



Topic Brief: Impact of High-Deductible Health Plans (HDHP)

Date: August 22, 2019

Nomination Number: 859

Purpose: This document summarizes the information addressing a nomination submitted on June 4, 2019, through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

Issue: Evidence on the overall impact of high-deductible health plans (HDHP). Specifically, financial and clinical impact in the short-term and long-term. Also the evolution and design of high-deductible health plans in mitigating possible negative financial and clinical impact. Despite short-term financial impact, there are concerns that there are long-term impacts that we are not yet seeing. For example, “does short-term limits on spending ultimately worsen long-term clinical outcomes?”

Program Decision: Though the scope of this topic met all EHC Program selection criteria and was considered for a systematic review it was not selected.

Key findings:

- While we found multiple systematic reviews on the topic of High-deductible Health Plans (HDHP) and increased cost-sharing, the information about various outcomes and cost is scattered across multiple sources and in multiple populations.
- The size of a new SR would be small. While we found 17 studies, this may be an underestimate. Information about features of HDHP that could mitigate negative or unintended outcomes was limited and mainly confined to discussions and opinions of study authors. In addition few studies had longer term outcomes (1-3 years), which was of interest to the nominator.
- A new systematic review covering the relevant areas overall would be useful for a detailed look at the impact of high-deductible health plans on clinical, populational, and financial outcomes. Despite the potential limitations in the evidence base, the nominator still felt that a SR on this topic would be useful to them.

Background

Increasing health care plan deductibles has emerged as a solution to slow the increasing health care costs by reducing use of health care. Forty-six percent of US adults younger than age 65 have high-deductible health plans (HDHP). These arrangements require potential out-of-pocket spending each year of approximately \$1,000-\$7,000 per person for most non-preventive care. In

2018, 58% of workers with individual plans had deductibles of at least \$1,000, and 26% had deductibles of at least \$2,000.¹

Concerns have arisen whether shifting the increased healthcare costs to the patient will not only reduce unnecessary healthcare, but also cause patients to delay or avoid care, and affect short-term and long-term clinical, populational, and financial outcomes. HDHPs have been shown to reduce use of preventive services, especially screenings, but there is limited evidence on use of other preventive services.² HDHPs have also been shown to reduce use of medications and adherence.³ Critics are concerned that costly care avoided to generate short-term savings may lead to worse outcomes and potentially higher costs in the long-term. The impact of the increased cost-sharing with HDHPs, especially in the long-term, is not well-described in the literature.

Additionally, HDHP increases the financial burden on families of patients with chronic or severe conditions, special needs, mental disorders, and other conditions that require expensive prescription drugs or long-term use of services.⁴ Some enrollees in HDHP are more likely to stop medications and to avoid care. Low-income patients and families, as well as those lacking health literacy or understanding of their plan are more likely to forgo care than those with higher incomes.⁵ Enrollees in HDHPs are also likely to reduce preventive care use, even when covered, and may be unaware that preventive care is free or low cost.^{6 7} A 2018 Health Policy statement in JAMA found that to improve appropriate use of recommended health services, including preventive health services, a better job of communicating health insurance concepts needs to be done to improve patients understanding of services exempt from out-of-pocket costs.⁸

Nomination Summary

- The nomination focuses on the short-term and long-term financial and clinical impacts of high deductible health plans (HDHP). The nominator is concerned that despite seeing short-term financial impact, long-term outcomes of high deductible health plans are not known.
- The nominator represents a health system that also functions as a payer. He indicated they would use this report to inform discussions about use of HDHP. Also, they might identify a better design of HDHP to mitigate possible long-term negative or unintended outcomes. They would use the report to drive their internal payer arm in benefit discussions and also inform conversations with external payers.
- After discussing with the nominator, the scope was revised to include populational impact to evaluate impact from a higher level. Also, the nominator expanded their interest in features of HDHP that might mitigate possible negative or unintended outcomes.

Scope

1. What is the short-term impact of high-deductible health care plans (HDHP), including clinical, populational, and financial outcomes?
2. What is the long-term impact of HDHP, including clinical, populational, and financial outcomes?
3. What features of HDHP mitigate negative or unintended outcomes?

Table 1. Questions and PICOTS (population, intervention, comparator, outcome, timing and setting)

| Questions | KQ #1: Short-term impact of HDHP on outcomes | KQ #2: Long-term impact of HDHP on outcomes | KQ #3: HDHP features to mitigate negative or unintended outcomes |
|----------------------|---|---|---|
| Population | Patients enrolled in HDHP | Patients enrolled in HDHP | HDHP |
| Interventions | HDHP | HDHP | Features of HDHP |
| Comparators | Other health plans | Other health plans | Other features of HDHP |
| Outcomes | Resource utilization such as Office visits, Preventive services, ED Visits, Hospitalizations, Diagnostic tests, Prescription drug use, Health care costs, Clinical outcomes, Populational outcomes | Resource utilization such as Office visits, Preventive services, ED Visits, Hospitalizations, Diagnostic tests, Prescription drug use, Health care costs, Clinical outcomes, Populational outcomes | Negative or unintended consequences |
| Timing | Short-term (<3 years) | Long-term (> 3 years), likely 5-10 years per nominator) | N/A |
| Setting | All | All | All |

Abbreviations: High-Deductible Health Plan (HDHP); Emergency Department (ED); Not applicable (N/A)

Assessment Methods

See Appendix A.

Summary of Literature Findings

There were many systematic reviews in our search for this nomination. However, the SRs were typically focused on a few particular outcomes or on cost. The majority of outcomes were based on short-term evaluations. The costs were typically based on associations between co-payment and outcome or resource utilization. There does not appear to be much evidence on long-term impact or long-term health outcomes.

There were no clinical trials in our search of the primary literature for this nomination. The majority of studies were observational or quasi-experimental and focused on a few outcomes or disease states. The most common outcomes looked at were those related to cost, resource utilization, preventive services, readmission, and medication use and/or adherence. The most common disease states looked at were diabetes mellitus, emergency care, and breast cancer. Most studies assessed different outcomes for each disease state. No studies looked at long-term health outcomes > 5 years.

The studies that are cited in support of Q#3 on health plan features to mitigate negative or unintended effects, typically featured a short discussion or suggestions by the authors to plans and policymakers on how to mitigate effects rather than describing the evidence behind the recommended approach. Thus a qualitative approach to understand plan features that mitigate negative or unintended outcomes could be useful for this question.

Table 2. Literature identified for each Question

| Question | Systematic reviews (8/2016-8/2019) | Primary studies (8/2014-8/2019) |
|--|--|---|
| Question 1 & 2: Short-term and long-term impact of HDHP on outcomes | Total: 8 SRs <ul style="list-style-type: none"> healthcare cost: 4^{3 9 10 11} health outcomes: 1^{12, 13} preventive services: 1² healthcare experiences: 1¹⁴ medication use/adherence: 1¹³ | Total: 11 studies <ul style="list-style-type: none"> Quasi-experimental: 4¹⁵⁻¹⁸ Observational: 7^{1, 19-22} Clinicaltrials.gov <ul style="list-style-type: none"> Completed: 1³⁰ Active, not recruiting: 1³¹ |
| Question 2: HDHP features to mitigate negative or unintended outcomes | Total: 6 SRs <ul style="list-style-type: none"> healthcare cost: 2^{3 9} health outcomes: 2^{12, 13} healthcare experiences: 1¹⁴ benefit designs for drugs: 1^{23, 24} | Total: 6 studies <ul style="list-style-type: none"> Quasi-experimental: 3^{15, 16, 18} Observational: 3^{1, 21, 22} Clinicaltrials.gov <ul style="list-style-type: none"> Completed: 1³² |

See Appendix B for detailed assessments of all EPC selection criteria.

Summary of Selection Criteria Assessment

Almost half the working adults in the United States have HDHPs and are potentially affected. A review on the impact of HDHP has the potential to describe the short- and long-term impact on clinical and financial outcomes. Additionally, healthcare is a huge cost to employers, payers, the government, and patients. As costs are being shifted to patients to drive “appropriate use” and consumption, the resulting behaviors of patients and providers have been shown to adjust and affect outcomes as well.

We found many systematic reviews, but each focused on a few outcomes and were short term. As a result they were not considered duplicative particularly for long-term outcomes and health outcomes. The primary literature addresses several disease conditions, and mainly studied short-term financial or resource-utilization outcomes. Few included long-term health outcomes.

A systematic review addressing this nomination would be valuable and could influence practice change even though there are few or no studies of long-term outcomes and health outcomes. The literature is scattered among different sources and a single review including the relevant literature would be useful for the nominator and others who have questions about HDHP. The impact of HDHP may eventually be felt by millions of people, especially in the long-term when the implications of these plans become clearer. Even a review with no long-term outcomes but with identification of evidence gaps to aid further research could be useful and important.

Additionally, another evidence review approach, such as qualitative methods could identify the plan features that mitigate negative or unintended outcomes (question 3). The plan features of HDHP are of high importance to the nominator and it does not appear we can wait 5-10 years to study their impact on clinical, populational and financial outcomes.

Please see Appendix B for detailed assessments of individual EPC Program selection criteria.

Related Resources

We identified additional information in the course of our assessment that might be useful.

An Official American Thoracic Society Policy Statement, “Improving the Affordability of Prescription Medications for People with Chronic Respiratory Disease” that recommended the establishment of a “publically funded, politically independent, impartial entity to systematically draft evidence-based pharmaceutical policy recommendations”.²⁹ This statement discusses the higher out-of-pocket costs for medications that HDHP can impose on patients and strives to maintain access and affordability through a long list of priorities intended to combat financial burden, reduced medication adherence, and worsening health outcomes associated with out-of-pocket costs.

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Appendix A: Methods

We assessed nomination for priority for a systematic review or other AHRQ Effective Health Care report with a hierarchical process using established selection criteria. Assessment of each criteria determined the need to evaluate the next one. See Appendix B for detailed description of the criteria.

Appropriateness and Importance

We assessed the nomination for appropriateness and importance.

Desirability of New Review/Absence of Duplication

We searched for high-quality, completed or in-process evidence reviews published in the last five years (August 2016-August 2019) on the questions of the nomination from these sources:

- AHRQ: Evidence reports and technology assessments
 - AHRQ Evidence Reports <https://www.ahrq.gov/research/findings/evidence-based-reports/index.html>
 - EHC Program <https://effectivehealthcare.ahrq.gov/>
 - US Preventive Services Task Force <https://www.uspreventiveservicestaskforce.org/>
 - AHRQ Technology Assessment Program <https://www.ahrq.gov/research/findings/ta/index.html>
- US Department of Veterans Affairs Products publications
 - Evidence Synthesis Program <https://www.hsrd.research.va.gov/publications/esp/>
 - VA/Department of Defense Evidence-Based Clinical Practice Guideline Program <https://www.healthquality.va.gov/>
- Cochrane Systematic Reviews <https://www.cochranelibrary.com/>
- University of York Centre for Reviews and Dissemination database <https://www.crd.york.ac.uk/CRDWeb/>
- PROSPERO Database (international prospective register of systematic reviews and protocols) <http://www.crd.york.ac.uk/prospéro/>
- PubMed <https://www.ncbi.nlm.nih.gov/pubmed/>
- Campbell Collaboration <http://www.campbellcollaboration.org/>
- McMaster Health System Evidence <https://www.healthsystemevidence.org/>
- UBC Centre for Health Services and Policy Research <http://chspr.ubc.ca/>
- Joanna Briggs Institute <http://joannabriggs.org/>
- WHO Health Evidence Network <http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/health-evidence-network-hen>

Impact of a New Evidence Review

The impact of a new evidence review was qualitatively assessed by analyzing the current standard of care, the existence of potential knowledge gaps, and practice variation. We considered whether it was possible for this review to influence the current state of practice through various dissemination pathways (practice recommendation, clinical guidelines, etc.).

Feasibility of New Evidence Review

We conducted a limited literature search in PubMed for the last five years (August 2014-August 2019). We reviewed all studies identified titles and abstracts for inclusion. We classified identified studies by question and study design to estimate the size and scope of a potential evidence review.

PubMed search strategy

((((((((HDHP) OR high deductible))) OR cost sharing)) AND outcomes) AND "last 5 years"[PDat]

N=264

August 22, 2019

Clinicaltrials.gov search strategy

(high-deductible)

N=3

August 22, 2019

Value

We assessed the nomination for value. We considered whether or not the clinical, consumer, or policymaking context had the potential to respond with evidence-based change; and if a partner organization would use this evidence review to influence practice.

Appendix B. Selection Criteria Assessment

| Selection Criteria | Assessment |
|--|--|
| 1. Appropriateness | |
| 1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.? | Yes |
| 1b. Is the nomination a request for an evidence report? | Yes |
| 1c. Is the focus on effectiveness or comparative effectiveness? | Yes |
| 1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic? | Yes |
| 2. Importance | |
| 2a. Represents a significant disease burden; large proportion of the population | Many Americans have High-deductible Health Plans (HDHP) and are potentially affected |
| 2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the US population or for a vulnerable population | Yes, has the potential to affect a large proportion of U.S. population |
| 2c. Incorporates issues around both clinical benefits and potential clinical harms | Yes |
| 2d. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers | Yes-costs to both payers, patients, and providers. Will evaluate outcomes from cost-shifting and the resulting behaviors by patients who use healthcare. |
| 3. Desirability of a New Evidence Review/Absence of Duplication | |
| 3. A recent high-quality systematic review or other evidence review is not available on this topic | Yes. While we found multiple systematic reviews on the topic of HDHP and increased cost-sharing, the information about various outcomes and cost is scattered across multiple sources and in multiple populations. A new systematic review covering the relevant areas overall would be useful for a detailed look at the impact of high-deductible health plans on clinical, populational, and financial outcomes |
| 4. Impact of a New Evidence Review | |
| 4a. Is the standard of care unclear (guidelines not available or guidelines inconsistent, indicating an information gap that may be addressed by a new evidence review)? | Yes |
| 5. Primary Research | |

| | |
|---|---|
| <p>5. Effectively utilizes existing research and knowledge by considering:</p> <ul style="list-style-type: none"> - Adequacy (type and volume) of research for conducting a systematic review - Newly available evidence (particularly for updates or new technologies) | <p>A new SR would be feasible, though the literature base is small. We estimate that a new SR would be small. Studies are quasi-experimental and observational. We found 11 studies on short and long-term outcomes (question 1 and 2) and 6 studies of HDHP features (question 3).</p> <p>For studies related to question 1 and 2, the most common outcomes looked at were those related to cost, resource utilization, preventive services, readmission, and medication use and/or adherence. The most common disease states looked at were diabetes mellitus, emergency care, and breast cancer. Most studies assessed different outcomes for each disease state.</p> <p>The studies that are cited in support of question 3 on health plan features to mitigate negative or unintended effects, typically featured a short discussion or suggestions by the authors to plans and policymakers on how to mitigate effects rather than describing the evidence behind the recommended approach.</p> |
| <p>6. Value</p> | |
| <p>6a. The proposed topic exists within a clinical, consumer, or policy-making context that is amenable to evidence-based change</p> | <p>Yes, no such report summarizes the evidence of the impact of HDHP. A report could influence redesign of health plans.</p> |
| <p>6b. Identified partner who will use the systematic review to influence practice (such as a guideline or recommendation)</p> | <p>Yes, the nominator, representing a health system who is also a payer, indicated they would use this report to inform discussions about use of HDHP. Also, they might identify elements of HDHP to mitigate possible long-term negative or unintended outcomes. They would use the report to drive their internal payer arm in benefit discussions and also inform conversations with external payers.</p> |

Abbreviations: AHRQ=Agency for Healthcare Research and Quality; HDHP=high deductible health plan; SR=systematic review

Appendix C: Topic Nomination

Topic Suggestion Description

Date submitted: June 4, 2019

Topic Suggestion

1. What is the decision or change you are facing or struggling with where a summary of the evidence would be helpful?

We are interested in the overall impact of high deductible health plans (HDHP). Specifically, we are interested in the short term and long term financial and clinical impacts. We are also interested in the evolution and design of high deductible health plans in mitigating possible negative financial and clinical impacts.

2. Why are you struggling with this issue?

We are an integrated health system and our payer arm is increasing the dependence on HDHP. Despite seeing a positive short term financial impact, we are worried that there is a long term clinical impact we are not yet seeing. Specifically, does short term limits on spending ultimate worsen long term clinical outcomes? Our data also indicates that we may have opportunity to increase participation rates but we want to insure that this is the right approach.

3. What do you want to see changed? How will you know that your issue is improving or has been addressed?

Identify a clear path to use/not use HDHP. Or, alternatively, identify a better design of HDHP to mitigate the possible negative clinical long term effects.

4. When do you need the evidence report?

Sun, 12/01/2019

5. What will you do with the evidence report?

This will drive not only our internal payer arm in benefit design but will inform our conversations with external payers.

(Optional) About You

What is your role or perspective?

Administrator

If you are you making a suggestion on behalf of an organization, please state the name of the organization:

Sanford Health

May we contact you if we have questions about your nomination?

Yes