

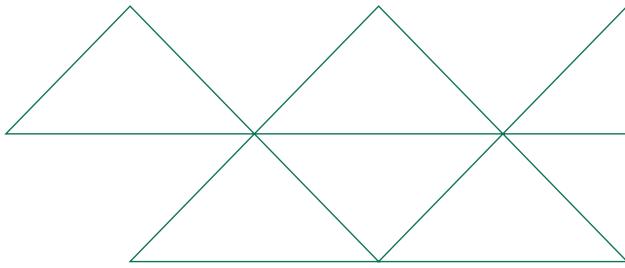


TRANSFORMATION TOWARDS  
SUSTAINABLE HEALTH  
SYSTEMS THROUGH VALUE  
BASED HEALTH CARE

Center for Improving Value in Health  
Saudi Arabia

---

Global Innovation Hub for  
Improving Value in Health



This report collects key messages and insights from the G20 side event on Value Based Health Care (VBHC) held in Riyadh between the 13th and 14th of January, 2020. The event, Accelerating Transformation Towards Sustainable Health Systems Through Value Based Health Care ('the event') was attended by G20 member and guest nations, representatives of relevant International Organizations (IOs), international experts, and 200 delegates from more than 25 countries.

The Report is intended as a resource for policymakers and leaders of healthcare institutions and provides practical learnings on the introduction of VBHC in health systems.

The event was hosted by the Center for Improving Value in Health ('the Center') and had contributions from 25 speakers from 21 countries for keynotes and panels. It provided a platform for presentations and panel discussions for international experts and more than 50 policymakers and senior professionals from the Saudi Health System and civil society.

The event offered an opportunity to share experience and learning from both public and private sectors and was embraced by the participants with high levels of engagement, a sense of openness and a willingness to collaborate to improve the lives of citizens.

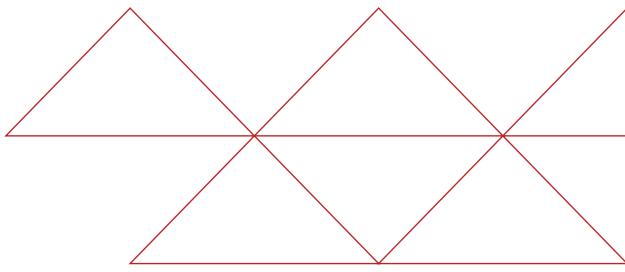


Figure 1: The G20 Side Event on VBHC was attended by international and local stakeholders

**"This event focuses on sharing practical knowledge on VBHC"**

Dr. Reem Al Bunyan,  
CEO, Center for Improving  
Value in Health,  
Saudi Arabia





## Editors:

Prof. Rifat Atun, Harvard University

Dr. Reem Al Bunyan, The Center for Improving Value in Health, Saudi Arabia

Dr. Sara Al Munif, The Center for Improving Value in Health, Saudi Arabia

Ms. Israa Bargo, The Center for Improving Value in Health, Saudi Arabia

Mr. Craig Barratt, The Center for Improving Value in Health, Saudi Arabia

Dr. John McGhee, The Center for Improving Value in Health, Saudi Arabia

## Contributors: In alphabetical order

Ms. Herta Adam, European Commission

Mr. Lav Agarwal, India

Dr. Ahmed AlJedai, Saudi Arabia

Mr. Lars Dahl Allerup, Denmark

Dr. Riyadh AlShamsan, Saudi Arabia

Dr. Omar AlShanqeety, Saudi Arabia

Dr. Pilar Aparicio, Spain

Mr. Sinan Atlig, Pfizer

Mr. Ramon Maspons Bosch, Spain

Mrs. Francesca Colombo, OECD

Mrs. Joanne Fitzgerald, Australia

Prof. Lyalya Gabbasova, Russia

Mr. Said Haddad, Johnson & Johnson

Dr. Derrick Heng, Singapore

Dr. David Herr, Germany

Mr. Christian Howell, Medtronic

Dr. Chintan Maru, Leapfrog to Value

Dr. Giuseppe Ruocco, Italy

Mr. Mohammed Saleh, Microsoft

Mr. Lucas Scherdel, WEF

Dr. Peter Schmeissner, United States

Dr. Agnès Soucat, WHO

Mr. Erik Jan Wilhelm, Zilveren Kruis

Ms. Rose Willis, United Kingdom



# SUMMARY OF KEY FINDINGS

---



## I. Value Based Health Care (VBHC) can be realized in diverse settings

- A. VBHC approaches introduce innovative solutions to transform health systems to achieve greater value and sustainability
- B. VBHC involves development of new data tools and analytic capabilities
- C. Non-financial incentives and factors impact on the success of VBHC
- D. A key enabler for the successful delivery of VBHC is the ability to identify and measure outcomes that matter most to patients and individuals

## II. Collaborations and knowledge transfer between organizations and countries is critical for scale-up of VBHC solutions

- E. VBHC can be applied and have a positive impact at different scales
- F. Reciprocity among stakeholders is key to successful collaborations
- G. Large scale VBHC projects only succeed when roadblocks are removed to implementation
- H. Practical learning is transferable within and across countries
- I. One can leverage learning from other sectors in introducing and scaling up and new solutions



# INTRODUCTION

---

## Current trends in global health care systems

Globally, health systems face immense challenges due to growing demand for healthcare services, rising costs and increasingly higher complexity of illnesses and the solutions to address them. Despite higher expenditures in health systems, health outcomes have not improved proportionately. From 2014 to 2040, the world's spend on health care will increase almost three-fold to reach approximately USD 25 trillion per year. This increase in spending is primarily driven by population ageing, increase in chronic diseases, inefficiency and ineffectiveness of the current health system models and rising costs from new technologies. In most Organisation for Economic Co-operation and Development (OECD) countries, health care spending is increasing faster than economic growth and driven by ageing and excess cost growth due to chronic illness and health system inefficiency.

The combined challenges of rising demand and growing healthcare expenditures that exceed the rate of economic growth pose a real and substantial risk to sustainability of health systems and their ability to provide better access to safe, high quality health care to all citizens of the G20 member countries and beyond. The conference participants recognized the critical importance of VBHC as an instrumental part of achieving sustainable Universal Health Coverage (UHC) – a target for the United Nations Sustainable Development Goal (SDG) 3 'Ensure healthy lives and promote well-being for all at all ages'.

## Accelerating the introduction and scale-up of VBHC to address pressing threats to health systems

Health systems need to transition to VBHC models that achieve a better balance of outcomes and resources used, if the current threats are to be effectively managed.

Traditional health care models use payment models, such as 'fee for service' and 'activity-based payment', primarily focus on paying for inputs and the volume of services provided. These payment models reward ever-increasing volumes of activities and services, but without the commensurate improvement in health outcomes and outcomes that matter to patients. By contrast, VBHC offers a model that puts increasing value for



"Health systems are organized to manage acute events with single/short interventions and need moving towards medium long term health caring"

Dr. Giuseppe Ruocco,  
Ministry of Health, Italy

patients first. This includes increased accessibility and affordability of health care for patients. From the pharmaceutical industry perspective, Mr. Sinan Atlig from Pfizer, the Regional President Biopharma MEA, agreed that health care costs and overall spending on medicines need to be kept in check to create a more sustainable health system.

Furthermore, many panelists emphasized the importance of defining health care broadly to include maintenance or improvement of health through promotion of good health, and through prevention, diagnosis and treatment of illness, injury, disease, and other physical or mental impairments.

The CEO of the Center for Improving Value in Health, Dr. Reem AlBunyan highlighted in her opening remarks, that value in health care means better health and better care at lower cost, with a focus on the person. Ms. Herta Adams, the Deputy Head of Health Determinants and International Relations at the European Commission proposed a similarly broad definition of value in the context of VBHC, based on four pillars:

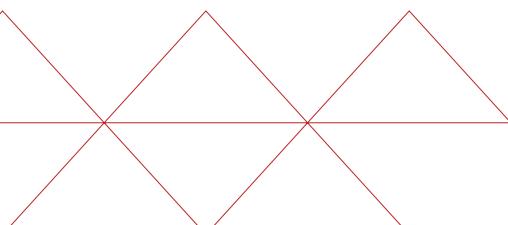
- ▶ **Personal value**, accomplishing the personal goals of patients
- ▶ **Technical value**, achieving highest outcome quality with limited resources
- ▶ **Population value**, equitably delivering care and allocating resources to patient populations
- ▶ **Societal value**, fostering societal participation by delivering health care

▶ The report consists of two sections that explore: (1) how VBHC can be realized through common key enablers in diverse settings and (2) how collaborations and knowledge transfer between organizations and countries help spread and establish successful VBHC models.



“VBHC means placing patients – both their experience and outcomes – at the heart of decision-making”

Ms. Herta Adam,  
European Commission



# SUMMARY OF KEY FINDINGS

---



## 1. VBHC can be realized through common enablers in diverse settings

The first section of this report explores learnings from various sessions revolving around the necessary building blocks and levers to set up VBHC models. Case studies illustrate key learnings and best practices on VBHC approaches.

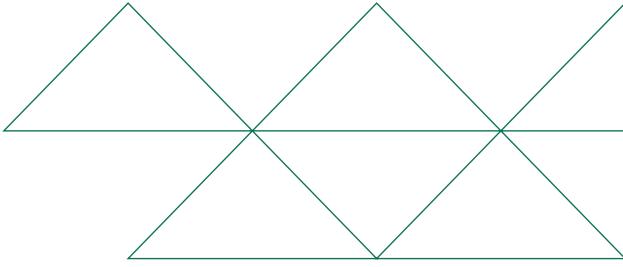
### A. VBHC approaches introduce innovative solutions to transform health systems to achieve greater value and sustainability

According to Prof. Rifat Atun, Professor of Global Health Systems at Harvard University, current health systems are under pressure because of a coalescence of several fundamental contextual drivers that pose threats, including rapid population ageing, rising burden of chronic illnesses, higher patient expectations, fiscal constraints on governments due to economic downturns. This is against a backdrop of an ever-increasing innovation in new health technologies, diagnostics and medicines which are not optimally harnessed to improve system performance.

Worldwide, health systems are struggling to achieve desired levels of effectiveness, efficiency, equity and responsiveness that meet user expectations. This is because health systems are failing to innovate because of:

- (i) Innovation misalignment: There is robust ‘delivery of innovations’, such as new diagnostics, health technologies and medicines, but there is a failure in the ‘innovation in delivery’, with few fundamental improvements in healthcare service delivery models which remain archaic.
- (ii) Policy misalignment: Innovation is encouraged for by industrial policies but their adoption and scale-up is constrained by health policies





In his presentation, Prof. Atun explained how health systems have historically transitioned from one model to another over time: from a model with structural focus, where payments followed infrastructures (e.g. hospitals), to a more functional focus, in which payments follow activities. However, we are currently observing a new fundamental shift towards value, and the many practical examples shared during the event are the best examples of this trend. In this model, payments follow value, with better health outcomes for individuals or populations, as exemplified by VBHC approaches.



**“Everything is new, and we do not have off-the-shelf solutions. There is no such thing as failure, it is a learning experience”**

Prof. Rifat Atun,  
Harvard University

According to Prof. Atun, VBHC is underpinned by four major principles: transparency, optimization of cost and outcomes, shared accountability, and shared risk and reward. In practice VBHC models include several core critical components. The first of these is ‘digital data systems’ and analytic capability that enable pooling and application of data to measure costs, processes and outcomes. The second is ‘stratification’ or ‘categorization’ of population groups according to their characteristics to ensure better understanding of needs and the development of targeted solutions. The third is ‘risk-adjusted bundled care’, which brings together a targeted set of interventions across the care continuum for populations with different levels of risk of illness.

The fourth component is the ‘integrated care’ across the care continuum, enabled by ‘integrated care pathways’ and integrated provider networks that ensure seamless care. An integrated care pathway ideally contains the entire patient journey for a specific disease, from prevention, detection, treatment, monitoring to rehabilitation (Figure 2). The fifth component is ‘outcome based payment models’ that incentivize achievement of better outcomes and lowering of costs. The sixth and often overlooked crucial component is ‘behavior change’ in policymakers, payers, healthcare providers and health service users that creates a conducive environment to challenge the status quo and encourage the development and scale-up of VBHC solutions to address the current weaknesses in health systems.



**“There is no shortage of innovation, but they are in pockets. We need to scale innovation to create impact”**

Ms. Herta Adam,  
European Commission

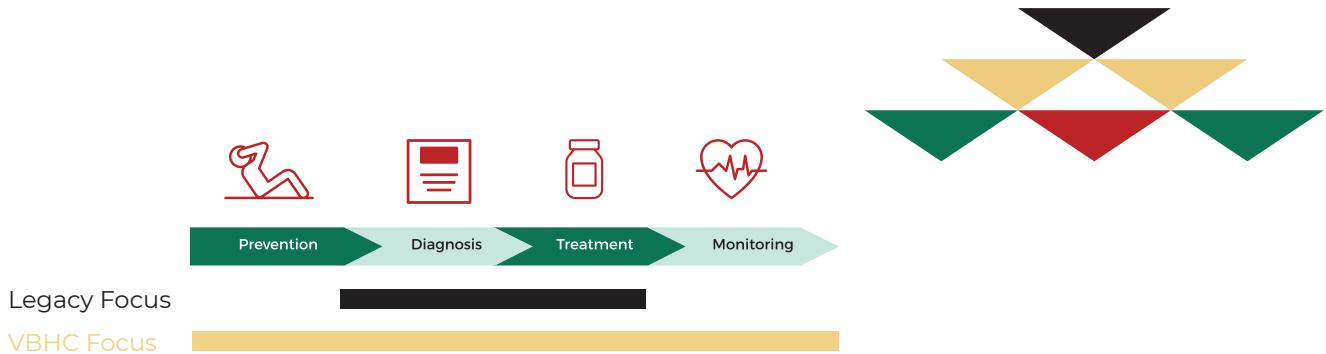


Figure 2: Integrated Care Pathways

Digital systems are a critical ingredient that connects these components to enable the development of person centered integrated care delivery models aimed at achieving better patient reported outcomes and creation of greater value, as illustrated by case study [1]: DigiPROM at Charite Berlin.

### Case study [1]: DigiPROM at Charite Berlin

**Situation:** The Federal Ministry of Health, Germany wanted to study the feasibility of patient-reported outcome measures (PROMs) in German hospitals.

**Ambition:** Testing digitalized PROMs for back pain-related interventions and exploring DigiPROM as a concept for standardization across Germany. Additionally, this pilot tests the technical feasibility to combine clinical data with PROMs.

**Outcome:** Patients benefited from improved treatment due to quality transparency and improvement.

### Case study [2]: Ayushman Bharat

**Situation:** The Indian government strives towards UHC for its population to address urging issues such as the increasing burden of non-communicable diseases and rising healthcare costs.

**Ambition:** In 2017, the Ayushman Bharat program was launched. This program rests on two main pillars, AB-HWCs and PMJAY. AB-HWCs, Ayushman Bharat Health and Wellness Centers, provide primary care to all citizens for an initially limited selection of health services. PMJAY, Pradhan Mantri Jan Arogya Yojana, aims to prevent excessive health expenditures for the 40% poorest for secondary and tertiary health care services.

**Outcome:** To date, 27,923 AB-HWCs have been transformed across the country and provided treatment to 11.3m. people for hypertension, 5.7m. for diabetes and 9.2m. women screened for breast cancer. To date, approx. 20,000 hospitals participate in PMJAY and 7.5m. patients were treated under this cover worth USD 1.8 bn.



With a focus on outcomes, VBHC considers the whole patient journey, including disease prevention and monitoring of health. This contrasts with legacy systems that mainly focus on diagnosis and treatments, driven by their focus on reimbursement by activity (e.g. fee-for-service, and activity-based payment models)

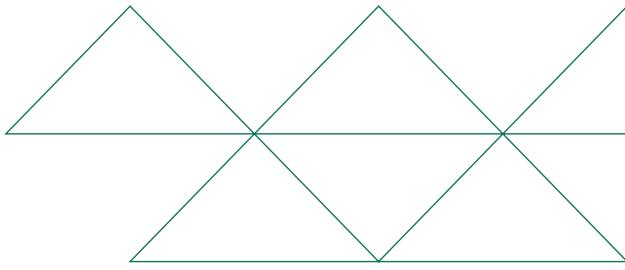
Focusing the care pathways only on the direct delivery of clinical care would be too narrow an approach in achieving value. Around 80% of the factors that determine health outcomes lie not within healthcare services but include social-determinants of health, as Mr. Lav Agarwal, the Joint Secretary, Indian Ministry of Health & Family Welfare, points out. These factors include nutrition, sanitation and water access, air pollution, physical activity, and among others consumption of alcohol and tobacco. That is why the Indian government has acted and initiated programs aimed at educating its population and promoting healthier lifestyles. Such programs include “Fit India Movement” and “Eat Right India.” Those programs are part of a larger national initiative, Ayushman Bharat: “Bless India with long healthy life” in Hindi, which aims to provide UHC in primary care, based on VBHC principles (case study [2]: Ayushman Bharat).

The delegation from Australia shared a case study from their recent reforms on activity-based funding (ABF) that aimed to achieve the following:

- ▶ Improving access to services for patients
- ▶ Increasing the efficiency of public hospitals
- ▶ Improving the transparency and sustainability of public hospital funding
- ▶ The development and implementation of funding and pricing approaches for safety and quality.

As part of these reforms, the Independent Hospital Pricing Authority (IHPA) was established to determine the National Efficient Price, and set up the underlying infrastructure to support ABF, such as classifications, data specifications, costing and pricing. (Case study [3]: Pricing Framework for Australian Public Hospitals) IHPA’s decisions on these matters were detailed in the Pricing Framework for Australian Public Hospital Services 2017-18:

1. No funding for a public hospital episode including a sentinel event, applying to all relevant episodes of care in all hospitals
2. Reduced funding level for all Hospital Acquired Complications, to reflect the additional cost of a hospital admission with a hospital acquired complication
3. Undertake further public consultation to inform a future pricing and funding approach in relation to avoidable hospital readmissions, based on a set of definitions to be developed by the Australian Commission on Safety and Quality in Health Care.



### Case study [3]: Pricing Framework for Australian Public Hospitals

Ambition: to improve Australians' health outcomes and decrease avoidable demand for public hospital services.

Outcome: Whilst this reform is still in the early stages of implementation, there is evidence that clinicians and hospital managers are using the pricing signal to undertake significant work to improve the rate of occurrence of HACs across the system.

### B. An enabler for the successful delivery of VBHC is the ability to identify and measure outcomes that matter most to individuals

During the event Ms. Francesca Colombo, Head of the OECD's Health Division, highlighted two noteworthy numbers: first, the average spending of 36 OECD member states for health care amounts to around 8.8% of GDP, with the United States leading the pack with 16.9%; second, some OECD countries (e.g. Switzerland and Germany), undertake six times more knee replacement operations per 100,000 inhabitants than others (e.g. Poland). This raises the questions of whether this spending and variance in elective surgery rates are due to over/undertreatment, or differing health needs in different contexts and if a country is getting value from the spending and health interventions.

Such questions can only be answered by measuring patients' wellbeing before and after the treatment. To measure the value of treatments in a comprehensive and standardized way, the OECD launched the Patient-Reported Indicators Surveys (PaRIS) initiative. This initiative aims to record and report the outcomes and experiences of patients undergoing various health treatments. Initial data sets collected by PaRIS include data regarding hip surgery and cancer, with data points that include; the extent of pain and when they are mobile after surgery, what health-related quality of life do patients have undergoing cancer therapy and to what extent do they experience anxiety and depression.

Ms. Colombo highlighted that when people are at the center of health care, we can really measure what matters to them and therefore bring benefits to them as well as healthcare providers and policymakers. For example, healthcare providers profit from a new source of feedback to improve the quality they

**"It is not about what is being done in health systems, it is about what health systems deliver to people and populations at large"**

Ms. Francesca Colombo, OECD



provide. On the other hand, policymakers profit from focusing their attention on areas that need legislative improvements to create a favorable environment for the development of person-centered healthcare delivery models.

The OECD is not alone in investing in programs that record and report the outcomes and experiences of patients undergoing various health treatments. Many countries such as Germany and Spain are designing systems for recording and measuring patient-reported outcomes in pilot projects. For example, Germany has had over 15 years of experience with patient-reported outcomes (Case study [1]: DigiPROM at Charite Berlin; Case study [4]: Martini Hospital in Hamburg). The collection of data on patient-reported outcomes has had important implications for the quality of treatment, as Dr. David Herr from the German Ministry of Health explained. The follow up of clinical outcomes provided valuable feedback to individual surgeons that actively started to learn from each other by sharing best practices. The use of patient-reported outcomes have enabled similar success in the case of prostate cancer in Spain (case study [5]: Patient-centric care in Cruces Hospital)

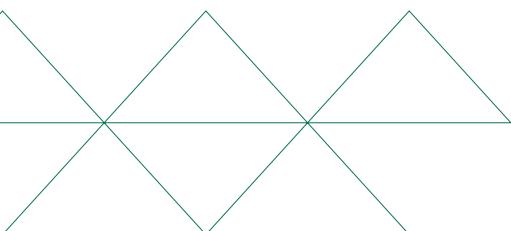
Lastly, to facilitate measurement of outcomes and patient experience, new data tools and analytic capability are currently being developed, which are discussed later in this paper.

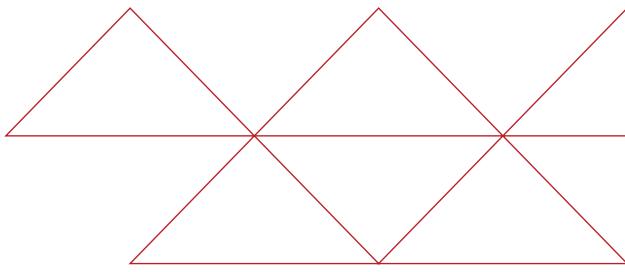
### Case study [4]: Martini Hospital in Hamburg

**Situation:** The Martini hospital, specialized in high volume radical prostatectomy introduced patient-reported outcomes collection.

**Ambition:** Recording systematically the clinical outcome of patients after one week, six months, and then yearly.

**Outcome:** Patient-reported outcomes provided valuable feedback to individual surgeons and allowed best practice sharing, raising the quality of clinical intervention.





### Case study [5]: Patient-centric care in Cruces Hospital

Situation: The Cruces Hospital in Spain deploys the guidelines of the International Consortium for Health Outcomes Measurement (ICHOM) for a selection of candidate diseases. One of them is prostate cancer.

Ambition: Creating a more patient-centric approach by following the guidelines from ICHOM. These guidelines include the collection of standardized data sets concerning clinical parameters as well as information reported by patients.

Outcome: In the case of prostate cancer, symptoms such as urinary incontinence were significantly reduced after treatment, along with decreasing costs. The initiative is interesting due to the long history of structured recording of the clinical data and PROMs in the Basque health system.

## C. Non-financial incentives and factors impacting the success of VBHC

The panel discussions revealed that money is only one lever in an inventory of incentives to drive the transformation of health systems towards VBHC. Recalling that change is driven by people, Dr. Omar Alshanqeety, CEO of the Program for Health Assurance and Purchasing in Saudi Arabia, illustrated that purpose, fulfillment and enjoyment are also incentives that people long for in their work. Addressing the intrinsic motivation of people is key, summarized Dr. Derrick Heng, Group Director of Public Health from the Singaporean Ministry of Health.

Recognition for achievements can also be a powerful incentive: the representative from the Russian Ministry of Health, Prof. Lyalya Gabbasova, Assistant to the Minister of Health, highlighted that best practice primary care facilities in Russia are awarded special recognition and status, and to date more than 3,000 facilities have received this status.

People need to feel empowered and enabled by providing them the right tools. Additionally, health professionals and patients should be empowered to take ownership of their decision making. This links back to motivating people by allowing them to change the system, as it was emphasized by Mr. Agarwal from the Indian Ministry of Health & Family Welfare. He also raised the important point of educating consumers, not only current patients, and taking them along on the journey of health system transformation.

**“Finance is necessary, but not sufficient to change behavior”**

Dr. Omar Alshanqeety, Program for Health Assurance and Purchasing, Saudi Arabia

## D. VBHC involves development of new data tools and analytic capabilities

Data are available in vast quantities, and this holds true in the context of health care. However, these data should not only be collected but also connected, as agreed by virtually all the speakers who were present at the conference. Only by linkage of available data, can one readily leverage advanced analytics to derive genuine and novel insights for improving health care. Microsoft's MEA Regional Industry Lead for Health and Life Sciences, Mr. Mohammed Saleh identified five major categories of health data:

- ▶ Clinical (e.g. electronic medical records [EMRs], images, scans)
- ▶ Pharma and life sciences (e.g. clinical trials, -omics)
- ▶ Patient and citizen (e.g. purchasing data)
- ▶ Claims and cost (e.g. claim requests, prices)
- ▶ Geo/social/environmental (e.g. social service data)

Most of the data exist for every patient today but the data sources cannot talk to each other. Today, we have a system of record, e.g. Electronic Medical Records (EMRs), with little analytics and connections to other data sets. Pushing the connectivity and exchange of data and adding analytical capabilities, systems of Artificial Intelligence (AI) can be created. Such systems can cross-analyze large amounts of data in real-time and perform prescriptive analytics (Case study [6]: Ochsner Health System).

To enable such technologies, it is important to share comprehensive high-quality data sets among institutes, entities and across borders. In interviews with the organizers of the event, both the representatives from the OECD and the World Economic Forum (WEF) called for better global convergence and interoperability of digital systems and outcome measurements.

**“It is not just good enough to collect data, there are oceans of data. We need analytics that generate intelligence ”**

Prof. Rifat Atun,  
Harvard University

**“It’s not about integrating data, it’s about connecting data”**

**“From a technology perspective the tools are there. The open question is governance, and this is the big issue nowadays. Who owns the data?”**

Mr. Mohammed Saleh,  
Microsoft



## Case study [6]: Ochsner Health System

Situation: Physicians supervise many patients and need to split their time among those patients. Cardiac arrests in patients can occur and are life-threatening without warning signs perceivable by treating physicians.

Ambition: Predict cardiac arrest before it happens by reading out vitals every minute and having them analyzed and processed by machine learning algorithms. If the software detects suspicious signals it will alert a physician preemptively.

Outcome: During a 90-day pilot, the number of patients suffering a cardiac or respiratory arrest was reduced by 44%, mortality by cardiac arrest was eliminated on the floor during the trial.

Mr. Agarwal from the Indian Ministry of Health & Family Welfare showcased that creating a unique medical ID on a robust IT platform is pivotal to ensure interoperability as:

- ▶ It will allow information and feedback flow across primary, secondary and tertiary healthcare by mapping of facilities and resources at every level of care
- ▶ It enhances trust and accountability due to simplicity and ease of use
- ▶ It allows robust fraud detection by developing an integrated fraud and abuse detection system

Dr. Heng from the Singaporean Ministry of Health mentioned that by collecting and analyzing clinical quality and cost data, one cannot only identify opportunities for improvements but also determine best practices for enhancing value.

A survey of the event participants revealed that one third of the respondents thought co-production of solutions by different stakeholders the most important enabler, but 44% thought consulting widely, challenging existing practice, co-production of solutions and the creation of an ecosystem for innovation were all equally important (Figure 3).

“What we need to do is to create a standard for interoperability that is applicable in different realities. It needs to be focused on outcomes.”

Mr. Lucas Scherdel, WEF

“There is a strong impetus to extract more value from our health care system to ensure sustainability”

Dr. Derrick Heng,  
Ministry of Health, Singapore

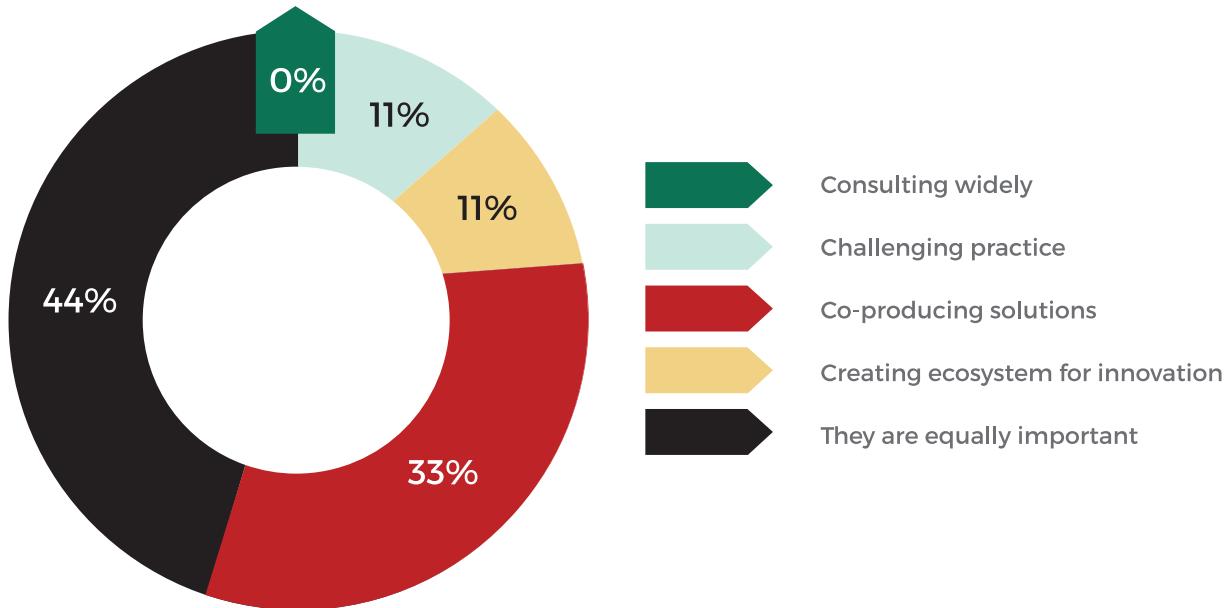


Figure 3: Event Audience Poll. Which is the most important VBHC enabler?

## II. Collaborations and knowledge transfer between organizations and countries

This section explores key learnings from insightful presentations and panel discussions on the critical success factors and those hindering the establishment of VBHC models.

### E. VBHC can be applied and have positive impact at different scales

There is no ‘boilerplate’ solution that countries can simply pick up and apply unchallenged locally. During the meeting a variety of pilots, initiatives and international collaborations were presented. All the examples were guided by trust between the involved parties, transparency and alignment on collected data, focus on solutions rather than procedures, novel reimbursement models, a shift in mindset of all involved stakeholders, and patient centricity.

The presence of multiple examples across different geographical scales provides a proof-of-concept that VBHC approaches can be adapted, applied and scaled-up globally in different realities and scopes. Panelists at the conference were positive that the philosophy of VBHC is now supported by concrete examples from different geographies and sizes.

The acceleration of the introduction and

“In the past we talked a lot about VBHC, but we had no actions. We had those actions in the last years”

“When [VBHC] was defined it was more a doctrine, now it is much more practical because we are working with it. We understand now what we can do with it and what not”

Mr. Erik Jan Wilhelm, Zilveren Kruis

adoption of different VBHC approaches has happened thanks to public and private initiatives and partnerships at varied scales, such as the partnerships between Roche and The Capital Region in Denmark or Medtronic with the Lehigh Valley Health Network. Or partnerships that require government commitment at the region or country level, such as in Italy and Saudi Arabia, and investments in programs by

large international organizations at the international scale.

As an example of a countrywide program, involving many stakeholders, are UK initiatives with the aim to measure variability in the delivery of care. As described by Ms. Rose Willis, Deputy Head of Provider Efficiency at the UK Department of Health and Social Care, a large volume of inefficient spending in the system can be prevented by measuring and communicating variability in care and clinical practice, e.g. in hospitals. The measures of variability were developed in collaboration with clinicians to whom they will apply. £2.9bn has been saved so far by this initiative.

**“You cannot scale solutions ‘as is’, each solution is different”**

Mr.Said Haddad, Johnson & Johnson



On the interface between the country and international levels, panelists presented first international collaborations across country borders, for example the collaboration between a Dutch payer and a clinic in Germany for prostate cancer surgeries (Zilveren Kruis in the Netherlands and the Martini Clinic in Hamburg), or the innovative shared value-driven procurement by Catalonia in Spain and in the UK for pacemakers.



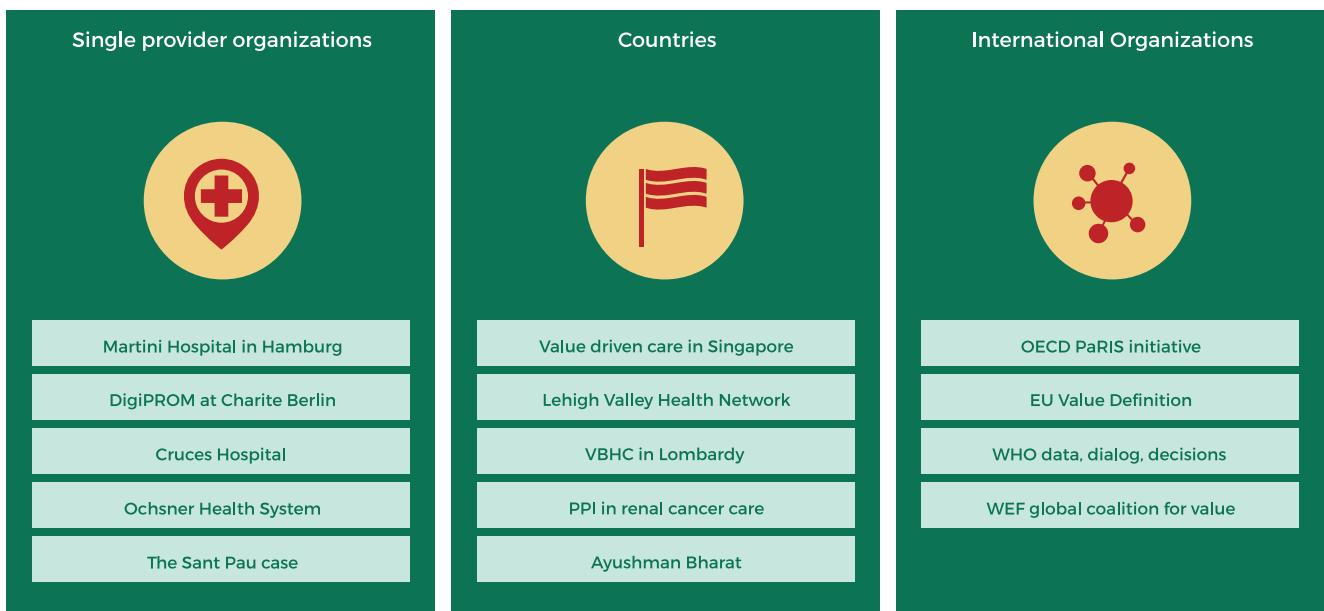


Figure 4: Some of the initiatives, pilots, and case studies discussed during the G20 side event on VBHC, categorized by geography and type

#### F. Reciprocity is key to successful collaborations

Successful VBHC pilots which are subsequently extended for broader implementation require strong ties and goal alignments with collaborators. Collaboration between patients, physicians, and organizations need to be mutually beneficial to create strong enough incentives for all concerned to follow through and generate a necessary level of trust.

To create this trust and special relationship, it is important to ascertain what VBHC means to each party. VBHC means different things to different people, for example better outcomes, better efficiencies, or better financials. The knowledge of context is instrumental to align on what the partners want to achieve by the use of VBHC approaches.

Mr. Said Haddad, the VP of Ethicon EMEA for Johnson & Johnson, called for a value based model of procurement. Traditionally, stakeholders oppose each other when negotiating prices. The purchaser wants to obtain the lowest possible price whereas the vendor wants the opposite. To overcome the fixation on price as the key decision criteria, requires a shift in the mindset – moving away from price and towards value. Interestingly, 70% of procurement in

“Partnership is not a noun, it is a verb. You have to work on it”

Prof. Rifat Atun,  
Harvard University

Europe is done through tenders with a major focus on price. In the Middle East, Mr. Haddad explained, it's even higher at 80-85%.

Mr. Ramon Maspons, the Chief Innovation Officer from the Catalonian Ministry of Health, shared a similar view. He described the need to transition to value based procurement as more and more innovations and solutions that incorporate innovative technologies, devices and medicines developed and more funds are needed to procure these innovations.

There are 22 value based projects currently operational in Catalonia. In one of the pilots, the Catalonian Ministry of Health procured an automated implantable cardioverter defibrillator for Sant Pau hospital (Case study [7]: The Sant Pau case). This defibrillator allowed remote monitoring and included cardiac re-synchronization, adding another layer of care for patients. Patient outcome and wellbeing improved, hospital productivity rose and their overall spending was reduced while the vendor made money. This was achieved because procurement was not of the product alone, but an entire solution; the remote monitoring and maintenance of each device was done by the manufacturer, reducing hospital visits by the patients, and both sides had the common aim of lowering mortality as an incentive.

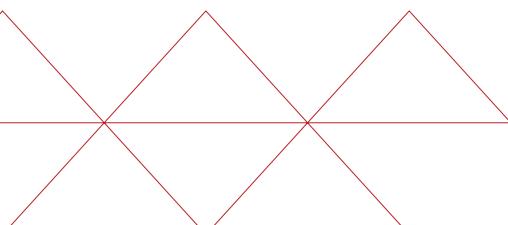


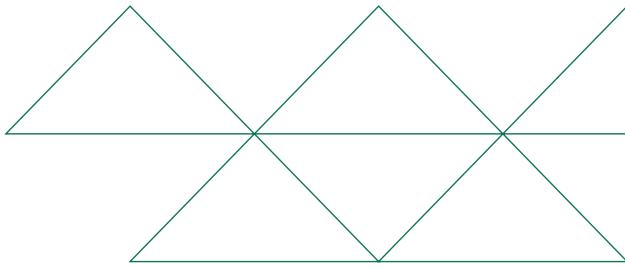
“We are not buying products anymore, we are buying solutions. Using procurement as a trigger for change”

Prof. Rifat Atun,  
Harvard University

“Never before was there so much innovation in the funnel, never before so little money for adopting innovation”

Ramon Maspons, Catalonian Ministry of Health





### Case study [7]: The Sant Pau case

Situation: The Catalan Ministry of Health, together with the Hospital de la Santa Creu i Sant Pau piloted a new approach to treat patients with arrhythmias (abnormal heartbeats)

Ambition: Comprehensive treatment of patients with automated implantable cardioverter defibrillator (AICD) including cardiac re-synchronization. This approach was designed to reduce follow up visits, introduce remote monitoring of patients, and reduce costs by including health outcomes.

Outcome: Quality of life for patients improved drastically. There was a reduction in in-office visits by ca. 10% and reduction of inappropriate shocks per patient by ca. 66%.

Mr. Lars Dahl Allerup, New Business Development Manager from The Capital Region of Denmark, concurred that price should not be the most important criterion in procurement. Moreover, he raised the question if providers of care really knew what patients want. What really matters to the specific patient? The answer for Mr. Allerup is obvious: ask the patient and then center health care around patients and their needs and wellbeing (Case study [8]: Public-private partnership (PPP) for a new way to treat renal cancer).

### Case study [8]: Public-private partnership (PPP) for a new way to treat renal cancer

Situation: The Capital Region of Denmark and Roche Pharma started a public-private partnership for patients with non-clear celled renal cancer.

Ambition: Tailoring the treatment to the patient's need and thereby increasing patient value overall. This will be achieved by collecting data on patient-reported outcomes and real-world treatment data.

Outcome: First patient treatment will start in February 2020.



Another example of adapting the mentality of achieving greater value for money in health systems was provided by Singapore. The Singaporean Ministry of Health has initiated a comprehensive health care transformation process that rests on three pillars:

- ▶ Value driven care
- ▶ Bundled payments
- ▶ Health technology assessment & value based pricing

The first pillar, value driven care, is implemented through a major initiative in Singapore currently focusing on 17 conditions treated in an inpatient setting, with the aim to improve outcomes and lowering costs. More details of the value driven care initiative are provided in case study [9].

### Case study [9]: Value driven care approach in Singapore

**Situation:** In 2018, the Singaporean Ministry of Health started a program for value driven care. This program covers inpatient treatments in all public health care institutions for a collection of 17 conditions. These conditions include Caesarean section, total hip replacement and ischemic stroke.

**Ambition:** Maximizing the value of treatment by improving the outcomes while lowering the costs. This can be achieved by generating learnings from patient outcomes and cost data.

**Outcome:** So far, there are indications for improving value at the national level. One of the next steps is to include patient-reported outcome measurements (PROMs).

The second pillar, bundled payments (i.e. single price for all services required during a patient's entire episode of care), present an effective way to cap the costs of treatment: payments are based on the diagnosed condition and not the volume of procedures or the hours spent by a physician managing a case. Singapore plans to introduce this bundled payment system by 2021.

For the third pillar, the Agency for Care Effectiveness (ACE) was established in 2015. The ACE conducts health technology assessments (HTA) to evaluate health technologies in terms of clinical and cost effectiveness. HTA assessment agencies are widespread in Europe, North America and Japan, and Singapore learned from those countries. Moreover, ACE also engages in price negotiations with manufacturers to ascertain value based pricing. As a striking example, Dr. Heng mentioned a 50% price discount on a new medicine for treating Hepatitis C.



Singapore's bundled payment approach is increasingly used elsewhere. Dr. Agnès Soucat, Director for Health System Governance and Financing from the World Health Organization, explained that bundling and blending different payment methods is a prudent way forward in pursuit of improving quality. Estonia, a pioneer of bundling payments in primary health care, has had such a system since the 2000s. In 2011, their mix consisted of a basic allowance, capitation (predefined payments per person and a certain period), fee for service and performance based payments. A prudent mix of payments leverages the advantages of each kind while minimizing their caveats.

Panelists agreed that only when stakeholders join forces and organizations from the public, private, and third sector realign their capabilities can a larger scale VBHC implementation be feasible.

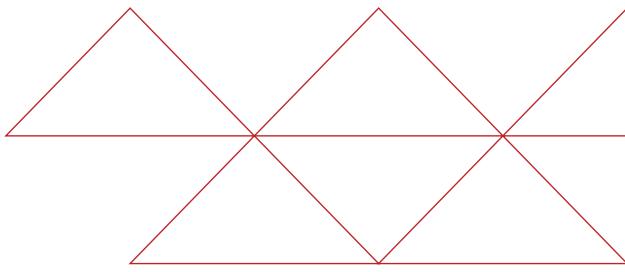
#### G. Large scale VBHC projects only succeed when roadblocks are removed

Italy is currently rolling out a successful VBHC project to encompass the whole country. The Italian government already provides UHC to its entire population, irrespective of any individual and social condition, and it is financed by a solidarity system. To further improve patient experience and reduce costs, they have successfully tested VBHC in pilots (Case study [10]: Lombardy). Now, Italy is striving to implement the concept of VBHC universally. For this to become a reality, Dr. Giuseppe Ruocco, Secretary General and Chief Medical Officer at the Italian Ministry of Health stressed that VBHC needs to be fully embedded into the Italian health system and society. For Italy, this strategy rests on an array of initiatives, among them:

- ▶ The creation of a monitoring system to assess the burden of disease in two dimensions: health implications and required investments
- ▶ The measurement of value created by organizational processes and resource consumption

Concrete measures that were taken by the government are the creation of

- ▶ An e-Health National Plan, which provides health to patients outside of the hospital setting
- ▶ The new Health Pact, coordinating the reorganization of territorial health care by newly developed collaborative organization network and establishing pharmacies as first point of contact in the territories
- ▶ The National Prevention Plan, promoting better and healthier lifestyles and improving food safety. The National Prevention Plan also promotes health literacy across the population and better training for health professionals.



## Case study [10]: Lombardy

Situation: In 2011, Lombardy was one of the first in regions in Europe to pilot the concept of the VBHC for treating patients with chronic diseases.

Ambition: Replacing the hospital-centric and fragmented system with a system that leverages collaboration between the various health actors and establishing a single take-over fee. Furthermore, the care of chronic patients should be shifted more to a home-based setting with the support of telemedicine.

Outcome: Successful projects tested in the initial phase were added to an initiative called Nuove Reti Sanitarie (NRS), which aims to make those innovative approaches a common practice in care delivery.

As described earlier in this report, India launched a similarly comprehensive and disruptive health care project to benefit its population (Case study [2]: Ayushman Bharat). A cornerstone of their initiative is that payment incentives are aligned with the outcomes of treatments, e.g. pay for performance.

These nation-wide improvements in health care would have not been possible without the willingness of legislators to allow disruption in health care. Legislators need to introduce reforms to support VBHC models and cut down on regulatory, institutional and legal VBHC barriers, as pinpointed by Mr. Christian Howell, the vice president of Medtronic VBHC partnerships within the Americas region. Equally important are ways to cultivate innovations in an ecosystem of aligned stakeholders (Case study [11]: Partnership Lehigh Valley Health Network and Medtronic). Such an ecosystem, Mr. Howell explained, is an environment that is mutually beneficial because all stakeholders agree on critical components. This requires stakeholders to agree on a strategic framework, governance model and operating model. In practice this means that the provider's and manufacturer's teams need to speak the same language, be aligned on what is measured, and aligned on how conflicts are resolved. Furthermore, the legal framework needs to be discussed, and data and information system infrastructure built. Once the cornerstones of agreement and the model have been set, the clinical intervention process can be initiated. This intervention process can be split into three stages:

- ▶ Benchmarking and design the intervention: Defining the opportunity of intervention, the measurement of the current state, the development of value models and the design and building of the clinical intervention approach
- ▶ Creation of compliance mechanisms and business model Kick-off and improvements: Taking the new clinical intervention live and establishing continuous measurements and monitoring of the impact of the

interventions allow for data-driven amendments of the intervention. For Mr. Howell, such an ecosystem between provider, payer and producer needs to be in place before any clinical intervention starts in a specific location, e.g. a hospital or provider network.

### Case study [11]: Partnership Lehigh Valley Health Network and Medtronic

Situation: Lehigh Valley health network and Medtronic agreed on a 5-year strategic partnership. This partnership serves to create a mutually beneficial environment to deliver VBHC. Indications of interest include, among others, stroke, type I diabetes, and heart failure.

Ambition: Improving health, care and satisfaction of patients while reducing costs. This should be achieved by the co-creation of new applications, health care platforms, beta-testing of new ideas and the sharing of data and an aligned governance.

Outcome: It was a win-win for both parties. The health care system benefited from a reduction in care variation while complying with the care pathway, better health outcomes and lower cost of care. Medtronic profited from increased revenue, new business opportunities and new expert knowledge in health care.

What was clear from the examples presented at the event was that VBHC models require an open mind for new approaches to traditional problems and the establishment of deeper relationships within healthcare stakeholders such as the development of innovative solutions rather than sale of products by manufacturers, which requires better alignment with the needs of providers and payers. Mr. Haddad from Johnson & Johnson summarized this effectively; “To create viable VBHC systems, we need:

- ▶ Mindset change of all stakeholders including payers, patients, providers and governments
- ▶ Trust in the system between stakeholders, they should take risk and experiment together
- ▶ Flexibility in the system; where hospitals at the community level should be given some autonomy to enter new kind of agreements, without having to wait for the respective health care system as a whole to change”

Mr. Allerup from The Capital Region of Denmark emphasized that education and training of stakeholders are instrumental and should not be neglected. In this context, not only the education of citizens and patients but especially that of the workforce needs to be improved. Dr. Omar Alshanqeety from the Program for



Health Assurance and Purchasing in Saudi Arabia agreed and pointed out that the new way of delivering care is different from the old way care has been delivered. This necessitates a different understanding, a new mindset and new skills.

According to Ms. Colombo from the OECD we need to rethink fundamentally the training of health workers. Ms. Colombo raised the question of how to teach skills that allow professionals to accelerate in a rapidly changing health environment. They will need to learn how to coordinate in such environments and demonstrate an understanding of how patients make decisions.

**“We need different medical skills for the 21st century.”**

Ms. Francesca Colombo, OECD

#### H. Practical learning is transferable within and across countries

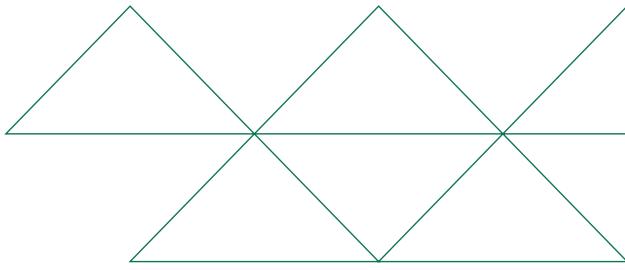
Throughout the event there was a strong agreement that this was the first global event where practical learning on global applications of VBHC models was shared. Previously, similar conferences focused mainly on the theoretical aspects of value driven health care models, lacked the richness of examples and were not global in scope.

The richness and diversity of the shared examples were apparent to all participants, and there was a shared consensus that the dialogue between stakeholders across geographies and organizations would need to continue to drive forward in health systems the transformation towards VBHC.

Everybody agreed that practical examples from countries cannot be transferred ‘as-is’ without an understanding of the different contexts. The stakeholders need an understanding of which learnings are transferrable to different contexts, and which are context agnostic. Such understanding is necessary to accelerate the implementation of VBHC both in similar and diverse situations. One example is the VBHC model implemented by Medtronic in collaboration with several providers. The first implementation took 18 months as it required in-depth experimentation and learning across the Medtronic

**“This is a journey that several countries are undertaking, and there is a huge opportunity in co learning.”**

Dr. Omar Alshanqeety,  
Program for Health Assurance  
and Purchasing, Saudi Arabia



organization. Thanks to this experience, the latest project was implemented in as little as one month.

The need for international experimentation and knowledge sharing was reinforced by Dr. Soucat, from the WHO, whom suggested to establish international experimentation, in which new implementations of VBHC would introduce controlled changes in the models chosen in order to comparatively test hypotheses. Such experiments already exist; however, it is hard to currently draw conclusions due to limited comparability.

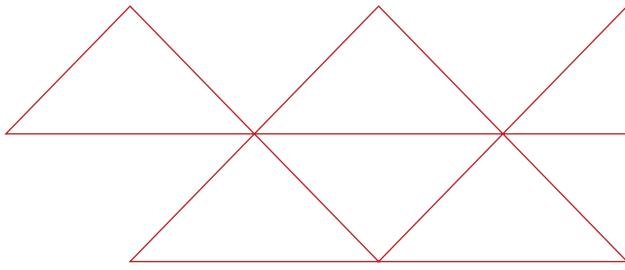
Another example of an international organization promoting international learning on VBHC is the WEF. To foster international learning, the WEF set up the Global Coalition for Value in Healthcare to encourage Public-Private Partnerships on VBHC. This platform partners with various stakeholders in health to co-design and test innovative concepts promoting patient-centered health care. Partners include universities, research institutes, management consultancies and many more. According to Mr. Lucas Scherdel from WEF, such programs have shown signs of success. In his view, what is needed now, is a global organization that will bundle all the efforts and takes an active lead on global learning on and implementation of VBHC, especially around the IT and data topic.

Dr. Chintan Maru, Founder of Leapfrog to Value at The Global Development Incubator, emphasized that low-income and middle-income Countries (LMICs) provide important VBHC lessons for all countries. This may come as a surprise, but can be pinpointed on three aspects that promote innovation in LMICs:

- ▶ Experiments in those geographies are not restricted by legacy health systems. They have little infrastructure and do not suffer from structural rigidness seen in developed countries. This rigidity is driven by regulatory constraints and a medical education focused on knowledge acquisition and not agility
- ▶ LMICs, in contrast to high-income countries, have the political will and necessity to increase health care spending to increase access
- ▶ Innovation in LMICs is often driven by the ingenuity of the countries' poor populations. As a powerful example from the tech sector, he mentioned the rapid penetration of mobile payments in Africa, driven by the usage of prevalent mobile phones as a convenient payment vehicle.

To move forward with VBHC, LMICs need to further cultivate their own robust ecosystem for experimentation. There is no fixed blueprint for transferring concepts from high-income countries to LMIC. To further promote such experimentations, those realities will need the necessary risk capital, and Dr. Maru suggests that some bilateral development funds could be allocated for such purpose.

In line with Dr. Maru's findings, the WHO offers support for country decision makers



in a new online repository, the WHO compendium of innovative health technologies for low-resource settings launching in 2020. This repository will provide information on recommended interventions for therapeutic areas, type of services, age groups and so forth. Additionally, it will have guidelines for necessary investments and give orientation on a country specific level about costs and cost-effectiveness.

Furthermore, Ms. Herta Adam from the European Commission highlighted the Commission's support for countries in building strong, good quality and resilient health care systems. In 2019, they expanded its efforts by entering in a partnership program with the WHO to further improve health systems and promote UHC in over 100 countries.

#### I. Leveraging other sector learnings to improve the health care sector

The Event gathered valuable knowledge on the current state of the field. It translated theoretical frameworks into real-world examples from across the globe. Further knowledge sharing events can help foster the urgently required alignment across nations and other stakeholders.

Attendees at the Event and panelists suggested that future events may dedicate some time to welcome experts from other fields, industries and sectors that have successfully tackled similar issues facing health care today.

One frequently used comparison was re-iterated by Ms. Colombo from the OECD on the aspect of safety: in the aviation industry errors and incidents are transparently shared across the entire industry to prevent similar errors from happening again. According to Ms. Colombo, health care needs a different safety culture, where we do not panic on error, but value transparency.

Parallels to the tech industry were drawn by Mr. Howell from Medtronic. In the company's view, a platform in VBHC should work in a similar way like Uber connects service providers with the end-users. Both stakeholders are aligned on the same values, e.g. safe driving. This economy of trust needs to be governed:

- ▶ How we share data, e.g. Uber App, no sharing of cell phone numbers
- ▶ How to resolve disputes, e.g. exclusion of drivers with low ratings, reimbursement of fees to end-user in case of dissatisfaction
- ▶ How to measure outcomes, e.g. 5 star rating for drivers and passengers

Similarly, Mr. Bosch from the Catalan Ministry of Health, offered to the audience the parallelism between VBHC models and Spotify. Spotify disrupted the music industry. Traditionally, consumers used to pay by volume, paying a fee for service or buying a CD or single song from iTunes. This business model pivoted to a flat rate model in which users pay for value/outcome: value based reimbursement or flat rate for unlimited consumption of music.

The participants of the event agreed that it was a huge success and had the potential to lead to real change. Prof. Atun stated that this has been the first time that he has seen such rich experiences on VBHC shared, indicating that the field is really in the transition from theoretical frameworks toward real-world applications.

“We have an opportunity now to capture these experiences and share them globally”

Prof. Rifat Atun,  
Harvard University



## CONCLUSION and LOOKING AHEAD

---

Participants and panelists re-iterated the need to openly discuss and share their experiences and learnings. Furthermore, they urged for convergence and interoperability, especially on the IT and data & analytics dimensions. This discussion, they stressed, should involve all stakeholders in the health and care ecosystem.

The Event participants felt that further convergence and agreement was needed on the nomenclature and use of terms (Figure 5):

- ▶ How do we define value?
- ▶ How do we define platforms?
- ▶ How we define outcomes?

Prof. Atun closed his final remarks with the call for greater solidarity and sustainability in health systems to drive economic growth. VBHC provides an opportunity to build health systems that are better prepared for the future.

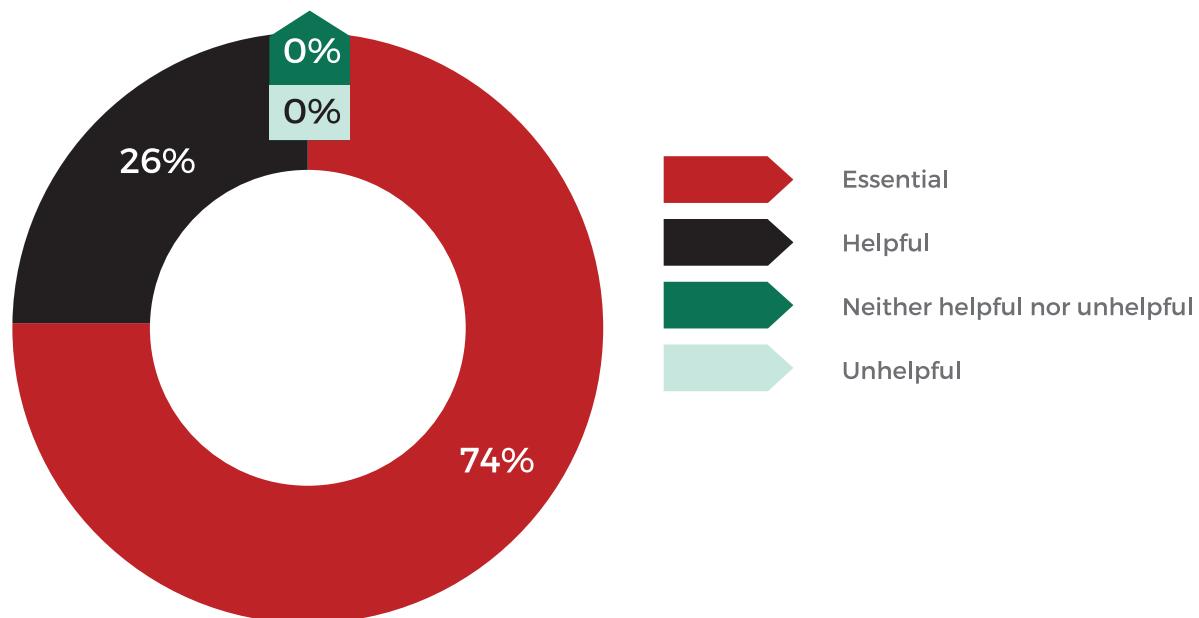


Figure 5: Event Audience Poll. How important is it to have a shared definition of what value means?

