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QUALITY OVER QUANTITY

A Comparative Analysis of the Quality Measures and
Performance Between Switzerland and the United States

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*SIT Study Abroad Independent Research
April 23, 2019*

Abstract

Even in the best health systems, poor quality of care continues to cause harm to patients and prevent them from receiving the best treatment possible. Thus, it is important to record and report quality of care measures because they can help inform policy changes and improve performance. In this paper, a comparative analysis between the United States and Switzerland is conducted to understand the process for defining and assessing quality indicators in each country as well as compare their quality of care performance results. The methods for this study include a literature review of relevant background information relating to quality of care and three formal interviews with experts in the field. This research has found there to be many monitoring and recording organizations on both national levels in the U.S. and Switzerland and the international level. Additionally, when looking at the quality indicators in both countries, the analysis has shown that each country performs better in certain aspects of care delivery, however, many limitations have been found when interpreting results and comparing countries. Further, several different reasons have been discovered which explain the lack of good quality of care. Finally, going forward, the research has suggested creating a set of national quality measures for more accurate comparative analysis studies between countries and more incentives for medical professionals to provide high quality care.

Preface

As a young adult under 26, I am covered under my parent's health insurance in the United States. I am grateful I can afford and access the health system when I need to. However, even with the proper insurance, I have witnessed time and time again how short my doctor's visits last and their often lack of willingness to actually understand any of my health problems presented, beyond the biological diagnosis. As someone who has the privilege of accessing care and witnesses this poor quality of care occurring, I can only imagine the care provided to those who don't have the same luxury of health insurance. I chose to write this paper because quality of care is not only problem in struggling health systems, but rather is holding back even the highest income countries including the United States and Switzerland from providing the highest attainable quality of care to its patients.

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Abbreviations

AMI – Acute Myocardial Infarction

ANQ - National Association for Quality Development in Hospitals and Clinics

COPD – Chronic Obstructive Pulmonary Disease

CMS - Center for Medicare & Medicaid Services

FOPH - Federal Office of Public Health

HHS – United States Department of Health and Human Services

IOM - Institute of Medicine

NQF – National Quality Forum

OECD – Organization for Economic Cooperation and Development

P4P – Pay-for-Performance

QALY - Quality Adjusted Life Year

WHO – World Health Organization

Introduction

According to a collaborative report published by the WHO, World Bank, and OECD, “poor quality health services are holding back progress on improving health in countries at all income levels” (OECD/WHO/World Bank Group, 2018). This means that countries even at the highest income levels like Switzerland and the United States have room for improvement when it comes to quality of care. Inadequate quality of care is not only bad news for patients who receive the consequences of the poor health services, but also for the cost of healthcare. The joint report stated in regards to financial burdens caused by poor quality of healthcare, around 15% of hospital expenditures in high income countries is due to “mistakes in care or patients being infected in hospitals” (OECD/WHO/World Bank Group, 2018). However, the good news is that while poor quality of care can lead to many problems, it can also be fixed. If medical professionals, governments, and health systems work together with each other as well as patients in the community, they can work towards a system of healthcare delivery with higher quality of care.

The Institute of Medicine (IOM) defines quality of health care as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (IOM, 1990). At the core, healthcare quality is so important to understand because poor quality can be fatal. Healthcare delivery is very complex and specialized for each patient which is why healthcare quality measures are metrics seek to inform individuals about where they access their health services and what type of treatment is best for them (Claxton, 2015). Additionally, this data can help inform individual persons and communities about which health interventions they will support financially (Claxton, 2015). Beyond helping inform medical decisions and drive interventions, the

assessment of quality is increasingly important in medical settings for reducing adverse events and optimizing efficiency (3).

Since the Affordable Care Act was enacted in 2010 in the United States, more people are covered under health insurance. While this is great news for health system, it also encourages a need for improved quality (Berger, 2017). The United States leads the world in developing new approaches to prevent, diagnose, and treat illnesses, however these advances do not always reach the people who need it the most (HHS, 2018). Similarly, in Switzerland, the health system is said to be one of the best in the world. However, due to the decentralization of the system, it is hard to monitor and control the type of quality being provided within each canton. The Federal Office of Public Health believes that Switzerland must implement better measures for improving patient safety and quality within the health system beginning on a national level and trickling down to each canton (FOPH, 2018).

This paper aims to understand the process for defining and assessing quality indicators as well as compare the performance results of quality indicators within the two countries of Switzerland and the United States. The paper will first provide background information to inform readers about quality of health as well as the history of quality health measures in the U.S. and Switzerland. Following this section will be a description of the methods used for the study. Next, the analysis section will include a brief case study comparing quality indicators in Switzerland and the U.S. as well as provide insight into why there is poor quality within these two countries. Future directions will also be included. Finally, the paper will conclude with a summary of findings.

Background

History of Quality of Health

United States

In the United States, quality started to become part of the discourse within the medical world around 1990 after two major studies revealed poor quality of care within the health system (Dr. Briot, personal communication, 2019). First, the RAND study compared 6,700 patient's medical records between 1998-2000 against 439 indicators for quality of care for 30 health conditions (McGlynn, 2003). The researchers aim was to see if patients were receiving the recommended processes and care procedures. The results of the study found that only 55% of patients were receiving recommended care (McGlynn, 2003). This huge gap of patients not receiving recommended care sparked the beginning of a discussion in the medical community. The second important study published was the Institute of Medicine's *To Err is Human* report which helped to encourage policy makers to prioritize quality of care. This report also examined medical records, but researchers were looking for any adverse effects that might have happened due to poor quality of care (IOM, 2000). They defined adverse effects as a situation when a person's health worsens for reasons other than why they went to the hospital. The results of the study found that adverse effects occurred in 3-4% of hospital admissions and even resulted in death 7-14% of the time. Further, as many as 98,000 people die every year in hospitals because of preventable medical errors (IOM, 2000). Because these deaths are preventable, it is imperative for the medical community to understand why the deaths are happening and stop them from occurring in the future.

In order to actually take action to improve quality, a National Strategy for Quality Improvement in Health Care was created in 2011. This strategy was meant to serve as a

guideline for improving quality on the national level. Its aim is to improve quality; improve health of the population by addressing social determinants of health; and reduce cost of quality care (HHS, 2018). It also includes six priorities which are as follows: Priority 1: Make care safer by reducing harm caused in the delivery of care; Priority 2: Ensure each person and family are engaged in care; Priority 3: Promote effective communication and care coordination; Priority 4: Promote the most effective prevention and treatment practices for the leading causes of mortality; Priority 5: Work with communities to promote use of best practices to enable healthy living; and Priority 6: Make quality care more affordable (HHS, 2018). This is the strategy is still being followed today in attempt to continue to improve quality of care. (HHS, 2018)

Switzerland

While quality of care has become a priority in the Swiss medical community just like as in the United States, this happened much later. Even though discussions about quality began around the same time in each country, there was no research proof in Switzerland until much later. More recently, the Federal Government has begun establishing initiatives to improve quality of care in Switzerland. Beginning in 1999, goals were set out to collect quality data, improve care, and reduce waste. However, at this point, quality of care was still not prioritized. In 2003, the Foundation of Patient Safety was established to help ensure these goals continued to be carried out. Following, in 2009, a Quality Strategy report described specific areas where quality needed to be improved, including the establishment of a National Center for implementing quality assurance interventions (Vincent, 2017).

However, only more currently after 2010 have we seen real action being taken. As Dr. Briot described it, “Think back to 20 years ago in the United States, that’s where Switzerland is

right now” (Dr. Briot, personal communication, 2019). As of 2017, the Federal Office has adapted a new law to assign quality monitoring, evaluation, and improvement roles within the health system. It was decided that the coordination of quality and patient safety implementation will be the responsibility of an extra-parliamentary committee, while the Quality and Patient Safety Strategy is the responsibility of Federal Government (Vincent, 2017). Along with assigning responsibilities for monitoring, there has been a rise of understanding within health professionals that they must focus first on patient safety and quality before anything else. This shift in priorities is what the country needs to push forward towards tangible results in improving healthcare (Dr. Briot, personal communication, 2019).

Defining, Evaluating, Acting, and Collecting

Defining Quality

There is no one definition for quality of care, rather many professional medical organizations have created their own working definitions with certain principles they believe comprise quality of care. The definition the Institute of Medicine uses will be the one used for the purpose of understanding quality of care in this paper. The definition reads, “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (IOM, 1990). To expand further on the understanding of quality of care, the WHO proposes 6 basic concepts of quality. These include effective, efficient, accessible, acceptable, equitable, and safe (WHO, 2006). These basic concepts all work together to provide the greatest attainable standard of health to patients by ensuring the care is not only reachable but also of the highest quality.

Frameworks Used to Evaluate Quality

Donabedian Method

While understanding of the importance of quality was becoming prominent within the medical community, one researcher named Avedis Donabedian published one of the most widely used frameworks to assess quality within the medical profession. This framework is a three component approach: structure, process, and outcome. *Outcome measures* are those which measure the effectiveness of a certain medical treatment. It helps to determine whether the medical care provided has achieved the goals set (Donabedian, 2005). Most outcomes are simply measures of morbidity, mortality, or surgical successes, however, outcomes also include factors such as patient attitudes and satisfaction (Donabedian, 2005). *Process measures* reflect the various systems and processes used to diagnosis, monitor, and treat a patient (Donabedian, 2005). Process measures are important because they can help to understand whether clinical care has been properly applied and if medical professionals are following the steps they are supposed to. Additionally, processes such as screening and preventative care interventions can lead to early diagnosis or prevent disease which ultimately leads to better health outcomes (Claxton, 2015). *Structure measures* are used to describe the infrastructure and personnel within the medical facility. This includes factors such as adequate facilities and equipment; qualifications of medical staff; the administrative structure; and fiscal organization. The idea behind this measure is that “given the proper settings and instrumentalities, good medical care will follow” (Donabedian, 2005).

Each of these measures are not independent of each other, but rather they work together. Donabedian believed “structure measures have an effect on process measures, which in turn affect outcome measures” (Donabedian, 2005). For example, if only the outcomes are measured,

it is hard to understand where the errors were made, and thus, impossible to make improvements. On the other hand, if you just measure process, you do not know if the change in process will have a positive or negative effect on the outcomes (Donabedian, 2005).

Quality of Life

Quality of care measurements should not be limited to the patient's outcome or the processes and structures by which the patient was treated. The quality of life after the patient has been treated must also be considered (Mr. Knöfler, personal communication, 2019). There is no official definition for quality of life, however it generally refers to the ability of a person to reach maximal happiness and satisfaction within their life (Romero et al., 2013). The current official way of measuring quality of life is through estimating the Quality Adjusted Life Years (QALYs) of a person. It is measured on a scale from 0-1 with 1 representing a perfect state of health and 0 representing death (Romero et al., 2013). Dr Eichler argues that "the outcome measure of quality of care is sometimes quality of life" (Dr. Eichler, personal communication, 2019). In some cases, outcomes are measured by morbidity or mortality, but in cases where a person receives treatment for a non-life threatening condition, the only way to assess the quality of the treatment may be through evaluating their life quality (Dr. Eichler, personal communication, 2019).

Dr. Eichler is not the first to think quality of life must be used regularly as a quality of care indicator. However, there is a current debate among researchers to decide whether quality of life is an accurate measure for quality of care. In one study conducted by Martin Romero and his colleagues, they found that while there are many studies on the quality of life within populations, there is no way to compare the quality of life between countries. The indicator can vary based on socioeconomic status, region of inhabitation (rural vs. urban), education, marital status, and income. Because there is no way to control for these factors, it is challenging to first assess the

accuracy of the measure and second to compare the results transnationally (Romero et al., 2013). These limiting factors have caused prevented quality of life from becoming a more widely known quality of care indicator. However, in the future, researchers suggest attempting to neutralize the differences caused by these outside factors to make the measure more accurate (Romero et al., 2013).

Actors

Improving quality of care is not a task which can be carried out by one person alone, but rather requires the cooperation and coordination of the entire health system. At the national level, decision-makers must work together to take a leadership role in encouraging a quality improvement movement. Additionally, they must work to pass policies which support quality improvement. On more regional levels, health-service providers, whether as an organization, team, or individual, must work to ensure the services they provide are of the highest attainable standard for their patient. Individuals using the services are also involved in this process by identifying their health needs and seeking support from the appropriate provider (WHO, 2006). It is important to identify the actors because as quality improvement interventions are implemented, they can only be successful with the help and coordination of people on national, regional/local, and individual levels (WHO, 2006).

Data Collection

Most studies measuring quality gather their information through clinical records. However, there are several controversies surrounding only the use of clinical records because of how the information is gathered. The question arises of whether the quality data is gathered

based on what appears in the record or the care provided. Additionally, some records are found incomplete due to poor recording practices. To remedy the problem of records being incomplete, some studies will conduct supplemental interviews with providers (Donabedian, 2005). Another method for collecting quality of care data is through direct observation of the physician or other medical provider. This method also has limitations because can lead to problems of the medical professional changing their behavior because they are being watched or an inaccurate representation of quality due to the short nature of the time of observation (Donabedian, 2005). Thus, in order to measure quality of care data, it is important for there to be strong monitoring systems using a variety of different tools as to not skew the data as a result of the limitation of one tool.

Methodology

In order to conduct a comprehensive analysis of the quality care in Switzerland and the United States a literature review and formal interviews were conducted. Gathering from both of these sources, a comparative analysis was performed to examine the current systems for measuring quality, to compare measures of quality in the United States and Switzerland, to note challenges and future directions for monitoring and improving quality of healthcare.

Within the literature review, primary and secondary sources were analyzed. Sources were found through searches on Google Scholar, Pub Med, and other peer-reviewed literature databases. These sources ranged from peer-reviewed articles about measuring quality of care to grey literature from organizations who monitor and report the quality of care measures in the United States and Switzerland.

Interviews were conducted with various professionals who have expertise in quality of care work both within Switzerland and the United States. Participants were first contacted over email and then an in-person interview was scheduled. Experts were contacted based on their experience working with monitoring, evaluating, and improving quality of care. The first interview conducted was with Dr. Pascal Briot, the director of the medical and finance departments at the Geneva University Hospital. Dr. Briot is not only an expert in the Swiss healthcare system, but he also worked on quality improvement in the United States for many years. The second interview was conducted with Dr. Klaus Eichler, a professor and researcher of the interaction between quality of care and cost at the ZHAW School of Management and Law in Zurich. The third and final interview was conducted with Fabio Knöfler, a registered nurse and also a current researcher of health economics at ZHAW school of Management and Law in

Zurich. Interviews were all conducted ethically as each participant was asked for verbal consent to use the information discussed for this research.

The limitations in this methodology include the short time frame in which the research was conducted as well as limited interactions with experts. Because the research was only conducted in a one-month span, it was impossible to interview a comprehensive group of professionals, especially ones from both countries. Additionally, given the limited time frame some professionals were unable to meet because of conflicting schedules or geographic limitations.

Analysis

Current Approaches to Measuring System-Level Health Quality

There are many current approaches to measuring health quality within health systems both at national and international levels. Quality measures are “tools that help measure or quantify healthcare processes, outcomes, patient perceptions, and organizational structure and/or systems that are associated with the ability to provide high-quality health care and/or that relate to one or more quality goals for health care” (CMS, 2019). Some quality measure systems compile data for multiple countries including Switzerland and the United States, while others conduct data specifically for one country. This section will outline both types of data collections which measure quality of care.

United States

In the United States, the Agency for Healthcare Research and Quality (AHRQ) is one of the initiatives within the U.S. Department of Health and Human services (HHS) which provides many different evidence-based research reports and data collections for quality of care (AHRQ, 2012). The annual National Health Quality and Disparities Report published by the AHRQ is one of the most comprehensive reports about health quality in the country (Claxton, 2015). This report includes more than 250 quality measures. Each measure presented is explained and stratified by key characteristics such as age, race, location, etc. in order to provide a holistic look at the measure’s effects on different population groups. The report also provides some of the gaps missing in the quality evaluation due to certain measures not being currently tracked (Claxton, 2015). The AHRQ also manages the Consumer Assessment of Healthcare Providers and Systems patient satisfaction surveys (AHRQ, 2012).

The Center for Medicaid & Medicare Services (CMS) is another large quality organization which monitors and improves quality of care for Medicare and Medicaid beneficiaries, users of the social health insurance programs in the U.S. The CMS uses a standardized approach known as the Measures Management System. This system comprises of a set of processes and decision criteria to be used for the development, implementation, and maintenance of quality systems. Quality data is collected through claims, assessment instruments, chart abstraction, and registries. The CMS is also currently analyzing the quality measures data from electronic health records for physicians and other health professionals. The data will then be analyzed to ensure the best care is being provided to all patients (CMS, 2019).

Switzerland

In Switzerland, there are two main national reporting and monitoring bodies for quality of care. First is the National Association for Quality Development in Hospitals and Clinics (ANQ). The ANQ is a network which around 230 hospitals in Switzerland participate in order to monitor and improve quality of care. The ANQ focuses on three divisions of measurement: acute care, psychiatry, and rehabilitation. The ANQ has been measuring the quality of outcomes in adults since 2009 and in children and adolescents since 2013 (ANQ, 2019).

The second major organization in Switzerland monitoring quality of care is The Federal Office of Public Health (FOPH). As mentioned above, the data collection for quality of care is a more recent movement in Switzerland, and as of right now the government is only monitoring quality of care in acute hospitals (Dr. Briot, personal communication, 2019). FOPH has developed their own indicators known as the *Swiss Inpatient Quality Indicators*. The indicators

are similar to ones used in Germany and Austria. These indicators are meant to highlight whether the quality within each hospital is good or bad (FOPH, 2018).

International

In addition to the quality measures on the national levels, there are also many systems which collect data for health systems across the globe. This international data collection is important because it can be used to compare the performance of different health systems. One of the largest international efforts to produce quality measure reports at the health system level is the OECD Health Care Quality Indicators project. This project is being carried out by the Organization for Economic Cooperation and Development (OECD). The project began in 2001 and is still ongoing today with the aim of developing common health quality indicators which can be compared within all of the OECD countries. The quality of care data collected is broken up into different areas including primary care, acute care, mental health, cancer care, patient experiences, and patient safety. Within each of these categories, data for each indicator is recorded and made public in reports to provide comparative analyses of quality indicators across country (Carinci, 2015).

Other international organizations which play a role in monitoring and improving quality of care include but are not limited to the National Quality Forum (NQF) and the Institute of Medicine (IOM). The NQF is an organization which brings together professionals and stakeholders in many field to create and agree on new quality standards for healthcare. The group also provides recommendations for future improvements of quality of care (Claxton, 2015). On the other hand, the IOM takes a slightly different approach to improving quality by looking beyond the health system to socioeconomic factors which might influence quality. The IOM

argues the results from quality indicators are influenced by outside factors such as income or education level and thus must be taken into consideration (Claxton, 2015). Each of these organizations is useful in its own way as they all work towards the common goal of quality care improvement.

Case Study

This section will provide a brief case study comparing the results of different quality of care indicators in Switzerland and the United States. The data used for the case study was obtained through the OECD project on quality indicators detailed above. The indicators are broken up into six specific aspects of healthcare delivery: primary care, acute care, mental health, cancer care, patient experiences, and patient safety. Following the table indicators, an analysis of the indicators within each of the six areas of healthcare delivery will be presented. The goal of this case study is twofold; first to understand the indicators used to assess quality and second to understand how the United States and Switzerland perform according to these measures. Table 1 below provides 20 healthcare quality measures and lists the results for the United States and Switzerland. The year from which the data is collected is listed in the table as it varies between each indicator.

Table 1: Quality Measure Results for United States and Switzerland (OECD, 2017- c)

Quality Measures	United States	Switzerland
Asthma Hospital Admission (rate per 100,000 population)	89.7 (2014)	27.5 (2015)
Chronic Obstructive Pulmonary Disease Hospital Admission (rate per 100,000 population)	172.7 (2014)	110.6 (2015)

Congestive Heart Failure Hospital Admission (rate per 100,000 population)	346.9 (2014)	174.5 (2015)
Hypertension Hospital Admission (rate per 100,000 population)	48.6 (2014)	46.6 (2015)
Diabetes Hospital Admission (rate per 100,000 population)	191.5 (2014)	72.6 (2015)
Breast Cancer Five Year Net Survival (%)	90.2 (between 2010-2014)	86.2 (between 2010-2014)
Cervical Cancer Five Year Net Survival (%)	62.6 (between 2010-2014)	71.4 (between 2010-2014)
Acute Lymphoblastic Leukemia Five Year Net Survival (%)	89.5 (between 2010-2014)	90.3 (between 2010-2014)
Thirty-day Mortality After Admission to hospital for AMI based on unlinked data (rate per 100 patients)	6.5 (2014)	5.1 (2014)
Thirty-day Mortality After Admission to hospital for AMI based on linked data (rate per 100 patients)	9.3 (2014)	8.9 (2015)
Inpatient Suicide Among Patients Diagnosed with a Medical Disorder (rate per 100 patients)	No data	0.01 (2015)
Suicide Within One Year of Discharge Among Patients Diagnosed with Mental Disorder (rate per 100 patients)	No data	No data
Foreign Body Left In During Procedure (Crude rate per 100,000 hospital discharges)	7.5 (2014)	12.3 (2015)
Post-Operative Pulmonary Embolism After Hip or Knee Replacement (Crude rate per 100,000 hospital discharges)	293.9 (2014)	339.4 (2015)
Post-Operative Sepsis after Abdominal Surgery (Crude rate per 100,000 hospital discharges)	2128.7 (2014)	2371.3 (2015)
Obstetric Trauma Vaginal Delivery with Instrument (Crude rate per 100 vaginal deliveries)	9.6 (2014)	7.4 (2015)
Consultation Skipped Due to Cost (rate per 100 patients)	22.3 (2016)	20.9 (2016)
Waiting Time of More than 4 Weeks to See a Specialist (rate per 100 patients)	4.9 (2016)	20.2 (2016)

Patients Reporting Having Spent Enough Time with their Regular Doctor During Consultation (rate per 100 patients)	80.8 (2016)	86.6 (2016)
Patients Reporting Having Easy-to-Understand Explanations by their Regular Doctor (rate per 100 patients)	89.5 (2016)	90.7 (2016)

Primary Care

Primary care is an important area within the health system to measure because primary care consists of first-line care and chronic disease treatment in many of the OECD countries. Thus, it is important the care provided is of the highest quality as it will prevent the patient from developing worsened health conditions in the future (OECD, n.d.- c).. Mr. Knöfler also noted that in patients with conditions, the best quality is needed to ensure the patient has the highest quality of life and their condition does not worsen due to lack of medical treatment (Mr.Knöfler, personal communication, 2019). Both of these efforts will help to improve health status, decrease health expenditures, and eliminate unnecessary hospital visits (OECD, n.d.- c).

The indicators in this table which are used to describe primary care performance are: Asthma Hospital Admission; Chronic Obstructive Pulmonary Disease (COPD) Hospital Admission; Congestive Heart Failure Hospital Admission; Hypertension Hospital Admission; and Diabetes Hospital Admission. These indicators are chosen because asthma, COPD, and congestive heart failure are common long-term conditions which can be treated on the primary care level. If the primary care system is performing well, then there will be reduced hospital admissions for these conditions (OECD, n.d.- c). Additionally, diabetes and hypertension are risk factors for several long-term diseases including congestive heart failure so the ability to prevent, treat, and monitor these conditions also reflects the delivery of primary care (Mr.Knöfler, personal communication, 2019). Between the United States and Switzerland, the United States

performed worse on each of these four indicator listed in Table 1 when compared to Switzerland. Thus, this data is evidence that the United States must improve their first-line care to decrease hospital admissions for conditions which can be treated on the primary care level. However, due to the primary care systems in Switzerland being different compared to the United States, it is hard to conclude that one health system is performing better than the other.

Acute Care

Acute care is a type of secondary healthcare which focuses on treating patients with life-threatening conditions such as injuries or cardiovascular events. Because this type of care deals with life-threatening diseases, it is important to ensure the best quality of care is provided to the patients both on the journey to the hospital and as soon as they arrive. Any small error can be fatal or have severe long-term consequences (OECD, 2017- c).

Within the table provided above, the indicators used to assess acute care are Thirty-day Mortality After Admission to hospital for Acute Myocardial Infarction (AMI) based on unlinked data and Thirty-day Mortality After Admission to hospital for AMI based on linked data. The first indicator uses unlinked data which refers to “a situation where the death occurred in the same hospital as the initial admission”, whereas the second indicator using linked data refers to when “the death occurred in the same hospital, a different hospital, or out of hospital” (OECD, 2017- c). This indicator is used to understand several different processes of care including the emergency response, the type of medical intervention, and length of hospital admission. By using both unlinked and linked data, this distinction can help to identify where the gap in high quality performance lies (OECD, 2017- c).

For both of these indicators, the United States had slightly higher rates per 100 patients when compared to Switzerland. While the exact reason for this difference is not identified, more general reasons for the decrease of these rates not only to related to better acute quality of care, but also to prevention against smoking and treatment of cardiovascular diseases (OECD, 2017 - c). A more in-depth analysis examining the connection between the risk factors for life-threatening conditions and the quality of care to treat these conditions must be conducted to make more robust comparisons and conclusions.

Mental Health Care

Mental health care is a policy priority in many of the OECD member states as it represents a growing burden of disease within many communities. The OECD health quality indicators project dedicated a specific section of indicators to mental health care due to the nature of the illnesses being unlike any other communicable or non-communicable disease. Within the OCED mental health indicators, the focus is on measuring the existing infrastructure related to the workforce (e.g. psychiatrists) as well as measuring the health status of mental health patients (e.g. suicide) (OECD, n.d.- b).

The two indicators presented in this table for describing mental health are Inpatient Suicide Among Patients Diagnosed with a Medical Disorder and Suicide Within One Year of Discharge Among Patients Diagnosed with Mental Disorder. For the first indicator, the data for the United States was nonexistent while Switzerland had a recorded 0.01 rate per 100 patients of inpatient suicides among patients diagnosed with a medical disorder. For the second indicator in the table, no data was provided. The OECD report on Health Quality Indicators states that “the registration of a suicide is a complex procedure, which is affected by factors including how

intent is ascertained, who is responsible for completing the death certificate, and cultural dimensions including stigma around suicide” (OECD, n.d.- b). Additionally, many other factors beyond quality of care including socioeconomic status, low income, and poor physical health may contribute to the suicide rate. Thus, because of the challenges of data collection and outside factors affecting suicide rates, the indicators described in the table are not enough to compare mental health care between the United States and Switzerland.

It should also be noted that within the OECD health indicators project, there are several other indicators which describe mental health care beyond suicide rates. However, similar to the indicators listed above, within these other indicators there is very limited data for most countries and no data at all for the United States and Switzerland. The OECD report explains that mental health illnesses have very different meanings within various cultural settings thus making the data collection process very complicated. For example, in countries with less stigma around mental health issues, there may be more reported cases either due to patients self-reporting or more patients seeking care (OECD, n.d.- b). Thus, even for the countries with recorded data for mental health indicators, it may not be appropriate to compare these results with other countries.

Cancer Care

Cancer, a non-communicable disease, has become increasingly a larger burden of disease in both high and low income countries. It is now the second cause of death after cardiovascular disease (OECD, n.d.- a). The OECD health indicator project argues that it is essential to monitor and improve the quality of cancer care because many cancers can be “prevented, detected early or effectively treated if the quality of cancer care is assured” (OCED, n.d.- a). In order to monitor the burden of cancer, many countries have developed cancer registries which report cancer

survival at the regional and national levels. Additionally, there has been some movement to analyze cancer survival rates on a more global level through via the CONCORD programme for the Global Surveillance of Cancer Survival (OECD, n.d.-a).

Within Table 1, there are three indicators which relate to cancer care. These include: Breast Cancer Five Year Net Survival; Cervical Cancer Five Year Net Survival; and Acute Lymphoblastic Leukemia Five Year Net Survival. These indicators were chosen because they are some of the most common types of cancer and ones which respond well to treatment. Within each type of cancer, the five-year net survival rate was measured because it reflects both the potential benefits from early diagnosis as well as the results from treatment approaches (OECD, 2017- d). When comparing the five-year survival rates for these different types of cancer in Switzerland and the United States, table 1 shows that these countries have very similar rates. More specifically, the United States has a higher five-year survival rate for breast cancer at 90.2% compared to Switzerland at 86.2%. However, the five-year survival rates for cervical cancer and lymphoblastic leukemia are higher than Switzerland compared to the United States with percentages of 71.4 and 90.3 compared to 62.6 and 89.5, respectively. While these are just some specific measures of quality of cancer care, it is important to make known that since 1990 Switzerland is one of the OECD countries which has seen the greatest reduction in cancer-related mortality (OECD, 2017- b). Specific reasons for this decrease was not outlined, however, it can be hypothesized from the information given that it was in part due to increased screening and more effective treatments.

Patient Experiences

Patient experiences are a unique quality of care measure because it provides patients with an opportunity to share their experiences utilizing the healthcare system, rather than using different data registries provided by hospitals or other medical organizations to collect indicator results. Experiences from a patient perspective are something that cannot be learned from outcome or process measures. This type of measure is important because ensuring the patient feels empowered and has control over their own health decisions is necessary for ensuring health remains a basic right. Additionally, these measures can help promote patient centered care (Fujisawa & Klazinga, 2018). In order to measure this data in Switzerland, the ANQ has developed a short questionnaire to collect patient experience measures (PREMs). Since 2009, a quality contract between providers, health insurance companies, and cantonal health leaders to make it mandatory for all providers to monitor PREM data. In the United States, PREM data is collected every three years through the Commonwealth Fund's International Health Policy Survey (Fujisawa & Klazinga, 2018).

The patient experience indicators listed in Table 1 are as follows: Consultation Skipped Due to Cost; Waiting Time of More than 4 Weeks to See a Specialist; Patients Reporting Having Spent Enough Time with their Regular Doctor During Consultation; and Patients Reporting Having Easy-to-Understand Explanations by their Regular Doctor. The first two measures are used to assess the patient's access to the health system (Fujisawa & Klazinga, 2018). As mentioned in the background, the WHO states access as one of the six important principles to providing quality care (WHO, 2006). The second two indicators are meant describe the patient's experience utilizing the health services. This can be described as more of a "customer-service" measure (Fujisawa & Klazinga, 2018).

According to Table 1, the United States had a higher rate of consultations skipped due to cost per 100 patients. However, the United States performed better than Switzerland on the other three patient indicators. Of these indicators, it is important to note the large gap between the rates in the United States compared to Switzerland for the indicator describing the waiting time of more than 4 weeks to see a specialist. In the U.S. the rate was 4.9 per 100 patients and in Switzerland the rate was 20.2 per 100 patients. This difference is most likely due to the different health system structures between the country (OECD, 2017- b). Thus, it important to keep in mind that patient satisfaction measures in particular are challenging to compare between the United States and Switzerland due to the differences in their health systems.

Patient Safety

Patient Safety is an important quality of health indicator because many adverse medical events leading to harm are caused by certain patient safety protocols being violated. These violations often can be avoided or measures can be taken to reduce the risk of such events depending on the case. However, in order to understand the patient safety indicators, it is important to first understand the two different types of patient safety events. First, is a sentinel event. This is an event which should never occur within the medical profession. The second is an adverse event. Adverse events are described as when a person's health worsens for reasons other than why they went to the hospital. Due to the risky nature of many medical procedures, these types of events can never be fully eliminated unlike sentinel events, but many adverse events are preventable (OECD, n.d.- d). The OECD report on health quality states that about 1 in 10 hospitalizations results in safety failures or adverse events, and around 15% of hospital expenditures in OECD countries can be attributed to treating patient safety failures (OECD. n.d.

-d). Thus, there is clearly a large need to improve quality of care surrounding patient safety measures.

Table 1 describes four different patient safety indicators which are used to inform on the quality of healthcare in regards to preventing adverse events and keeping patients safe. Within these four indicators, one is sentinel: Foreign Body Left in During Procedure. The other three are adverse events: Post-Operative Pulmonary Embolism After Hip or Knee Replacement; Post-Operative Sepsis after Abdominal Surgery; and Obstetric Trauma Vaginal Delivery with Instrument. For the sentinel indicator, Switzerland performed worse than the United States with a rate of 12.3 per 100,000 hospital discharges compared to 7.5 per 100,000 hospital discharges. The reason this indicator is sentinel is because it refers to something being left in a person's body during surgery such as a gauze pad. This is entirely unavoidable even within the most complex procedures which means there must be more attention devoted to ensuring this never happens again. For the adverse event indicators, Switzerland performed worse compared to the United States on the first two, however, the United States had a higher rate of Obstetric Trauma Vaginal Delivery with Instrument compared to Switzerland. These are adverse indicators because they happen indirectly as a result of a medical treatment. For example, the indicator operative sepsis after abdominal surgery, is measuring the amount of patients who acquire sepsis, an often life-threatening condition which a patient is at higher risk for inside of a hospital. While the surgery itself does not directly cause a patient to acquire sepsis, the person can be exposed to sepsis due to their body being very vulnerable to infection as they have been opened up for surgery and may have open wounds after surgery (OECD, n.d.- d) Even though infections like this are not always preventable, precautions can be taken to decrease a patient's risk as much as possible which is why patient safety indicators are so valuable to improving quality within the health system.

However, even with these indicator results, it is challenging to compare patient safety indicators between the United States and Switzerland. In some cases, higher adverse event rates may signal more developed patient safety monitoring systems rather than worse care (OCED, n.d.- d). According to the OCED health indicators project, the methods which countries record patient safety measures are through administrative databases, not specific surveillance tactics for patient safety, which causes differences to occur in how hospitals define and record procedures and outcomes (OECD, n.d.- d). Further, not all databases record secondary diagnoses of patients which can be problematic because these other diagnoses can explain why a patient may be at higher risk or why they might have developed a complication rather than experienced an adverse event (OCED, n.d.- d).

Interpreting Results

Interpreting the results of quality of care indicators is a challenging task. For the benchmark standards which are well-established measures and have much data reported about them, the rate measured by the quality indicator can be classified as “high” or “low”. For example, the percentage of people vaccinated can be easily determined as “high” or “low” because there is a defined standard of care for the vaccination of specific diseases. However, for indicators such as emergency room visits for a certain condition cannot be compared against a standard of care. This is when it becomes trickier, so the rates are usually compared between state, regional, or national levels rather than against a standard of care (AHRQ, 2012).

However, as mentioned in many of the individual sections within the case study it is very challenging to compare indicators between countries. Several problems prevent accurate comparisons from being made including different data collection systems and different country characteristics and health system structures. Further, another point mentioned in the case study

analysis was the outside factors which can affect quality of care indicator results. It is difficult to factor in such things like socioeconomic status, education, employment, etc. for each country when comparing quality indicators.

In terms of comparing Switzerland and the United States specifically, as Dr. Briot described it, “Switzerland is not comparable to all of the United States, but rather is more comparable to a small state” (Dr. Briot, personal communication, 2019). Additionally, the Swiss and U.S. health systems are very different mainly due to the decentralization of the Swiss health system and the different insurance schemes with the U.S. being very different in its social insurance program. This makes it challenging to compare indicators such as patient experiences when their access to the system is very different depending on where they live in the country and the type of insurance coverage they have. Similar problems occur when comparing many of the other indicators.

When looking at the actual data collection in the case study, one thing to notice from Table 1 is that some of the data from Switzerland was from 2015, while the data collected from the United States was from 2014. The reason for the difference in years is not stated on the OECD indicators report, however, this is another reason comparing the results between countries must be interpreted cautiously. Even though the data reported is only a year apart, there can be adjustments to monitoring systems or even improvements in quality between these time periods. Further, in some cases there was missing data for only one of the countries. The OECD report on health quality indicators describes the cause of missing data depends on where the information is coming from. For example, if it was from a national survey, a person may choose not to answer the question or they may not understand the question correctly. However, if the data source is from administrative records at medical institutions, missing data may result from the information

not being entered into the system at all or being recorded incorrectly (OECD,2017- b). Each of these challenges presents a red flag when comparing the two countries which is why most sections of the case study found that no conclusions stating one country performed better quality of care than the other could be drawn.

Reasons for Inadequate Quality

While it is clear from the case study above that the United States and Switzerland are far from achieving the highest attainable quality of health for each patient, the question remains what is causing this inadequate quality of medical care? There is not one answer to this question, but rather many underlying factors contribute to this issue. This section will present and discuss some of these factors.

Growing Complexity of Medicine

During the past several decades, advances in science and medicine have improved rapidly. As shown in the history of quality of care in the United States and Switzerland, the discussion of quality of care did not begin until very recently, especially in Switzerland (Dr. Briot, personal communication, 2019). Due to this rapid boom of information all at once, health professionals have not been able to keep up with the improvements needed. While the knowledge has been discovered and the information about how to improve quality of care is understood, professionals have not yet been able to put this into practice (IOM, 2001).

Increase in Complex Patients

As the burden of disease shifts from infectious disease to more chronic conditions, patients are living with long-term illnesses. Further, because of the advances in science, patients

are able to live longer with these diseases, compared to being killed at a younger age by an infectious disease (IOM, 2001). As discussed in the case study, this makes the quality primary of care especially important. If primary care providers are able to provide the best type of care to their patients suffering from long-term illnesses, it will increase the patient's health and decrease health spending (OECD, n.d- c). However, the author of the article *The Challenges of Measuring, Improving, and Reporting Quality in Primary Care* states that the main challenge to primary care quality is "traditional quality improvement processes applied to linear mechanical systems such as single-disease care, are inappropriate for nonlinear, complex systems such as primary care because of differences in care processes and outcome goals" (Young et al., 2017). In summary, patients have become more complex and the health care provided by professionals is not equipped to treat such complex patients. Thus, new measures for assessing the quality of care in complex patients must be developed to find the best methods for treating complex patients.

Lack of Data Collection

In Switzerland specifically, one of the main challenges relevant to the quality of care is the lack of systematic data (Dr. Eichler, personal communication, 2019). According to the FOPH, Switzerland "lacks a nationally agreed set of quality and safety indicators especially in the field of long-term care, ambulatory care, and home care" (FOPH, 2018). This lack of data is a problem because without concrete evidence, there is no way to assess the quality of care in Switzerland. Further, without concrete data studies, there is no incentive for policy makers and medical professionals to improve quality because there is no proof or direction of understanding about which areas need to be improved. Dr. Eichler explained that if you try to motivate a doctor

to improve their quality, they will show you their full waiting room and say there is nothing wrong with the quality of care they are providing (Dr. Eichler, personal communication, 2019).

Little Financial Incentive to Improve Quality

Just as mentioned above, it is hard to motivate medical professionals to improve quality when they either do not see it as a problem due to the lack of data, or they have no incentive to focus on quality of care rather than quantity. In the United States specifically, quality of care is lagging because of a lack of financial incentives for doctors to provide high quality care. Most of the care provided is based on a fee-for-service model which means physicians make a certain amount of money for each medical treatment or service they perform. However, they make a fixed price regardless of the outcome or quality of care provided. This causes a problem where medical professionals want to see as many patients as possible to make the most amount of money, rather than spending the time to ensure the highest quality of care is provided to each patient (Brennan et al., 2009).

Future Directions

National Quality Measures

In order to address the challenges of being unable to assess and compare the quality of care between countries due to incomplete data collection or different systems of data collection, a set of national quality of care measures should be established across countries. This will help to provide accurate data about the quality of care within each sector of the health system. Further, if these national quality measures are able to be compared across countries, it could bring the need for policy changes and quality improvement interventions to the forefront of the healthcare

industry. With the data to prove the areas of need, health systems could make investments of resources which will bring the highest quality of care for the lowest cost (Claxton, 2015).

System with Quality Incentives

To improve quality of care, there must be dedication from medical professionals to achieve this goal. One of the problems explaining the poor quality of care specifically in the United States is the setup of the system to focus on providing high volumes of care, rather than on the quality provided (Brennan et al., 2009). Thus, in order to convince highly educated and very busy medical professionals to make high quality a priority is to change the payment schemes and provide financial incentives. More recently in the United States there have been efforts to create a system which does provide financial incentives. This is known as the Pay-for-Performance (P4P) model which pays medical professionals more money if they are able to meet certain performance criteria. This model, however, is not utilized throughout the entire health system making it hard to track if there have been any quality improvements (Brennan et al., 2009). Unfortunately, no such financial incentive models have yet been initiated in Switzerland (Dr. Briot, personal communication, 2019). However, with Switzerland starting to prioritize improving the quality of healthcare, this could be a tactic implemented in the near future.

Conclusion

Measuring quality of care indicators is essential to ensuring all aspects of care delivery within the medical system are performing to the highest attainable standards. However, defining the highest quality standards and measuring them has proven to be a challenging task. Both the United States and Switzerland have their own national monitoring systems as well as

international systems which track both countries. Despite this, the case study found there to be many gaps within the data including missing data or data from several years ago. Additionally, this research was unable to make conclusions when comparing the performance of quality of care in Switzerland and the United States due to the differences in data monitoring and collection as well as varying health system structures.

Even though no conclusions were drawn about the performance of either country's quality measures, general reasons for the poor quality were found. These include fast pace advances in medicine with structures unable to support these changes; no incentives for medical professionals to improve quality; lack of data on quality measures; and an increase in complex patients. Both countries have made it a priority in the future to focus on improving quality of care outcomes by creating better measures for data collection and providing incentives for medical professionals to focus less on the quantity of patients seen and more on the quality of care provided. In the future, more data must be collected to ensure the quality of care remains of the highest level within these two countries. Hopefully with the implementation of a national quality measure, the quality indicators will be able to be compared across countries in order to inform change and encourage better performance.

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