

Measures and Methodology for International Comparisons of Health Care System Performance

Executive Summary

Introduction

Policy-makers and citizens who want to know if their own country's healthcare system is functioning will often seek to compare their system against other countries' systems. But international comparisons of healthcare systems are fraught with difficulties. A country's healthcare economics and care delivery system can be evaluated by the access and quality the system provides, balanced by the costs that the system assesses.

'Access' to care can be difficult to define and measure. Is access to some care at some time a useful way of quantifying access? Probably not. Timely access matters, as does access to high quality, state of the art care. Basic access may not be of significance to patients if it does not result in a meaningful change in their quality or quantity of life. A similar reflection could be made about delayed access, even to high quality care.

Care 'quality' is difficult to measure. Increasingly, experts rely on reports of patient outcomes, including clinical outcomes and patient-reported satisfaction. Satisfaction surveys give patients a voice but do not tell the whole story, as patients are not always in the best position to evaluate the quality of their care. Further, the quality of an entire healthcare system cannot be judged simply by aggregating patient outcomes and satisfaction. Good outcomes for individuals do not always translate into good outcomes for a population. And outcome measures and surveys don't allow patients to voice a preference for benefits that they are unaware exist, such as on-demand access to personal health information.

Cost would appear to be easy to quantify, given the data tracked by third party insurance providers, government, and taxing authorities. However, there are many different ways to account for healthcare costs. Do we count premiums? Taxes? Regulatory costs? 'Deadweight loss' from taxes? The academic literature in some measure accounts for all or some variation of these.

The difficulties in defining access, cost and quality multiply when one attempts to define them across borders. For example, 'costs' are measured in local currencies using local accounting practices. Cross border comparisons require normalization of accounting methods and adjustments for foreign exchange. Government may be incentivized to shade data in a way that reflects well on policy makers. And different jurisdictions may have legitimate disagreements over the definition of a metric. Is an infant considered viable—and therefore a live birth—at 24 weeks of gestation, or 28? Comparisons are confounded by these considerations.

In spite of these difficulties, we believe that international comparisons can be useful. The Deputy Secretary of Health and Human Services commissioned the RAND Corporation to evaluate the current state of play in international health system comparisons. RAND was asked to assess the robustness of existing OECD-tracked metrics, and to propose new metrics as appropriate. To this end, RAND performed an extensive literature review and convened a panel of 20 nationally-recognized experts, with the goal of assessing and improving the current international comparison metric portfolio. The results of their efforts are attached as Appendix A.

In addition to assessing the robustness of existing metrics, the report describes 25 proposed new measure concepts which underwent expert evaluation, of which eight (Table S.1) were rated most promising for international comparisons

Table S.1. Expert Reviews of Measure Concepts

Measure concepts that hold the most promise	Measure concepts that received lower or inconsistent ratings	Measure concepts that were not discussed by experts
<ul style="list-style-type: none"> • Treatment and control of hypertension 	<ul style="list-style-type: none"> • Self-reported pain 	<ul style="list-style-type: none"> • Clinician workforce who can prescribe medication assisted treatment
<ul style="list-style-type: none"> • Access to and coverage for telehealth 	<ul style="list-style-type: none"> • Access to primary palliative care 	<ul style="list-style-type: none"> • Access to opioid treatment centers
<ul style="list-style-type: none"> • Quality-adjusted life-expectancy 	<ul style="list-style-type: none"> • Drug prices for specific and generic drugs 	<ul style="list-style-type: none"> • Percentage of patients with a follow-up visit with four weeks of starting an opioid for chronic pain
<ul style="list-style-type: none"> • Insurance coverage for mental health, behavioral health, or substance abuse services 	<ul style="list-style-type: none"> • Diffusion of and access to new prescription drugs 	<ul style="list-style-type: none"> • Time to regulatory approval for new prescription drugs
<ul style="list-style-type: none"> • Receipt of preference-concordant end of life care 	<ul style="list-style-type: none"> • Avoidable emergency department use 	<ul style="list-style-type: none"> • Travel time to provider office
<ul style="list-style-type: none"> • Continuing care or consistent provider 	<ul style="list-style-type: none"> • Percent of patients with opioid use disorder prescribed medication assisted treatment 	<ul style="list-style-type: none"> • Health care spending in last year of life
<ul style="list-style-type: none"> • Access to mental health providers 	<ul style="list-style-type: none"> • Estimates of administrative complexity and cost 	<ul style="list-style-type: none"> • Spending on mental health (percent of total spending)
<ul style="list-style-type: none"> • Data transfer and interoperability 	<ul style="list-style-type: none"> • Disadoption of ineffective medical services • Healthy days at home • Availability of emergency medical services to prevent opioid death 	

We took the RAND recommendations and further subdivided their recommended new measures into those that (1) the OECD should implement; (2) those that need further refinement; and (3) those that we decline to recommend. We grouped these metrics based on an assessment of policy priorities for the nation.

Measure Concepts to Add

The first group of measures are those we believe hold the most promise for international comparisons. These are based on widespread expert agreement, after analysis. First is the treatment and control of hypertension. Hypertension is a common, deadly, but treatable condition, with a widely understood and accepted set of protocols to address it. While there are questions about whether and to what extent there is a genetic component of hypertension, it is universally accepted to be a leading risk factor in stroke and in coronary heart disease, the leading global cause of death, and hypertension’s effective treatment should be agreed upon as a measurement and immediately incorporated as an OECD measure.

Second, access to telehealth. Even before the COVID-19 pandemic, access to and coverage for telehealth was an excellent measure to add to OECD’s list of measures. It is critical to track coverage and access to

telehealth for a wide variety of issues: understanding how and whether countries avoid long wait times for in-person visits; how countries with more or less access to specialist physicians could provide such access; and how countries with large rural or remote regions could provide access in areas where transportation serves as a barrier to in-person medical visits.

Third, data transfer and interoperability of healthcare records and clinical data should be a new measure for international comparisons, and an important one given the increasing role that medical information technology is playing and can play in, for example, more efficient care outcomes; higher quality in care coordination and management; lower physician and caregiver burden; and many other issues.

We also have included in this set of proposals one proposal that was in the intermediate category for this panel, but one which we believe to be of the highest importance: diffusion of new drugs. This measure interacts with other proposals. For example, a critical marker for access to effective treatment of hypertension would be to compare countries with respect to drug prices for specific generic drugs. Price and market share within a country of prescription volume of generic drugs versus innovative drugs is of great importance, especially because the vast majority of prescription drug use worldwide is for common diseases such as hypertension and diabetes, where generic medicines are widely accepted as effective.

Also, diffusion of and access to new prescription drugs is important to include as a measure, both with respect to a measure of drug prices as well as new drug diffusion, to provide a more complete picture of a country's access to prescription medications. The focus should be on diffusion and access to new prescription drugs for diseases with a prevalence of say, over 200,000 patients in the United States or a comparable proportion of population with respect to other countries, in order to identify widely used new drugs, but also not necessarily bring in all drugs that might be used for very small patient populations, to enable more useful and easier cross-system comparisons.

Our expert panel recommended measuring insurance coverage for mental health, behavioral health, or substance abuse services and access to mental health as good measures to add. We agree, and these measures should be implemented in the future, but we believe that these measures do need some development in relation to the extent of coverage that will be targeted for comparison, and we intend to bring these measures forward in the future after iterating upon them.

Another expert recommendation was receipt of preference-concordant end of life care. However, the main problem in international comparisons will, we believe, require finding the equivalent of "living wills" or "durable power of attorney" or "do not resuscitate orders" in each country. This data is qualitative in nature, and compiling the data in a meaningful way that is comparable may prove difficult internationally. Therefore, we do not recommend this measure at this time.

Other measures proposed were availability of emergency medical services to prevent opioid death, as well as percent of patients with opioid use disorder prescribed medication-assisted treatment. Some may say that this measure focuses on a problem that is too specific to the United States and a handful of other countries to be useful as a metric for international comparison. Therefore, we do not propose this as a broad OECD comparator at this time.

Measures that Require More Development

Measured innovation has the potential to showcase how a country is driving quality in a healthcare system. Two measures, “Innovation around basic science, drugs, diagnostics, medical devices, health information technology, and health care delivery” and “Launch and diffusion of technology” are attempts to quantify innovation for evaluation and comparison across different countries. These measures have the potential to be key indicators of overall healthcare achievement within a system. We believe that a future project that holds promise is to better quantify the components of healthcare innovation in a rigorous way. The key components, we believe, would be oriented on innovation in science and technology and the outcome-based quality of the proposed innovation. Our Assistant Secretary for Health is piloting a program looking at how to quantify innovation, and we look forward to reporting on this in the future to aid the OECD in developing this important measure.

Innovation and choice together, we believe, must be components in evaluating the performance of a country’s healthcare system. There also should be an element evaluating how systems enable patient participation in their own treatment, and this should also be incorporated into any evaluation of a system. A patient’s ability or lack thereof to choose providers, insurers, and services is critical as we move to measures for patient-reported outcomes across the OECD member countries.

Also, while there already is reporting on cancer within current OECD measures, there continues to be significant change and innovation in the field of oncology, and we believe that this rate of change means that OECD should take a closer look at developing a more precise way to measure cancer care. Even though OECD currently tracks cancer survival rates, we believe that there should now be greater precision in this measure, and that this would be beneficial. For example, cancer survival rates for each stage of cancer would be a better predictor of a country’s healthcare system, because this would measure treatment efficacy more precisely. And as many types of cancer, due to innovations in treatment, become chronic diseases, how systems manage cancer as a chronic disease should also be an element to be considered.

While we believe adoption of innovation is important, we also believe a future measure of “disadoption of ineffective medical service” would also be helpful. The same work that is going to be required for measurement of innovation should flow easily into the disadoption measure, which should evaluate the abandonment of obsolete, outdated, clinically invalid, ineffective or inferior treatments. A process for identifying a list of such services, and periodically updating such list is, we believe, a good future project.

We would like to take special note of air pollution. Air pollution is obviously very impactful on the health of a country’s citizens and public health outcomes. This measure, as it is developed, should focus on a traditional definition of air pollution and not one that conflates air pollution with carbon dioxide emissions. The scientific validity of the effects on health of particulate air pollution and similar elements of pollution is undisputed, while the effects of climate change and carbon dioxide on human health are currently under development.

A final note is necessary on two measures. “Quality-adjusted life expectancy” is a measure that shows promise and was felt to have promise by the experts. However, this measure does have limitations that will require some further development by the OECD, due to the fact that there are many non-health system factors that affect life expectancy. “Care continuity or consistent provider” is a measure that will require some further specification (consistent provider, for example, is different from care continuity)

but we believe that it is a good idea and should be further developed. There is substantial literature suggesting that both of these elements are important for good health outcomes.

Declined Measures

Readers will note measures that are discussed in the report that are not significantly addressed in this summary. In each case, we and the expert panel carefully considered the measures, but ultimately felt they were not useful. For example, self-reported pain. We felt that the measurement of pain is still underdeveloped, and that, from an international point of view, there are cultural differences in the way pain is felt and described that make international comparison difficult, if not impossible.

Healthy days at home measure is a novel measure that we considered too specific to the United States for international comparison, until the measure is more refined to warrant OECD consideration.

Some areas were difficult to define easily, such as “avoidable” emergency department care and what “access” to primary palliative care entails.

“Estimates of administrative complexity and cost” is a measure that would provide, we believe, a very misleading picture of the efficiency of health care systems. In particular, administrative costs are often inputs into desirable outcomes (such as fraud control, customer service aspects of health care, etc.). Without including these outcomes also among the measures, a simple comparison of administrative costs would provide a misleading comparison across nations, and therefore we believe the measure should not be included.

Existing OECD Measures

The RAND Report also recognized the importance of not only adding new measures, but also incorporating changes to existing measures. It is a matter of course that countries’ healthcare systems are not static in nature, and the ability to measure the quality of a system will change as a country’s healthcare system changes. We have not included these changes to existing measures in this summary, but commend to readers to review the RAND Report for these improvements to existing measures.

Looking beyond the proposed and currently utilized measures, it will be important to give consideration to measures that more deeply illuminate a country’s access to certain aspects of patient care, such as access to specialists and care of the aging. ric

Innovation in healthcare and its systemic adoption also plays a key role in driving improvements in healthcare systems. As innovation continues to advance and lifesaving cures are identified, the question will arise: Is a country offering such treatments to its citizens? OECD should also consider access to medical imaging (CT scanning, and separately MRI) – these are essential tools, not luxury items, for modern medical care for conditions such as cancer, stroke, and heart disease.

Common diseases such as hypertension, diabetes, and coronary heart disease, as noted, are the number one killers of individuals worldwide. Systems must therefore measure access to cardiac angioplasty and urgent stroke treatment. Collecting incidence rates is not enough: this information must be paired with how a country is applying effective treatments to these disease processes.

As the OECD incorporates patient-reported outcomes, it should also measure a country's access to and results from surgery: specifically, hip replacements and cataract surgery. The results of these surgeries significantly improve patients' lives; their lack of access or delay impairs normal living.

Adopting new measures also requires a critical look at existing measures. There are several measures that have been identified in the RAND report and our analysis that should be examined with an eye to removal. For example, surveys in general are a poor substitute for value-based metrics, and should be targeted for removal. In addition, newer patient-reported outcomes will offer a better way to look at healthcare systems and drive metric analysis going forward and should be the mechanism for analysis of metrics in the future.

Conclusion

OECD has a strong history of adapting and changing throughout its fifty-nine years. Now it approaches its sixtieth anniversary with an eye on the next sixty years. HHS believes it is important to support OECD's efforts to advance measures that promote healthcare improvements throughout the world. This important study commissioned by HHS and this Executive Summary are intended to provide guidance for the next steps that should be taken by the OECD to further promote quality in the healthcare arena. While the differences in healthcare systems around the world are many, there are common factors that can be used to promote better standards in countries that are searching for ways to improve.

The recommendations outlined above revolve around a theme of putting the patient first and driving positive change for patients in the future. Whether it is controlling hypertension or promoting interoperability, there is a core of value and patient-centered reform that will improve a patient's health and their knowledge of their own health. The COVID-19 Pandemic of 2020 has shown us that strengthening the global healthcare system and all countries' systems is vitally important.

The guidelines introduced through the RAND report and highlighted in this Executive Summary will drive towards a value-based healthcare system that puts the needs of patients first. By using the changes to existing measures outlined above and adding new measures regarding the performance of our many differing national healthcare systems, a better picture will be drawn for policy-makers. It is our feeling that the upcoming PARIS survey project, together with this report on adding specific quality measures and removing some existing measures, will better highlight what it means to be a highly functioning healthcare system. And all of these reforms will hopefully bring about the needed changes to healthcare systems around the world, and ultimately, help all of us live longer, healthier lives.