Washington State Health Care Authority

Health Technology Assessment

Hyaluronic Acid / Viscosupplementation

Public Comments and Responses

April 15, 2010

Washington State Health Care Authority

The MED Project Report on Viscosupplementation for Osteoarthritis of the Knee
Public Comment Response Prepared by Hayes Inc.

Hayes Inc. is an independent vendor contracted to produce evidence assessment reports for the WA HTA program on behalf of The MED Project at Oregon State Health Science University. For transparency, all comments received during the comments process are included. However, comments related to program decisions, process, or other matters not pertaining to the report are acknowledged through inclusion, but are not within the scope of response for report accuracy and completeness.

This document responds to comments from the following parties:

- Five individual practitioners
- DuPuy Inc. (distributor for Orthovisc®); letter from Christina Farup, M.D., M.S.
- Ferring Pharmaceuticals (Euflexxa®); letter from Harry F. Kovelman, M.D.
- Smith and Nephew (distributor for Supartz®); comments added to the report draft and comments in a letter from Jores Grigorian
- Labor and Industries; letter from Josh Morse

INDIVIDUAL PRACTITIONERS

Five individual practitioners testified to the success they have had and satisfaction of their patients with viscosupplementation. Comments also referred to the use of viscosupplementation to delay total knee replacement, particularly in younger patients; success with repeat treatments; potential safety advantages over NSAIDs; and potential cost savings. The comments came from a medical assistant; a physician's assistant for four orthopedic surgeons and a pain specialist; and three physicians (including two identified as orthopedic surgeons).

DUPUY

FDA approval and retreatment
The statement in the *Policy context* section has been amended to read simply that retreatment has not been studied as extensively as single treatment.

Difficulties in measuring pain effects, trial size, AUC analysis:
The numerous meta-analyses provided a way to compensate for small trials and lack of statistical power. The report acknowledges the variation in protocol across trials and other study limitations, and accordingly, the quality of the evidence pertaining to efficacy was described as "moderate" rather than "high". No studies using AUC analysis were described by the reviews or identified in the recent primary literature, so it was not possible analyze findings according to whether or not this approach was used.

Variation in duration of treatment effect across products
The published literature did not include an analysis of duration of effect by product. The meta-analysis by Arrich et al. (2005) (included in the Samson/AHRQ report) found no difference in overall treatment effect by molecular weight (≤ 900 kDA versus > 900 kDa). A single trial (Juni et

al., 2007) did not demonstrate a difference in effect between low and medium-weight HA arms (substantial dropout rate in this trial detracts from conclusions).

Differences in adverse effects by product
There was no published evidence pertaining to the risk of allergy with avian-based HA products. The increased risk of adverse events with hylan, compared with non-cross-linked HA, was noted in the report.

Prices from First Data Bank
Provision of precise price data was not an objective of this report.

Current coverage for viscosupplementation
Provision of coverage information was not an objective of this report.

FERRING

Biochemical effects of viscosupplementation, role in prevention, effect on disease progression
As the commenter notes, the key questions for this report focused on patient-important outcomes rather than biochemical or physiological assessments. The comment seems to suggest that viscosupplementation could play a role in preventing disease progression. Like biochemical changes, disease progression would only serve as a surrogate measure for the patient-important outcomes of reduction in pain and improvement in function. The report states that "the impact of viscosupplementation on eventual recovery of function is uncertain" because of the limited follow-up in most of the studies (Executive Summary, Findings; Summary, General Conclusion).

SMITH AND NEPHEW, Comments Added to Report Draft

Page numbers refer to the report draft returned by S&N with added comments.

Objection to the statement that FDA approval does not extend to repeat courses of treatment (p.4, p. 12):
The statement in the *Policy context* section has been amended to read simply that retreatment has not been studied as extensively as single treatment. The report looked only at published evidence and thus did not consider package inserts. The reference (Scali 1995) cited in the comment on p. 12 included only 75 patients and does not indicate how many of the patients received repeat treatments.

Comment on data cited in the report pertaining to the safety of repeated courses of treatment (p. 6, p. 9-10, and p. 37).
Commenter correctly points out that the cited data only apply to hylan (high molecular weight HA, also known as GF-20). A notation to this effect has been added to summaries of safety data and to Table 1 where adverse event rates from case series appear.
Commenter cites studies showing a greater frequency of adverse events with second courses of treatment in patients receiving hylan, compared with non-hylan.

> Juni et al., (2007). Results of this study are given in Table 2 of the Washington report, and are reflected in the discussion of safety. The size of the subset receiving repeat treatments (n=330) was too small for reliable safety data.

Two studies from 1995 were cited in the comment. The Ueno 1995 study is not clear on whether "cases" represented patients or injections. Furthermore, the number of cases accompanied by adverse events was too small (37 out of 7404) to draw conclusions about the difference between first-time and repeat courses of treatment. The Scali 1995 study included only 75 patients (too few for meaningful calculation of adverse event rates) and does not identify how many patients received repeat injections.

The report includes findings from the meta-analysis by Reichenbach et al. (2007) of increased risk of adverse risk with hylan versus non-hylan.

Comment on lack of evidence supporting superiority of hylan over non-hylan (p. 7):
The statements in the Washington report reflect the totality of the data, including indirect comparisons of all placebo-controlled trials, a qualitative review of comparator trials (including the one cited by the commenter), and a meta-analysis of comparator trials. The conclusion in the Washington report reflects findings suggesting that whatever superiority may be conferred by hylan may not be large enough to be clinically meaningful.

Comment on the conclusion about low versus medium molecular weight HA (p. 7):
Commenter is concerned that this statement implies false information about hylan. We believe the statement is correct and does not refer to hylan. The evidence about hylan is summarized in the immediately preceding sentence.

Comment about cost-effectiveness evidence (p. 7-8):
The two studies cited in the comment are reviewed in detail in the Washington report. Study limitations and the reasons they do not allow a definitive conclusion about cost-effectiveness, despite the positive findings, are stated. The comment refers to additional cost-effectiveness data, but the cited reference (Zhang et al., 2010) only presents data from one of the studies already included in the report.

Objection to summary statement that there are few studies reporting the proportion of patients who experience clinically important improvement (p.8):
The statement reflects a similar statement in the systematic review by the Agency for Healthcare Research and Quality (AHRQ) (Samson et al., 2007), which conducted an exhaustive literature search. It is also confirmed by the Hayes 2009 report, which identified only four such studies with more than 100 patients. The results from these studies are presented in the discussion of Findings for Key Question #1a, and those studies include the one cited by the commenter.

Objection to statement on lack of safety data from large, unbiased databases (p. 9):
Commenter gives two examples, one of which is one of the large case series already referred to in the Washington report. The other example (Ueno 1995) does not clarify whether data are per patient or per injection. Statement will be changed to reflect the fact that such data are available only for hylan and not for the non-hylan products currently available in the U.S.

Studies assessing the ability of viscosupplementation to delay total knee replacement (p.9-10):
Commenter cites two studies that were considered but omitted from discussion in the report because both were based on retrospectively collected cost data, and neither included a comparison with costs for patients who were not offered viscosupplementation.

Objection to statement that adverse effects of NSAIDs are rare (p. 10):
Statement in Background section has been amended to "a small risk of potentially serious systemic adverse effects".

Objection to initial statement about introduction of viscosupplementation (p. 11):
"Recently" has been omitted and sentence has been amended to reflect that HA provides an alternative to NSAIDs *or* intra-articular corticosteroid injection. This is supported by the fact that head-to-head comparator trials for both HA versus NSAIDs and HA versus corticosteroid injection appear in the literature.

Comparative immunogeneity of different HA products due to differences in impurities (p.11):
The studies cited by the commenter are all animal studies. No human studies of this issue were mentioned by the selected systematic reviews, and immunogeneity would be only a surrogate outcome measure for pain and function.

Studies published prior to 1999 (p. 13):
These are included in the selected systematic reviews. One systematic review searched back to 1996, and the other four had no beginning limit for the search time span.

Objection to basing an assessment on systematic reviews in lieu of primary studies (p.15):
Several measures were taken to assure that no misleading conclusions were propagated: (1) systematic reviews were selected and evaluated according to quality criteria (see *Quality assessment* under Methods); (2) the basis of review authors' conclusions was described; (3) the individual meta-analyses summarized by the AHRQ report and several of the RCTs included in the other reviews were retrieved and individually reviewed so that missing details could be added to the report; and (4) the three best broad-scope systematic reviews were selected to assure a variety of perspectives were represented. Furthermore, the meta-analyses and supplemental analyses provided by the five selected reviews provide additional, secondary evidence not available in the individual studies.

Head-to-head comparator trials of hylan versus other HA (p. 16):
The comment is made in the context of an explanation for why one of the general systematic reviews did not consider product comparisons. The Washington report's conclusions about the comparative effectiveness and safety of different products appear elsewhere in the report. This comment cites studies in which no difference between hylan and non-hylan were detected. These studies, as well as studies that did detect a difference, are included in the systematic review and meta-analysis by Reichenbach et al. (2007).

Clinical importance of pain effects (p. 16-17):
It is a given that neither group means nor definitions of clinical importance for research purposes apply to all individual patients. An HTA serves as a guide for clinical and policy decision making and is not to be interpreted as prescriptive for individual treatment choices. The report also acknowledges that data on the proportion of patients who experience clinically important benefit (responder analysis), as well as the mean effect, is important. Unfortunately, there were few studies assessing outcomes in terms of responder analysis.

The comment describes factors that should be taken into account along with absolute effect sizes. These were generally considered by the systematic review authors and in the report.

Head-to-head comparator trials of viscosupplementation versus alternative treatments were too few in number to allow conclusions, except in the case of HA versus intra-articular corticosteroid injection; the longer-lasting benefits of HA are noted in the Findings section; a statement has been added to the Executive Summary and *General conclusion* sections. Results of all available responder analyses were reported in the original report or have been added in response to these comments. The comment references a source (Zhang 2010) for comparative effect sizes, but the reported effect sizes are for treatment of hip as well as knee osteoarthritis. Furthermore, the comparability of patient populations and types of comparison groups is not described. Data pertinent to responder analysis has to do with this issue, and the available evidence is described in the report. The key questions identified for this HTA did not include an assessment of impact on quality of life (QOL).

The purpose of the report was to analyze the evidence of efficacy, effectiveness, safety, and cost implications of viscosupplementation. Weighing harms and benefits in order to determine a policy or clinical decision was beyond the scope of the report.

Pooled analysis of functional outcomes (p. 17-18 and p. 36):
The cited meta-analysis was included in the selected systematic review by Samson et al. (2007) and was considered in the report's summary of findings.

Studies reporting responder analysis (p. 18):
Results from the Raynauld 2002 study have been added to the list of studies comparing viscosupplementation with conventional treatment and reporting proportion of patients experiencing clinically important improvement. Results from the Rolf 2005 study have been added to the text describing findings in the AHRQ report (Samson et al., 2007).

Effect size for hylan/HA versus intra-articular corticosteroid injection (p. 19):
Comparing the versus-placebo effect sizes for different treatments constitutes an indirect comparison and is not as valid as an effect size derived from head-to-head comparator trials, which is what the meta-analysis by Bannuru et al. (2009) provides. The report states that the effect size (0.39) was "modest"; no statements were made about whether the effect was considered clinically important. The potential placebo effects of alternative treatments are acknowledged in the discussion of the strengths and limitations of economic analyses based on calculations of quality-adjusted-life-years (QALYs).

Head-to-head comparator trials as discussed in the Bellamy review (p. 21):
The gist of the comment is very consistent with what is stated in the report in multiple places. More detailed analysis of this issue was provided by the Reichenbach and Samson reviews, and summarized in the report.

Lack of information on interaction of viscosupplementation with other therapies (p. 23):
"Interaction" was a poor choice of terms. Statement has been amended to "synergistic effect". The report does not try to draw a conclusion about this because only two studies were identified that compared viscosupplementation with conventional care or conventional care alone.

Lack of evidence of a difference in effect between different molecular weights among non-hylan products (p. 24, p. 37):
Both comments seem consistent with what the report states. Some language in the report has been amended to clarify that why the conclusion of no difference between low and medium

molecular weight is considered low quality. Of the two studies cited in the comment on p. 37, only one (Juni 2007) included data specific to low versus medium weight products. This study had a high drop-out rate.

Comments on safety data (p. 25):
MAUDE data are not presented as rates. The report concludes that adverse events following viscosupplementation are generally mild and transient. No published data from large groups or databases were available on the comparative safety of different products.

Safety evidence from Raynauld et al. (2002) (p. 25):
Results have been added to the discussion of findings for Key Question #2.

Long-term safety data (p. 26):
As previously noted, the Ueno 1995 data are not generally useful because of some confusion over whether cases are patients or injections and because the number of cases with adverse events was too small to allow comparisons between single and repeat injections. Most importantly, the study does not present information on mean duration of follow-up or incidence of adverse events at specified follow-up intervals. The Rolf 2005 study did not follow patients for more than one year.

Relative risks versus odds ratios (p. 26):
Relevance of the comment and the cited reference to adjacent text, which has to do with NNT calculations, is unclear. The cited reference reports an NNT calculation, with further citation of the Bellamy review, but does not provide enough information to determine to which study(ies) reviewed by Bellamy the NNT calculation pertains. A summary of available NNT calculations was available in the Samson review and is paraphrased in the report.

Price data (p. 29):
Provision of precise price data was not an objective of this report.

Conversion of Canadian cost-effectiveness study results to U.S. dollars (p. 29 and p. 31):
The comment references new OARSI guidelines, in which the cost/QALY calculation of the study by Torrance et al. (2002) is converted to a U.S. 2009 value. This provides a more current evaluation of the magnitude of the study's conclusion but does not address the problems involving in applying the results of the study.

Cost-effectiveness data in updated OARSI guidelines (p. 32, p. 33):
Cost-utility (cost/QALY) data for viscosupplementation in the OARSI guidelines (Zhang et al., 2010) come from a single trial, the limitations of which are described in the Washington report. Comparison of cost-utility ratios for alternative treatments can be misleading when those ratios come from different trials involving different populations and different comparisons.

Comments on Agency data (p. 32):
Table 2 – Supartz and Hyalgan were both originally approved for no less than 5 injections (1997, 2001), with approval later granted for Supartz at 3 to 5 injections (2006). Unfortunately, our analysis of the use of these two drugs is based on their shared billing code, so they are not distinguishable in the charts. I added some footnotes and label clarification around the optional use of 3 to 5 injections for Supartz.

Table 3 – Added “Supartz” to headers, “3-5” to the procedure count, and a footnote of explanation.
Table 4 – Unchanged. As noted, it is not possible to establish linkages based on the short timeline and high member turnover rate.
(See Appendix.)

Comment on AAOS guidelines (p. 34):
A note has been added about the fact that the AHRQ report did not assess viscosupplementation versus standard care or cost-effectiveness.

Comment about assumption in NICE economic analysis of physician performance of injections (p.35):
This limitation has been added to the discussion of the NICE analysis in findings for Key Question #4.

SMITH AND NEPHEW, Letter for Jores Grigorian

Integrated analysis: This study is referenced and described in the Washington report.

Postmarketing study (n=7404): No information appears in the Supartz prescribing information, and no publication is cited by the commenter.

LABOR AND INDUSTRIES, Josh Morse

Page numbers refer to the original report.

MED reference is not defined (p. 1).
‘MED’ has been defined and an explanation added.

Scope of “three general systematic reviews” (p. 2):
Expanded description has been added.

Clarification of clinical importance (p. 2):
Has been added to Findings in Executive Summary and in *General conclusion*.

Lack of coverage for TENS and acupuncture (p. 4).
Sentence has been omitted.

Is any evidence pertaining to newly approved Synvisc One in this report? (p. 5)
No. None of the selected primary studies published within the search time frame used Synvisc One, and neither the product nor a single-injection formulation is mentioned in the systematic reviews.

Are special issue reviews peer reviewed? (p. 7).
Yes. Both published in *Arthritis and Rheumatism*.

Abbreviated version of Table 1:
This suggestion will be considered for the oral presentation of the report.

Conclusion of the authors of Samson review (p. 8-10):
Appears in Table 1. Has also been added to the end of the paragraph summarizing conclusions of the various meta-analyses covered in the Samson review.

Bulleted list of studies reporting proportion of patients with clinically important improvement (p. 8-10):
This material has been rearranged and grouped by placebo comparison and conventional treatment comparison.

Isn't one explanation of the lack of meaningful difference regression to mean? (p. 11)
If regression to the mean were an important factor, it would affect both groups.

A summary table might be helpful for Key Q1a and b:
The table suggested would be redundant of information already captured in Table 1.

Synvisc One is now available as for one injection (p.19):
This is now noted in the description of deficiencies of the evidence for Key Question #4.

So there is moderate quality evidence demonstrating limited efficacy of questionable clinical relevance? Is that the same as evidence that provides moderate quality support of limited efficacy?
The phrasing in the first question does not appear in the report. "Moderate" refers to the methodological strength, the relevance, and the consistency of the evidence. Uncertainty about the clinical relevance of viscosupplementation has to do with the findings, not the quality, of the studies and meta-analyses.

Quick review of Bonnuru study appears to support that industry sponsored trials may be more favorable? Is that a limitation that should be noted? (p. 28)
The fact that 5 trials had industry sponsorship is noted in Table 1. In the text, the evidence from this meta-analysis is described as "low quality" because of poor-quality trials. The authors do not attempt to draw a relationship between findings and industry sponsorship, and it does not seem reasonable to try to do so with the information in the article. There are data from all seven trials for only one time point, and the two trials not designated as having industry sponsorship had "unclear" sponsorship, so there is no way to know whether they form a non-industry subgroup.

Thank you for the opportunity to provide comments on this thorough report.
And thank you for thoughtful questions!

Washington State Health Care Authority

Appendix

Washington State
Health Technology Assessment Program, 2010

Intra-Articular Hyaluronic Acid Injections (Viscosupplementation) for Osteoarthritis of the Knee

Combined State Agency Usage Reports

3-16-2010

The HTA program focuses medical procedures and devices where there are questions about safety, efficacy, or cost. We provide an independent clinical committee with an evidence report and information on current agency utilization.

Background

Osteoarthritis (OA) of the knee occurs mainly in middle-aged and older individuals, and is one of the five leading causes of disability among elderly men and women. Suspected risk factors include overuse, trauma, obesity, and heredity. The pathogenesis of knee OA is incompletely understood, but may involve decreased levels of synovial fluid in the knee joint. The reduced joint protection and shock absorption results in pain and impairment of normal activities. Hyaluronic acid (HA), which is a natural component of synovial fluid, is viscoelastic at high molecular weights, and therefore possibly aids in shock absorption. At different molecular weights, it may also be involved in regulation of cartilage synthesis, inhibition of inflammatory cytokines and nociception, and stimulation of HA synthesis. Studies have not shown conclusive evidence of improved clinical outcomes, and have shown that the effect size may be small and short-lived.

Table 1 Payment Summary by Agency for 2006-2008

UMP, L&I, DSHS DATA 2006-2008

2006-2008	Patient count	Procedure Count	Total Cost
Unified Medical Plan	1969	8424	$1,201,323
Labor & Industry	934	2917	$850,330
Dept of Social and Health Services	848	2780	$461,353
All Agencies	3571	14121	$2,513,006

Washington State Health Care Authority

Table 2 Payment Detail by Patient and Procedure, 2006-2008, Combined Agencies

(table on next page)

Washington State Health Care Authority

Combined Agency Data, 2006-2008

2006	Pt Ct	Inj Ct	Avg Injs/Pt	Avg Cost/Pt	Avg Cost/Inj	Total Cost
Procedure						
HCPCS 20610 (Injection Procedure)	692	2709	3.9	$ 209	$ 53	$ 144,671
Injectables						
5 Injection Injectables (Supartz 3-5 injs)*						
Hyalgan/Supartz (J7321/Q4083/J7317)	181	814	4.5	$ 392	$ 87	$ 71,005
3 Injection Injectables						
Synvisc (J7322/Q4084/J7320)	517	1718	3.3	$ 510	$ 154	$ 263,860
Euflexxa (J7323/Q4085)	0	0	0	$ -	$ -	$ -
Orthovisc (J7324/Q4086)	0	0	0.0	$ -	$ -	$ -
3 Injection Injectable Totals	517	1718	3.3	$ 510	$ 154	$ 263,860
All Injectables totals	698	2532	3.6	$ 480	$ 132	$ 334,865
2006 Totals/Avg Total Costs			3.6	$ 693	$ 177	$ 479,536

2007	Pt Ct	Inj Ct	Avg Injs/Pt	Avg Cost/Pt	Avg Cost/Inj	Total Cost
Procedure						
HCPCS 20610 (Injection Procedure)	1271	4738	3.7	$ 216	$ 58	$ 274,785
Injectables						
5 Injection Injectables (Supartz 3-5 injs)*						
Hyalgan/Supartz (J7321/Q4083/J7317)	449	1867	4.2	$ 388	$ 93	$ 174,087
3 Injection Injectables						
Synvisc (J7322/Q4084/J7320)	530	1568	3.0	$ 486	$ 164	$ 257,493
Euflexxa (J7323/Q4085)	45	122	2.7	$ 174	$ 64	$ 7,836
Orthovisc (J7324/Q4086)	286	861	3.0	$ 449	$ 149	$ 128,335
3 Injection Injectable Totals	861	2551	3.0	$ 457	$ 154	$ 393,664
All Injectables totals	1310	4418	3.4	$ 433	$ 129	$ 567,751
2007 Totals/Avg Total Costs			3.4	$ 663	$ 178	$ 842,536

2008	Pt Ct	Inj Ct	Avg Injs/Pt	Avg Cost/Pt	Avg Cost/Inj	Total Cost
Procedure						
HCPCS 20610 (Injection Procedure)	1788	6674	3.7	$ 232	$ 105	$ 414,725
Injectables						
5 Injection Injectables (Supartz 3-5 injs)*						
Hyalgan/Supartz (J7321/Q4083/J7317)	596	2294	3.8	$ 363	$ 55	$ 216,080
3 Injection Injectables						
Synvisc (J7322/Q4084/J7320)	686	2127	3.1	$ 463	$ 81	$ 317,600
Euflexxa (J7323/Q4085)	163	472	2.9	$ 284	$ 12	$ 46,292
Orthovisc (J7324/Q4086)	411	1256	3.1	$ 477	$ 50	$ 196,237
3 Injection Injectable Totals	1260	3855	3.1	$ 445	$ 47	$ 560,129
All Injectables totals	1856	6149	3.3	$ 418	$ 49	$ 776,209
2008 Totals/Avg Total Costs			3.3	$ 666	$ 303	$ 1,190,934

Washington State Health Care Authority

*FDA approved Supartz label to change from 5 injections to 3 to 5 injections in January 2006

Washington State Health Care Authority

Table 3. 2008 Injection Series Evaluation, All Agencies
COMBINED AGENCY DATA, 2008

2008 Injection Series	Hyalgan/ Supartz*	Synvisc	Euflexxa	Orthovisc	All Injection Types
Background info					
Total Patients 2008	596	686	163	411	1856
FDA Injection Counts per Procedure	5(3-5)*	3	3	3	
Series Completions					
Patients completing at least 1 series of injections	39%	72%	64%	71%	61%
Patients completing 2 series or more	4%	12%	7%	10%	
Series Incompletions					
Patients who did not complete any injection series	61%	27%	29%	24%	37%
Patients with a single injection only	16%	12%	15%	12%	
Patients with two injections only	11%	15%	15%	12%	
Three injection incomplete series (Hyalgan/Supartz only)	24%				
Four injection incomplete series (Hyalgan/Supartz only)	11%				

*Hyalgan (5 inj) and Supartz (3-5 inj) are combined due to a shared billing code. Completion data may be skewed by the proportion of each drug prescribed, the speed of adoption of FDA approved label changes in practice, and the severity of the patients' condition.

Washington State Health Care Authority

Table 4. UMP Only, HA Procedure Overlap with Knee Surgeries*

UMP DATA, 2006-2008

Year	HA Pt Counts by Year	General Knee Surgery Comparisons				Total Knee Replacement Comparisons			
		Counts		Percentages		Counts		Percentages	
		All KS Pts	HA Pts with KS	HA Pts with KS	KS Pts with HA	All TKA Pts	HA Pts with TKA	HA Pts with TKA	TKA Pts with HA
2006	376	567	149	40%	26%	43	12	3%	28%
2007	647	579	176	27%	30%	46	19	3%	41%
2008	942	1478	191	20%	13%	56	19	2%	34%

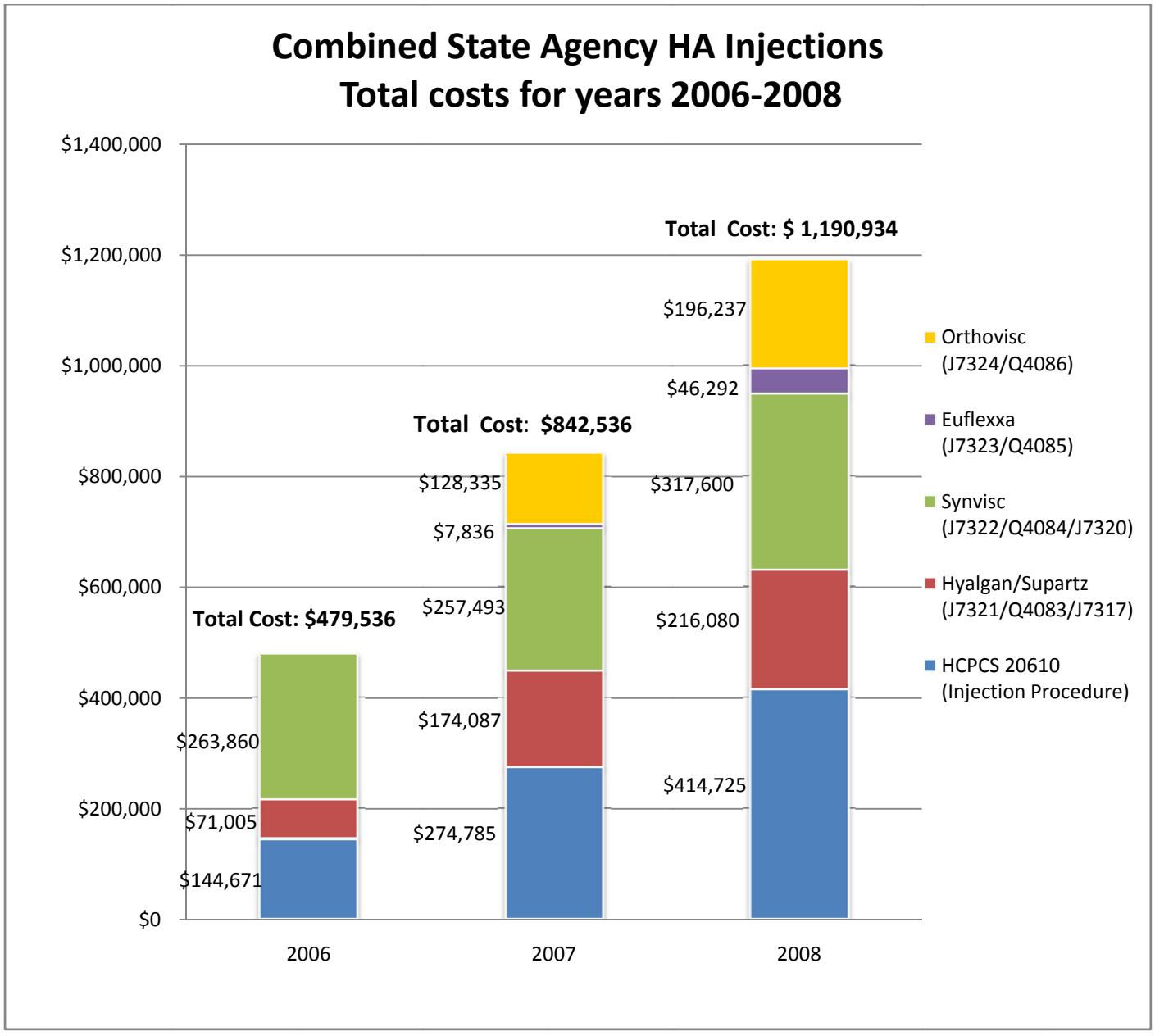
KS = Knee Surgery TKA = Total Knee Arthroplasty (Knee replacement)

*Notes:

- UMP data is presented due to inability to link patients and claims for other agencies
- Analysis constrained to 2006-2008 due to approval of HA injections in 2006, and incomplete annual data unavailable after 2008.
- Short time frames for all procedures (HA, KS, TKA) reduces our ability to form linkages between events
- General estimated rate of turnover for plan beneficiaries is 30% annually
- Small populations for procedures may skew results

Washington State Health Care Authority

Figure 2. HA Combined Costs by Drug/Procedure Type



Washington State Health Care Authority

Related Medical Codes

Codes	Number	Description
CPT	20610	Arthrocentesis, aspiration and/or injection, major joint or bursa, evaluation and management
ICD-9-Proc	81.92	Injection of therapeutic substance into joint or ligament
ICD-9 Diagnosis	715–715.9	Osteoarthrosis code range. A fifth digit of "6" in the ICD-9 code indicates osteoarthrosis of the knee
	715.16	Osteoarthrosis, localized, primary, lower leg
	715.26	Osteoarthrosis, localized, secondary, lower leg
	715.36	Osteoarthrosis, localized, not specific whether primary or secondary. lower leg
	717.9	Unspecified internal derangement of knee
	719.46	Pain in joint, lower leg
	719.56	Stiffness of joint, not elsewhere classified, lower leg
	719.96	Unspecified disorder of joint, lower leg
HCPCS 2008-2009	J7321	Hyaluronan or derivative, Hyalgan or Supartz, for intra-articular injection, per dose (new code 1/1/08)
	J7322	Hyaluronan or derivative, Synvisc, for intra-articular injection, per dose (new code 1/1/08)
	J7323	Hyaluronan or derivative, Euflexxa, for intra-articular injection, per dose (new code 1/1/08)
	J7324	Hyaluronan or derivative, Orthovisc, for intra-articular injection, per dose (new code 1/1/08)
HCPCS 2007	Q4083	Hyaluronan or derivative, Hyalgan or Supartz, for intra-articular injection, per dose (new code 1/1/07)
	Q4084	Hyaluronan or derivative, Synvisc, for intra-articular injection, per dose (new code 1/1/07)
	Q4085	Hyaluronan or derivative, Euflexxa, for intra-articular injection, per dose (new code 1/1/07)
	Q4086	Hyaluronan or derivative, Orthovisc, for intra-articular injection, per dose (new code 1/1/07)
HCPCS 2006	J7320	Hylan G-F 20, 16 mg for intra-articular injection [i.e., Synvisc]
	J7317	Sodium hyaluronate, per 20 to 25 mg dose for intra-articular injection [i.e., Hyalgan or Supartz]
HCPCS 2010**	J7325	Synvisc and Synvisc-1 (single injection tx)
CPT Knee Surgery	27437	Arthroplasty, patella; without prosthesis 17.30
	27438	Arthroplasty, patella; with prosthesis 22.04
	27440	Arthroplasty, knee, tibial plateau; 19.08
	27441	with debridement and partial synovectomy 20.23
	27442	Arthroplasty, femoral condyles or tibial plateau(s), knee; 22.99
	27443	with debridement and partial synovectomy 21.60

	27445	Arthroplasty, knee, hinge prosthesis 33.52
	27446	Arthroplasty, knee, condyle and plateau; medial OR lateral compartments 29.88
	27447	Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing

** Not needed for current data pull. Synvisc1 not available until 2nd quarter 2009.