

Chapter 6

Advancement of Efficiency Evaluation for Healthcare



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Abstract The objective of this chapter is to provide conceptual understandings of evaluation methods for healthcare and concrete illustrations in order to take stock of the advancements and applications on the subject. The chapter is divided in four sections: the first one sets the stage at a European level by evaluating healthcare system performance; the second goes back to the fundamental principles of methods

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of evaluation for healthcare; the third one follows with illustrations of patient-centred and person-centred methods of evaluation; and the last part moves forward with a reflection on intangibles and a proposition for a method of observation.

Keywords Efficiency evaluation · Methods · Person-centered · Value

6.1 Introduction

Nowadays, evaluation appears as a necessity. Yet, there is no consensus on what counts or what does not count as evaluation criteria. “What cannot be counted does not count” is a commonly heard sentence. But, is what is counted what matters the most? Evaluation traditionally means *conferring value to a process, person or organization*. The content of this “value” depends on underlying assumptions about what is valuable and the tool or technique used to evaluate.

In the healthcare sector, the cost-control rhetoric became prominent with the reference of decision-making processes. Health economics and managers use measurement tools to determine costs, benefits and what it is worth doing in healthcare organizations. Prices are supposed to reflect the value produced by one hospital or one clinic. Efficiency is understood as the result of these outputs. The purpose of health economic evaluation is to identify and sustain efficiency within the healthcare system because it influences decision-making processes and policy design [80]. Classic health economics balances ins and outs according to types of costs and benefits [18]: direct (resources use), indirect (patient’s time), and intangible (patient’s condition, pain). On a more systemic level, one may consider outcomes as a basis for evaluating a care process [71, 72]. However, we can all agree on the fact that mere cost-cutting is detrimental to care, there is still debate on the nature of outcomes we should investigate. For Porter, “what is not measured can’t be managed” [45]. This kind of formulation does not address chronic diseases: How to measure, not only the costs, but the added value of care for a person going through a long-term protocol? How can we achieve this when the healthcare sector is dominated by evidence-based medicine, a medicine built on measurable proofs and outcomes [8]?

Measuring tools are also not neutral. They do not measure pre-existing performance. They construct the very notion of performance. Performance, in turn, can be approached in a variety of ways: economic, organizational, social...the notion itself puts “competing values” into play [75]. Economic evaluation confers an undisputed value to care by breaking it down into technical components and matching them with single costs. Efficiency can be classically assessed through a number of indicators (readmission rate, mortality rate, morbidity rate, number of visits...). From this standpoint, the intangible part of care, relationships and acceptance, is left aside. Any numerical indicator hardly takes into account the relational component of care, which

can be much more complex to grasp [53]. Empathy, sensitivity to needs or relationship building are crucial but evanescent when it comes to talking numbers. What is valued by some patients can make others uncomfortable. For instance, talking about oneself is frowned upon in some cultures. Tak et al. [85] even found that if patients do not have all the information to evaluate the quality of care, this notion remains their main criteria of satisfaction, more so than explanation or listening skills. The value of care also depends on the values of the patient. How can we integrate their perspectives into evaluation of care given this ambiguity and heterogeneity?

The chapter is structured as follows. In the first part, an original cross-country analysis of healthcare systems performance, based on a dual efficiency/effectiveness model, sets the stage in the European context. The second part goes back to the fundamental principles of methods of evaluation in healthcare. Delivering value-added healthcare services is not insignificant in the choices of methods, indicators, factors and underlying concepts. The third part illustrates key advancements in evaluation methods such as patient and person-centered settings with results of effective interventions that are rooted in different health economics paradigms. The final section aims at moving forward and proposing a different method rooted in management research qualitative methods to take into account the intangibles of healthcare in evaluation paradigms.

6.2 General Overview of Healthcare Systems: What is at Stake. Cross-Country Evaluation of the Performance of Healthcare Systems in Europe

Since the early 2000s the European healthcare systems have been facing several challenges [66] including: (a) the increasing costs of healthcare; (b) the ageing of population associated with the rise of chronic diseases and the growing demand for healthcare; (c) the lack of equity in accessing healthcare services; (d) an uneven distribution of healthcare professionals and infrastructure assets across regions. However, the budget restrictions in the public sector which have occurred in the last decades, before the COVID-19 pandemic, have limited financial resources, jeopardizing the sustainability of national healthcare systems and the possibility to deliver high quality health care service and provide universal access. Hence, the need to deliver value-added healthcare services focusing on resource and cost efficiency and increasing health quality has become an important goal in the changing landscape of healthcare management in Europe. Indeed, healthcare consumes a large percentage of national budgets, and not all countries are able to get an acceptable value for their investment money. According to data available from the World Bank database [95], in 2018 Norway, Switzerland and the United States were the biggest spenders in healthcare in the world, respectively having a health expenditure per capita of (current US\$) \$8,239 (10.1% of GDP), \$9,871 (11.9% of GDP), and \$10,624,403 (16.9% of GDP). However, in the same year the healthcare systems in other countries were achieving

similar or even better results by spending far less. For instance, expenditure per capita was \$2,989 (8.7% of GDP) for Italy, \$3,323 (7.5% of GDP) for Israel, \$2,754 (9.0% of GDP) for Malta, and \$2,824 (4.5% of GDP) for Singapore respectively. Life expectancy in all these countries is between 82 and 84 years as in Norway and Switzerland, higher than in the United States, in which it is 79 years.

Notwithstanding some important factors like lifestyles, diet, pollution, etc. which affect life expectancy, the way healthcare services are delivered to the general population and the way that healthcare management systems are designed and implemented play a critical part. Both costs and performance of the national healthcare systems can be explained in terms of their design, organization, implementation and management. National healthcare systems differ between European countries because cultural norms, market regulations, policies, and history have shaped each of them. However, although there are differences in terms of infrastructure endowment, patient population size, fund allocation, and management settings, they face similar challenges and have common goals. Thus, assessing and comparing the performance of several national health care systems provides an opportunity for policy makers to determine how well the country healthcare system is performing relative to its international peers, understand how it works in order to identify good and bad practices, and finally find more effective approaches to achieve sustainability and better quality [63]. Identifying performance indicators and developing measurement frameworks have become an important concern of policy makers and scholars [1]. Both international agencies and academic scholars have proposed various sets of metrics, benchmarking tools, assessment guidelines, and performance evaluation techniques to help healthcare policy makers to monitor and evaluate the performance of the national health systems and conduct benchmarking studies both at the national and international level [97]. However, performance evaluation and benchmarking models are still far from being developed and capable to provide useful results in healthcare planning. Additionally, academic and industry literature reports evidence of diffused inefficiency in healthcare management in Europe, contributing to increases in health expenditure in the last decade [41, 65]. Furthermore, empirical evidence [56] indicates that high level of efficiency cannot be achieved without reducing quality or effectiveness of healthcare service provision due to potential trade-off between them. Thus, developing a performance framework and metrics that focus on the process that transforms resources into healthcare outcomes still remains an important topic for researchers and public policy makers.

The literature for the last two decades has found a huge number of publications focusing on the measurement of efficiency in the healthcare sector. However, there are relatively few studies that evaluated and compared efficiencies of healthcare systems at the country level [91]. Since the seminal study by the World Health Organization [96] on the efficiency of the health systems in 191 countries around the world, there has been a growing scholarly interest to develop performance metrics to assess and compare the national healthcare systems and to investigate determinants of either unacceptable or outstanding performance.

Certain studies are based on the utilization of individual performance indicators [33]. Such performance indicators are generally derived from publicly available

data [97]. Sometimes, individual performance indicators are combined together to obtain homogeneous groups of countries whose healthcare systems achieve comparable performance measurements along multiple dimensions [86]. Some studies rank country healthcare systems and identify determinants of efficiency by implementing various econometric models [3, 6, 25, 96].

Most studies use either parametric and non-parametric analytical techniques such as the Stochastic Frontier Analysis (SFA) or the Data Envelopment Analysis (DEA), in which the healthcare systems are modelled as decision-making units [28, 40]. It seems the DEA is preferable to evaluate efficiency due to a high number of advantages: it gives an opportunity to include in a model several inputs and outputs that allows estimating efficiency without calculation of a sole parameter of input or output; absence of necessity to choose the functional form of production function; it allows to analyse the efficiency in cases when it is difficult enough formally to explain relation between numerous inputs and outputs of a system; it enables to estimate the contribution of each of inputs to overall efficiency (or inefficiency) of the decision-making units and to estimate a level of inefficiency of each input; and besides an estimation of technical efficiency, it enables to estimate other kinds of efficiency, e.g. economic efficiency [34]. Hence it is apparently more commonly used to evaluate healthcare efficiency of healthcare. Because of this, Bhat [7] has adopted DEA to assess the influence of specific financial and institutional arrangements on national healthcare system efficiency in a sample containing 24 OECD countries. It was found that countries having public-contract and public-integrated based healthcare systems are more efficient than those having public-reimbursement based systems. Afonso and St Aubyn [2] performed two-stage DEA, estimating a semi-parametric model of the healthcare system in 30 OECD countries in 1995 and 2003. They computed conventional and bootstrapped efficiencies in the first stage and corrected these values in the second stage by considering the influence of non-discretionary variables such as GDP per head, education level, and health behaviour using Tobit regression. Results show that a large amount of inefficiency is related to variables that are beyond the government control. Gonzalez et al. [35] measured the technical and value efficiency of the health systems in 165 countries using data for 2004. They used data on healthy life expectancy and disability adjusted life years as health outcomes, and the amount of expenditure on health and education as inputs to the healthcare system. Findings reveal that high-income OECD countries have the highest efficiency indexes. Likewise, Varabyova and Schreyögg [91] compared the efficiency of the healthcare systems using an unbalanced panel data from OECD countries between 2000 and 2009. In particular, they used different model specifications performing two-step DEA and one-stage SFA and assessed internal and external validity of findings by means of the Spearman rank correlations. Their study shows that countries having higher healthcare expenditure per capita have on average a more efficient healthcare sector, while countries with higher income inequality have less efficient healthcare.

Hadad et al. [39] compared the healthcare system efficiency of 31 OECD countries utilizing various efficiency conceptualizations (conventional efficiency, super-efficiency, cross-efficiency) and two model specifications, one including inputs that are under management control and another incorporating inputs that are beyond

management control. The study provided ambiguous results. Kim and Kang [48] estimated the efficiency of the healthcare systems in a sample of 170 countries performing bootstrapped DEA. The sample was organized into four groups to obtain homogeneous sub-samples with respect to income. Scholars found that average efficiency in the high-income sub-sample was relatively high, but only a small number of the countries are able to manage their healthcare systems efficiently. De Cos and Moral-Benito [12] investigated the most important determinants of healthcare efficiency across 29 OECD countries estimating alternative measurements of efficiency performing DEA and SFA from 1997 to 2009. Their study provides empirical evidence that there are significant differences among countries with respect to the level of efficiency in healthcare services provision. Furthermore, there is a positive correlation between the implementation of policies aimed at increasing price regulation and the efficiency of the national healthcare system. Frogner et al. [27] measured healthcare efficiencies of a sample including 25 OECD countries between 1990 and 2010 using publicly available data. Three econometric approaches were adopted, i.e. country fixed effects, country and time fixed effect models, and SFA including a combination of control variables reflecting healthcare resources, behaviours, and economic end environmental contexts. The study shows that rankings are not robust due to different statistical approaches. The study by Kim et al. [49] estimated productivity changes in the healthcare systems of 30 national healthcare systems during 2002–2012. Scholars calculated the bootstrapped Malmquist index to analyse changes in productivity, efficiency and technology. They found that recent policy reforms in OECD have stimulated productivity growth for most countries (Fig. 6.1).

This literature review shows that scholars mostly focused on the measurement of one single index of healthcare system performance, i.e. the efficiency calculated as a ratio of a measure of the quality of life to the amount of health resource used. No effectiveness estimates are generally used in the analyses. This shortcoming has been eliminated by Lo Storto and Goncharuk [54], which suggested dual efficiency/effectiveness model for cross-country evaluating the performance of healthcare systems. Lo Storto-Goncharuk’s model uses DEA for presenting and comparing efficiency and effectiveness scores for every national healthcare system

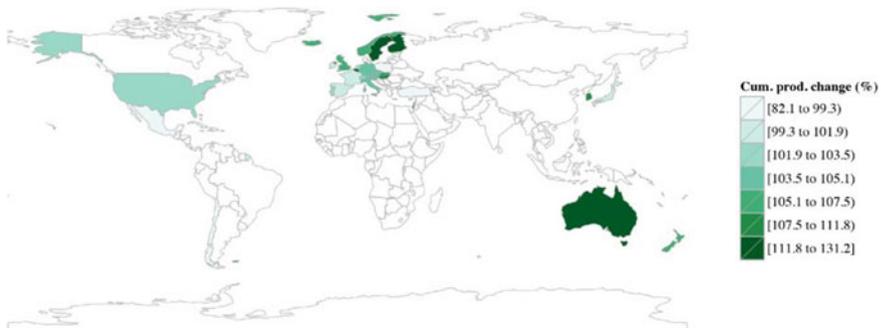


Fig. 6.1 Cumulative productivity growth, 2002–2012 (2002 = 100). *Source* Kim et al. [49]

Table 6.1 Inputs and outputs

| Code | Type | Description | Measuring |
|------|---------------|--|--------------|
| I1 | Input | Medical doctors (practicing) | No. of units |
| I2 | Input | Nurses, midwives, healthcare assistants (practicing) | No. of units |
| I3 | Input | Available beds in hospitals | No. of units |
| O1 | Output (bad) | Ratio of infant mortality (less than 1 year) to population | Percentage |
| O2 | Output (good) | Healthy life years in absolute value at birth (both males and females) | No. of years |
| O3 | Output (good) | Life expectancy in absolute value at birth (both males and females) | No. of years |
| O4 | Output (good) | population | No. of units |

Table 6.2 DEA models implemented

| | Index | Inputs | Outputs | Orientation |
|---------|--|------------|---------|-------------|
| Model 1 | Efficiency of the healthcare system | I1, I2, I3 | O4 | Input |
| Model 2 | Effectiveness of the healthcare system | O1 | O2, O3 | Output |

in two-dimensional space. Since this model requires only publicly available statistics (Table 6.1), it allows evaluation and comparison of the effectiveness and efficiency of healthcare systems in various countries, for example in European countries.

As Lo Storto and Goncharuk [54] have suggested, benchmarking analysis was used to implement two DEA models as illustrated in Table 6.2. For both models, constant returns to scale have been assumed.

Applying these two models for 32 European countries for 2011–2014 period, the authors found the most efficient healthcare systems in Europe (Irish, Polish and Portugal systems) and the most inefficient (Lithuania, Norway, Switzerland, Germany and Austria). Effectiveness proved to be more dynamic than efficiency. Between 2011 and 2014, two countries made fantastic breakthroughs in effectiveness of healthcare: Slovenia by over 100% and Cyprus by 200%. So, at the end of 2014 these countries had the relatively highest healthy life years and life expectation together with the lowest infant mortality.

Comparing the efficiency and effectiveness scores, Lo Storto and Goncharuk [54] identified a group of countries with the least successful healthcare systems. It included Romania, Ukraine and Bulgaria. It was concluded that these countries need to implement healthcare reforms aimed at reducing resource intensity and increasing the quality of medical services.

Given the somewhat outdated results of the study by Lo Storto and Goncharuk [54], we decided to update them and figure out whether there have been significant changes in the levels of relative performance of national health systems of the same 32 European countries.

In addition, we decided to refine the output O4 in model 1 (efficiency of the healthcare system), since we believe that the entire population is not a completely

appropriate output of the healthcare system work. Hence, we replaced it with the number of people with good or very good perceived health. These statistics with the data on three inputs of model 1 we got from Eurostat and State Statistics Service of Ukraine for 2017. The main statistics for 2011, 2014, and 2017 are described in Table 6.3.

The model1-cor. means the model for evaluating the efficiency of healthcare with changed output (number of people with good or very good perceived health). However, the model1 means the same model as in Lo Storto and Goncharuk [54].

The results of cross-country evaluations on the efficiency of 32 European healthcare systems for 2017 using model1 and model1-cor. can be seen at Fig. 6.2.

Our correction of the model 1 gave higher differences for efficiency scores of healthcare systems. Apparently, a noticeable lower efficiency scores from corrected model 1 for such countries as Estonia, Latvia, Lithuania, Portugal, and Ukraine reflect a lower percentage of people there with good or very good perceived health in comparison to the other European countries. In addition, according to the scores

Table 6.3 Main statistics relative to DEA models

| | 2011 | | 2014 | | 2017 | |
|--------|--------|--------|--------|--------|--------|------------|
| | Model1 | Model2 | Model1 | Model2 | Model1 | Model1-cor |
| Mean | 0.643 | 0.324 | 0.660 | 0.439 | 0.790 | 0.717 |
| St.dev | 0.154 | 0.160 | 0.157 | 0.181 | 0.133 | 0.032 |
| Max | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Min | 0.417 | 0.114 | 0.459 | 0.167 | 0.522 | 0.331 |

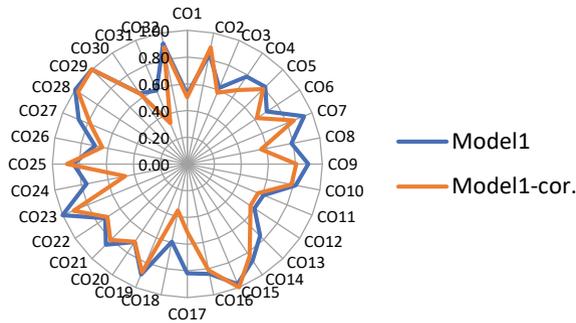


Fig. 6.2 Efficiency scores for European countries during 2011–2017. Notes: Austria (CO1), Belgium (CO2), Bulgaria (CO3), Croatia (CO4), Cyprus (CO5), Czech Republic (CO6), Denmark (CO7), Estonia (CO8), Finland (CO9), France (CO10), Germany (CO11), Greece (CO12), Hungary (CO13), Iceland (CO14), Ireland (CO15), Italy (CO16), Latvia (CO17), Lithuania (CO18), Luxembourg (CO19), Malta (CO20), Netherlands (CO21), Norway (CO22), Poland (CO23), Portugal (CO24), Romania (CO25), Slovakia (CO26), Slovenia (CO27), Spain (CO28), Sweden (CO29), Switzerland (CO30), Ukraine (C31), United Kingdom (CO32)

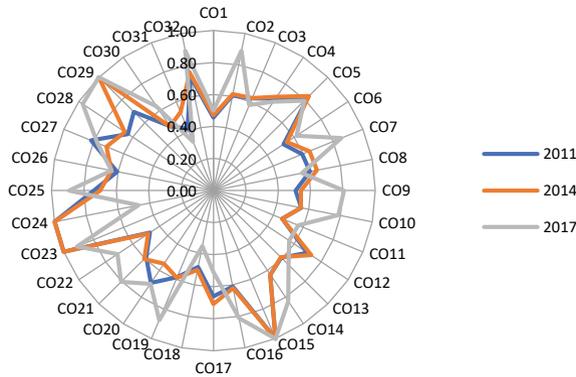


Fig. 6.3 Efficiency scores during 2011–2017 from two models of evaluation. *Notes* Austria (CO1), Belgium (CO2), Bulgaria (CO3), Croatia (CO4), Cyprus (CO5), Czech Republic (CO6), Denmark (CO7), Estonia (CO8), Finland (CO9), France (CO10), Germany (CO11), Greece (CO12), Hungary (CO13), Iceland (CO14), Ireland (CO15), Italy (CO16), Latvia (CO17), Lithuania (CO18), Luxembourg (CO19), Malta (CO20), Netherlands (CO21), Norway (CO22), Poland (CO23), Portugal (CO24), Romania (CO25), Slovakia (CO26), Slovenia (CO27), Spain (CO28), Sweden (CO29), Switzerland (CO30), Ukraine (C31), United Kingdom (CO32).

from two models, only Sweden and Ireland had efficient healthcare systems in 2017 (Fig. 6.3).

6.3 Underlying Concepts and Definitions of Evaluation Methods for Healthcare

However, to properly assess the healthcare evaluation trade-offs, the used evaluation framework characteristics must be considered. Therefore, we will now present a short digression over the main current economic evaluation perspectives proposed currently.

Value-based healthcare (VBHC), Value for Money (VfM) and economic evaluation helped to change the paradigm of healthcare systems and have been central to health policy decisions, accountability, healthcare delivery and healthcare systems [52, 59]. In the next sections, we look for these main concepts focusing on their definition, importance, advantages and limitations.

6.3.1 Value-Based Healthcare

VBHC is a healthcare delivery model in which providers, including hospitals and physicians, are paid based on patient health outcomes [72]. The value in VBHC is

derived from measuring health outcomes that matter to patients against the cost of delivering them [72, 73]. In this model, the relevant unit of analysis is delivered to a patient over the full cycle of care for a particular medical condition, such as diabetes, breast cancer or any other chronic disease.

According to several reports and authors [24, 87], the benefits of a VBHC system extends to patients, providers, payers, suppliers, and society as a whole: patients spend less money to achieve better outcomes; providers achieve greater patient satisfaction and better care efficiencies; payers have strong cost control and reduced risks; suppliers can align prices with patient outcomes; society becomes healthier while reducing healthcare spending.

Evidence shows that various health care systems across the world have embraced the VBHC agenda for different reasons over the last 15 years [59] and it has become a guiding principle in the quest for high-quality health care with acceptable costs [37]. Several reports have evaluated the implementation status of VBHC across the world [81, 88] and recently the European Institute of Innovation & Technology (EIT) Health published a handbook on how to adopt VBHC initiatives [20]. Mjåset et al. [59], mention that although no country has fully implemented the VBHC agenda, it seems apparent that different theoretical framework elements function better in some healthcare systems than others.¹

However, not everyone is convinced that the VBHC guide is the appropriate way forward. According to Nilsson et al. [62], value for patients was experienced as the fundamental drive for implementing VBHC, but there are multiple understandings in parallel of what value for patients means. In the same line, Pendleton [68], using the results from a survey conducted in the United States, states that different stakeholders have no common definition of value and do not agree on its composition. He also says that value seems to have become a buzzword with its meaning often unclear and shifting, depending on who is setting the agenda. Groenewoud et al. [37] also argue that current literature lacks substantial ethical evaluation of VBHC and that a single-minded focus on VBHC may cause serious infringements on medical ethical principles.

Groenewoud et al.'s [37] arguments focus on several points: (lack of) evidence of VBHC effectiveness on more efficient clinical pathways, due to scarcity of transparency, cost awareness and relevant outcomes; (lack of) evidence of translatability of VBHC concepts from business strategy to health care; (lack of) match between business ethics and healthcare values; (and lack of) a common ontology, since the concept of values from ethics and philosophy is different of the VBHC approach (outcomes divided by costs). The main infringements identified are related to neglecting four medical ethical principles: it tends to neglect patients' personal values; ignores the intrinsic value of the caring act; disproportionately replaces trust in professionals with accountability, and undermines solidarity.

¹ They based this conclusion after comparing the various health care funding schemes (more private or more public) and the six VBHC elements proposed by Porter and Lee [74]: care organized around medical conditions, outcome and cost measurement for every patient, value-based reimbursement for all the care cycles, regional systems integration, the geography of care with centers of excellence, and information technology supporting VBHC.

Besides these questions, there are also other problems related to the full implementation of VBHC, namely to calculate values associated with the determination of the health outcomes that matter to patients (numerator) and the costs of delivering the outcomes (denominator). These problems arise when we consider the complexity of healthcare providers, the heterogeneity of management processes, and the different services provided with cost systems that do not directly calculate the involved costs. Some of these problems are also faced by VfM and (generic) economic evaluation.

6.3.2 *Value for Money and Economic Evaluation*

VfM and economic evaluation have been central to the healthcare systems agenda in questions about health policy decisions, accountability, and care delivery [52, 64, 79]. The main point is that resources (people, time, facilities, equipment, and knowledge) are scarce and choices must be made avoiding traditional heuristics like “do what we did last time”, “follow gut feelings”, or “educated guesses” [19].

In the context of managing constrained healthcare budgets and safeguarding equity, access and choice, governments face the challenge to strategically manage scarce resources by investing in services that provide the best health outcomes [5, 52, 64, 82]. The economic evaluation provides a common framework that helps to identify the relevant alternatives, facilitates the integration of different perspectives and viewpoints (patient, institutional, target groups, and other stakeholders), reduces subjectivity by raising quantification over informal assessment, and increases the explicitness and accountability in decision-making [19, 31]. VfM and economic evaluation also reinforce accountability by ensuring that taxpayers’ money and other funding instruments are spent wisely, and assuring healthcare users and other stakeholders that their claims and interests on the health system are being treated fairly and consistently [82, 79, 26, 43].

Drummond et al. [19] define economic evaluation as the comparative analysis of alternative courses of action in terms of both their costs and consequences. In any economic evaluation, the main tasks are to identify, measure, value, and compare the costs and consequences of the different alternatives being considered. However, given the nature of the consequences, especially in the healthcare field, considering the options being examined may differ considerably.

VfM includes the four E’s in its assessments [26, 42]: savings (minimizing the cost of inputs, while bearing in mind quality); efficiency (achieving the best rate of conversion of inputs into outputs, while taking in mind quality); effectiveness (achieving the best possible result for the level of investment, while maintaining in mind equity); and equity (ensuring that benefits are distributed fairly).

For Smith [79], VfM can be examined from several perspectives: the economic perspective, concerned with which physical inputs are purchased; the extent to which the chosen inputs are combined in an optimal mix; the technical efficiency with which physical inputs are converted into physical outputs; the allocative efficiency of the system’s chosen outputs; and the quality of the care provided (its effectiveness). To

this author, the two fundamental managerial tasks are purchasing decisions (allocative efficiency) and performance assessment (technical efficiency).

Fleming [26] identifies six main methods that can be used to assess VfM: Cost-Effectiveness Analysis (CE analysis), Cost-Utility Analysis (CU analysis), Cost-Benefit Analysis, Social Return on Investment (SROI), Rank correlation of cost vs impact, and Basic Efficiency Resource Analysis (BER analysis). Smith [79] claims that in the VfM field, in parallel to the piecemeal analysis of individual performance measures, most of the research is under the label of productivity analysis, using econometric methods, such as stochastic frontier analysis (SFA); or descriptive methods known as data envelopment analysis (DEA).

The primary purpose of economic evaluation is to inform decisions, so it deals as mentioned before, with both inputs and outputs (costs and consequences) of alternative courses of action and is concerned with choices. The main types of economic evaluation studies are cost analysis (without identification or measurement of consequences), cost-effectiveness analysis, cost-utility analysis, and cost-benefit analysis [19].

6.3.3 *Measuring Costs and Consequences*

Most of the considered concepts presented—VBHC, VfM and economic evaluation—are concerned with choices when comparing costs and consequences (economic, clinic and humanistic² outcomes). In the next sub-sections, we focus on the main issues related to costs and consequences (different types, difficulties of measurement and possible sources that can help in the selection of tools).

Costs

Focused on a cost-effectiveness analysis, Gold et al. [31] identifies costs related to changes in the use of healthcare resources, changes in the use of non-healthcare resources, changes in informal caregiver time and changes in the use of patient time (for treatment). The same author identifies different types of costs:

- Direct health care costs—all types of resource use, including the consumption of professional, family, volunteer, or patient time and costs of tests, drugs, supplies, healthcare personnel, and medical facilities.
- Non-direct health care costs—include additional costs related to the interventions like those for childcare (for a parent attending a treatment), the increase of costs required by a dietary prescription and the costs of transportation to and from health facilities; it also includes the time family, or volunteers spend providing home care.

² In the ECHO (Economic, Clinical, and Humanistic Outcomes) model, medical care outcomes can be classified along 3 dimensions: clinical, economic, and humanistic. «Humanistic outcomes included measures of patient satisfaction and patients' quality of life», see Cheng et al. [14].

- Patient time costs include the time a person spends seeking care or participating in or undergoing intervention or treatment. Relevant time costs include travel and waiting time as well the time receiving treatment.

On the other hand, in a broader perspective of economic evaluation involving costs and different types of analysis, Drummond et al. [19], identifies health sector costs, other sector costs, patient/family costs, and productivity losses:

- Health sector costs can be variable (such as the time of health professionals or supplies) and fixed or overhead costs (such as light, heat, rent, or capital costs).
- The other sector costs refer to consumed resources from other public agencies or to the voluntary sector.
- Person/family costs refer to any out-of-pocket expenses incurred by patients or family members and the value of any resources that they contribute to the treatment process.
- Productivity costs include the costs associated with lost or impaired ability to work or to engage in leisure activities due to morbidity and lost economic productivity due to death.

This way, several authors identify categories of direct costs, indirect costs and intangible costs. Direct costs associated with providing the health service (fixed, variable, and non-medical expenses) are the easiest to calculate. Indirect costs related to decreased productivity due to the disease or treatment in the patient and his family are difficult to compute. Intangible costs (such as anxiety, pain or suffering with an illness) are extremely difficult or even impossible to determine.³ These problems with the cost measurement are common to VBHC, VfM and economic evaluation.

One example of this problem in the VBHC is the determination of hospitals costs. Hospitals are very complex organizations [17, 32], with quite distinct management processes joining the worlds of care, cure, control and community [29, 30], with different types of services, clinical pathways, treatments and decisions with cost systems more oriented to the disease than to the patient. According to Kaplan et al. [45], the existing cost systems in healthcare prevent clinician-driven cost reduction and process improvement initiatives, and time-driven activity-based costing (TDABC) is one tool with significant potential to fill this gap. The same author argues that these systems rely on inaccurate and arbitrary cost allocations and provide little transparency to guide first-line care providers attempts to understand and change the proper drivers of their costs.

This approach has several advantages identified in the literature: more accurate cost estimates [13], efficiency in allocating costs to the cost object [47], better use of resources, activities and processes, increasing the capacity used and eliminating those that do not add value [22, 46, 98], more accurate allocation of indirect expenses to the cost object [46], process optimization, trying to reduce time consumed by some activities [36], and the best benchmarking model [78]. However, despite all these advantages, the possible inaccuracy of time estimates [16, 36] and the time

³ Section 4 will propose a method to grasp intangibles in healthcare.

needed to determine time estimates [78] hinder its implementation in healthcare and applications of TDABC to healthcare have been limited [46].

Consequences

The benefits of a VBHC system extend to patients, providers, payers, suppliers, and society as a whole [24, 87]. Many treatments offer broader social and economic benefits to patients, families and society [79]. The responsiveness to patients' needs, addressing inequalities, and broader economic objectives are the leading healthcare goals of healthcare systems. Some authors also focus on economic outcomes and their interrelationships with the clinical and humanistic outcomes [14].

The literature on economic evaluations identifies several types of outcome measures like clinical outcomes, quality of life measures, and generic health gain measures like Quality-adjusted life years (QALYs), the Disability-Adjusted Life-Year (DALY), SF-36, EQ5D, and SF6D [19, 31, 82].

Clinical outcomes are the most common health outcome category to be considered in clinical trials and observational studies. Humanistic outcomes are outcomes based on a patient's perspective (e.g., patient-reported scales that indicate pain level, degree of functioning). In this category, there are health-related quality of life (HRQoL) and the range of measures collectively described as patient-reported outcomes (PRO), which include measures of HRQoL3.

Patient-reported outcomes (PROs), or patient-reported outcomes measures (PROMs), are information provided by the patient about their symptoms, quality of life, adherence, or overall satisfaction [55, 92]. PROs refer to patient ratings about several outcomes, including health status, health-related quality of life, symptoms, functioning, satisfaction with care, and treatment satisfaction. The patient can also report about their health behaviours, including adherence and well-being habits. Data is collected by generic and disease-specific validated tools related to the quality of life (e.g. EQ-5D, AqoL), symptoms (e.g. NPRS for pain, FSS for fatigue), distress (e.g. K10 or PHQ2 for depression, GAD7 for anxiety), functional ability (e.g. WHODAS 2.0, ODI), self-reported health status (e.g. SF-36), or self-efficacy (e.g. GSE).

Patient-reported experience measures (PREMs) are tools and instruments that report patient satisfaction scores with health service [92]. They are generic tools that are often used to capture the overall patient experience of health care. PREMs are often used on the broader population and in non-specific settings such as an outpatient department. Patient experience tools for example may be used to monitor patient feedback and focus on the general experience related with time spent waiting, the access to and ability to navigate services, the involvement (consumer and carer) in decision-making, the knowledge of care plan and pathways, the quality of communication, the support needed to manage a long-term condition, if they would recommend the service to family and friends, etc. They are a reliable measure of how well a hospital or other health unities provide good quality service from a patient perspective.

According to Lavalley et al. [51], the time devoted to collecting PROs and PREMs is a time investment that can benefit the person receiving care and the organization that can allocate resources more optimally. Assessing the severity of symptoms, informing treatment decisions, tracking outcomes, prioritize patient-provider

discussions, monitoring general health and well-being, and connecting providers to patient-generated health data are different ways of creating value.

There are several organizations where it is possible to find different tools for the purposes mentioned above. The International Consortium for Health Outcomes Measurement (ICHOM) collaborates with patients and healthcare professionals to define and measure patient-reported outcomes to improve care quality and value. In the ICHOM website⁴ several standardized outcome measurement tools are presented, as well as time points and risk adjustment factors for a given condition. The Patient-Reported Outcomes Measurement Information System (PROMIS) website⁵ includes over 300 measures of physical, mental, and social health for use with the general population and individuals living with chronic conditions. The Outcome Measures in Rheumatology (OMERACT)⁶ is an independent initiative of international stakeholders interested in outcome measurement. The Consensus-based Standards for the selection of health Measurement (COSMIN)⁷ aims to improve the selection of outcome measurement instruments both in research and in clinical practice by developing methodology and practical tools for selecting the most suitable outcome measurement instrument.

A recent categorization of data is patient-reported information (PRI), proposed by Baldwin et al. [4]. According to those authors, PRIs upgrades the PRO tool reinforcing the patient perspective. This new perspective is related to social networking, enabling patients to publish and receive communications quickly. Many stakeholders, including patients, are using social media to find new ways to make sense of diseases, to find and discuss treatments, and to give support to patients and their caregivers. According to Schlesinger et al. [77], PRI pinpoints the limits of traditional measurement techniques to incorporate narrative components into the evaluation and can be used to improve clinical practice. Those authors identify four forms of PRIs: (1) patient-reported outcomes measuring self-assessed physical and mental well-being, (2) surveys of patient experience with clinicians and staff, (3) narrative accounts describing encounters with clinicians in patients own words, and (4) complaints/grievances signalling patients distress when treatment or outcomes fall short of expectations.

6.4 Patient-Centred Versus Person-Centred Evaluation

Methods: Illustrations

A health economic evaluation can be conducted from one of the six perspectives (public-health, health care system, healthcare payers', institutional and/or patients' perspective). Health economic analysis is almost performed as an aid to

⁴ <https://www.ichom.org>.

⁵ <https://www.healthmeasures.net>.

⁶ <https://omeract.org>.

⁷ <https://www.cosmin.nl>.

the medical decisions of healthcare facilities and healthcare systems, leaving the patient perspective out of the equation.

With the recent shift from patient-centered care to person-centered care in both of these approaches, the role of the patient in treatment decisions plays an important role in health policy. Encouraging patients to participate in decision making is not easy to do, but it is becoming a norm among growing evidence that health outcomes are often observed from the patients' perspective in terms of health quality, patient preference, and/or part of patients' health care costs.

In healthcare organizations that are patient-centered and person-centered oriented, the primary economic benefits concern lower medical costs compared to usual care settings. Health economic evaluation, patient-centered care, and person-centered care are difficult to directly compare because the available studies are different in terms of methods used, type of costs and outcomes measured, the patient population of interest, and various types of interventions. The studies are also conducted in different health systems with specific socioeconomic environments and cultures.

Person-centered care and like healthcare approaches have shown beneficial effects and lower costs [70]. Extending person-centered care in healthcare practice demands more cognition about the effects and the cost-effectiveness of person-centered care. Most studies have shown that person-centered care is cost-effective compared to usual care [70].

This subchapter presents illustrative results of some effective intervention ("3D", Dementia Care Mapping and Palliative Advanced Home Care and Heart Failure Care) from different perspectives of health economics.

6.4.1 "3D" (Dimensions of Health, Depression and Drugs) Intervention

The "3D" intervention was developed to address the issues associated with managing patients with multimorbidity in primary care in the UK [89].⁸ The number of patients living with multiple chronic health conditions (multimorbidity) is indeed increasing as the population is ageing [60]. The prevalence of multimorbidity is approximately 98% for older adults. As the elderly population grows, a complex cost-effectiveness intervention is needed at different levels of the healthcare system.

There is no evidence that a comprehensive multimorbidity care programme has reduced healthcare costs or primary care visits. There were many ways to organise patient care to take into account multimorbidity, but evidence of effectiveness and recommended strategies is limited.

The "3D" intervention evaluated a patient-centred care approach for patients with three or more long-term conditions. The approach included improvement of the continuity of care and regular holistic review ("3D": nurse, pharmacist, and general practitioner (GP) in general practice (GP) surgeries. The intervention aimed at reducing

⁸ "3D" intervention model is well documented by Thorn et al. [89], whom we rely on in this section.

the burden on the patients in accessing healthcare and increasing patient participation in decision-making about their care. Also, nurse specialists usually carry out a review of chronic conditions for particular conditions in primary care.

Quality adjusted life years (QALYs), as part of outcome measurements, uses the EQ-5D-5L⁹ 15 months after randomisation. This trial used cost-utility analysis conducted from the perspective of the NHS and personal social services [61].

The primary analysis showed that the participants in the intervention group gained a mean of 0.007 (95% CI: -0.009 to 0.023) additional QALYs over 15 months compared with participants in the usual care group [89]. From the NHS/PPS perspective the total cost per patient was £126 (95% CI: -£739 to £991) higher in the intervention group than in the usual care group (Ibid). A cost-effective analysis showed that the ICER¹⁰ was £18.449 and the net monetary benefit in terms of societal willingness to pay the value of £20.000 was £10 (95% CI: -£956 to £977). The sensitive cost-effectiveness of the “3D” approach has showed that this approach was associated with lower costs and better outcomes.

The beneficial effect of this intervention on patient care experience is more person-centred, but modifications that support better implementation are needed to improve the intervention’s effectiveness.

6.4.2 Cost-Effectiveness and Cost Dementia Care Mapping¹¹

It is estimated that more than 35 million people worldwide have dementia and expect their number to grow. The course and outcomes of dementia vary from patient to patient, but the condition usually has significant effects on quality of life, as a result of one or more behaviours. The following behaviours are described as a challenge to support (BSC): agitation, aggression, restlessness, hallucination, delusions, depressions, anxiety, and apathy.

Dementia Care Mapping (DCM) is a widely used intervention at the home care level to observe patients with dementia. This intervention aims were to improve individual person-centred care, the quality of healthcare and health outcomes for residents. It has been widely used to cure dementia for almost twenty years. Despite widely used evidence of cost-effectiveness, randomised and non-randomised interventions are mixed. Only two studies report on economic evaluation of the intervention and none on a cost-utility analysis.

The DCM-EPIC¹² is a pragmatically randomised controlled trial aimed at evaluating clinical and cost-effectiveness, a controlled trial of usual care plus DCM

⁹ See: <https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/EQ-5D-5L> measures health-related quality of life in cost-effectiveness analysis.

¹⁰ Incremental cost-effectiveness ratio.

¹¹ See: Surr et al. [84].

¹² Dementia Care Mapping™ to enable person-centred care for people with dementia and their carers (DCM-EPIC).

(intervention group) and compared to usual care (control group). DCM has been implemented using standard procedures and following the most common UK model of staff-led use implementation [84]. Two staff members (“mappers”) from the intervention home care attended four days of standard training in DCM [84]. Cost-effectiveness analysis measured incremental costs, CMAI¹³ and QALYs for residents.

This DCM trial results were not found to be effective versus control on the primary or secondary outcomes, nor was it cost-effective (Ibid.). The cost for unit improvement in the CMAI is higher than other recent evaluation of interventions that include training of staff in person-centred care or communication skills with or without behaviour management training (Ibid.). Also, the cost per QALYs was higher than the upper bound of the threshold over which treatments are least likely to be funded in England. (Ibid.).

A complex system-level intervention like this one, which used staff-led implementation, may not provide a real implication intervention without applying other implementation models to optimise the intervention. Barriers and facilitators on DCM implementation were at the mapper and care home level. The barriers at these levels include the lack of mapper time, skills, and confidence to implement DCM, lack of resources, and management support (Ibid.).

Another study, which used the DCM model, also did not find the method effective versus the control group and suggested that future research should investigate value for money as an alternative strategy to prevent and support behaviour symptoms in people living with dementia in care homes.

6.4.3 Cost-effectiveness Palliative Advanced Home Care and Heart Failure Care (PREFER) Intervention¹⁴

Chronic heart failure (CHF) is a significant public health issue worldwide. In developed countries, approximately 1–2% of the population has CHF, and the prevalence is rising in people over 70 years old [10].

The randomised controlled study confirmed that Palliative Advanced Home Care and Heart Failure Care (PREFER) improve patients’ quality of life and reduce health care costs due to reduced number of hospitalisation days and reduced number of hospitalisations [9]. When the person-centred care was fully implemented to patients with CHF, the length of hospitalisation was reduced [21]. This randomised control study’s primary aim was to assess the cost-effectiveness of the PREFER intervention compared to standard care for patients with heart failure [76].

¹³ Cohen-Mansfield Agitation Inventory. See: <https://www.cambridge.org/core/journals/international-psychogeriatrics/article/abs/conceptualization-of-agitation-results-based-on-the-cohenmansfield-agitation-inventory-and-the-agitation-behavior-mapping-instrument/36F895AFD524673CA46B3F7294A78F50>.

¹⁴ See: Sahlen et al. [76].

This study involved 72 patients divided into two groups: the intervention group ($n = 36$) that received person-centred and integrate PREFER care over 6 months, and the control group ($n = 36$) that received standard health care recently provided by a primary healthcare centre or the led by a nurse's heart clinic at the hospital.

To assess health-related quality of life, the 5Q-ED instrument (five questions) was used to calculate quality-adjusted life years (QALYs). In this study, assessment only directs cost from the provider perspective. To avoid double-counting in cost assessment, patients' costs, indirect costs, and the expenses of state authorities are excluded. The main results showed that the intervention group had a slight improvement in QALYs (+0.006) compared to the control group with a slight decrease in QALYs (-0.024) (Ibid.). Also, the cost assessment results showed that over six months of intervention, costs were reduced to SEK600.000 (€61.000) according to the primary analysis, and according to sensitive analysis, costs were reduced by €49.000 (Ibid.).

A recent study has also shown that home-based palliative care effectively reduces severe CHF patients' hospitalisation, but the cost-savings were not evaluated [94].

Results of the implementation strategies introduced in this section characterize major advancements in some aspects of health care. However, all three interventions need to invest significant efforts for progress in the effectiveness and cost-effectiveness of the interventions in the future. The examined health care outcomes of intervention also need to move from healthcare facilities and healthcare system perspectives to patients' perspectives if we want to have a person in the centre of healthcare systems.

6.5 Moving Forward: Valuing Intangibles in Healthcare¹⁵

Today, administrative goals have taken over clinical goals (mainly in the form of cost-cutting). The way clinical goals are achieved also changed: the patient is considered as a consumer (since the 1960s in the US, growing in France). Doctors are not as legitimate as they used to, because a paternalistic approach is no longer advocated for. They have to take into account the patient's perspective, values and requests. This change in the power balance, as well as the uncertainty still attached to care despite tremendous technological and medical progress, appeals for reinstalling relationships as a core intangible component of care.

The reflection on the value of intangibles starts with the prevalent belief in the business and public policy arenas that "it you can't measure it, you can't fix it". Therefore, as Pierron and Vinot put it: "*there is a need, at a time when standardized quantitative approaches have come to dominate the care system, of compensating for this through attention to more qualitative, even phenomenological, data: narration as*

¹⁵ This section partly incorporates a paper presented at European Group for Organization Studies: Vinot and Chelle [93], "The evaluation of relational value in health care organizations: A conceptual framework", EGOS 2018.

opposed to classification; the personal as opposed to the personalized; the individual as opposed to the individuated” [69]. How can we choose and create appropriate indicators in this logic?

The criticisms addressed to Patient-reported Outcomes (requested by the provider or the industry to ensure compliance with regulations and manage reimbursement schemes), leading to Patient-reported Information (feedback sent by patients via the Internet), reveals the limits of traditional measurements techniques to incorporate narrative components into evaluation [77]. For instance, if a doctor sees part of his remuneration modulated according to the number of complaints filed against him, this does not automatically imply that he will improve the quality of care provided to avoid these claims. It can also deter patients from starting any procedure, for example by persuading them that they are useless. The authors advocate for a narrative version of PRI, which cannot be reduced to a series of metrics. Nevertheless, to overcome methodological difficulties, the authors endorse regulating payment models on what matters for patients (patient-valued outcomes). Rather than a culture of results, the study encourages a culture of learning for practitioners based on patient experience. The authors conclude, however, by stressing the idiosyncratic nature of the results thus produced. This implies looking closely at contexts of collective health-care activities in which human and nonhuman interactions in a search of coordination of expertise and values are constitutive of outcomes [23].

Management science offers tools to integrate the unmeasurable into business strategies. For instance, quantifying intangible assets such as people, information and customer relationships was the principle of the Balanced Scorecard [44]. With that original management tool, the authors asserted that performance could not be measured only by economic results. That last statement certainly applies to health. However, when we seek to endorse a more phenomenological stance incorporated into healthcare activity, we need methods that reconcile both evidence-based medicine (measurable proofs and outcomes) and narrative medicine that the move to person-centered care have initiated: patients are also considered as agents and partners [70] and sensory-care is also crucial to privilege “conflicts of interpretations” among the accuracy of proof [11].

How could we value intangibles from a management science perspective? The notion of intangibles has gained considerable traction in the finance sector. It accounts for the mechanisms by which value is created on markets. The definition provided for the financial sector—an organizational and relational capacity based on skills and knowledge [90]—can be imported to the health sector. Managing intangible activities appears to be the main way to add value and a possible solution to evaluate the relational value in healthcare organizations. What cannot be counted matters not only from a clinical perspective, but also from a management perspective. Health professionals already know the benefits of the relational dimension of care, hence we have to reach out to the managers in their own language to fully implement a person-centered perspective.

Table 6.4 lays down the draft of a model aiming at capturing relational value. It draws from an organizational and empirical perspective, rather than an economic and formal one. Relational value can be observed not only between two or more people

Table 6.4 An observation guide for evaluating relational value

| Observation level | Relational units | Evaluation tools |
|-------------------|--|--|
| Interpersonal | Trusting collaboration Problem-solving mindset Empathic “communicaction” Acceptance of differences | Patient-reported information (narrative feedback) |
| Organizational | User-friendly time and space Circulation of reliable information Safe and effective clinical processes Conflict equilibrium | Researcher’s log based on observational study |
| Environmental | Partnerships Reputation Frequentation Adequate transportation system | Mapping |

in the same room (interpersonal level), but works at the organization level and environment level. Promoting relational value thus does not imply an individualistic or atomistic perspective on care. We propose this model for evaluating relational value. The corresponding evaluation tools draw from an enriched qualitative methodology, based on narrative enquiry [50, 57], observational study [83] and mapping [44].

At the interpersonal level, the global technical competence of professionals has to be complemented by various sorts of relational skills. A trusting collaboration may be the first criteria. That entails reinforcing team-work that has been weakened in hospitals settings in the name of interchangeability of agents. It is detrimental to care in the sense that it deters mutual adjustments between healthcare professionals. When team members know each other, collaboration adds more value than just cooperation. In healthcare organizations, professionals are used to applying protocols. Each category of healthcare professionals follows rules and regulations in their specialty. That can result in disjunctions in everyday practice, because situations can require transversal actions, hence the need for a problem-solving mindset in the healthcare workplace. Of course, cognitive agility does not set aside routines altogether. Nonetheless adaptation should prevail over planning and protocols, because it can make a difference for the patient. Communication is a well-known component of a good relationship with the patient. Empathic “communic-action” would mean not only listening and talking, but also taking action when necessary (concerning pain relief, for instance). Managers should not overlook that dimension as wasted time, but could appraise it as invested time for more efficacy in the healing and/or caring journey. It draws from a reflex of asking oneself what can help that person to carry on, what Mintzberg called “judgment”. Each patient is different, so taking into consideration the person’s needs is essential. Economists speak about “preferences.” Sociologists and philosophers prefer the word “values.” Although those terms are not exactly interchangeable, what we must focus on is the word “person” instead of “patient.” Sickness is not the only lens through which we should see the human being sitting in a healthcare organization. For that, it is crucial to put oneself in a position of acceptance of alterity, and

“acceptance” simultaneously meaning “acknowledgment” and “belief in the goodness of something.” Otherness can trigger a rejection in the absence of an appropriate training. Overcoming that feeling can be challenging; therefore, efforts have to be undertaken from a long-term perspective. Overall, one can say that interpersonal interaction should be guided by the following principle: “to achieve real quality in health care, we require personalized services on a human scale, not impersonal interventions on an economic scale.” [58].

If relations take place at the interpersonal level, that does not mean that they happen in the vacuum. Improvements can be worked on at the organizational level to induce a greater relational value. The spatial organization of healthcare has also been insufficiently undermined.

User-friendly space and time enhances relationships in and around care. Architecture can induce positive and fruitful encounters (with things as mundane as the location of a coffee machine, the position of the bed in the patient’s room, or the colors on the walls). User-friendly space sustains user-friendly time, meant as quality time. Time is a scarce resource in healthcare organization. It has been made scarce by management techniques commending more productivity. Cost-efficiency analysis uses quantitative indicators of outcomes [38], such as the amount of time a patient stays in a service or occupies a room. If health professionals cannot take the time, are they not compelled to miss the point of care? Quality time is not wasted time, as it can help the patient to feel better, and the professional to coordinate better. Organizational schemes should also include quality time with health professionals and families. Waiting rooms and meeting points cannot be limited to an assigned space. Quality time derives from quality space. The circulation of reliable information happens through formal and informal circuits. Information systems should make patients’ data available to different services within the organization. Within hospitals, the dual hierarchy, clinical and administrative [15], create discrepancies in processes. Clinical goals remain the priority in a healthcare settings. The organization is reliable as long as it ensures safe and effective clinical processes, which calls for clear routines as well as adaptive strategies. “Effective” is preferable to “efficient,” the latter belonging to the vocabulary of a machine organization, where healthcare organizations are professional bureaucracies. The term “effective” is the one to promote intangible values: “what people call efficiency all too often reduced to economy, more specifically to economizing: cutting tangible costs at the expense of intangible benefits” [58]. On the management front, a conflict equilibrium has to be contained. In large organizations, conflicts have to be handled, but cannot be avoided. Some conflicts can paradoxically motivate teams to work together or leaders to take action. Constant unresolved tensions, on the contrary, create a climate of hostility and induce exit behaviours.

Last but not least, intangible values need to be taken at the environmental level. Partnerships are an extent of cooperation at the community level. These can be either institutional (cooperation between health organizations, community-based organizations, primary care doctors and units...) or virtual (online patient communities). Reputation is built within those networks. Next to the official rankings, word of mouth is essentially relational and matters to institutions. When people get to choose their

place of care, a hospital or clinic's reputation gives an edge. To guarantee a satisfying relational quality, there is an optimal number of beds to consider, enough to cover baseline costs, not too many so as not to oversize buildings and keep distances short. Frequentation has to be optimal, not maximized. Finally, an adequate transportation system should not be overlooked. Easy connections to hospitals and care facilities are an important factor for the patient being visited by their family and friends.

6.6 Conclusion

The objective of this chapter was to provide conceptual understandings of evaluation methods for healthcare and concrete illustrations so as to take stock on advancements and applications. As a conclusive reflection, our understanding of an effective and ethical patient-centered healthcare system consists in considering the person as a whole and creating the conditions to make them a visible and proactive subject in the care journey. Going from macro to micro levels of evaluation of healthcare in this chapter, we showed that a lot more can be observed or deducted from the material organization of care, which enables consideration of the intangibles, notably *what has value* is not necessarily *what is worth* doing to be considerate of the patient in the care process. Would going forward mean going back to an ancient wisdom? The well-known doctor Francis Peabody [67] wrote almost a century ago:

The good physician knows his patients through and through, and his knowledge is bought dearly. Time, sympathy and understanding must be lavishly dispensed, but the reward is to be found in that personal bond which forms the greatest satisfaction of the practice of medicine. One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient. [67]

Then, at that time evaluation existed, but it was not the massive trend as we know it today. The words “judgment”, “appreciation” and “worth” were still prevalent over “calculus”, “evaluation” and “value”. Our bottom line is not to go back in time. It is to reinstall observation as a valid tool to support the patient in and around care. A century ago, the principles expressed by Dr. Peabody were conceived for acute care. Today, with chronic conditions and longer lives, we should strengthen, not set aside, the value of relationships in care.

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