

A report from The Economist Intelligence Unit

# Value-based healthcare: A global assessment



Commissioned by



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# About this report

This report highlights the main findings from the EIU assessment of value-based healthcare (VBHC) alignment in 25 countries. The study was commissioned by Medtronic, a global technology and medical devices company. As VBHC is an early-stage concept and model, this study was an effort to establish a standard of evaluation of value-based healthcare alignment and establish the core components of the enabling environment for VBHC.

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# **Executive summary**

Demographic shifts and changing lifestyles are leading to substantial changes in the health of the global population, with many of the world's citizens living longer, but, in many cases, with multiple and more complex conditions. Across countries, the cost of healthcare is rising faster than economies are growing. In many developed countries, such as the US, France, and Japan, more than 10% of GDP is spent on healthcare. Value, more than volume, is becoming more important. The case for countries to align their health systems with value-based approaches has perhaps never been stronger. By focusing on health outcomes, value-based healthcare (VBHC) helps healthcare providers manage cost increases, make the best use of finite resources and deliver improved care to patients.

While the rationale for implementing a VBHC model is strengthening, it requires a paradigm shift from a supply-driven model to a more patient-centred system. The VBHC model is very new and will require a complete re-thinking of decades-old policies and practices - which will not be easy and will take time. This study shows that value-based approaches are being implemented incrementally and at varying speeds across the world's healthcare systems. Aligning a health system with a VBHC model also represents a tremendous shift in culture for all stakeholders. Historically, health consumers represented by patients or public/private payers—have paid for the volume of services rather than the value of those services.

In this study, the Economist Intelligence Unit (EIU) examined health systems to determine their alignment with the VBHC model. To conduct this

research, the EIU first defined value-based healthcare and built a framework of core components of VBHC. For the purposes of this study, the EIU defines value-based healthcare as the creation and operation of a health system that explicitly prioritises health outcomes that matter to patients relative to the cost of achieving those outcomes.

To gain a better understanding of how countries are progressing towards VBHC, the EIU evaluated alignment with VBHC components in 25 countries<sup>1</sup>. The research is organised around four key components, or domains of VBHC, comprised of a total of 17 qualitative indicators. The four domains are:

- Enabling context, policies and institutions for value in healthcare (8 indicators);
- Measuring outcomes and costs (5 indicators);
- Integrated and patient-focused care (2 indicators); and
- Outcome-based payment approach (2 indicators).

Qualitative indicators were scored by the EIU using standardised scoring guidelines across all countries and arriving at binary scores of yes/no, or numbered scores of 0-2, 0-3, or 0-4. Individual indicator scores were rolled up by domain and countries were categorised into one of four groups—Low, moderate, high or very high—

North America: Canada, US

Asia: Australia, China, India, Indonesia, Japan, South Korea
 Europe: France, Germany, Netherlands, Poland, Russia, Spain, Sweden, UK

Middle-east and North Africa: Egypt, Turkey, United Arab Emirates Sub-Saharan Africa: Nigeria, South Africa Latin America: Brazil, Chile, Colombia, Mexico



based on the level of alignment with VBHC. The EIU aggregated individual indicator scores into domain scores, and domain scores into an overall composite score. Each domain is equally weighted, and each indicator is equally weighted within each domain. (For more on the methodology behind the scoring, see Appendix A).

The study evaluates the presence of the enabling infrastructure, outcomes measurement and payment systems that support value-based care. This report summarises and analyses the findings from the global assessment across the 17 indicators, as well as from research and analysis of the enabling environment—policies, institutions, infrastructure and other support—for VBHC.

The research began with a comprehensive literature review (including health policy documents, academic literature, and other health system studies) and secondary research, followed by a one-day onsite workshop and consultation with an international advisory panel.<sup>2</sup> The EIU explored existing frameworks during this review, and created a draft study framework that was advised on and validated by the expert panel. During the country-level research, the EIU interviewed professionals with a wide range of health system expertise, including practitioners, private insurers, policy analysts and academics. The data created by the EIU in the research effort

have been integrated into an Excel-based tool to enable easy analysis of country results. The data are also accessible on the digital hub for VBHC.<sup>3</sup>

What the study finds is that the majority of countries are still in the earliest stages of aligning their health systems with the components of VBHC. Many have other priorities such as improving quality and increasing access to basic health services. This is often the case for lower-income and developing countries. However, as is seen in the US, even mature economies may not have all the core components in place for value-based care. While there are leading countries in our research results, rather than emphasise country comparison, this study is designed to deepen understanding of the core components of VBHC and build a standard for evaluation of alignment with the VBHC model.

Countries that choose to move towards a more patient-centric, value-based model confront forces such as inertia, fragmented systems and the limits of existing healthcare infrastructure and operations. Yet, in many places, political will is strong and policymakers are moving in the direction of a patient-centric approach. These findings will show how the enabling environment and policies differ across countries as well as the varying priorities among those countries.

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<sup>2</sup> See Acknowledgements page for advisory panel members.

<sup>3</sup> www.vbhcglobalassessment.eiu.com



# Introduction

As increasing life expectancy, accompanied by the rise of chronic diseases, pushes up healthcare spending across the world, it has become clear to many policymakers and healthcare providers that a business-as-usual approach to cost containment is no longer sustainable. To continue (or in some cases start) delivering accessible, high-quality care, policymakers increasingly recognise the need to forge a link between healthcare costs and outcomes in order to improve value for patients.

In recent decades, healthcare systems in countries including the UK and US have worked towards measuring the relative cost efficiency and comparative effectiveness of different medical interventions. This approach, known as value-based medicine, followed the development of evidence-based medicine and expanded the concept to include an explicit cost-benefit analysis, with a focus on the value delivered to patients, rather than the traditional model in which payments are made for the volume of services delivered.

Nevertheless, making the shift to VBHC is far from easy, and the majority of countries are still in the early stages of assembling the enabling components for this new approach to healthcare. Implementing the components of VBHC requires a rethink of the overall quality of patient outcomes (and the longer-term benefit relative to the cost of an intervention), rather than just the quantity of treatments delivered. Given the deeply rooted culture of fee-for-service and supply-driven models, in which payments are made for every consultation or treatment, introducing new approaches will take time.

A few "frontier" countries are making impressive advances, with some evidence of the adoption of forward-thinking approaches. For example, the US Centers for Medicare & Medicaid Services (CMS) are in the process of shifting to value-based payments over the next five years through the introduction of bundled payments and other measures. 1 In the European Union (EU), a collaborative of hospitals in the Netherlands, Santeon, is measuring patient outcomes using metrics created by the International Consortium for Health Outcomes Measurement (ICHOM),<sup>2</sup> and the Organisation for **Economic Co-operation and Development** (OECD) is also starting to address areas such as payment systems, value in pharmaceutical pricing<sup>3</sup> and the efficiency of healthcare delivery and the need for co-ordination of care.

However, many others—particularly lower-income countries, which are facing a range of development challenges—have yet to start out on this journey. With tremendous diversity in healthcare systems worldwide, some countries are bound to face bigger challenges than others in shifting to value-based models. Even for those that have started to make changes, decades-old practices and entrenched interests are difficult to dislodge.

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<sup>1</sup> Bundled Payments for Care Improvement Initiative (BPCI) Fact Sheet, Centers for Medicare & Medicaid Services, United States, Aug 13th 2005; https://www.cms.gov/Newsroom/ MediaReleaseDatabase/Fact-sheets/2015-Fact-sheetsitems/2015-08-13-2.html

<sup>2 &</sup>quot;Value-based healthcare in Europe: Laying the foundation", The Economist Intelligence Unit; https://www.eiuperspectives. economist.com/sites/default/files/ValuebasedhealthcareEurope. pdf

<sup>3 &</sup>quot;Value in Pharmaceutical Pricing", OECD, July 2013; http://www.oecd-ilibrary.org/social-issues-migration-health/value-in-pharmaceutical-pricing\_5k43jc9v6knx-en



This report summarises our findings in the assessment<sup>4</sup> of VBHC alignment in 25 countries. Using indicators such as the existence of a high-level policy or plan for VBHC, the presence of health technology assessment (HTA) organisations or the presence of policies that promote bundled payments (where a single fee covers the anticipated set of procedures needed to treat a patient's medical condition), this study intends to paint a picture of the enabling environment—from policies and institutions to IT and payments infrastructure—for VBHC alignment across a diverse set of countries.

The results of the analysis reveal a mixed picture, with considerable variations across countries. These range from those where pay-for-performance models and co-ordinated models of care are being introduced to countries where some of the basic tools needed to implement value-based care—from patient registries to HTA organisations—are still not in place.

The challenges are not to be underestimated. In many healthcare systems today, information about the overall costs of care for an individual patient, and how those costs relate to the

outcomes achieved, is very difficult to find. As this study will show, health data infrastructure can be improved in most countries.

For example, data in disease registries that track the clinical care and outcomes of a particular patient population are often inaccessible, lack standardisation and/or are not linked to each other, if they exist at all. In some places, attempts to develop electronic health records have floundered. In others, they have been implemented but lack interoperability across different providers, which means that they are of limited use in facilitating co-ordinated, longitudinal care.

However, even in developing countries, adoption of aspects of VBHC can also be found. For example, Colombia's recent health reforms include plans to organise health delivery into patient focused-units within 16 co-ordinated care programmes.<sup>5</sup>

By assessing the existence of core components of VBHC across countries, this study provides new insights into the state of the enabling environment for value-based care around the world.

<sup>4</sup> See domains and indicators in the methodology section of the Appendix.

<sup>&</sup>quot;Política de Atención Integral en Salud", El Ministerio de Salud Protección Social, 2016; https://www.minsalud.gov.co/ Normatividad\_Nuevo/Resoluci%C3%B3n%200429%20de%202016. pdf



# **Highlights**

- Sweden is the only country that emerges with very high alignment with VBHC and the UK is the only country with high alignment with VBHC. (Alignment can be Low, moderate, high, or very high). Most developed countries in the study have moderate alignment with value-based care approaches.
- India and China—the two countries in the study with populations greater than 1 billion—have generally similar results yet diverge strongly on levels of health coverage, with just 18% of India's population covered by some form of health insurance while in China, more than 95% of the population is covered by public health insurance.
- Strong policy support, which helps countries align their health systems more closely with the tenets of VBHC, tends to be found in wealthier countries. Of the seven countries with a high-level policy or plan for VBHC, only two—Turkey and Colombia—are developing countries.
- The impetus to measure outcomes and costs is strengthening through the presence of disease registries and efforts by many countries to implement electronic patient records. However, in many instances, these sources of health data are not co-ordinated and the IT systems are not interoperable. Moreover, outcomes data, which are a prerequisite for alignment with value-based care, are almost universally lacking.

- Moving from siloed, single-provider-based care to co-ordinated, team-based care remains challenging. About one quarter of the countries in the study (Egypt, Indonesia, Nigeria, Netherlands, Russia and the US) have no national co-ordinated care pathways in any of the five therapy areas reviewed (mental health care, diabetes care, HIV patient care, maternal care and elderly care). In the US, co-ordinated care pathways exist but only within hospitals or provider groups, and they are not standardised nationally.
- The advantage of bundled payments for co-ordinating care and focusing on the patient is increasingly being recognised. In six of the 25 countries, bundled payments are being implemented by one or more payers.
- High health spending does not always mean a presence of supporting factors for alignment with VBHC: neither Japan nor the US—two countries that spend more than 10% of GDP on health has a recognised national HTA organisation.
- How countries score on the United Nations (UN) Human Development Index (HDI)<sup>1</sup> correlates with alignment with VBHC: Countries with low- or medium-level HDI scores (South Africa, Indonesia, India, Egypt and Nigeria) need to focus on other challenges, including increasing basic access to healthcare, so establishing the enabling environment for VBHC is lower on the list of national priorities.

Human Development Index (HDI), United Nations Development Programme; http://hdr.undp.org/en/content/human-development-index-hdi



# Alignment with value-based healthcare

As this study reveals, many countries are in the earliest stages of adopting the requisite institutions and value-based approaches in order to deliver the best outcomes to patients relative to cost. Variations emerge in the four domains featured in this study—the enabling context of policy and institutions for value in healthcare; measurement of outcomes and costs; integrated and patient-focused care; and outcome-based payment approaches. However, most countries have either low or moderate overall alignment with a value-based approach to healthcare, reflecting the fact that the concept of VBHC is very new and in the early stages of adoption (if adoption is taking place at all).

Sweden is the only country that emerges with very high alignment with VBHC. While value-based care has not been comprehensively implemented, Sweden has a system structured to use decades of evidence-based treatment guidelines and disease registries as well as a healthcare workforce that is largely salaried, creating fewer incentives to adhere to a fee-forservice model. Moreover, Sweden is moving towards outcomes-based reimbursement for specialised care.

Meanwhile, the UK is the only country with high alignment with VBHC. In the UK, National Health Service England (NHS)—which covers the majority of the British population (Scotland, Wales and Northern Ireland have separate systems)—has been experimenting with new team-based healthcare delivery models and new forms of payment, such as bundled payments and pay-for-performance measures

for general practitioners. While the changes are being driven partly by the need to cut costs, policymakers and other health stakeholders—from medical specialists and primary care physicians to insurers to other payers such as private companies and national health institutions—are strongly supportive of the implementation of more patient-centric care that maximises value.

About half the countries in the study emerge with low alignment with VBHC. While much variation is evident among the four different domains, broadly, several patterns emerge. For example, a country's ability to afford comprehensive care for its population can determine its ability to move to value-based care, with richer countries that largely fund their countries' healthcare seeing VBHC as a means of addressing the rising cost of care. However, wealthy countries do not necessarily fund their nations' healthcare. In the US, for example, a fragmented reimbursement system—which includes corporate payers, private insurers and government funders such as the CMS—makes the adoption of VBHC more complex and difficult to co-ordinate, since each payer has different objectives.

By contrast, countries that cannot yet afford comprehensive healthcare for their populations are still struggling to increase access to care, and are not currently focused on measures that would align their health systems more closely with the tenets of VBHC. In Nigeria, for example, less than 10% of the population has health insurance and the policy focus is on reducing

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Other factors driving alignment with valuebased approaches are the degree to which government is involved in designing the structure of the health system, the distribution of health policymaking responsibility, the strength of health system stakeholder support and the quality of the health information technology infrastructure.

Most developed countries in the study have moderate alignment with VBHC. However, in a few cases, high-income countries have low alignment. This is the case for Chile, Spain, the UAE and Russia. In these countries, the reasons behind low alignment vary. For example, neither Spain nor Chile has a high-level policy or official national plan for VBHC. Even so, the presence of a national policy is not always reflective of progress for an entire country. In the case of Spain, for example, value-based alignment is stronger at the regional level, with some regions making major strides in reorganising around delivering value.

All middle-income (or developing) countries in the study have low alianment with VBHC, except Colombia, which has moderate alignment. Colombia is aided by the fact that the country has been moving towards achieving universal healthcare, with more than 95% of the population having access to health insurance.2 It has also implemented recent reforms that aim to focus the health system around the patient.3

# Domain 1:

# Enabling context, policy and institutions for value in healthcare

While outcomes measurement, patient-focused care practices and outcomes-based payment systems are all important in underpinning alignment with VBHC, countries also need an ecosystem of institutional and policy structures that support value-based approaches. Stakeholder buy-in is also key—from providers, payers, and patients.

Some of the countries that are moving towards aligning with value-based healthcare—such as Sweden and the Netherlands—have support from national policymakers but lack nationallevel policies. The health systems in Sweden<sup>4</sup> and the Netherlands are organised at the local level and it is here that components of value-based care exist. In Canada there is established stakeholder support for the tenets of VBHC without a high-level policy or national plan in place.<sup>5</sup> And in Australia's decentralised health system though, fragmentation of care and inconsistent outcomes are a challenge—and may be an obstacle to value-based healthcare.6 However, strong national-level policy support for VBHC can certainly be an advantage. What emerges from the study is that, generally speaking, it is the richer countries that have this policy support in place. Of the seven countries with a high-level policy or plan for value-based care, only two—Turkey and Colombia—are developing countries.

While government plays a key role in setting the policy agenda, support for VBHC from other stakeholders—such as private insurers and professional associations—is also critical. More often than not, this stakeholder support tends to

A Nicholls, "Healthcare Report: Nigeria, 3rd guarter 2015", The Economist Intelligence Unit, Oct 1st 2015.

<sup>&</sup>quot;Country Cooperation Strategy: Colombia", World Health Organization, 2014; http://www.who.int/countryfocus/ cooperation\_strategy/ccsbrief\_col\_en.pdf?ua=1

<sup>&</sup>quot;Política de Atención Integral en Salud", El Ministerio de Salud Protección Social, 2016; https://www.minsalud.gov.co/ Normatividad\_Nuevo/Resoluci%C3%B3n%200429%20de%202016.

<sup>&</sup>quot;The Swedish Health Care System", The Commonwealth Fund, 2015; http://international.commonwealthfund.org/countries/ sweden/

Gregory P Marchildon, "European Observatory on Health Systems and Policies, Canada Health System Review: 2013": http://www. euro.who.int/\_\_data/assets/pdf\_file/0011/181955/e96759.pdf

Review of Medicare Locals, Report to the Minister for Health and Minister for Sport, Department of Health, Australia, May 2014; http://www.health.gov.au/internet/main/publishing.nsf/content/ review-medicare-locals-final-report



go hand in hand with the presence of government policy.

When it comes to the presence of training programmes focused on providing VBHC (not something that is generally part of medical training) there is little evidence of it in health-professional curricula. This is the case even when countries have broad stakeholder support for value-based care.

Of the 13 countries with this stakeholder support for VBHC, only five (Australia, Canada, Japan, the Netherlands and the US) have any professional training in value-based care. However, this supporting element of VBHC may take longer to establish since integrating new material into the medical curriculum can be a slow process, requiring multiple layers or steps for approval.

Successful adoption of the components of VBHC also requires countries to have institutions that can set and review guidelines, examine the medical, social, economic and ethical impact of health interventions (usually through HTAs), and provide funding for research that addresses health-related knowledge gaps.

On the whole, it appears that richer countries are better equipped in this respect. For example, the UAE is the only developed country that does not currently have its own evidence-based guideline-producing organisation (it does, however, have dedicated health research funding organisations, but without mandates for addressing knowledge gaps), while all EU countries in the study have an HTA organisation with clear independence from providers.

Figure 1. Presence of enabling elements for value-based healthcare (Indicator 1.3) Bundled / block payments; Payment for performance / linked to quality Outcomes-based care, patient-centred care **Quality standardisation Australia** Brazil Canada Chile China Colombia Egypt France Germany India Indonesia Japan Mexico Netherlands Nigeria Poland Russia South Africa South Korea Spain Sweden Turkey UAE UK US

Source: EIU



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# Domain 2: Measuring outcomes and costs

Data and measurement—allowing for the ability to conduct cost-benefit analyses and to tap into patient outcomes data—are critical to successful adoption of VBHC. Disease registries are important here too, since they constitute a critical part of the underlying infrastructure needed for the creation of patient outcomes data. But progress in this area remains mixed.

In the developed world, many countries have systems in place that collect patient treatment cost data, at least in some areas (see Table 1). Australia and UAE are the only high-income countries not currently collecting these data, although Australia—which applies a rigorous costbenefit analysis to government-funded pharmaceutical provision?—does have a national policy or plan to collect patient treatment cost data that is not implemented yet.

The impetus to collect data on treatment costs is not just coming from policymakers. In mature economies, as citizens become health consumers, many expect more transparency on healthcare pricing, either because they have to pay out of pocket, or because they are concerned about the financial sustainability of

public payers. In the US, for example, a number of applications and websites now allow patients to compare costs for different treatments.

Governments are responding to demand as well. In the UK, the NHS Choices website publishes reviews and ratings on health and social care services.

However, when it comes to developing countries, less evidence emerges of attempts to increase pricing transparency and per-patient cost measurement. China and Colombia are the only developing countries currently collecting patient treatment cost data in some areas. In China, for example, while the government does not collect all patient treatment cost data and only public hospital costs can be collected, the National Health and Family Planning Commission of the People's Republic of China will publish data on annual total treatment costs in different regions and the average treatment cost among individuals.8 Average hospitalisation cost data are also available for 30 diseases in China. And in Colombia, high cost diseases (such as HIV and cancer) have a dedicated unit—Cuenta de Alto Costo—that tracks costs across providers and regions at the disease and patient level.9

On the other hand, most countries in the study have at least some form of national disease registries, with Brazil, South Africa and UAE the only countries lacking these. In fact, UAE is the only developed country in the study without one.

Table 1.  Data collection on patient treatment costs (Indicator 2.4)										
Score	0: No broad policy or effort to collect data on patient treatment costs*	1: Government and/or major payer(s) has a policy or plan to collect patient treatment cost data	2: Government and/or major payer(s) are actively collecting patient treatment cost data in some areas	3: Government and/or major payer(s) are actively collecting comprehensive patient treatment cost data						
Countries	Brazil, Egypt, India, Mexico, Nigeria, United Arab Emirates	Australia, Indonesia, South Africa, Turkey	Canada, Chile, China, Colombia, France, Japan, Netherlands, Poland, Russia, Spain, UK, US	Germany, South Korea, Sweden						

Note: \*For example, what the payer(s) pays to the provider Source: FIU

<sup>7</sup> The Australian Commission on Safety and Quality in Health Care, http://www.safetyandquality.gov.au/

<sup>8 &</sup>quot;China Statistical Yearbook of Health and Family Planning", The National Health and Family Planning Commission of the People's Republic of China, Peking Union Medical College Press, 2013.

<sup>9</sup> Cuenta de Alto Costo; https://cuentadealtocosto.org/site/index. php/publicaciones



Meanwhile, the pressure to develop interoperable electronic health records is mounting, with just five countries (Colombia, Egypt, Indonesia, Nigeria, and Russia), in the study without a stated effort to develop these. Electronic health records (EHRs) not only enable healthcare to become more patient-focused, but tracking outcomes and costs also allows countries to gain more comprehensive views of how their health systems are delivering value to individual patients. The research found that though most countries have or are working on EHRs, they all must put significant effort into improving the quality of information, standardisation and linkage of data across information platforms in order to gain the ability to track a patient's progress over time. Collectively, these records can be a source of knowledge about patterns and trends that can inform healthcare decision-making.

# **Domain 3:**Integrated and patient-focused care

While definitions of care co-ordination vary, there is a growing recognition among healthcare providers and policymakers that integrated approaches to care—which move away from a siloed, fee-for-service based provision of care organised around medical specialty to a focus on overall health outcomes—can generate efficiencies, reduce duplication, cut costs and provide better care to patients.

Yet, as this study shows, countries face tremendous systemic and cultural barriers to introducing this approach. First, care coordination relies heavily on electronic patient records and interoperable IT systems, something that many countries still lack. In the Netherlands, for example, a national electronic health records system was rejected by the Upper House of Parliament in 2011 due to privacy concerns<sup>10</sup> and is unlikely to be implemented in the near future.

Meanwhile, systems that have long paid for each consultation and treatment need to be redesigned to create financial incentives for co-ordinated approaches—and putting a price tag on overall health is harder than charging for an individual intervention.

So it is no surprise to find that some countries in the study (Indonesia, Nigeria, Russia and the US) have no national co-ordinated care pathways in any of the five therapy areas reviewed. This does not mean that co-ordinated care pathways do not exist in these countries at all. In the US, for example, co-ordinated care pathways exist within hospitals and provider groups even though

<sup>10 &</sup>quot;International review: Secondary use of health and social care data and applicable legislation", Deloitte, 2016; https://www.sitra. fi/julkaisut/Muut/International\_review\_secondary\_use\_health\_ data.pdf



they are not standardised nationally.11

Nevertheless, some countries are making progress in this area. For example, even though its health information technology system is lagging behind, the UK is experimenting with innovative payment models, such as bundled payments and team-based approaches.<sup>12</sup>

At the heart of the VBHC model are the payment mechanisms that either encourage effective treatments that deliver value or create disincentives for those that are not cost effective and do not deliver value.

# Domain 4: Outcome-based payment approach

At the heart of the VBHC model are the payment mechanisms that either encourage effective treatments that deliver value or create disincentives for those that are not cost effective and do not deliver value. For example, bundled payments cover end-to-end procedures, such as one payment for all treatments that takes place in a hip replacement, from consultations and the procedure through to rehabilitation, as opposed to paying for each intervention. Countries also need mechanisms for withdrawing resources from treatments, drugs or other interventions that are not proving cost-effective.

In the study, countries that have high levels of spending on healthcare also tend to have a presence of outcome-based payment approaches. All countries in the study with healthcare spending greater than 10% of GDP—the US, Canada, France, Germany, Japan and the Netherlands (see Table 2)—are planning (if not implementing) bundled payments.

Also, of the countries that spend more than 10% of GDP on healthcare, all but two—Japan and the US—have a mechanism for identifying and disinvesting in services that are not cost effective.

Regional and economic differences emerge in the study. Of the six countries that report having a bundled payment system in place, those with such payments operational in several areas include Chile, Turkey, the US, Sweden, France and Germany. Four of the five countries where a bundled payment option was not found are in Africa or Asia (the fifth is Russia). However, Nigeria uses capitation in some areas and South Africa is developing a national health insurance policy based on capitation.

<sup>11</sup> Dr Mark A Fendrick, University of Michigan, Interview, Mar 2nd 2016.

<sup>12 &</sup>quot;The NHS payment system: evolving policy and emerging evidence", Nuffield Trust, Feb 2014; http://www.nuffieldtrust.org. uk/sites/files/nuffield/publication/140220\_nhs\_payment\_research\_ report.pdf



# Total health expenditure as a percentage of GDP and value-based healthcare

Overall health expenditure emerges in the study as a strong indicator of a country's ability to adopt VBHC components. In this respect, the study reveals a divergence between countries that are able to afford comprehensive healthcare for their populations and those that cannot.

In the study, all of the countries with total health expenditures of less than 5% of GDP (India, Indonesia, Nigeria and UAE) have low alignment with VBHC (see Table 2). Of the countries that spend less than 5% of GDP on health, only India has an established organisation to identify health-related knowledge gaps. But with this low spending on health, India also has very low overall health insurance coverage for its population.

By contrast, higher healthcare spending tends to correlate with many of the elements needed to support VBHC approaches. Of those countries spending more than 10% of GDP on healthcare, Canada, Japan, the Netherlands, France, Germany and the US all are developing or using interoperable electronic health records (though full interoperability remains a goal). All these countries also have stakeholder support for VBHC. Moreover, in countries where spending on healthcare is high, there is a powerful incentive to find ways to cut costs by implementing VBHC.

# Table 2. Total health expenditure (THE) as a percent of Gross Domestic Product (GDP) (Background indicator)

THE as % of GDP	Country	%
< 5%	Indonesia	3.1
	United Arab Emirates	3.2
	Nigeria	3.7
	India	4.0
5-10%	Egypt	5.1
	China	5.6
	Turkey	5.6
	Mexico	6.2
	Russia	6.5
	Poland	6.7
	Colombia	6.8
	South Korea	7.2
	Chile	7.7
	South Africa	8.9
	Spain	8.9
	United Kingdom	9.1
	Australia	9.4
	Brazil	9.7
	Sweden	9.7
> 10%	Japan	10.3
	Canada	10.9
	Germany	11.3
	France	11.7
	Netherlands	12.9
	United States	17.1

Source: World Health Organization, 2013

...in countries
where spending
on healthcare is
high, there is a
powerful incentive
to find ways to cut
costs by
implementing
VBHC.



# Cost per outcome point<sup>1</sup> and value-based healthcare

While healthcare spending is a good indicator of health outcomes, in many places around the world, there is a gap between the amount of money spent on healthcare and a country's overall health outcomes. Health spending itself may be inefficient, with duplication of services or payments that encourage interventions that are not effective. In short, high spending does not necessarily equate to good health. Moreover, other factors influence a nation's health, from diet and exercise to lifestyle issues such as smoking and injury rates.

High spending also does not guarantee universal healthcare. For example, the US has a high cost per outcome point (that is, patient outcomes achieved per dollar spent) and yet not all of its citizens have health insurance—roughly 89% of its population is covered. In contrast, South Korea has a moderate cost per outcome point and has full health coverage for its citizens. Both countries have *moderate* alignment with VBHC.

It is also possible to deliver value to patients on relatively low budgets. In the study, four countries with a low cost per outcome point—China, Colombia, Mexico and Turkey—have 90–100% of their population covered by public or private health insurance. And while having health coverage does not necessarily equate to delivering high-quality outcomes at low cost, or without asking the patient to pay for it, it is an indication that a country is investing in the health of its citizens. Given these findings, the question for some policymakers is, how are these countries achieving this coverage, and are there lessons to be learned by their peers about delivering value?

Table 3.

Cost per outcome point (US\$)

	•		
Country	Health Outcomes Index	Cost per outcome point	
	Score	US\$	US\$
United States	85.50	9216.0	107.8
Netherlands	90.30	6103.0	67.6
Australia	94.10	6173.0	65.6
Canada	91.60	5692.0	62.1
Sweden	92.50	5258.0	56.8
Germany	89.80	4964.0	55.3
France	92.20	4959.0	53.8
Japan	98.40	4714.0	47.9
United Kingdom	89.00	3679.0	41.3
Spain	93.80	2717.0	29.0
South Korea	90.80	1834.0	20.2
United Arab Emirates	80.80	1394.0	17.3
South Africa	40.50	643.0	15.9
Russia	60.30	888.0	14.7
Brazil	73.40	1049.0	14.3
Chile	87.00	1102.0	12.7
Poland	78.90	852.0	10.8
Turkey	76.40	665.0	8.7
Mexico	79.30	639.0	8.1
Colombia	80.40	521.0	6.5
Nigeria	35.00	165.0	4.7
China	80.50	337.0	4.2
Egypt	65.50	161.0	2.5
Indonesia	66.80	106.0	1.6
India	55.00	62.0	1.1

Source: EIU, "Health outcomes and cost: A 166-country comparison", 2014

 <sup>&</sup>quot;Health outcomes and cost: A 166-country comparison", Economist Intelligence Unit, 2014; http://stateofreform.com/ wp-content/uploads/2015/11/Healthcare-outcomes-index-2014. pdf



# Conclusion

As this study reveals, many countries are still in the earliest stages of establishing the enabling environment for realigning care provision around value. In many cases, initiatives are being implemented individually, and are rarely part of a co-ordinated value-based healthcare strategy. However, while only a few countries are making significant moves towards aligning their healthcare systems with the broad tenets of VBHC, others are taking the first steps needed to reorganise their health systems around the patient, with a greater focus on delivering value.

For mature economies, there is the challenge of shifting long-held cultural norms, changing payment systems to be tied to value, and standardising IT infrastructure for interoperable

and longitudinal data. Some developing countries, meanwhile, are still struggling with basic issues of coverage and access to healthcare.

However, it is encouraging to see that countries are starting to put in place some of the elements needed for the adoption of VBHC. As technology advances and new value-based approaches take hold in wealthy economies, those countries that are still investing in developing their health systems have an opportunity—to "leapfrog" older systems and move directly to value-based-care, saving precious resources and delivering better long-term care—resulting in improved outcomes for their citizens.



# **Appendix A:**

# Methodology, sources and detailed indicator descriptions

# Methodology

The methodology of this study was created by the EIU research team in consultation with Medtronic and an international advisory panel of healthcare experts. The EIU used a combination of primary and secondary research as well as internal healthcare industry expertise to conceptualise the overall framework, indicator list and research focus.

The EIU researched, assessed and scored countries across a set of 17 original qualitative indicators that evaluate both the current alignment of each country's health system with the components of value-based healthcare as well as the enabling environment for VBHC within a given health system. The 17 indicators span four domains: (1) Enabling context, policy and institutions for value in healthcare; (2) Measuring outcomes and costs; (3) Integrated and patient focused-care; and (4) Outcome-based payment approach. These four domains aim to capture the main components of the VBHC model and the level to which individual countries have adopted or aligned themselves with this model.

The **countries** included in the Assessment of Healthcare Systems are:

Asia: Australia, China, India, Indonesia, Japan, South Korea

Europe: France, Germany, Netherlands, Poland, Russia, Spain, Sweden, UK

Middle-east and North Africa: Egypt, Turkey, United Arab Emirates

Sub-Saharan Africa: Nigeria, South Africa Latin America: Brazil, Chile, Colombia, Mexico North America: Canada, US

# Constructing the matrix

#### A. Scoring

Scores were assigned by the research managers and the EIU's team of analysts according to a specific set of research criteria and scoring guidelines. All qualitative indicators were scored on an integer basis (0-2, 0-3, 0-4, and yes/no).

#### **B.** Normalisation of scores

Indicator scores were normalised to a 0-100 scale to make the indicators comparable across all countries in the matrix and then aggregated across domains to enable a comparison of broader concepts across countries. Normalisation rebases the raw indicator data to a common unit so that it can be aggregated. The indicators have been normalised on the basis of the following:

x = (x - Min(x)) / (Max(x) - Min(x))

Where Min(x) and Max(x) are, respectively, the lowest and highest values in the 25- country set for any given indicator. The normalised value is then transformed from a 0-1 value to a 0-100 score to make it directly comparable with other indicators. This in effect means that the country with the highest raw data value will score 100, while the lowest will score 0. High normalised scores are indicative of the highest alignment with the tenets of VBHC captured in this study. The four domain composite scores are averaged to yield an overall country score (ie "Overall alignment with value-based healthcare").

Normalised scores are not published in the data matrix, but score ranges are used to



determine like-country groupings for analytic and comparative purposes (see next section below).

#### C. Clustering of countries

In addition to making country-level comparisons at the individual indicator level, the matrix clusters countries based on their overall alignment with VBHC as well as alignment with the four domains, which allows for broader comparisons among countries.

In the matrix, countries were clustered together into four groups based on normalised scores, according to the process described above. Each of the four clusters (Low, moderate, high, or very high) group countries based on the level of their alignment with VBHC, or with individual components of VBHC in the case of the four domains. See the table below for score ranges and country clusters.

In addition to the study-based clusters, countries were also grouped based on several relevant background indicators. These groups, or "tags", were based on pre-determined groupings of countries from the source organisations. These additional tag groups (clusters) are:

- World Bank income group (3 clusters)
- Gross domestic product (2 clusters)

- United Nations Human Development Index (4 clusters)
- Average life expectancy, total population (2 aroups)
- Population (4 groups)
- Total health expenditure (THE) as a percentage of GDP (3 groups)
- Cost per (health) outcome point (US\$) (3 groups)

#### Sources

The EIU's research team gathered information for the VBHC study from the following sources:

- Interviews and/or questionnaires from health and country experts
- Departments/Ministries of Health
- Health policy documents and guidelines
- Medical associations
- Medical journals
- Research institution websites
- International Network of Agencies for Health Technology Assessment (INAHTA)
- UN Development Programme (UNDP)
- The World Bank
- World Health Organization (WHO)
- Economist Intelligence Unit

Country clustering criteria											
	Overall study	Domain 1	Domain 2	Domain 3	Domain 4						
Score range	Alignment with VBHC	Enabling context, policy and institutions for value in healthcare	Measuring outcomes and costs	Integrated and patient-focused care	Outcome- based payment approach						
0-49.99	Low	Low	Low	Low	Low						
50-74.99	Moderate	Moderate	Moderate	Moderate	Moderate						
75-89.99	High	High	High	High	High						
90-100	Very High	Very High	Very High	Very High	Very High						



#### **Indicator framework**

Value-based Healthcare: An	Asses	sment of Healthcare Systems
Domain	#	Indicator name
Enabling context, policy and institutions for value in healthcare	1.1	Health coverage of the population
institutions for value in the afficare	1.2	High-level policy or plan
	1.3	Presence of enabling elements for value-based healthcare
	1.4	Other stakeholder support
	1.5	Health professional education and training in VBHC
	1.6	Existence and independence of health technology assessment (HTA) organisation(s)
	1.7	Evidence-based guidelines for healthcare
	1.8	Support for addressing knowledge gaps
Measuring outcomes and costs	2.1	National disease registries
	2.2	Patient outcomes data accessibility
	2.3	Patient outcomes data standardisation
	2.4	Data collection on patient treatment costs
	2.5	Development of interoperable Electronic Health Records (EHRs)
Integrated and patient-focused care	3.1	National policy that supports organising health delivery into integrated and/or patient-focused units
	3.2	Care pathway focus
Outcome-based payment approach	4.1	Major system payer(s) promotes bundled payments
аррючен	4.2	Existence of mechanism(s) for identifying interventions for de-adoption (disinvestment)

#### **Detailed indicator definitions**

# Domain 1: Enabling context, policy and institutions for value in healthcare:

This domain, containing eight indicators, captures the level of government and other health system stakeholder commitment to value-based healthcare as well as the existence of the enabling institutions for the VBHC model.

## 1.1 Health coverage of the population (0-4)

Scoring guidelines:

0 = Less than 25% (<25%) of the population is covered by public or private health insurance; 1 = 25–50% of the population is covered by public or private health insurance; 2 = 51-75% of the population is covered by public or private health insurance;

3 = 76–90% of the population is covered by public or private health insurance;

4 = Universal health coverage (or 90–100% of the population is covered by public or private health insurance)

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

## 1.2 High-level policy or plan (Y/N)

Scoring guidelines:

Country scored a "Yes" if there is an explicit strategy or plan either published or expressed by the government or health ministry to move away



from a fee-for-service payment system towards a health system that is organised around the patient. Plan can include fee for performance, value-based payment schemes, and/or a focus on outcomes-based care.

Country scored a "No" if there is no explicit strategy or plan.

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

## 1.3 Presence of enabling elements for valuebased healthcare (0-3)

Scoring guidelines:

0 = The government or major provider(s) has implemented none of the VBHC elements below;

1 = The government or major provider(s) has implemented one of the VBHC elements below;

2 = The government or major provider(s) has implemented two of the VBHC elements below;

3 = The government or major provider(s) has implemented three of the VBHC elements below:

- (A) Outcomes-based care/patient-centred care;
- (B) Bundled/block payments; payment for performance / linked to quality;
- (C) Quality standardisation

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

## 1.4 Other stakeholder supports (Y/N)

Scoring guidelines:

Country scored a "Yes" if one or more stakeholders (for example physicians' associations, other health professional associations or private insurers/payers) exhibit support for VBHC. "Support" includes signs of endorsement of outcome-based, patient-centred care, including bundled payments and quality standardisation.

Country scored a "No" if other stakeholder support does not exist.

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 1.5 Health professional education and training in value-based healthcare (0-2)

Scoring guidelines:

0 = No training in VBHC;

1 = Some/minimal training (less than 10 hours) in VBHC:

2 = Substantial training in VBHC (such as a dedicated course of more than 10 hours on value in health or similar)

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 1.6 Existence and independence of health technology assessment (HTA) organisation(s)(0-2)

Scoring guidelines:

0 = No recognised HTA organisation(s);

1 = HTA organisation(s) exist but without clear independence from providers;

2 = HTA organisation(s) exist with clear independence from providers

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 1.7 Evidence-based guidelines for healthcare (0-4)

Scoring guidelines:

0 = Country does not have an established evidence-based guideline producing organisation/is not a member of a regional or international guideline producing organisation;

1 = Country is a member of or has established a national guideline producing organisation or participates in a regional or international guideline producing organisation;

2 = Country has established an evidence-based guideline producing organisation, and guidelines include general care of patients;

3 = Country has established an evidence-based guideline producing organisation, and guidelines contain a grading system that grades evidence;

4 = Country has established an evidence-based guideline producing organisation, and guidelines contain a grading system that grades evidence and include a move towards outcomes-based healthcare

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews



## 1.8 Support for addressing knowledge gaps (0-2)

Scoring guidelines:

0 = No health-related research funding organisation exists;

1 = Dedicated health-related research funding organisation exists;

2 = Dedicated health-related research funding organisation exists and has clear mandate to identify health-related knowledge gaps

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# Domain 2—Measuring outcomes and costs:

This domain, containing five indicators, captures the existence of the current IT and data infrastructure within a healthcare system as well as forward-looking aspirations for data collection that align with the components of value-based healthcare delivery.

#### 2.1 National disease registries (0-4)

Scoring guidelines:

0 = No national disease registry exists;

- 1 = National disease registries exist;
- 2 = Multiple diseases are covered in national disease registries;
- 3 = Multiple diseases are covered and registry data are regularly updated and accessible to healthcare stakeholders;
- 4 = A comprehensive system consolidates existing disease registries and data are regularly updated and accessible to healthcare stakeholders

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

#### 2.2 Patient outcomes data accessibility (0-2)

Scoring guidelines:

0 = No disease registries exist;

1 = Disease registries exist, but there is limited accessibility to outcomes data for research purposes;

2 = Disease registries exist, and there is broad accessibility to outcomes data for research purposes

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

#### 2.3 Patient outcomes data standardisation (0-2)

Scoring guidelines:

0 = No standardised disease registries exist;

1 = Data in disease registries is standardised, but not linked:

2 = Data in disease registries is standardised and linked

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 2.4 Data collection on patient treatment costs (0-3)

Scoring guidelines:

0 = No broad policy or effort to collect data on patient treatment costs, ie what the payer(s) pays to the provider;

1 = Government and/or major payer(s) have a policy or plan to collect patient treatment cost data;

2 = Government and/or major payer(s) are actively collecting patient treatment cost data in some areas:

3 = Government and/or major payer(s) are actively collecting comprehensive patient treatment cost data

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 2.5 Development of interoperable Electronic Health Records (EHRs) (Y/N)

Scoring guidelines:

Country scored a "Yes" if there is an effort on the part of the government and/or major health provider(s) to develop interoperable EHRs.

Country scored a "No" if there is no stated or apparent major effort.

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews



## Domain 3—Integrated and patientfocused care:

This domain, containing two indicators, captures national efforts to co-ordinate and integrate care around the patient.

# 3.1 National policy that supports organising health delivery into integrated and/or patient-focused units (Y/N)

Scoring guidelines:

Country scored a "Yes" if there is a national policy in place that supports organising health delivery into integrated and/or patient-focused units. This also includes a national policy that encourages a management system to follow a patient through the entire multi-step episode of care.

Country scored a "No" if neither of these two policies exist.

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

#### 3.2 Care pathway focus (0-2)

Scoring guidelines:

0 = No established co-ordinated care services for any of the below therapy areas;

1 = One to two (1–2) of the below therapy areas have co-ordinated care services;

2 = Three or more (3+) of the below therapy areas have co-ordinated care services

Therapy areas: Mental health; Diabetes; HIV; Maternal health; Elderly care

Source: Economist Intelligence Unit

Methodology: Desk research; primary interviews

# Domain 4—Outcome-based payment approach:

This domain, containing two indicators, captures the extent to which a health system is moving away from fee-for-service to an outcome-based payment approach.

# 4.1 Major system payer(s) promotes bundled payments (0-3)

Scoring guidelines:

0 = No efforts towards bundled payments—the payment system is mainly fee-for-service;

1 = Capitation system is used by one or more major payers;

2 = National/regional initiative to develop bundled payment system;

3 = Bundled payment system implemented by one or more major payers

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

# 4.2 Existence of mechanism(s) for identifying interventions for de-adoption (disinvestment) (Y/N)

Scoring guidelines:

Country scored "Yes" if the government or major provider(s)/payer(s) has a mechanism (committee, agency) for identifying less effective interventions for de-adoption (disinvestment) in treatment plans.

Country scored "No" if such a mechanism does not exist

Source: Economist Intelligence Unit Methodology: Desk research; primary interviews

## **Background indicators**

#### 5.1 Nominal GDP (GDP level) (US\$bn)

Gross domestic product (GDP) at current market prices in US\$. Derived from GDP at current market prices and period-average exchange rate.

Source: Economist Intelligence Unit, 2014

#### 5.2 GDP per capita (US\$)

Nominal GDP divided by population.

Source: Economist Intelligence Unit, 2014

## 5.3 Personal disposable income (per head) (US\$)

The amount of disposable income per person available for spending and saving after income taxes have been accounted for.

Source: Economist Intelligence Unit, 2014

# 5.4 Total health expenditure (THE) as percentage of GDP (%)

Total health expenditure (both public and private) as percentage of GDP.

Source: World Health Organization, 2013



# 5.5 General government expenditure on health as a percentage of total expenditure on health(%)

Government expenditure on healthcare as a percentage of the total expenditure on healthcare (both public and private).

Source: World Health Organization, 2013

# 5.6 Out-of-pocket expenditure as a percentage of total expenditure on health (%)

Out-of-pocket expenditure is any direct outlay by households to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. It is a part of private health expenditure.

Source: World Health Organization, 2013

#### 5.7 UN Human Development Index (category)

The UN Human Development Index (HDI) is a composite statistic of life expectancy, education, and income per capita indicators, which is used to rank countries into four tiers of human development.

Source: UNDP, 2014

#### 5.8 Life expectancy, total (years)

The average period that a person may expect to live based on the year of their birth, their current age and other demographic factors.

Source: Economist Intelligence Unit, 2014

#### 5.9 Population

Population of the country

Source: Economist Intelligence Unit, 2014

## 5.10 Doctors per 1,000

Number of physicians per 1,000 population. Physicians include generalist and specialist medical practitioners.

Source: Economist Intelligence Unit, 2013

#### 5.11 Hospital beds per 1,000

Number of hospital beds per 1,000 population. Hospital beds include inpatient beds available in public, private, general, and specialised hospitals and rehabilitation centres. In most cases beds for both acute and chronic care are included.

Source: Economist Intelligence Unit, 2013

## 5.12 Cost of doctors visit (local currency unit)

Cost of a routine check-up, in local currency units, at a family doctor in the country's most populous city.

Source: EIU, Worldwide Cost of Living Survey, 2014

#### 5.13 Health Outcomes Index (score)

A composite health outcome was generated from all four indicators and standardised into an outcomes index score, on a scale of 0 to 100 (with higher scores indicating better outcomes).

Source: EIU, "Health outcomes and cost: A 166-country comparison", 2014

## 5.14 Health spend per head (US\$)

The average amount spent on healthcare per person.

Source: EIU, "Health outcomes and cost: A 166-country comparison", 2014

## 5.15 Cost per outcome point (US\$)

The cost of each extra point on the Health Outcomes Index.

Source: EIU, "Health outcomes and cost: A 166-country comparison", 2014 Methodology: Health outcomes index score divided by total health spending

#### 5.16 Health Outcomes: Tier

Health Outcomes Index scores were divided into five tiers: Top Tier; Tier Two; Tier Three; Tier Four; Bottom Tier

Source: EIU, "Health outcomes and cost: A 166-country comparison", 2014



# **Appendix B:** Glossary

**Bundled payments:** A single payment that covers services delivered by two or more providers during a single episode of care or over a specific period of time.

**Capitation**: A payment system based on payment per person, rather than payment per service provided. There are many variations on the range of services covered under capitated arrangements.

Clinical practice guidelines: Statements that include recommendations intended to optimise patient care and that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.<sup>1</sup>

Electronic health record (EHR): An electronic version of a patient's medical history that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that person's care under a particular provider, including demographics, progress notes, problems, medications, vital signs, past medical history, immunisations, laboratory data and radiology reports.

**Evidence-based healthcare**: The care and services flowing from the application of the principles of evidence-based medicine to all professions associated with healthcare, including management and the purchase of goods and services.

**Evidence-based medicine**: A type of medicine based on using the best evidence from scientific and medical research to make decisions about the care of individual patients.

**Fee-for-service**: A method in which doctors and other healthcare providers are paid for each service performed. Examples of services include tests and office visits (see also Pay-for volume).

**Health outcome**: A measurable component observed after an intervention has been applied.

Health technology assessment (HTA): The systematic evaluation of the properties and effects of a health technology, addressing the direct and intended effects of this technology, as well as its indirect and unintended consequences, aimed mainly at informing decision making regarding health technologies.

Interoperability: The extent to which systems and devices can exchange data, and interpret those shared data. For two systems to be interoperable, they must be able to exchange data and subsequently present those data such that they can be understood by a user.

**Pay-for-performance**: A healthcare payment approach where a health insurer or other payer compensates physicians according to an evaluation of physician performance, typically as a potential bonus on top of the physician's fee-for-service compensation.

**Pay-for-volume**: A method in which doctors and other healthcare providers are paid for each service performed. Examples of services include tests and office visits (see also Fee-for-service).

Development of Clinical Practice Guidelines, Infographic, Step 4, Institute of Medicine of the National Academies, http://resources.nationalacademies.org/widgets/systematic-review/infographic.html.



**Pay-for-value**: A reimbursement method that encourages doctors and other health care providers to deliver the best quality care at the lowest cost.

**Total health expenditure:** The sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation.

**Universal healthcare**: For a community or country to achieve universal health coverage, several factors must be in place, including:

- A strong, efficient, well-run health system that meets priority health needs through peoplecentred integrated care (including services for HIV, tuberculosis, malaria, non-communicable diseases, maternal and child health) by:
  - a. informing and encouraging people to stay healthy and prevent illness;
  - b. detecting health conditions early;
  - c. having the capacity to treat disease; and
  - d. helping patients with rehabilitation.
- Affordability—a system for financing health services so people do not suffer financial hardship when using them. This can be achieved in a variety of ways.
- Access to essential medicines and technologies to diagnose and treat medical problems.
- 4. A sufficient capacity of well-trained, motivated health workers to provide the services to meet patients' needs based on the best available evidence.

**Value-based healthcare**: A health system that prioritises patient-centred outcomes relative to cost.

#### Sources

American Medical Association

Centers for Medicare & Medicaid Services

Economist Intelligence Unit

Healthcare Information and Management Systems Society

Health Technology Assessment international (HTAi)

International Network of Agencies for Health Technology Assessment (INAHTA)

World Health Organization



Appendix C:															
Table of country scores (See appendix A for scoring guidelines)			<u>.</u> 0		p			bia		45	yu		Sig		0
(see appendix A for scoring goldelines)	Unit	Source	Australia	Brazil	Canada	Chile	China	Colombia	Egypt	France	Germany	India	Indonesia	Japan	Mexico
Enabling context, policy and institutions for value in healthcare															
1.1) Health coverage of the population	0-4	The Economist Intelligence Unit	4	4	4	4	4	4	1	4	4	0	2	4	4
1.2) High-level policy or plan	Y/N	The Economist Intelligence Unit	Ν	Ν	Ν	Ν	Ν	Υ	Ν	Ν	Υ	Ν	Ν	Υ	Ν
1.3) Presence of enabling elements for value-based healthcare	0-3	The Economist Intelligence Unit	2	0	3	1	1	1	0	2	3	1	1	0	0
1.4) Other stakeholder support	Y/N	The Economist Intelligence Unit	Υ	Ν	Υ	Ν	Ν	Ν	Ν	Υ	Υ	Ν	Ν	Υ	Υ
1.5) Health professional education and training in VBHC	0-2	The Economist Intelligence Unit	1	0	1	0	0	0	0	0	0	0	0	1	0
1.6) Existence and independence of health technology assessment (HTA) organisation(s)	0-2	The Economist Intelligence Unit	2	1	2	0	2	2	0	2	2	1	1	0	1
1.7) Evidence-based guidelines for healthcare	0-4	The Economist Intelligence Unit	2	2	3	2	3	3	0	3	3	2	2	2	3
1.8) Support for addressing knowledge gaps	0-2	The Economist Intelligence Unit	1	2	2	1	1	2	0	2	2	2	1	1	2
2) Measuring outcomes and costs															
2.1) National disease registries	0-4	The Economist Intelligence Unit	2	0	3	3	2	2	2	2	2	2	1	3	2
2.2) Patient outcomes data accessibility	0-2	The Economist Intelligence Unit	1	0	1	1	1	1	1	1	1	1	1	1	1
2.3) Patient outcomes data standardisation	0-2	The Economist Intelligence Unit	1	0	0	0	0	1	0	1	1	0	0	1	0
2.4) Data collection on patient treatment costs	0-3	The Economist Intelligence Unit	1	0	2	2	2	2	0	2	3	0	1	2	0
2.5) Development of interoperable Electronic Health Records (EHRs)	Y/N	The Economist Intelligence Unit	Υ	Υ	Υ	Υ	Υ	Ν	Ν	Υ	Υ	Υ	Ν	Υ	Y
3) Integrated and patient-focused care															
3.1) National policy that supports organising health delivery into integrated and/or patient-focused units	Y/N	The Economist Intelligence Unit	Ν	Ν	N	Ν	N	Υ	Ν	Ν	Ν	Ν	N	Υ	N
3.2) Care pathway focus	0-2	The Economist Intelligence Unit	2	1	2	2	2	1	1	2	1	2	0	2	2
4) Outcomes-based payment approach															
4.1) Major system payer(s) promotes bundled payments	0-2	The Economist Intelligence Unit	2	1	2	3	2	2	0	3	3	0	0	2	1
4.2) Existence of mechanism(s) for identifying interventions for de-adoption (disinvestment)	Y/N	The Economist Intelligence Unit	Υ	Ν	Υ	Ν	Ν	N	Ν	Y	Y	Ν	N	Ν	N



Appendix C: Table of country scores	Unii	Source	Netherlands	Nigeria	Poland	Russia	South Africa	South Korea	Spain	Sweden	Turkey	United Arab Emirates	United Kingdom	United States
Enabling context, policy and institutions for value in healthcare														
1.1) Health coverage of the population	0-4	The Economist Intelligence Unit	4	0	4	4	0	4	4	4	4	2	4	3
1.2) High-level policy or plan	Y/N	The Economist Intelligence Unit	Ν	Ν	Ν	Ν	Ν	Υ	Ν	Ν	Υ	Y	Υ	Ν
1.3) Presence of enabling elements for value-based healthcare	0-3	The Economist Intelligence Unit	3	0	2	1	0	2	1	3	3	2	3	3
1.4) Other stakeholder support	Y/N	The Economist Intelligence Unit	Υ	Ν	Y	Ν	Ν	Υ	Ν	Υ	Υ	Ν	Υ	Υ
1.5) Health professional education and training in VBHC	0-2	The Economist Intelligence Unit	1	0	0	0	0	0	0	0	0	0	0	1
1.6) Existence and independence of health technology assessment (HTA) organisation(s)	0-2	The Economist Intelligence Unit	2	0	2	0	0	1	2	2	1	1	2	0
1.7) Evidence-based guidelines for healthcare	0-4	The Economist Intelligence Unit	3	1	2	2	2	4	2	4	2	1	2	3
1.8) Support for addressing knowledge gaps	0-2	The Economist Intelligence Unit	2	1	1	1	2	2	1	2	1	1	2	2
2) Measuring outcomes and costs														
2.1) National disease registries	0-4	The Economist Intelligence Unit	3	1	2	2	0	4	2	4	1	0	3	3
2.2) Patient outcomes data accessibility	0-2	The Economist Intelligence Unit	2	1	1	1	0	2	1	2	1	0	1	2
2.3) Patient outcomes data standardisation	0-2	The Economist Intelligence Unit	1	0	1	1	0	2	1	2	0	0	2	1
2.4) Data collection on patient treatment costs	0-3	The Economist Intelligence Unit	2	0	2	2	1	3	2	3	1	0	2	2
2.5) Development of interoperable Electronic Health Records (EHRs)	Y/N	The Economist Intelligence Unit	Υ	Ν	Y	Ν	Υ	Υ	Υ	Y	Υ	Y	Υ	Υ
3) Integrated and patient-focused care														
3.1) National policy that supports organising health delivery into integrated and/or patient-focused units	Y/N	The Economist Intelligence Unit	Υ	Ν	Y	Ν	Ν	Ν	Ν	Υ	N	Ν	Y	Υ
3.2) Care pathway focus	0-2	The Economist Intelligence Unit	0	0	1	0	1	2	2	2	1	1	2	0
4) Outcomes-based payment approach														
4.1) Major system payer(s) promotes bundled payments	0-2	The Economist Intelligence Unit	2	1	2	0	0	2	1	3	3	2	2	3
4.2) Existence of mechanism(s) for identifying interventions for de-adoption (disinvestment)	Y/N	The Economist Intelligence Unit	Υ	Ν	Y	Ν	N	N	N	Y	Ν	Ν	Y	Ν



Whilst every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in the report.

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