast Cancer Screening in Special Populations

March 15, 2015:

- Testosterone Testing

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Background

- The Health Technology Assessment Program (HTA) is located within the Health Care Authority (HCA)
- 2006 legislation designed HTA program to use evidence reports and a panel of clinicians to make coverage decisions for certain medical procedures and tests based on evidence of:
  - Safety
  - Efficacy/ Effectiveness
  - Cost-Effectiveness

Washington State Health Care Authority

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Background

- Multiple state agency programs participate to identify topics and implement policy decisions:
  - Health Care Authority
    - Uniform Medical Plan
    - Medicaid
  - Labor and Industries
  - Corrections
- Implementation:

  Agencies implement determinations of the HTA program within their existing statutory framework.

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Washington State Health Care Authority

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Purpose: Pay for What Works

Ensure medical treatments, devices and services paid for with state health care dollars are safe and proven to work.

- Provide resources for state agencies purchasing health care
- Develop scientific, evidence-based reports on medical devices, procedures, and tests.
- Facilitate an independent clinical committee of health care practitioners to determine which medical devices, procedures, or tests meet safety, efficacy, and cost tests.

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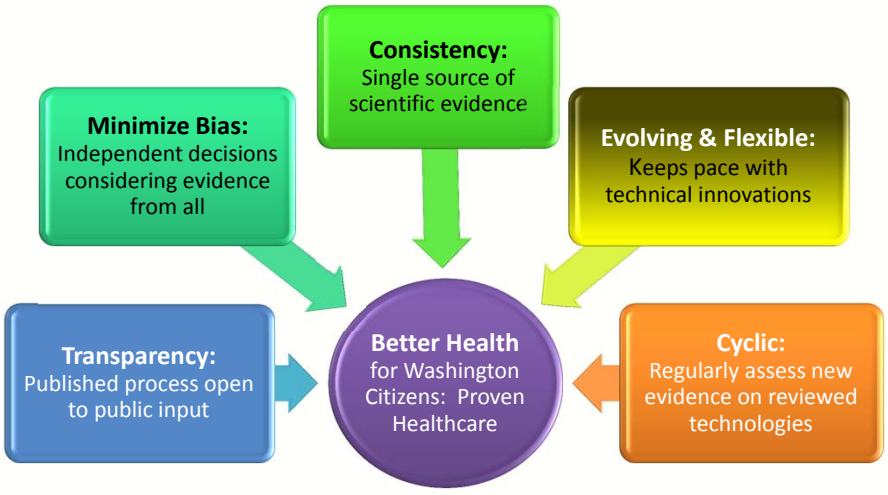
Objectives



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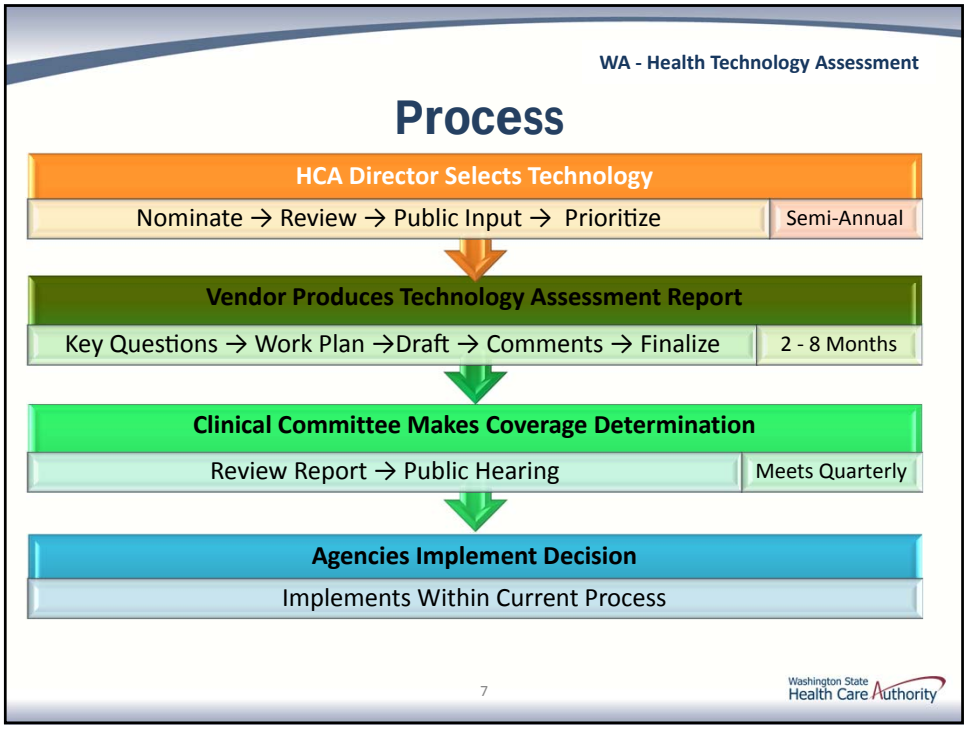
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Process
HCA Director Selects Technology
Nominate → Review → Public Input → Prioritize
Semi-Annual
Vendor Produces Technology Assessment Report
Key Questions → Work Plan →Draft → Comments → Finalize
2 - 8 Months
Clinical Committee Makes Coverage Determination
Review Report → Public Hearing
Meets Quarterly
Agencies Implement Decision
Implements Within Current Process
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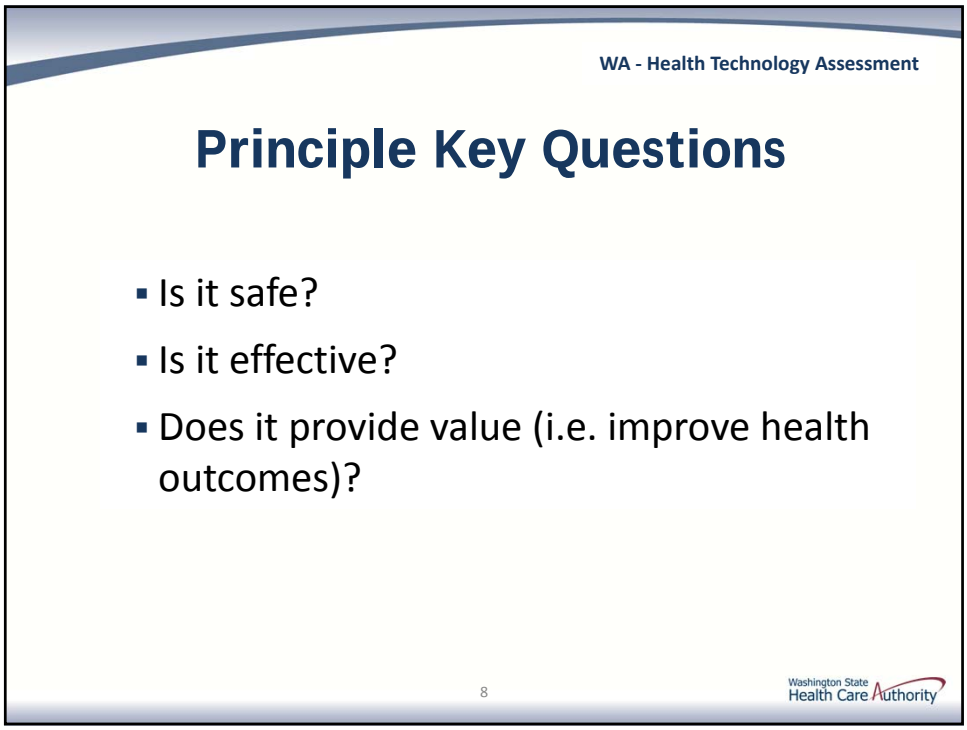
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Principle Key Questions
Is it safe?
Is it effective?
Does it provide value (i.e. improve health outcomes)?
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Values

Transparency: Publish topics, criteria, reports, conduct open meetings

Best Evidence: Formal, systematic process for review of selected health care technologies.

Independent Decisions:

Committee of practicing clinicians make decisions that are scientifically based, transparent, and consistent across state health care purchasing agencies.

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Decision Basis

Clinical Committee decisions must give greatest weight to most valid and reliable evidence.

- Objective factors for evidence consideration
  - Nature and source of evidence
  - Empirical characteristics of the studies or trials upon which evidence is based
  - Consistency of outcomes with comparable studies
- Additional evaluation factors
  - **Recency** (date of information)
  - **Relevance** (applicability of information to the key questions presented or participating agency programs and clients)
  - **Bias** (conflict of interest)

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Technology Topics 2015

- Functional Neuroimaging for Primary Degenerative Dementia or Mild Cognitive Impairment
- Appropriate Imaging for Breast Cancer Screening in Special Populations
- Testosterone Testing
- Imaging for Rhinosinusitis
- Bariatric Surgery for Overweight and Obese
- Tympanostomy Tubes
- Lumbar Fusion (Re-review)

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How To Participate

- Visit the HTA Web site: http://www.hca.wa.gov/hta
- Join the HTA stakeholder distribution list: shtap@hca.wa.gov
  Stakeholders notified of all program publications and meetings.
- Comment on:
  - Proposed topics
  - Key questions
  - Draft & final reports
  - Draft decisions
- Attend HTCC public meetings.
  All meeting materials posted on the web.
- Present comments at Clinical Committee meetings.
- Nominate health technologies for review.

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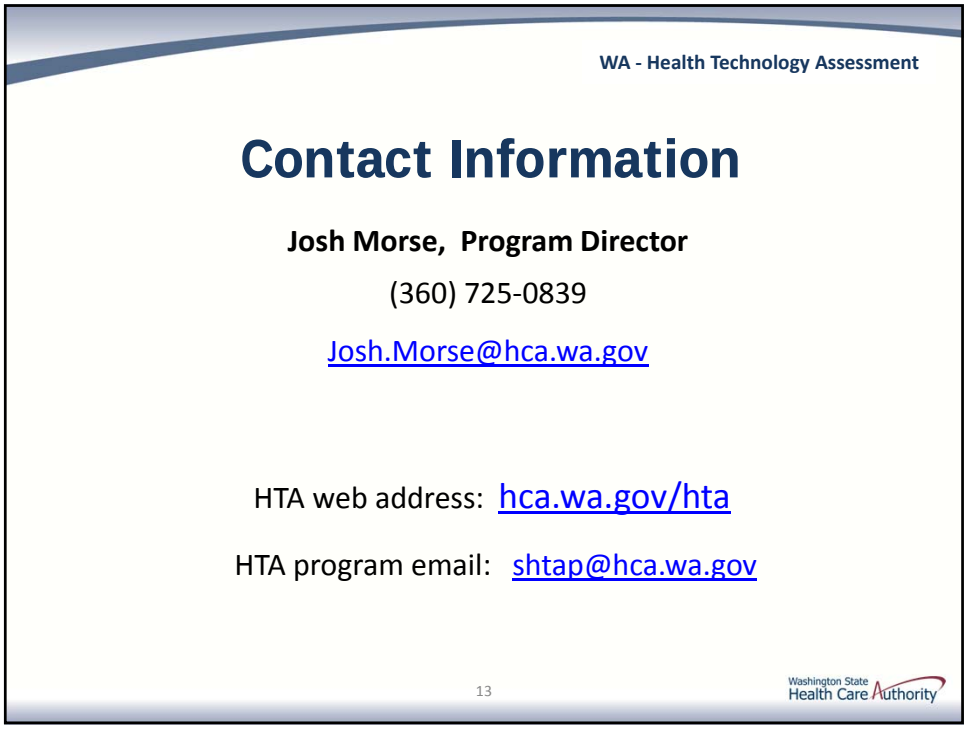
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Contact Information
Josh Morse, Program Director
(360) 725-0839
Josh.Morse@hca.wa.gov
HTA web address: hca.wa.gov/hta
HTA program email: shtap@hca.wa.gov
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Washington State Health Care Authority
Health Technology Assessment

Health Technology Clinical Committee

Date: November 21, 2014
Time: 8:00 am – 1:30 pm
Location: SeaTac Airport Conference Center
Adopted:

Meeting materials and transcript are available on the HTA website at:

www.hca.wa.gov/hta/meetingmaterials/Forms/ExtMeetingMaterials

HTCC DRAFT MINUTES

Members Present: C. Craig Blackmore, MD, MPH; Marie-Annette Brown, PhD, RN; David McCulloch, MD; Carson E. Odegard, DC, MPH; Richard C. Phillips, MD, MS, MPH; Seth Schwartz, MD, MPH; Michelle Simon, PhD, ND; Michael Souter, MB, Ch-B, DA, Christopher Standaert, MD; Kevin Walsh, MD

HTCC FORMAL ACTION

1. **Call to Order:** Dr. Blackmore, Chair, called the meeting to order. Sufficient members were present to constitute a quorum.
2. **July 11, 2014 Meeting Minutes:** Chair referred members to the draft minutes; motion to approve and second, and adopted by the committee.

   Action: Ten committee members approved the July 11, 2014 meeting minutes. One member was absent.
3. **Screening & Monitoring Tests for Osteopenia/ Osteoporosis**

   Agency Utilization and Outcomes:

   Charissa Fotinos, MD, MSc, Deputy Chief Medical Director, WA Health Care Authority presented the state agency utilization rates for Screening & Monitoring Tests for Osteopenia/ Osteoporosis to the committee. The full presentation is published with November 21, meeting materials.

   Scheduled and Open Public Comments: The Chair called for public comments. No scheduled comments were requested. Open public comments were presented by:

   Donna Fiorentino, Legislative Counsel for the International Society for Clinical Densitometry

   Vendor Report and HTCC Q & A:

   The Chair introduced the clinical expert for Screening & Monitoring Tests for Osteopenia/ Osteoporosis, Christopher Shuhart, MD, MHA, CCD, Swedish Physicians Bone Health and Osteoporosis.

P.O. Box 42712 • Olympia, WA 98504-2712 • hca.wa.gov/hta • (360) 725-5126 • (360) 586-8827 (FAX) • TTY 711

Teresa L. Rogstad, MPH, of Hayes, Inc, presented the evidence review addressing Screening & Monitoring Tests for Osteopenia/ Osteoporosis. The full presentation is published with November 21, meeting materials.

Committee Discussion and Decision:

The HTCC reviewed and considered the Screening & Monitoring Tests for Osteopenia/ Osteoporosis technology assessment report and information provided by the state agencies. They also heard comments from the evidence reviewer, the clinical expert, the public, and agency medical directors. The committee considered all the evidence and gave greatest weight to the evidence it determined, based on objective factors, to be the most valid and reliable. [See transcript for full committee deliberations.]

HTCC Committee Coverage Determination Vote			
	Not Covered	**Covered Unconditionally**	**Covered Under Certain Conditions**
Screening for Osteopenia/ Osteoporosis	0	0	10

Discussion:

The Chair called for discussion of the evidence for conditional coverage of DXA scanning to determine bone mineral density and osteoporosis. Conditions of coverage for **Screening for Osteopenia/ Osteoporosis** were discussed and proposed**.** Following discussion of the proposed conditions for coverage the committee voted for coverage under certain conditions. The following conditions were discussed and approved by a majority of the clinical committee:

Limitations of Coverage:

Initial Screening:

Asymptomatic women

- Women >= 65
  Or
- Younger women with equivalent ten year fracture risk to women age 65 as calculated by FRAX or other validated scoring tool

Men or women

- Long term glucocorticosteroids (incorporate FRAX definition),
- Androgen deprivation,
- Other conditions known to be associated with low bone mass

Repeat Screening:

- T-score > -1.5, 15 years to next screening test
- T-score -1.5 to -1.99, 5 years to next screening test
- T-score < -2.0, 1 year to next screening test

Or

- Use of medication associated with low bone mass or presence of a condition known to be associated with low bone mass

Monitoring Treatment:

- Once treatment for osteoporosis has begun, serial monitoring is not covered
- Development of a fragility fracture alone is not a covered indication

Action

The committee checked for availability of a Medicare coverage decision. There is a national coverage determination (NCD) for *Bone (Mineral) Density Studies*. A document on *Bone Mass Measures* in the Manual System states that effective January 1, 2007, bone mass measurement is covered, generally every 2 years but subject to certain conditions. Neither the NCD nor the Manual System provides the rationale or evidence base for these policies.

The committee reviewed and considered practice guideline recommendations issued by the United States Preventive Services Task Force, American Association of Clinical Endocrinologists, American College of Gastroenterology, American College of Obstetricians and Gynecologists, American College of Physicians, American College of Preventive Medicine, American College of Radiology, European Urological Association, Institute for Clinical Systems Improvement, International Society for Clinical Densitometry, North American Menopause Society, and National Osteoporosis Foundation.

The Chair directed HTA staff to prepare a draft coverage determination document for the topic.

The Chair called for further comments. No further comments on Screening & Monitoring Tests for Osteopenia/ Osteoporosis.

6. Josh Morse, HTA Program Director presented information regarding the six HTA reviews currently in progress.

7. Meeting adjourned.

Washington State Health Care Authority
Health Technology Assessment

Health Technology Clinical Committee
DRAFT Findings and Decision

Topic: **Screening & Monitoring Tests for Osteopenia/ Osteoporosis**
Meeting Date: **November 21, 2014**
Final Adoption:

Meeting materials and transcript are available on the HTA website at:
http://www.hca.wa.gov/hta/meetingmaterials/Forms/ExtMeetingMaterials.aspx

Number and Coverage Topic:

20141121A – Screening & Monitoring Tests for Osteopenia/ Osteoporosis

HTCC Coverage Determination:

Bone mineral density testing with dual x-ray absorptiometry (DXA) is a **covered benefit with conditions** consistent with the criteria identified in the reimbursement determination.

HTCC Reimbursement Determination:

Limitations of Coverage:

Initial Screening:

Asymptomatic women

- Women ≥ 65,
  Or
- Younger women with equivalent ten year fracture risk to women age 65 as calculated by FRAX***** (Fracture Risk Assessment) tool or other validated scoring tool

Men or women

- Long term glucocorticooids (i.e. current or past exposure to glucocorticoids for more than 3 months at a dose of prednisolone 5mg daily or more (or equivalent of other glucocorticoids),
- Androgen deprivation,
  Or
- Other conditions known to be associated with low bone mass

Repeat Screening:

- T-score****** > -1.5, 15 years to next screening test
- T-score -1.5 to -1.99, 5 years to next screening test
- T-score ≤ -2.0, 1 year to next screening test
  Or
- Use of medication associated with low bone mass or presence of a condition known to be associated with low bone mass

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* FRAX available at: http://www.shef.ac.uk/FRAX/

**"T-Score" refers to result of a DXA scan compared to a reference population.

Agency Contact Information:

Agency	Phone Number
Labor and Industries	1-800-547-8367
Public Employees Health Plan	1-800-200-1004
Washington State Medicaid	1-800-562-3022

HTCC Coverage Vote and Formal Action

Committee Decision

Based on the deliberations of key health outcomes, the committee decided that it had the most complete information: a comprehensive and current evidence report, public comments, and agency and state utilization information. The committee concluded that the current evidence on Screening and Monitoring Tests for Osteopenia/ Osteoporosis demonstrates that there is sufficient evidence to cover with conditions. The committee considered all the evidence and gave greatest weight to the evidence it determined, based on objective factors, to be the most valid and reliable. Based on these findings, the committee voted to cover with conditions Screening & Monitoring Tests for Osteopenia/ Osteoporosis using the bone mineral density test with dual x-ray absorptiometry (DXA).

HTCC Committee Coverage Determination Vote			
	Not Covered	**Covered Unconditionally**	**Covered Under Certain Conditions**
Screening for Osteopenia/ Osteoporosis	0	0	**10**

Discussion

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Men or women

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Action

The committee checked for availability of a Medicare coverage decision. There is a national coverage determination (NCD) for *Bone (Mineral) Density Studies*. A document on *Bone Mass Measures* in the Manual System states that effective January 1, 2007, bone mass measurement is covered, generally every 2 years but subject to certain conditions. Neither the NCD nor the Manual System provides the rationale or evidence base for these policies.

The committee reviewed and considered practice guideline recommendations issued by the United States Preventive Services Task Force, American Association of Clinical Endocrinologists, American College of Gastroenterology, American College of Obstetricians and Gynecologists, American College of Physicians, American College of Preventive Medicine, American College of Radiology, European Urological Association, Institute for Clinical Systems Improvement, International Society for Clinical Densitometry, North American Menopause Society, and National Osteoporosis Foundation.

Health Technology Clinical Committee Authority:

Washington State's legislature believes it is important to use a science-based, clinician-centered approach for difficult and important health care benefit decisions. Pursuant to chapter 70.14 RCW, the legislature has directed the Washington State Health Care Authority (HCA), through its Health Technology Assessment (HTA) program, to engage in an evaluation process that gathers and assesses the quality of the latest medical evidence using a scientific research company and that takes public input at all stages.

Pursuant to RCW 70.14.110 a Health Technology Clinical Committee (HTCC) composed of eleven independent health care professionals reviews all the information and renders a decision at an open public meeting. The Washington State HTCC determines how selected health technologies are covered by several state agencies (RCW 70.14.080-140). These technologies may include medical or surgical devices and procedures, medical equipment, and diagnostic tests. HTCC bases its decisions on evidence of the technology's safety, efficacy, and cost effectiveness. Participating state agencies are required to comply with the decisions of the HTCC. HTCC decisions may be re-reviewed at the determination of the HCA Administrator.

Washington State Health Care Authority
Health Technology Assessment

Screening & Monitoring Tests for Osteopenia/ Osteoporosis

Draft Findings & Decision
Timeline and Overview of Comments

The Health Technology Assessment (HTA) program received comments in response to the posted Health Technology Clinical Committee (HTCC) draft findings and decision on Screening & Monitoring Tests for Osteopenia/ Osteoporosis.

Category	Comment Period *December 3 – 17, 2014*	Cited Evidence
Patient, relative, and citizen	0	0
Legislator and public official	1	0
Health care professional	1	0
Industry & manufacturer	0	0
Professional society & advocacy organization	1	1
Total	3	1

Technology Assessment Timeline

Study Stage	Date	Public Comment Days
Technology recommendations published	November 19, 2012	
Public comments due	December 3, 2012	**15**
Selected technologies published	December 6, 2012	
Public comments due	January 7, 2013	**32**
Draft Key Questions published	May 19, 2014	
Public comments due	**June 2, 2014**	**14**
Final Key Questions published	June 13, 2014	
Draft report published	September 5, 2014	
Public comments due	**October 6, 2014**	**32**
Final report published	October 20, 2014	
Public meeting date	November 21, 2014	
Findings & decision published	December 3, 2014	
Public comments due	**December 17, 2014**	**15**

SWEDISH

BONE HEALTH & OSTEOPOROSIS CENTER

601 Broadway Suite 600
Seattle, WA 98122
T: 206-215-5950
F: 206 215 5953

December 15, 2014

C. Craig Blackmore, MD, MPH
Chair, Health Technology Clinical Committee (HTCC)
Health Technology Assessment (HTA) Program
Washington State Health Care Authority
PO Box 42712
Olympia, WA 98504-2712

Dear Dr. Blackmore:

I would like to provide comments regarding aspects of the HTCC's recent Draft Findings and Decision on Screening And Monitoring Tests For Osteopenia / Osteoporosis, dated November 21, 2014. I was the Clinical Expert advising the Committee and Hayes, the vendor for the HTA document, and was present for the meeting proceedings regarding the topic.

The summation of the evidence regarding monitoring (Key Questions #2a and #2b) in the Hayes report is straightforward: insufficient evidence to show effectiveness of the technology. I believe the Committee was swayed by Dr. Charissa Fotinos' (Deputy Chief Medical Officer, WA State HCA) presentation, which concluded that "once treatment for osteoporosis has begun, serial monitoring is not indicated", even though earlier in her presentation she echoed the results of the Hayes report stating that the evidence for serial monitoring was insufficient for lack of studies. Dr. Fotinos' "not indicated" conclusion did not flow from the evidence, which was insufficient to make a call, since there is also insufficient evidence negating that possibility. In short, there is no evidence that serial monitoring does not help or causes harm. Her report was not required by rule or law to meet the level of rigor of the Hayes report (independent private communication with Josh Morse). As I'm sure you've heard before, this is a case where "absence of proof" does not equal "proof of absence"; this notion is critical for the Committee when major commercial payors, CMS, and at this moment even plans under the HCA cover serial testing (on or off treatment), and the HTCC 's draft decision is radically different.

I was not asked at the meeting what impact a decision to disallow coverage for monitoring therapy might have on day-to-day practice of primary osteoporosis care, and so I will offer it now: the bone density test – rightly or wrongly – is what patients and practitioners are invested in while on treatment. If there is no ability to engage around an objective dataset from follow-up bone density measurement, no amount of esoteric discourse on "insufficient evidence" will be adequate for patients to approach therapy. They simply want to know what's happening with their BMD on sometimes expensive treatment they fear will cause serious side effects. If we cannot provide a point of engagement, some patients will simply say "if you can't tell me it's working, I won't take it". Then, the decision to not cover bone density measurement for monitoring on therapy will invariably lead to fewer patients being treated, and more patients with costly, debilitating fractures. These will be the clear, unintended consequences of the decision.

Since the evidence is insufficient to make a recommendation on monitoring therapy, the Committee should consider a more practical middle ground, allowing less frequent follow-up on

less expensive, more widely utilized oral medications (where the data show BMD change is not a good predictor of fracture risk reduction), and the provision of at least one yearly interval follow-up bone density measurement while on a given parenteral therapy for osteoporosis, where there are no data for or against the impact of BMD testing on outcome, and where the State has more money invested in more expensive treatments.

Since fragility fracture is an indication for treatment, it would follow that modification of coverage for monitoring would apply to patients on therapy after fragility fracture as well.

I would ask that the Committee reconsider it's original determination and alter the Draft Findings and Decision to coincide with the evidence presented, the common practice milieu, and to avoid more fractures in Washington State.

Thanks in advance for your consideration.

Sincerely,

Christopher R. Shuhart MD, MHA
Swedish Bone Health and Osteoporosis Center
Seattle, WA

December 17, 2014

Mr. Josh Morse, MPH
Program Director
The Washington State HealthCare Authority
Health Technology Assessment Program
P.O. Box 42712
Olympia, WA 98504-2712

Via email: shtap@hca.wa.gov

Dear Mr. Morse:

On behalf of the American Association of Clinical Endocrinologists (AACE) American Society for Bone and Mineral Research (ASBMR), International Society for Clinical Densitometry (ISCD) and the National Bone Health Alliance, we would like to thank the Washington State Health Care Authority (Authority) for the opportunity to offer comments on the Health Technology Clinical Committee's DRAFT Findings and Decision 20141121A – Screening & Monitoring Tests for Osteopenia/ Osteoporosis.

Osteoporosis care is focused on fracture avoidance. The main purpose of obtaining a bone density test is to help determine fracture risk. BMD correlates very well with risk of fracture.[i] In fact, BMD is more powerful in predicting fractures than cholesterol is in predicting myocardial infarction or blood pressure in predicting stroke[ii]. The value, therefore, of BMD as a test used in the prevention of fractures cannot be overstated. While all of tests used to predict outcome are not perfect, they are invaluable tools for diagnosing and treating disease.

Your Draft guidelines are unprecedented in precluding clinicians from using BMD and FRAX, key tools in evaluating fracture risk, in a majority of patients. As such, the guidelines relegate Washington patients to second-class osteoporosis care---care as it was provided decades ago before the advent of BMD and FRAX.

Our comments identify three problems with the Draft guidelines and recommend alternative language on the following issues:

1. Exclusion of DXA coverage for patients being treated for osteoporosis,
2. Fragility fracture alone is not an indication that would trigger coverage of a follow-up DXA; and
3. Limited coverage for retesting using DXA based only on the patient's densitometric score relying on the classifications articulated in the Gourlay study.

1. **<u>The retesting of patients on osteoporosis medications is an integral part of disease management and should be covered.</u>**

The proposed Washington guidelines stand alone in prohibiting the use of DXA to monitor the progress of patients on therapy and reject the evidence-based recommendations on monitoring of every professional society including International Society for Clinical Densitometry (ISCD, American College of Obstetricians-Gynecologists, American Association of Clinical Endocrinologists (AACE), North American Menopause Society (NAMS), American College of Rheumatology (ACR), The Endocrine Society (TES), as well as the National Osteoporosis Foundation (NOF). The Centers for Medicare and Medicaid Services (CMS) **require** that monitoring for response to therapy must be done using DXA to the exclusion of any other modality. [iii] The FDA relied on DXA testing to monitor response to drug therapy during the clinical trials for efficacy of all osteoporosis medications drug. Indeed monitoring for response to therapy is so critical to osteoporosis care that it was included in the federal law, the Bone Mass Measurement Act and, as such, cannot be altered without an act of Congress.

To suggest that a physician prescribe medications based on a DXA test, and then prohibit the subsequent use of DXA to monitor that patient' s response to drug therapy constitutes a deviation from the current standard of care**, and would most likely constitute malpractice.**

This exclusion of DXA for monitoring displays a fundamental misunderstanding about the treatment and management of osteoporosis by assuming that the disease is static and that patients are on medications indefinitely. Both assumptions are inaccurate.

The goal of therapy for osteoporosis is to reduce fracture risk. In untreated individuals, low BMD is a good predictor of fracture risk.[iv]. Moreover, there is a statistically significant relationship between an increase in BMD in response to therapy and reduction in fracture risk.[v]. However, the relationship between the increase in BMD from therapy and reduction of fracture risk is not strong and not linear.[vi]. Importantly, patients on treatment for osteoporosis whose BMD remains stable or increases seem to benefit equally, at least in regard to the rates of new vertebral fractures[vii].[viii] [ix] The purpose of monitoring BMD over time is not to document that the BMD increases. The purpose of monitoring BMD is to identify those patients who sustain a significant BMD loss. Such patients who show a decrease in bone density have higher fracture rates than those with stable or increasing BMD. Thus, there is clearly a need to identify patients whose BMD decreases despite treatment.

This recommendation is consistent with the recent (2008) National Osteoporosis Foundation (NOF) Clinician's Guide to Prevention and Treatment of Osteoporosis [x], which states "*serial central DXA BMD testing is an important component of osteoporosis management. Measurements for monitoring patients should be performed in accordance with medical necessity, expected response and in consideration of local regulatory requirements. NOF recommends that repeat BMD assessments generally agree with Medicare guidelines of every two years but recognizes that testing more frequently may be warranted in certain clinical situations."* A summary of the concepts of precision and least significant change (LSC) as it relates to DXA measurements are given in the explanatory footnote.[xi xii xiii xiv xv xvi xvii xviii xix xx xxi xxii xxiii].
The ISCD Official Positions note that serial BMD testing can monitor response to therapy by finding an increase or stability of bone density. Serial BMD testing can evaluate individuals for non-response by finding loss of bone density, suggesting the need for reevaluation of treatment and **evaluation for secondary causes of osteoporosis.** Follow-up BMD testing should be done when the expected change in BMD equals or exceeds the least significant change (LSC). Intervals between BMD testing should be determined according to each patient's clinical status: typically one year after initiation or change of therapy is appropriate, with longer intervals once therapeutic effect is established. In conditions associated with rapid bone loss, such as glucocorticoid therapy, testing more frequently is appropriate. [xxiv]See more at: http://www.iscd.org/official-positions/2013-iscd-official-positions-adult/#sthash.o7cHoIq6.dpuf

Monitoring patients on treatment is also necessary to determine whether a patient needs a break from treatment, commonly referred to as a "drug holiday". Trial data do not address indefinite treatment with any of the drugs commonly used to treat osteoporosis. However, there are data suggesting that higher cumulative doses increase the risk of adverse events such as osteonecrosis of the jaw (for review, see[xxv xxvixxvii xxviii]) and atypical subtrochanteric fracture. For these reasons and others, there is a large population of patients for whom bisphosphonate "holidays" are currently being recommended. In other words, a patient whose BMD has stabilized may be taken off a therapy for a period of time to minimize the chance of adverse events cited above. Monitoring BMD over time will be important to help with decisions regarding if and when to re-initiate therapy. [19]. Specifically, we favor a repeated DXA at 1 to 2 years following initiation of therapy until bone density is stable. This testing pattern can be continued at 2 year intervals and reduced with evidence of persistent BMD stability. We also note that some investigators have suggested that monitoring may serve as an aid to adherence to therapy.[xxix xxxxxxi]. Moreover, improved adherence leads to improved outcomes.

There is a statistically significant relationship between increasing BMD on therapy and decreasing fracture risk, for both spine and non-spine fractures. For example, women who gain BMD on alendronate or risedronate have a lower risk

of fracture than those who lose BMD on those therapies. [xxxiixxxiiixxxiv xxxv xxxvi xxxviixxxviii]. Therefore, the finding of a decrease in BMD that equals or exceed the LSC is clinically important, because it indicates that the patient is not obtaining the fracture risk reduction benefit for which the therapeutic agent is being prescribed.

Monitoring is also important for all therapies designed to reduce fracture risk, as no medication will be effective in 100% of patients. Additionally, it is important that physicians appreciate differences in mechanisms of action between osteoporosis therapies and therefore the appropriate sites to monitor. In this regard, a BMD decline equal to or greater than the LSC at any skeletal site on anti-resorptive therapy suggests ineffectiveness of therapy or presence of previously unappreciated causes of bone loss, e.g., cancer such as multiple myeloma. Anabolic therapy with PTH analogues may cause a transient reduction in proximal femur BMD due to increased cortical porosity and periosteal expansion; in such patients lumbar spine BMD is often increased. Such differences in response are to be expected based on the mechanism of action of the medication and therefore do not represent a failure of therapy.

Moreover, based upon the mechanism of action, the frequency of monitoring following treatment discontinuation may differ among pharmaceutical agents. Specifically, estrogens, testosterone, PTH derivatives, and denosumab remain active for only a short time beyond their dosing periods, while bisphosphonates persist in bone for long periods and can continue to act long after treatment is discontinued. For example, patients treated with zoledronic acid may see therapeutic efficacy persist for up to 2 years[xxxixxl]

Bone densitometry and biochemical markers of bone turnover are *complementary* approaches, whose use should be guided by patient-specific issues. DXA has the advantages of high precision and lack of diurnal variation, but has the disadvantage of responding slowly to therapy. In contrast, biochemical markers have much poorer precision and are subject to diurnal variation, but change much more quickly and to a greater extent than BMD (for review, see[xlixlii]).

Monitoring patients for response to treatment should be limited to DXA at the lumbar spine, and proximal femur. The 33% radius site may also be used if the spine or proximal femur is uninterpretable. Other sites and modalities are not appropriate for monitoring treatment response. There are 2 reasons for this. First, the hip and spine are the sites of the most important osteoporotic fractures, and it is well established that the ability of a BMD measurement to predict fracture is highest if the measurement is obtained at the same site whose fracture risk is being assessed. Thus, hip BMD is a better predictor of hip fracture than lumbar spine BMD, but lumbar spine BMD is better able to predict vertebral fractures than hip BMD is[xliii].

As previously noted, patients treated for osteoporosis may, through drug therapy and/or life style changes, improve or stabilize their T-score to the point where the patient no longer needs medication. Without the ability to measure bone density of patients on drug therapy, there is no way to determine the efficacy of that therapy in that particular patient. In addition, the inability to obtain a post-treatment T-score eliminates a key element in the assessment of fracture risk for that patient. The assessment of fracture risk is more accurate when risk factors are coupled with a bone density results. FRAX with BMD predicts fracture risk better than clinical risk factors or BMD alone. [xliv]The use of FRAX without BMD is appropriate when BMD is not readily available or to identify individuals who may benefit from BMD measurement. [xlv]

We note some recent work that suggests that monitoring BMD is unnecessary. [xlvi] [xlvii] We disagree with that work. It is well established from randomized clinical trials that there are multiple effective fracture-preventing drugs. However, in the case of *individual* real-world patients, any particular drug may not be effective, either because of biology or adherence. Moreover, study participants are highly selected and do not reflect clinical patients. Using BMD is critical for treating physicians to be able to determine response to treatment in an individual patient.

2. <u>The development of a fragility fracture should not be excluded as a covered indication for retesting.</u>

The Washington guidelines state that the "development of a fragility fracture alone is not a covered indication" for retesting.

It appears that the Authority only accepts the densitometric definition of osteoporosis using T-scores. They ignore the well-accepted clinical definition of osteoporosis that includes older patients with low bone mass who have fractured. This broader definition is formally recognized by a number of professional societies (see AACE and NAMS Guidelines [xlviii] and the National Bone Health Alliance in a January 2014 paper <u>"The clinical diagnosis of osteoporosis: a position statement from the National Bone Health Alliance Working Group."</u>) [xlix]

The NBHA Working Group identified an alternative definition for osteoporosis: individuals that have osteopenia by BMD who sustain a low- trauma vertebral, proximal humerus, pelvis fracture or in some cases distal forearm fracture. Hip, vertebral, distal radius (wrist) and pelvis fractures constitute about two-thirds of osteoporosis-associated fractures[l]. Therefore, the majority of fractures occur in people with low bone mass, not T-score osteoporosis. [li]

A "fragility fracture" (sometimes referred to as a low-trauma fracture) is defined by the World Health Organization as "*a fracture caused by injury that would be*

insufficient to fracture a normal bone...the result of reduced compressive and/or torsional strength of bone."

If the majority of these types of low-trauma osteoporotic fractures are excluded from coverage and retesting is only permitted using the Gourlay classifications, a majority of at-risk patients will be denied access to DXA testing, and ultimately, proper treatment.

3. <u>Coverage for retesting should not be based solely on a patient's densitometric T-score.</u> (see ***Gourlay ,"Bone Density Testing Interval and Transition to Osteoporosis in Older Women" Gourlay et. al., NEJM, Jan 19, 2012.)*** **Coverage based on Gourlay is inappropriate for the following reasons:**

a. The Gourlay categories adopted in the Washington policy (mild osteopenia with T-score of lower than -1.0- and higher than -1.5, moderate osteopenia with T-score of lower than -1.5 and higher than-2.0 a severe osteopenia with T-score of lower than -2.0 and higher than -2.5) **are not recognized by any medical society, the NOF or the WHO.** Most important, to use this T-score classification completely ignores the role of FRAX in determining fracture risk for the osteopenic patient and places risk solely based on BMD. In 2014.there is no rationale for adhering to this antiquated risk assessment.

b. Gourlay focused on the estimated interval for 10% of the participants to make the transition from normal BMD or osteopenia to osteoporosis before a hip or clinical vertebral fracture occurred, or before treatment for osteoporosis was started. While that may have been an acceptable threshold for that study, it is completely inappropriate to develop testing thresholds that assume 10% of patients will transition to osteoporosis or have a hip or clinical fracture. Osteoporosis testing and treatment thresholds are designed to avoid fracture and osteoporosis before they occur, not after. Writing off 10% of patients is not an acceptable disease burden.

c. The Gourlay study population consisted of post-menopausal women age 67 and over and did not address testing intervals in recently post-menopausal women, where rates of bone loss are much more rapid, or women with additional illnesses or requiring medications that adversely affect bone in whom more frequent testing may be appropriate. The rate of bone loss in early menopause is around 2% per year but can be as high as 5% per year. [iii]If the T-score measured, on a menopausal woman at age 53 with a strong family history of osteoporosis, by DXA is -1.5, waiting 10 years would miss the opportunity to intervene in 5 years. In this theoretical case, at 5 years the T-score would be -2.5 (2% x 5years) and at 10 years would be -3.5. In adopting these proposed frequency rates, the Clinical Committee ignored the study author's warning that "…our analysis was limited to women 67 years of age or older; different results might have been obtained from analyses that included younger postmenopausal

women or men."

d. The study cohort in Gourlay also excluded nearly 50% of the SOF study participants who had a previous diagnosis of osteoporosis (based on a prior hip or clinical vertebral fracture or densitometric evidence of osteoporosis) or who were on treatment. In other words, the study focused on the healthiest patients.

e. Gourlay study findings underestimate time intervals because they excluded the likely majority of vertebral fractures by only including clinical vertebral fractures. Unappreciated vertebral compression fractures, that are asymptomatic, are common in patients with low bone mass based solely on BMD. A sizable percentage of postmenopausal women who have low bone mass based on BMD (between 17 and 47%) had morphometric vertebral body compression fractures. Many of these patients would been identified in the Gourlay study as continuing to have low bone mass with lengthy intervals between testing even though by virtue of the vertebral fracture, they should have been classified as having osteoporosis.

f. Gourlay further underestimated the length of time for women to transition from one category to another because the study did not consider women with low spine BMD. As low lumbar spine BMD is associated with increased fracture risk, clinicians must consider this site in making recommendations to minimize fracture risk.

SUGGESTED LANGUAGE: Additional language is capitalized and in RED. Brackets indicate deletion of the language.

Limitations of Coverage:
Initial Screening:
Asymptomatic women

- Women ≥ 65, Or
- Younger women [with equivalent ten year fracture risk women age 65] WHEN THE FRAX 10-YEAR MAJOR OSTEOPOROTIC FRACTURE RISK CALCULATED WITHOUT BMD IS 9.3% OR GREATER

Men or women

- Long term glucocorticooids (i.e. current or past exposure to glucocorticoids for more than 3 months at a dose of [prednisolone] PREDNISONE 5mg daily or more (or equivalent of other glucocorticoids),
- Androgen deprivation, Or
- Other conditions OR MEDICATIONS known to be associated with low bone mass IN PATIENTS WHERE TREATMENT HAS NOT STARTED

- [*Repeat Screening:*
- T-score** > -1.5, 15 years to next screening test
  T-score -1.5 to -1.99, 5 years to next screening test
- T-score ≤ -2.0, 1 year to next screening test
- Or
- Use of medication associated with low bone mass or presence of a condition known to

be associated with low bone mass]

REPEAT DXA SCREENING IS COVERED IN (UNTREATED PATIENTS):

- WOMEN <65 AT 2 YEAR INTERVALS IF NEAR STATED THRESHOLD FOR TREATMENT (3% FOR HIP AND 20% FOR MAJOR OSTEOPOROTIC FRACTURE BASED ON FRAX) ; AT 4-5 YEAR INTERVALS IF NOT CLOSE TO STATED THRESHOLD

- WOMEN > 65 AT 2 YEAR INTERVALS IF CLOSE TO THE STATED THRESHOLD FOR TREATMENT (3% FOR HIP AND 20% FOR MAJOR OSTEOPOROTIC FRACTURE BASED ON FRAX); AT 5-10 YEAR INTERVALS IF NOT CLOSE TO STATED THRESHOLD

- PATIENTS WHO DEVELOP A CONDITION OR USE A MEDICATION KNOWN TO BE ASSOCIATED WITH LOW BONE MASS

- PATIENTS SUSTAINING ONE OR MORE FRAGILITY FRACTURES INCLUDING MORPHOMETRIC VERTEBRAL BODY COMPRESSION FRACTURE

Monitoring Treatment:

- [Once treatment for osteoporosis has begun, serial monitoring is not covered
- Development of a fragility fracture alone is not a covered indication]

- ONCE TREATMENT FOR OSTEOPOROSIS HAS BEGUN, SERIAL MONITORING IS COVERED AT 2 YEARS AND AT SUBSEQUENT 2 YEAR INTERVALS UNTIL BONE DENSITY HAS BEEN STABILIZED

- DEVELOPMENT OF ONE OR MORE FAGILITY FRACTURES MAY BE AN INDICATION OF FAILURE TO RESPOND TO DRUG THERAPY AND SHOULD PROMPT A REPEAT DXA STUDY

- FOR PATIENTS WHERE AN FDA APPROVED MEDICATION FOR OSTEOPROSIS HAS BEEN DISCONTINUED (DRUG HOLIDAY) REPEAT TESTING AT 2 YEAR INTERVALS IS COVERED UNTIL A SIGNIFICANT DECLINE IN BONE DENSITY IS IDENTIFIED.

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Agency Medical Director Comments on Screening and Monitoring Tests for Osteopenia/Osteoporosis, DRAFT Decision, 11/21/2014

Limitations of Coverage:	Agency Comments
Initial Screening:	
Asymptomatic Women	
• Women ≥65	
Or	
• Younger women with equivalent ten year fracture risk to women age 65 as calculated by FRAX* (Fracture Risk Assessment) tool or other validated scoring tool	
Men or women	
• Long term glucocorticooids (i.e. current or past exposure to glucocorticoids for more than 3 months at a dose of prednisolone 5mg daily or more (or equivalent of other glucocorticoids),	
• Androgen deprivation,	
• Other conditions known to be associated with low bone mass	
Repeat Screening:	
• T-score** > -1.5, 15 years to next screening test	
• T-score -1.5 to -1.99, 5 years to next screening test	
• T-score ≤ -2.0, 1 year to next screening test	
Or	
• Use of medication associated with low bone mass or presence of a condition known to be associated with low bone mass	The screening schedule for this group is difficult to interpret, with the two options appearing to be either the 1 year schedule of the prior group, or at the physician's discretion. Agency medical directors recommend adding wording like "at physician's discretion, not more than 1 screening test per 12 months" or similar wording.
Monitoring Treatment:	
• Once treatment for osteoporosis has begun, serial monitoring is not covered	
• Development of a fragility fracture alone is not a covered indication	Was this bullet intended to be part of the monitoring treatment section, or a general "non-covered" indication? Based on the committee's discussion, it appears that a separate section was the original intent of the committee, and agency medical directors recommend a different heading or spacing be used to signal that intent.