



March 29, 2023

The Honorable Deb Patterson
Senate Committee on Health Care
900 Court St. NE
Salem, Oregon 97301

SUBJECT: SB 492 Information

Chair Patterson and Members of the Senate Committee on Health Care:

The purpose of this letter is to provide information and context related to SB 492 and the testimony heard the March 27, 2023, public hearing. The Oregon Health Authority (OHA) shares the concerns about potential misuses of QALYs that were testified to at the hearing, as is described in more detail below. We are concerned however, that the broad language in SB 492 goes beyond addressing potential misuse of QALYs data to include a prohibition on consideration of all quality of life measures, as well as any academic research that even references QALYs. This would have a detrimental impact on the agency's ability to evaluate clinical effectiveness of services within the Oregon Health Plan and is likely to have a negative impact on access to services for persons with disabilities.

Prohibiting the Health Evidence Review Commission (HERC), and the OHA in general, from using all quality of life measures and all evidence sources that reference Quality of Life or Quality Adjusted Life Years (QALYs) would impair the ability of HERC and the Agency to make decisions based on the best available evidence for Oregon Health Plan (OHP) members. This is important especially for services important to people with disabilities.

In the March 27 hearing, the bill was verbally introduced as "Prohibiting HERC from using QALYs," even though the term Quality-Adjusted Life Years does not appear in the bill. Instead, the bill prohibits a broader set of "quality of life" measures, not just QALYs. For example, in section 3 it says HERC "may not rely upon any quality of life measures."

It's important to note that QALYs and Quality of Life are two conceptually distinct terms.

Quality of life (QOL) measures (note: this is the term used in the bill) are broad constructs which aim to capture the well-being, whether of a group or individual, regarding both the positive and negative experiences of their health. In HERC's work, these most frequently show up in research showing a person's reported quality of life before and after receiving a medical service. They are based on standardized surveys filled out by individuals with a particular condition about their ability to perform important life functions like being able to work, perform household tasks and participate in social activities. If the post-treatment survey responses indicate improvement in these areas, the treatment is considered effective in improving QOL. QOL is often an important health outcome used in evaluating services, especially for people with disabilities. As stated in

March 29, 2023

Page 2 of 2

some testimony on March 27, it can also be an important reason to cover supportive services, medical equipment and palliative services.

Quality-Adjusted Life Year (QALY) is an econometric tool used in comparative-effectiveness research that aims to compare improvements in health across different interventions for a particular condition or population. This analytic measure quantifies the value a medical service can have on improving life, regardless of whether it extends a person's life span. QALYs can be calculated to compare benefits across different treatments within the same patient population, or across different populations. Potential for discriminatory impact occurs when the QALY is used to compare treatments **across different populations**, introducing a measurement bias that favors a return to what is considered "full health." In addition, QALYs typically estimate the quality of life of people with a condition based on surveys of the broad population, not patients with the condition in question (as is the case with QOL).

Because of concerns about past use of QALYs and related concepts, HERC staff conducted a review of how QALYs have been used in HERC coverage determinations since 2017 and conducted a complete review of the unfunded region of the prioritized list to consider any potential discriminatory impact. Staff found that almost all uses of QALYs in HERC materials were supportive of expanding coverage (see Appendix A of the meeting materials from HERC's October 6, 2022 public meeting).

HERC coverage decisions are nuanced and multifactorial. They are made best when all the available evidence is transparently considered, along with the equity impacts, including impacts to people with disabilities. QALYs often appear in articles alongside important information and analysis not based on QALYs. Sometimes the only evidence, or the best evidence, is contained in reports that contain references to QALYs. In particular this can be true for services for people with disabilities or who experience health inequities. **If HERC is prohibited from "relying on" any article which references QALYs in any way, the HERC could lose access to important health outcomes information that it needs to make the best decisions.**

This year, as mentioned in testimony, HERC staff have had constructive engagement with advocates to inform a HERC policy that prevents discrimination while maintaining access to important scientific information. We look forward to continuing conversations to ensure that HERC's considerations reflect the best information on how various services affect OHP members' lives, while ensuring that these decisions do not increase health inequities or cause discrimination.

Sincerely,



Trilby de Jung, JD
Deputy Director
OREGON HEALTH AUTHORITY
Health Policy & Analytics Division

HERC Use of Quality Adjusted Life Years

This document was presented at the October 6, 2022 HERC and VbBS meetings and options 1 and 3 were posted for public comment. It is included here for reference only. No decision is planned for the November 17, 2022 meeting.

Question: Should the Health Evidence Review Commission (HERC) adopt a policy to limit the consideration of quality adjusted life years (QALYs) in HERC processes and decision-making?

Question source: Individuals with disabilities, disability rights advocates and pharmaceutical industry representatives

Issue: The HERC has previously used QALYs as a factor in decision-making regarding which services will be covered by the Oregon Health Plan according to the Prioritized List of Health Services. It is important for the HERC to consider the potential impact of using QALYs on health inequities.

Staff recommendation:

- Choose one of the following options (below) as draft HERC policy on use of QALYs to post for public comment for a 21-day public comment period.
- Staff will bring a revised proposal, along with all comments received, to the November 17, 2022 HERC meeting.

Options for the use of QALYs by the HERC

1. HERC staff will incorporate the following adjustments when referencing QALYs as part of their recommendation development for the HERC in order to prevent the inappropriate use of QALYs:
 - a) Only use QALYs to compare treatments for the same population. QALYs will not inform scoring used to rank lines for the Prioritized List.
 - b) Perform a literature search for alternative measures of cost effectiveness and cite any that are relevant.
 - c) Explicitly describe the role of QALYs vis a vis other decision factors considered using a simplified Multi-Criteria Decision Analysis (defined below), including benefits, harms, costs, values and preferences and delivery system issues relevant to the topic at hand.
 - d) Offer HERC's consumer advocate members an opportunity to review and comment on meeting materials prior to public meeting material release. These comments will inform potential modifications and will be shared as part of public meeting materials.
 - e) Continue to explore opportunities to improve accessibility for public testimony as part of HERC deliberations.
2. Do not mention QALYs in staff-prepared meeting materials and avoid discussion of QALYs at Commission and subcommittee meetings.

HERC Use of Quality Adjusted Life Years

3. Do not mention QALYs in staff-prepared meeting materials and do not discuss QALYs at Commission meetings. Staff will also search all studies for “QALY” and redact any mention of QALYs from published articles.
4. Do not mention QALYs in staff-prepared meeting materials and do not discuss QALYs at Commission meetings. Search all studies for “QALY” and exclude from consideration any studies reporting QALYs.

Background

What are QALYs?

QALYs are a tool used in health services research to estimate the effectiveness of a medical intervention. QALYs combine measurements of effectiveness including mortality (life years) as well as morbidity (quality of life) as part of one assessment for medical intervention effectiveness, allowing for researchers to compare changes in health status within and across conditions (Carlson et al, 2020).

Medical interventions have often been assessed based on the impact they have on mortality, which can also be defined as the extension of “life years.” When calculating an impact on life years, a researcher may assess how many years of life, on average, are extended with a medical intervention compared to no intervention at all or compared to another intervention.

In the case of a QALY calculation, a life year is further adjusted for its perceived quality. The quality-of-life determination is represented as a fraction of a healthy life year and is assigned a numeric or fractional value between 0-1, where 1 would represent the highest quality of life while a 0 would represent the lowest. For example, if a healthy life year is given the value of 1, then a year of life experienced with illness or disability may be valued at less than 1 year. This quality-of-life factor can be derived through a variety of means. However, it is most often elicited through surveys that seek to determine how a health condition is perceived to affect a person’s quality of life. If an intervention improves quality of life, this difference in quality of life can be factored into the evaluation. This fractional number representing the improvement resulting from the intervention is then multiplied by the total life years extended to calculate the QALY as shown here:

$$\text{Improvement in quality of life (0-1)} \times \text{Life years extended} = \text{Number of QALYs gained}$$

Example: A medical intervention is shown to extend life for a population with pre-existing disability on average by 10 years. The disability is estimated to reduce quality of life by 50% each year. However, the intervention does not improve the quality of life. The QALY for this medical intervention would be: $0.5 \times 10 = 5$ QALYs. For a population with no disability, this calculation would be 1 (instead of 0.5) $\times 10 = 10$ QALYs.

Some interventions improve both quality of life and life expectancy, so QALYs will show benefits for interventions which substantially improve quality of life, length of life, or both.

QALYs are also used to assess the balance between the cost of an intervention and the benefit from that intervention, also known as the cost-effectiveness. If the cost of the intervention in the example above is \$100,000, then the cost per QALY ($\$100,000$ divided by 5 QALYs) would be \$20,000 for the individual

HERC Use of Quality Adjusted Life Years

with pre-existing disability, compared to \$10,000 (\$100,000 divided by 10 QALYs) for the for a person living without disability. In some cases, a service may be assessed to have a low-level health benefit and relatively low cost resulting in a high cost-per-QALY. Alternatively, an effective service may have a high initial cost, but a low cost-per-QALY because it provides substantial health benefit over many years.

This cost per QALY has been used to evaluate cost vs. benefit for individual medical interventions, and to compare cost effectiveness across multiple interventions. Cost-effectiveness data including cost per QALY have been used internationally and in the US to make healthcare coverage decisions, including by the HERC on a limited basis.

Concerns raised regarding HERC's use of QALYs

The HERC's inclusion of QALYs has been an area of concern for individuals with disabilities, disability rights advocates and pharmaceutical industry representatives. The overarching concern is that the use of QALYs is discriminatory against those with disabilities and chronic illness and that QALYs devalue life with a disability.

Some specific concerns that have been raised include but are not limited to:

- QALYs may result in a higher prioritization for treatments that extend life years for healthy or younger individuals compared to those with disability, chronic disease or older age.
- The surveys used to determine impact on quality of life for the purposes of QALY calculations have validity and reliability concerns.
- QALYs may not account for subgroup differences or for individuals with rare conditions.
- Use of QALYs in determining coverage will systematically create inequities for people whose disabilities and chronic conditions can be managed but not cured.

For a detailed review of the concerns with the use of QALY, see the 2019 report from the National Council on Disability, [Quality-Adjusted Life Years and the Devaluation of Life with Disability: Part of the Bioethics and Disability Series](#).

HERC's use of QALYs to date

Transparency is a priority for the HERC's work. In keeping with this priority, HERC staff conducted an analysis of the role of QALYs in HERC decision-making since 2017. The results appear in Appendix A.

Since 2017, all prior HERC considerations for adopting a more central role of the use of QALYs have been either rescinded, not adopted or never implemented due to concerns for their potential discriminatory effects.

In recent years, the HERC has used QALYs in a limited fashion to inform decisions about coverage based on cost-effectiveness. When HERC has considered QALY data, it has almost always resulted in expanded coverage. Further, QALYs are always used to compare treatments for the same condition, rather than different conditions. Since QALY calculations remain prominent in the medical literature, QALY data are sometimes included in the meeting materials reviewed by Commissioners, and HERC staff may reference QALYs in issue summaries to support recommendations or inform HERC considerations. This information may inform a general understanding of relative effectiveness or cost-effective of services, even when not used in the active decision-making process. Any use of QALYs in meeting materials is referenced

HERC Use of Quality Adjusted Life Years

along with other factors, including relevant information about benefits and harms, professional society recommendations, and patient values and preferences.

Alternatives to using QALYs in decision making about cost effectiveness

Cost effectiveness analysis remains a necessary component of medical decision making and, because of this, QALYs have remained in prominent use within the medical literature despite noted challenges and concerns. However, there are alternatives to QALYs when determining cost effectiveness.

Listed below are alternative measures to the use of QALYs as proposed in the [NCD's report about QALYs, pp. 61-68](#). Examples include:

- Equal Value Life Years Gained Supplemental Measure (EvLYG)
 - An unweighted measure of years of extended life without a reduction in value of a life year by the use of a disability weight. The Institute for Cost Effectiveness Research (ICER) has announced its intent to calculate this measure as a supplement to QALYs in its reviews going forward.
- Not using QALYs when determining cost effectiveness, but evaluating the cost per positive outcome
 - For instance, a drug for rheumatoid arthritis might be evaluated in terms of “cost per remission” achieved.
- Multi-Criteria Decision Analysis
 - Consider different factors relevant to a health care decision, using QALYs as one component in that decision analysis. All factors are assigned a weight according to their importance for the decision at hand; however, there are known equity challenges in the determination and application of weights in health services decision making (Wailoo, 2009; Claxton, 2015).
- Patient Perspective Value Framework
 - A five-domain healthcare decision tool that centers patient goals, patient-centered outcomes, financial costs, quality of the evidence, and usability to determine the value of the treatment. Note that this framework has never been operationalized (Jalpa, 2018).
- The Efficiency Frontier
 - A visual modeling metric that expresses treatments as points on a graph, where cost per patient is one axis (x), and benefit is another (y); cost effectiveness is determined when a treatment scores “above” a pre-determined efficiency slope.

These alternative measures are cited in the 2019 NCD report as potential substitutions for QALYs. However, these are infrequently referenced in the published medical literature. As noted above, some of these measures are hypothetical. The absence of robust alternatives to QALY metrics in the literature poses a longstanding challenge among health services researchers who acknowledge the limitations of QALYs but find few feasible alternatives (Carlson, 2020). To the extent that cost effectiveness will remain a necessary component of medical decision-making for health payers, future research to develop alternative measures or models is warranted.

HERC Use of Quality Adjusted Life Years

References

Carlson, J. J., Brouwer, E. D., Kim, E., Wright, P., & McQueen, R. B. (2020). Alternative approaches to quality-adjusted life-year estimation within standard cost-effectiveness models: Literature review, feasibility assessment, and impact evaluation. *Value in Health*, 23(12), 1523-1533.

Claxton, K., Sculpher, M., Palmer, S., & Culyer, A. J. (2015). Causes for concern: is NICE failing to uphold its responsibilities to all NHS patients?. *Health economics*, 24(1), 1-7.

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National Council on Disability (NCD). (2019). Quality-adjusted life years and the devaluation of life with disability. Retrieved 9/27/22 at https://ncd.gov/sites/default/files/NCD_Quality_Adjusted_Life_Report_508.pdf.

Wailoo, A., Tsuchiya, A., & McCabe, C. (2009). Weighting must wait. *Pharmacoeconomics*, 27(12), 983-989.

HERC Use of Quality Adjusted Life Years

Appendix A: Historic use of QALY calculations in HERC decisions

All meeting materials and minutes are available on HERC's [Archived Meeting Materials](#) page.

Previous examples of HERC's use of QALYs in decision-making processes

Use Cost/QALY as a threshold for topic review or in adding new treatments

In 2017, HERC considered using a cost-per-QALY threshold for determining which services should be considered cost-effective. Discussion occurred at the March 9, 2017 and May 18, 2017 meetings. The policy had been proposed to inform research plans by the state's Pharmacy and Therapeutics Committee and the Commission regarding potential decisions to give low priority to certain non-pharmaceutical services for selected indications, or all indications. The proposed use of a cost-per-QALY threshold was abandoned due to other considerations. (March 2017 [Materials Minutes](#), May 2017 [Materials Minutes](#), August 2017 [Materials Minutes](#))

As a part of this same dialogue, the Commission discussed an algorithm (Figure 1.9, shown in Appendix A) previously developed to aid in determining which new services should be added to the Prioritized List for potential coverage or which existing services should be removed from the list based on new information.¹ The Commission voted to stop using Figure 1.9 in its biennial report and did not adopt any new rubric since each decision requires unique consideration. The meeting minutes indicate that "parts [of Figure 1.9] are unclear and other parts are incorrect."

Consideration of QALYs in end-of-life cancer care

The Health Services Commission (HERC's predecessor, which maintained the Prioritized List through 2011) added policy in October 2009 related to the treatment of cancer with little or no benefit. While this statement of intent greatly expanded coverage for advanced cancer care, it still excluded coverage for some treatments based on their predicted impact on expected median survival. It also included this language related to QALYs: "The Health Services Commission is reluctant to place a strict \$/QALY (quality adjusted life-year) or \$/LYS (life-year saved) requirement on end-of-life treatments, as such measurements are only approximations and cannot take into account all of the merits of an individual case. However, cost must be taken into consideration when considering treatment options near the end of life. For example, in no instance can it be justified to spend \$100,000 in public resources to increase an individual's expected survival by three months when hundreds of thousands of Oregonians are without any form of health insurance." Due to staff concerns about discrimination, this policy was completely revised for the October 2014 Prioritized List, and the resulting new guideline note omitted the criteria related to QALYs, further expanding coverage for advanced cancer treatment.

Other use of QALYs on individual topics

In late 2021, staff searched meeting materials and minutes for any references to QALYs to better understand how they have been used in the Commission's decision-making. All discrete topics where

¹ In 2005, the legislature added a requirement for the HSC to consider cost effectiveness in developing the Prioritized List. In response, the HSC developed a figure which used QALYs to inform an effectiveness score which had a significant role in the ranking methodology. The role of QALYs was not determinative, but was one factor considered in the methodology. In practice, however, QALYs were only used, when available, to compare multiple treatments for the same condition.

HERC Use of Quality Adjusted Life Years

QALYs were presented in studies provided to the Commission or referenced in discussion or issue summaries since 2017 are included in the table below. Some decisions prior to 2017 are also included in the table when relating to disability. Each decision is characterized by how the use of QALYs influenced (or may have influenced, if not discussed) a given decision.

Decisions resulting in new, expanded or reaffirmed coverage

Service	Use of Cost per QALY or QALY	Meeting date(s)
Treatments for varicose veins	Minor factor supporting coverage	1/16/2020 11/14/2019 11/9/2017
Drug eluting stents	Significant impact on the decision to cover, as initial higher cost is offset by savings from fewer reoperations.	8/9/2019
Sacroiliac joint fusion	Minor factor in support of coverage	1/17/2019
Diabetes prevention program added	Significant factor supporting coverage	8/9/2018
Community health workers [race/ethnicity related]	Moderate factor supporting use of community health workers to increase cancer screening attendance	3/8/2018
Cataract coverage expansion [disability/age related]	Preventable loss in QALYs a significant factor in favor of coverage	1/18/2018
Subcutaneous cardiac rhythm monitors	Minor factor in support of coverage	11/8/2018
Deep brain stimulation for Parkinson's disease [disability/age related]	Significant factor in support of coverage	1/18/2018
Medical treatment for early stage liver fibrosis from hepatitis C	One report cited higher cost/QALY for early-stage disease. HERC made no change to coverage	2/2/2017
Cochlear implants—clarified coverage for bilateral implants [disability related]	Higher cost/QALY for second cochlear implant Cost/QALYs mentioned in 2015 report cited but not relevant to question about hearing loss threshold	3/12/2015 5/9/2013

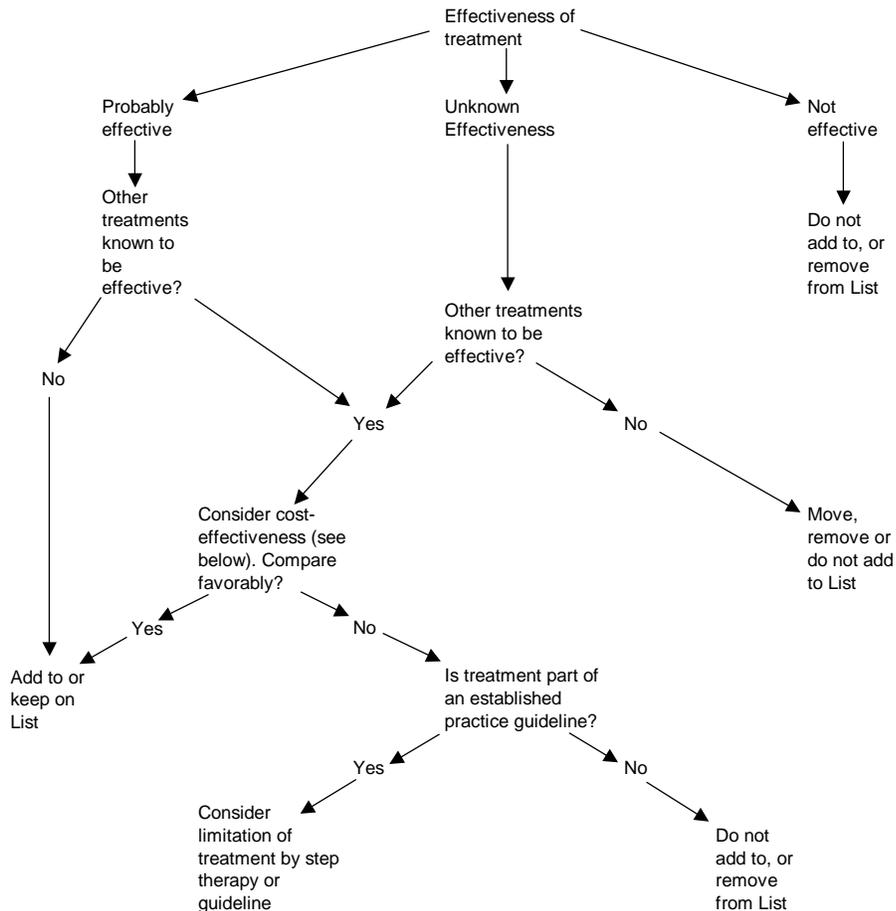
HERC Use of Quality Adjusted Life Years

Decisions resulting in noncoverage or restricted coverage

Service	Use of Cost per QALY, or QALY	Meeting date(s)
PET scanning for staging and restaging for breast cancer	Mentioned but not a factor in the decision (Coverage was later added in 2021, based on updated clinical practice guidelines)	3/8/2018
Digital breast tomography	High cost/QALY cited as a reason for noncoverage (due to low clinical benefit) 2/2/2017 VBBS/HERC meeting	2/2/2017

**FIGURE 1.9
PROCESS FOR INCORPORATING INFORMATION ON CLINICAL INFORMATION AND COST-EFFECTIVENESS INTO THE PRIORITIZED LIST**

HERC will review evidence as outlined in Figure 1.9. Evidence regarding the effectiveness of a treatment will be used according to the following algorithm:



HERC Use of Quality Adjusted Life Years

The cost of a technology will be considered according to the grading scale below, with “A” representing compelling evidence for adoption, “B” representing strong evidence for adoption, “C” representing moderate evidence for adoption, “D” representing weak evidence for adoption and “E” being compelling evidence for rejection:

- A = more effective and cheaper than existing technology
- B = more effective and costs < \$25,000/LYS or QALY > existing technology
- C = more effective and costs \$25,000 to \$125,000/LYS or QALY > existing technology
- D = more effective and costs > \$125,000/LYS or QALY > existing technology
- E = less or equally as effective and more costly than existing technology

List of Abbreviations

- EvLYG: Equal Value Life Years Gained Supplemental Measure
- LYS: Life-year saved
- HERC: Health Evidence Review Commission
- HSC: Health Services Commission
- NDC: National Council on Disabilities
- PET: Positron emission tomography
- QALY: Quality Adjusted Life Year
- VBBS: Value-based Benefits Subcommittee