ECRONICON OPEN ACCESS

EC GASTROENTEROLOGY AND DIGESTIVE SYSTEM

Review Article

Surgical Quality, A Real Situation

Morelos Adolfo García Sánchez[1]*, Mireya De La Fuente González[2], María de los Ángeles Carmona Alva[3], Jorge Luis Torres Castañeda[3], Mara Luz Terán Estrella[3], Antonio Tonatiuh Uribe Wittingham[3], Wendy García Sánchez[3], Cristián Andrés González Vargas[3], José Luis García Hernández[3], Juan David Martínez Gómez[3], Mauricio Israel Flores Pazos[3], Nancy Mendoza Pineda[3], Ana Fernanda Aburto Mariano[3] and María Isabel Estrada Rodríguez[4]

[1]Colonic and Rectal Surgeon and General Surgeon, Surgical Department at "Dr. Rubén Leñero" General Hospital Secretary of Health of Mexico City, National Autonomous University of Mexico, México City, México

[2]General Surgeon, Surgical Department at "Dr. Gaudencio Gonzalez Garza" General Hospital Specialized Medical Unit, "La Raza", National Medical Center, Mexican Social Security Institute, National Autonomous University of México, México City, México

[3]General Surgeon, Surgical Department at "Dr. Rubén Leñero" General Hospital Secretary of Health of Mexico City, National Autonomous University of Mexico, México City, México

[4]Pediatrist, Pediatrician Department. Regional General Hospital No. 251, Metepec. Mexican Social Security Institute, National Autonomous University of Mexico, México State, México

***Corresponding Author:** Morelos Adolfo García Sánchez, Colonic and Rectal Surgeon and General Surgeon, Surgical Department at "Dr. Rubén Leñero" General Hospital Secretary of Health of Mexico City, National Autonomous University of México, México City, México.

Received: January 20, 2022; **Published:** February 25, 2022

Abstract

Introduction: It is very complex to address the issue of quality, its genesis is documented in the craft industry that was the mode of production in the Middle Ages; Currently, quality is based on the International Organization for Standardization (ISO) with 148 standards, generic quality concepts worldwide. On the other hand, health services are such complex machinery, with so many gears and a diversity of variants, that most of them present uncontrolled scenarios and that no company or organization is equal in terms of its functionality with the entire health process. Illness of a patient.

Developing: The historical precedent of the beginning of the quality of the Surgical Process is really uncertain, since the exact moment in time is not specified, which is given importance or is separated from the entire issue of quality of health care. Exposure, execution, adverse event and final product, evaluating the results of the surgeries and the surgical skills of the surgeons. There is also the National Surgical Quality Improvement Program (NSQIP), which is used more and more for surgical research, but which is not generally applicable in all specialties. Despite all efforts to improve surgical quality, to date it is still limited by several factors and there is no consensus on the most effective way to carry it out.

Conclusion: A reengineering would reinvent this direction of null quality in the surgical process and would yield invaluable improvements in the quality of surgical care with resource savings, in an efficient and effective manner. Finally, this work describes an analysis of the Surgical Process in its quality of care, its current state, its most unrecognized critical points, its strengths and its realities; positioning itself in the international and national context.

Keywords: *Quality; Process; Surgical; Reengineering; Attention*

Introduction

It is very complex to address the issue of quality, its genesis is documented in the craft industry, which was the mode of production in the Middle Ages, where the act of quality was inspection and at a very high cost; quality has historically evolved, as the result of the form of production [1]. Quality management begins with W. Shewhart in 1920, but it was not until 1990 when William Edward Deming highlighted it, with his chain reaction analysis in quality and productivity [2]. Currently, quality is based on the International Organization for Standardization (ISO) with 148 standards, generic concepts of quality worldwide. ISO 9000 is a basic quality management system used in companies of any type and size. These regulations began in 1987, with subsequent modifications in 1994, 2000, 2008 and 2015 [3,4].

Health services are such complex machines, with so many gears and a diversity of variants, most of them with uncontrolled scenarios, which are equated in terms of their functionality with the patient's health-disease process. And that it is infinitely difficult for them to be equivalent to the largest organizations.

The World Health Organization (WHO) defines quality in health as "Ensuring that each patient receives the most appropriate set of diagnostic and therapeutic services to achieve optimal health care, taking into account all the factors and knowledge of the patient. and the medical service, and achieve the best result with the minimum risk of iatrogenic effects and maximum patient satisfaction with the process" [5].

The characteristics or elements described by the WHO for quality health care are:

a) Effectiveness in providing the service based on evidence.

b) Security applied to help and not harm.

c) Focus on people and focus on personal needs, values and preferences of the patient.

d) Opportunity of attention, it is the ideal to avoid deferral and delay.

e) Equity, not discriminating based on age, sex, religion, etc.

f) Comprehensiveness where all services at all levels are coordinated.

g) Efficiency in optimization of resources [5].

On the other hand, it is convenient to describe the non-quality of health care, where the WHO estimates that up to 15% of the world population dies due to poor quality of health care, approximately 8.4 million people, this is obviously catastrophic. There is a cardiovascular pathology that could be prevented, with a high sanitary quality applied, where almost 2.5 million deaths would be avoided, in addition, almost 900,000 deaths have been reported due to tuberculosis; On the other hand, half of the women die due to maternal death, and finally it can be said that the death of a million newborn children could be avoided [6].

Developing

Background

The historical precedent of the beginning of the quality of the Surgical Process (SQ) is really uncertain, since the exact moment in time is not specified, that it is given importance or that it is separated from the entire issue of quality of care of the Health. The study carried out by the National Veterans Administration of surgical risk, initiates a protocol in 1991 to 1993, on the patient's risk and the result of

major surgery in Veterans Health Hospitals. This research was carried out in 44 hospital centers regardless of the type of anesthesia and in 83,958 patients, thus being the outline of a future project [7].

All of this develops the revolutionized precedent called the National Surgical Quality Improvement Program (NSQIP). That it already had its beginnings in the year 1990 but that began to be installed formally in 1991 in the United States of America, beginning in veterans' hospitals, through the American College of Surgeons (ACS) since the year of 1994 [8], by 2004 in private hospitals and a year later it was implemented throughout the country [9].

On the other hand, in Europe the European Network for Patient Safety project began in 2008, with a search for the exchange and concatenation of knowledge, experiences and clinical practices; In 2010, the European Commission and the Public Health working group formulated the Quality of Health Care, and in April 2012 the European Union created the Network for Patient Safety and Quality of Care: PaSQ [10].

In 2015, the system of standards of excellence in quality improvement reports (SQUIRE) was created; they are based on semi-structured interviews with managerial feedback. This methodology was not done based on the surgical area, but in medicine in general [11].

The international scene

Surgical quality (SQ) is very complex, it can be analyzed in an adjusted way and adapted to the different scenarios, of the metrics in the results and the biological variability factors that the patient presents; It is worth emphasizing that in the rural areas of the United States of America this process can be carried out successfully [12].

The surgical team of Europe in Italy, carry out a scientific study that consists of an international multicenter randomized controlled trial, with grade I scientific evidence. Regarding the quality of the PQ with the purpose of elaborating a standardized in patients with the technique TaTME (Total excision of the mesorectum transanally is a technique combined laparoscopic route abdominal and transanal described recently for rectal cancer surgery), operative guide, with a matrix of 9 steps and 4 performance qualities: exposure, execution, adverse event and final product, evaluating the results of the surgeries and the surgical skills of the surgeons. In an iterative approach that objectively develops standardization into a valid and reliable development [13].

On the other hand, the Clinical Practice Guidelines are a quality factor for the PQ, the objective was to identify the Clinical Practice Guidelines published by scientific and surgical organizations, evaluating their quality of the degree of research; the guidelines published from 2008 to 2017 were analyzed, yielding mediocre results and where 40% were considered inappropriate for use; however, to achieve a higher quality of them in the field of surgery, it is to have a guideline committee, a routine to perform them (experience) and adherence to the GRADE methodology [14].

In another context and in the opinion of other authors, being able to measure the quality of care of the PQ is basically a true utopia. For many, it is really absurd to be able to measure costs, patient experiences, operations, results, complications, managers, etc.; this barrage of measurements seems confusing and seriously flawed, where the success of this top-down approach is mixed and far from convincing. Current programs disproportionately reflect definitions of quality from a national payer perspective, rather than a more balanced representation of the interests of all stakeholders [15]. Efforts to improve surgical safety are limited by several factors, and there is no consensus on the most effective way to improve CQ. ISO 9001 quality standards are recognized for use within medical care, but have not been widely applied to improve outcomes in the surgical setting specifically [16].

There is the National Surgical Quality Improvement Program (NSQIP), it is used more and more for surgical research, but it is not generally applicable in all specialties; Although the NSQIP has the potential to capture surgical diversity in caseloads, some specialties and procedures are underreported, which limits the ability of the NSQIP to generate valid benchmarks [17]. It should be noted that CQ studies

and research, have currently occurred in some countries in a constant strengthening, improving the quality of care in the PQ; that is why the associations between safety culture and adverse outcomes of the NSQIP at 30 days: in morbidity and mortality, where death or serious morbidity adjusted to hospital risk and readmission rates, do not conclude in a significant association [18]. The duration of their hospital stay and the personal perioperative risks of the 12 clinical complications analyzed were estimated by the Surgical Risk Calculator, where patients actively make decisions about surgical intervention, therefore it can be of particular benefit for high-risk surgical populations by providing realistic expectations of outcomes and recovery [19].

Unplanned readmission within 30 days is currently used in high-income countries to measure the quality of surgical care, where surgical site infection, abdominal discomfort, and pain are the most common causes of this readmission. The correlation between readmission rates and mortality, the increase in the number of patients and the complexity of the surgery remain controversial. The readmission rate is an indicator of advanced surgical pathology, which requires a surgical intervention of greater magnitude, which often occurs as an emergency, translating into having implications for PQ quality improvement programs [20].

In other parts of the world, such as the African continent, concern for the quality of PQ care can be seen, which despite having very few resources, scrutinizes the way to offer a CQ service, depending on the need and quality of the transfer to identify any inefficiency in the referral process, concluding a reduction in the inappropriate use of specialized care and guaranteeing better care pathways for surgical patients [21]. For its part, in the Amazon, in Brazil, a new instrument is created to evaluate the quality of care of the PQ, with 14 quality metrics, consisting of nine indicators prospectively over a period of 4 weeks, while five hospital administrative data were collected retrospectively and the operating room log books; it is then left that it is feasible to apply a new CQ measurement tool, even in settings with limited resources [22].

In countries with high economic resources, the quality of care is affected by other sociodemographic cofactors, which are an emerging concern for some authors, especially in oncology, such as age over 75 years, black ethnicity, the lower income, without a partner and without insurance [23]. For its part, in Europe, in Finland, a study is being carried out, evaluating the association of postoperative complications, low quality and the qualification of patient care, through the Scale of Good Nursing Care for Patients, resulting in the lowest overall care quality rate, was assessed by surgical patients who lived alone and those whose health status was moderate or poor [24].

On the other hand, in the countries of Australia and New Zealand, they have implemented indicators for the Victorian Surgical Mortality Audit, allowing the error rate to be recognized; it is decisive that the errors cannot be completely eliminated and this action is not realistic, but it is possible to reduce them to a minimum and the findings can contribute to improving the QC audits [25]. At the same time, the quality evaluation is carried out carried out with the electronic data that present significant analysis errors due to the quality of the data not validated in the health records, for which a framework for the analysis of fundamental and specific data of the study was adapted and evaluated through analysis of conformity, completeness and plausibility. And this is something that must be taken into consideration [26]. In addition, the NSQIP database records from 2006 to 2013 are reviewed, identifying diagnostic code errors by terminology, surgical procedure, medical procedure, and postoperative diagnosis of the disease. International Classification of Diseases (ICD-9) [27].

Quality is very important from the point of view of the patient, the provider, the payer and the policymaker; however, given the growth in outpatient procedures and the expansion of surgical indications to improve function, many traditional quality metrics such as mortality, readmissions, and complications may be decimated and may not fully capture truth of the data [28].

Another key factor is the impact of infrastructure and surgical technique, comparing two hospitals in the same country. There is a significant difference between the two hospitals in terms of operative time, which in addition, the rates of complications in both units were equal and low. Concluding that infrastructure and facilities do not make a difference in terms of postoperative complications in patients, but rather human capital [29]. Although there is broad consensus that surgical quality should be monitored, there is much less agreement about which metrics are the most important, still focusing on structure, process and results [30].

During the last decade, the death of a patient after one or more potentially treatable complications has received increased attention as an indicator of surgical quality. Patient death is unfortunately an attractive quality endpoint, because it implicitly explains the fact that postoperative complications may not always be preventable [31]. However, CQ not only includes logistical changes with beneficial results, but also maximizing appearance economic; where an analysis of healthcare costs and savings associated with surgical quality improvement interventions, initiated and implemented using NSQIP, in five hospital centers in Canada, where events had clinically and economically significant impacts, with an index of return on investment that was 4.3 to 1, concluding that the sensitivity showed that the probability that NSQIP saves costs excessively and that it reaches up to 95% of the total economic value [32].

The scene in Mexico

Mexico is a country with continuous economic crises, without economic growth in more than 50 years, with technological backwardness, with extreme poverty in half of the population, (1.2 percent per year per capita on average, in the last twenty years there has been no allowed an increase in the purchasing power of income), functional illiteracy in a third of its inhabitants, unemployment masked by underemployment and informal economy above 80%, frequent devaluations, extreme indebtedness and loans of almost all of the natural resources of the Nation [33,34]. In this context, the situation in which the health sector finds itself is not enigmatic nor would it be different. Another factor that prevails, no less important, in the performance of the quality of care of the PQ is globalization in health. In Mexico, the neoliberal model adopted has configured in the last 40 years a country increasingly subordinated to the economy, policies and dictates of the United States of America. The inclusion of the country in free trade agreements in a disadvantageous way causes deindustrialization of national production, oriented to local markets and rapidly depreciates the value and equity of the labor force [35].

The state limits its ownership status by selling off strategic public assets, compacting government structures, and selectively dismantling public institutions. It reduces its redistributive role and diminishes its ability to regulate class relations and social conflict, evading its responsibility as a guarantor of constitutionally recognized fundamental human rights. The transformation of the country in the neoliberal logic deepens the deterioration of the quality of life of the majorities, increasing the population in conditions of poverty and inequality [36].

The traditional patterns of health systems in Latin America: fragmentation and inequity, forces us to scrutinize the historical development of the public health and social security system in Mexico, which has been configured with three clearly differentiated segments: one, social security for workers with formal employment, subdivided into different institutions with attention to specific groups of workers: the Mexican Social Security Institute (IMSS) created in 1943; the Institute of Social Security and Services for State Workers (ISSSTE) in 1959; the Social Security Institute for the Armed Forces of Mexico (ISSFAM) in 1976 and for workers of Petróleos Mexicanos (PEMEX) in 1967. The second is private health services, from the large medical-hospital company, to pharmacy offices. The third is for those who lack social security, with services from the Ministry of Health created in 1943, the State Health Systems in 1985, the IMSS-Prospera program (IMSS-Coplamar since 1979, later IMSS-Solidarity and IMSS-Oportunidades) and the Popular Insurance in the years of 2004 now called the Institute of Health for Well-being (INSABI) in the year 2020. From its creation until the beginning of the 1980s, a (heterogeneous) expansion is observed of the public health services and both the labor social security (with the IMSS at the head) and the Ministry of Health, gradually decline their medical-health care coverage, which is stopped by the imposition of the economic market logic (predominant informal employment) imposed in the last 35 years [37].

The quality of the PQ in Mexico is in a scenario of frank desolation or in complete abandonment, which unfortunately this statement is based on a total absence of quality of care and medical care in the public sector. With very peculiar or specific characteristics that are mentioned below: saturation of services [38] which causes a long-term deferral of the requested care for more than 6 months or even one year, in the programming of an elective surgery or a medical consultation [39]. Causes of surgical complications not controlled by the operative or adjusted in Mexico, reflected in the increase in morbidity of up to 42% and also in mortality not determined or known [40]. They cause complications such as surgical reinterventions, consecutively or multiple times, dehiscence of the sutured tissues, infec-

tions, use of intensive therapy (with impressive or disproportionate economic costs), more days of hospitalization, more consumption of resources, such as solutions, medicines and that lead to the end despite all the resource consumed, the patient to sepsis and death; with exponential economic costs and unspeakable mortality, as shameful [41]. Technological obsolescence and backwardness in Mexico is critical, where medical or biomedical equipment becomes an Achilles heel, with shortages, gaps and obsolescence that bring with it: slower operating times, greater number of errors, greater bleeding during surgery and greater risk of complications for the patient with much greater stress, fatigue and difficulty for the surgical team with permanent sequelae of morbidity and the most fatal, death. And it is publicly politicized in an outsourcing (when there is one) [42] since they only exist in certain health establishments in a selective manner, they are not managed where there is a real need for the service, equipment and their maintenance. The contracts are limited to a certain amount of medical procedures or events, with limited material and low quality, with second-hand, old or even obsolete medical equipment, this equipment is what the contracted companies grant. In addition, they create a technical-operative dependency, where it only generates incompetence of the operative, of the technical personnel and of the institution itself. Finally, it is a very lucrative way of justifying costs, with nepotism, theft and misappropriation of budgets [43].

Surgery as a public health problem in Mexico has been left aside, providing investment, training, preparation, updating and technology [44] has occurred in great discrimination, in a drowning of red tape and with a medical service that is practically obsolescent; with a quality of attention that reveals the truth of a deplorable and fateful reality. And what to say about the quality that is already non-existent in the PQ and the fundamental role it plays in the health system, which unfortunately, its future is not encouraging at all [45].

In the National Development Plan 2019-2024 in Mexico published in the Official Gazette of the Federation, it states that the quality of health care is not determined as an objective within its policy and clarifies that it is "insufficient, inefficient, impoverished and corroded by corruption", where millions of Mexicans do not have coverage in the field of health care, or social security, or diseases that do not have coverage or a way to have decent, quality and decisive medical care [46].

On the other hand, public health establishments in Mexico are in a constant process of corruption, with permanent looting, bureaucratic indolence and a continuous budget management bias, where in the year 2021, they have increased to more than double the budget, which did not occur in the six-year terms of previous governments [47] however, the lack or null management of the senior management of the health institutions, with these extraordinary economic resources have been wasted or disappeared. Making no difference then.

One cannot ignore mentioning the existence of a legislative, regulatory and logistical anarchy in relation to surgical work, which, in addition, with the addition of a certain unfounded itching that exists from the Senior Management (clinical doctors) and the rest of the specialties clinics, which have festered against the surgical areas and without overlooking "forgetting" in an essential or indispensable participation of the entire machinery of the health system, failing to provide investment, training, preparation, updating and technology to what surgery refers [48]. In addition to the fact that the management personnel do not have a defined idea of what their function is and what is expected of their work; consequently, its central idea is the desire to move up the hierarchical ladder without training, focused only on image and prestige, or simply on authority. Where it is clear that the selection of management personnel must be carried out appropriately by skills and not under the scheme of friendship and compadrazgo; This monumental deficiency reflects the main causal factor of the non-quality of the PQ in Mexico [49].

Conclusion

The PQ is currently essentially forgotten in Mexico; its permanence is essential for that reason it still exists, however it does not have the necessary elements, resources and logistics to be able to provide quality in its attention; It is unfortunate to conclude that its evolution has been paralyzed, sectioned, decapitated, that it is in a gap in constant and deplorable agony.

The first stigma that there is as an objective in the health sector, is of an empty power in the top management, the second is the business or the economic gain, in a true profit of the national and international power groups; with unfounded decision-making, absurd and unrealistic policies. Based on complete ignorance, lack of creativity and innovation, on hollow programs and with disastrous results.

A reengineering would reinvent this direction and yield invaluable improvements in the quality of surgical care and with a saving of resources better used, efficiently and effectively.

Finally, this paper describes an analysis of the PQ in its quality of care, its current state, its most unrecognized critical points, its strengths and its realities located in an international and national scenario. In Mexico, the real vision is that the health system that has been created is not ready to attend to the health of the Mexican population and even so, it has lived by pretending that it does.

Conflict of Interests

The authors declare that they have no conflict of interest.

Bibliography

1. Aíteco consultants, "History of Quality: from Inspection to Excellence" Spain, Aiteco consultants, development and management (2021).
2. Carvajal-Zambrano GV., *et al.* "Process management. A principle of quality management. Open Sea Publisher. Ecuador (2017): 64-67.
3. Colin L.O. ISO 9000:2000 standards for Quality Management Systems. IIE Bulletin. Technical articles. 2 (2002): 182-188.
4. ISO Central Secretariat in Geneva, Switzerland. ISO9001:2015. International Standard ISO 9001. ISO (2015): 1-29.
5. International University of La Rioja 2021. Quality in health and patient satisfaction., In WHO, UNIR Magazine 1 (2021): 1-3.
6. Proaño CA. "The poor quality of health care kills. Lancet Global Health Commission, Inter-American Development Bank (2018): 1-15.
7. Khuri SF., *et al.* "The national veterans administration surgical risk study: risk adjustment for the comparative assessment of the quality of surgical care". *Journal of the American College of Surgeons* 180.5 (2021): 519-531.
8. Itani KM. "Fifteen years of the national surgical quality improvement program in review". *American Journal of Surgery* 198 (2009): 9-18.
9. Velanovich V., *et al.* "Implementation of the national surgical quality improvement program: critical steps to success for surgeons and hospitals". *American Journal of Medical Quality* 24 (2009): 474-479.
10. Agra-Varelaa Y., *et al.* "European Network for Patient Safety and Quality of Care. Development and preliminary results in Europe and in the National Health System". *Madrid Spain* 2 (2015): 95-102.
11. Sacks OA., *et al.* "Quality assessment of the literature on surgical quality improvement". *Surgery* 166.5 (2019): 764-768.
12. Halverson AL. "Rural Surgical Quality: Policy and Practice". *Surgical Clinics of North America* 100.5 (2020): 901-908.
13. Tsai AY., *et al.* "Surgical Quality Assurance in COLOR III: Standardization and Competency Assessment in a Randomized Controlled Trial". *Annals of Surgery* 270.5 (2019): 768-774.
14. Antoniou SA., *et al.* "Guideline Assessment Project: Filling the GAP in Surgical Guidelines: Quality Improvement Initiative by an International Working Group". *Annals of Surgery* 269.4 (2019): 642-651.

15. Henry LR., *et al.* "Quality measurement affecting surgical practice: Utility versus utopia". *American Journal of Surgery* 215.3 (2018): 357-366.

16. Slakey DP., *et al.* "Applying international organization for standards 9001 to create an effective surgical quality committee". *American Journal of Surgery* 221 (2021): 598-601.

17. Tang AB., *et al.* "Surgeon work captured by the National Surgical Quality Improvement Program across specialties". *Surgery* 120 (2020): 550-555.

18. Odell DD., *et al.* "Association Between Hospital Safety Culture and Surgical Outcomes in a Statewide Surgical Quality Improvement Collaborative". *Journal of the American College of Surgeons* 229 (2019): 175-183.

19. Raymond BL., *et al.* "Use of the American College of Surgeons National Surgical Quality Improvement Program Surgical Risk Calculator During Preoperative Risk Discussion: The Patient Perspective". *Anesthesia and Analgesia* 128 (2019): 643-650.

20. Snyders PCS., *et al*. "Thirty-day readmission rate: a predictor of initial surgical severity or quality of surgical care? a regional hospital analysis". *South African Medical Journal* 110 (2020): 537-539.

21. Pittalis C., *et al.* "Patterns, quality and appropriateness of surgical referrals in Malawi". *Tropical Medicine and International Health* 25 (2020): 824-833.

22. Roa L., *et al.* "Cross-sectional study of surgical quality with a novel evidence-based tool for low-resource settings". *BMJ Open Quality* 9 (2020): 3-9.

23. Benoit L., *et al.* "Impact of sociodemographic characteristics on the quality of care in the surgical management of endometrial cancer: an analysis of a national database in the united states". *Gynecologic and Obstetric Investigation* 85 (2020): 222-228.

24. Saarinen IH., *et al.* "Perceived quality of surgical care in association with patient-related factors and correlation to reported postoperative complications in Finland: a cross-sectional study". *British Medical Journal* 10 (2020): 8-11.

25. Chen A., *et al*. "Implementing error rate checks to improve the data quality in the Victorian audit of surgical mortality". *Computers in Biology and Medicine* 106 (2020): 40-45.

26. Corey KM., *et al.* "Assessing Quality of Surgical Real-World Data from an Automated Electronic Health Record Pipeline". *Journal of the American College of Surgeons* 230 (2020): 295-305.

27. Rolston JD., *et al.* "Systemic inaccuracies in the national surgical quality improvement program database: implications for accuracy and validity for neurosurgery outcomes research". *Journal of Clinical Neuroscience* 37 (2017): 44-47.

28. Billig JI., *et al.* "Patient-reported outcomes: understanding surgical efficacy and quality from the patient's perspective". *Annals of Surgical Oncology* 27 (2020): 56-64.

29. Odelberg N., *et al.* "The Impact of a Surgical Unit's Structure and Operative Technique on Quality in Two Swedish Rural Hospitals". *Journal of Investigative Surgery* 33.10 (2020): 924-929.

30. Ibrahim AM and Dimick JB. "What Metrics Accurately Reflect Surgical Quality?" *Annual Review of Medicine* 59 (2018): 481-491.

31. Portuondo JI., *et al.* "Failure to Rescue as a Surgical Quality Indicator: Current Concepts and Future Directions for Improving Surgical Outcomes". *Anesthesiology* 131 (2019): 426-437.

32. Thanh NX., *et al*. "An Economic Evaluation of the National Surgical Quality Improvement Program (NSQIP) in Alberta, Canada". *Annals of Surgery* 269 (2019): 866-872.

33. Grupo Banco Mundial. México: panorama general. [en línea], Banco Mundial, Estado Unidos de América (2021).

34. Ibarra T. "La revolución de los ricos. México DF. Facultad de Economía Universidad Nacional Autónoma de México (2015): 22-31.

35. López-Arellano O and y Jarillo-Soto EC. "La reforma neoliberal de un sistema de salud: evidencia del caso mexicano". *Cadernos de Saúde Pública* 33.2 (2017): 1-13.

36. López-Moreno S. "Derecho a la salud en México. 1ª Edición. México DF: Universidad Autónoma Metropolitana". *Rearche Gate* (2016): 51-82.

37. Barba C. "La reforma de los sistemas de salud en América Latina: los casos de las reformas de tempranas, intermedias y de tercera generación en México y Chile. In: Fidel C, Valencia E, coordinadores. (Des) encuentros entre reformas sociales, salud, pobreza y inequality in Latin America. Buenos Aires: Latin American Council of Social Sciences (2012): 61-96.

38. Islas Cerón RG., *et al.* "Association between quality of care and the level of saturation of the emergency department of a hospital in Hidalgo, Mexico". *JONNPR* 5.10 (2020): 1163-1178.

39. De León Vega K. "Events related to the delay and cancellation of scheduled surgeries at the ISSSTE regional hospital in the months of March and April 2017, (Master in health services administration). PueblaPuebla, Mexico". *Meritorious Autonomous University of Puebla* (2017): 10-37.

40. Padilla-Leala KE., *et al.* "Surgical Apgar as a predictor of complications in gastrointestinal cancer surgery". *Journal of Gastroenterology of Mexico* 5 (2021): 259-264.

41. Estiragués-Cerdá M., *et al.* "Complications of surgical wounds: risk factors, prevention and treatment". *Ochrons* 7 (2021): 99-92.

42. González-Venegas MJ., *et al.* "Convenience of contracting by outsourcing". *Revista Mexicana de Medicina Forense* 5 (2020): 112-118.

43. Ruiz-Medrano SF. "Implications of the figure of outsourcing in labor rights and profits of companies in Mexico: a comparative analysis". *Rev University Act* 29 (2019): 1-18.

44. Ramos-De la Medina A and Torres-Cisneros JR. "Surgery as a public health problem in Mexico and the concept of global surgery". *Surgeon General Jerome* 1 (2020): 57-60.

45. Pérez-Orive J., *et al*. "Innovation in health in Mexico: important challenges and a long way to go". *Rev Public Health of Mexico* 61 (2020): 545-548.

46. Secretary of the Interior. National Development Plan 2019-2024. Official Gazette of the Federation, Mexico (2019).

47. Expense Budget Of The Federation For The Fiscal Year 2020 Chamber Of Deputies Of The Honorable Congress Of The Union General Secretariat. Secretariat of Parliamentary Services. New Budget DOF 30-11 (2020).

48. Ramos-De la Medina A and Torres-Cisneros JR. "Surgery as a public health problem in Mexico and the concept of global surgery". *General Surgeon* 1 (2020): 57-60.

49. Pavón-León P and Gogeascoechea-Trejo MC. "The importance of health administration". *Medical Journal Institute of Health Sciences* 1 (2004): 1-2.

Volume 9 Issue 3 March 2022