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Surgical Error Compensation Claims as a Patient Safety Indicator: Causes and Economic Consequences in the Murcia Health System, 2002 to 2018

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Objectives: Compensation claims are a useful source of information on patient safety research. The purpose of this study was to determine the main causes of surgical compensation claims and their financial impact on the health system.

Methods: A descriptive observational study with analytical components was carried out on compensation claims brought against the surgical area of the Murcia Health System between 2002 and 2018. We analyzed the frequency, causes, consequences, locations and surgical settings of these claims, the time of judicial procedure, and compensation adjusted to the Consumer Price Index.

Results: There were 1172 compensation claims. "orthopedic surgery and traumatology" (27.4%), "gynecology and obstetrics" (25.7%), and "general surgery" (17.2%) were the main surgical settings involved. The most frequent causes were surgical error (42.4%) and treatment error (30.9%). The main sequelae were musculoskeletal (20.0%), neurological (17.7%), and obstetric (17.7%). The average time from incident to resolution of claims was 6.3 years. A total of 20.1% of these claims were successful, particularly those involving retained surgical foreign bodies (71.4% successful claims; $P < 0.001$). The total compensation paid was €56,338,247 (an average of €17,207 per claim). Compensation was higher in cases with respiratory sequelae (median, 131,600; $P = 0.033$), death (75,916; $P < 0.001$), and neurological (60,000; $P = 0.024$).

Conclusions: Compensation claims associated with surgical procedures are made on a variety of grounds. They are drawn-out proceedings, and patients are only successful in 20% of cases.

Key Words: specialties, surgical, administrative claims, health care, patient safety, malpractice, retrospective studies, humans, Spain

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Patient safety has become increasingly important in recent decades.[1] It has been the subject of international initiatives promoted by prestigious institutions,[2,3] to the extent that it is now an essential facet for providing quality health care.

This additional emphasis is partly due to the highly complex nature of current medical practice, which not only uses increasingly effective technologies but also has greater potential for incidents related to patient safety,[4] which, if they cause harm, are classed as adverse events (AEs).[5] These incidents can lead to disparities between patient expectations and perception of the quality of care received, resulting in patient dissatisfaction with the health system.[6] As a result of this disappointment, patients may decide to file claims for medical negligence.[7] In Spain, when patients file claims against the public health system and seek compensation because their rights have been violated, these are treated as claims for compensation (CCs) and *administrative litigation*, which may be referred to the courts. If the court finds that the care provided by the administration was below expectations, the medical care delivered will be judged negligent,[8] and the court will find in favor of the plaintiff.

In this context, an estimated 50% of compensation claims for inadequate health care involve a failure to follow recommendations published in clinical practice guidelines or unnecessary treatment.[9] In turn, claims for alleged medical negligence are more common in the case of surgery,[10] particularly in disciplines such as "orthopedic surgery and traumatology" (OST)[11] and "gynecology and obstetrics" (GO).[9,12]

Furthermore, incidents and their resulting compensation claims can have negative consequences for all parties: for the patients who are directly affected; for health care professionals who are *second victims*, for possible work anxiety related to the event[13]; and for health institutions as *third victims*, for the damage to their reputations and possible financial repercussions.[14]

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TABLE 1. Breakdown of Compensation Claims Brought Against the MHS Between 2002 and 2018, Depending on the Presence or Absence of Certain Causes and Consequences of the Associated Incident

	Total CC		CC Resolved		TIR,	Claims Allowed		
	n	%	n	% (Over Total CC)	Median (Q1–Q3), y	n	% (CI 95%) (Above Total CC Resolved), %	*P* (Allowed CC % Difference)
Total	1172		782	66.7	6.3 (4.2–8.2)	157	20.1 (17.4–23.0)	
Year of CC								
2002	33	2.8	27	81.8	8.9 (3.0–13.8)	12	44.4 (26.9–63.5)	0.001*
2003	37	3.2	34	91.9	4.2 (3.0–11.8)	6	17.6 (8.0–34.4)	
2004	39	3.3	35	89.7	10.8 (6.5–12.0)	5	14.3 (6.0–30.4)	
2005	69	5.9	64	92.8	8.4 (4.7–10.1)	8	12.5 (6.3–23.2)	
2006	48	4.1	39	81.3	9.5 (8.5–10.7)	3	7.7 (2.5–21.6)	
2007	31	2.6	30	96.8	7.4 (6.4–8.8)	5	16.7 (7.0–34.7)	
2008	64	5.5	57	89.1	7.2 (5.3–8.2)	9	15.8 (8.4–27.8)	
2009	81	6.9	72	88.9	6.3 (4.9–8.2)	18	25.0 (16.3–36.3)	
2010	109	9.3	101	92.7	6.3 (4.9–7.6)	15	14.9 (9.1–23.2)	
2011	88	7.5	76	86.4	5.7 (3.8–7.5)	24	31.6 (22.1–42.9)	
2012	20	1.7	17	85.0	3.5 (2.7–4.5)	6	35.3 (16.3–60.4)	
2013	56	4.8	45	80.4	4.2 (2.8–5.6)	8	17.8 (9.1–31.9)	
2014	70	6.0	47	67.1	—	10	21.3 (11.8–35.4)	
2015	105	9.0	64	61.0	—	19	29.7 (19.7–42.0)	
2016	124	10.6	46	37.1	—	9	19.6 (10.4–33.7)	
2017	94	8.0	18	19.1	—	0	0.0 (0.0–18.5)	
2018	104	8.9	10	9.6	—	0	0.0 (0.0–30.8)	
Cause of incident								
Surgical error	497	42.4	268	53.9	6.3 (4.3–8.2)	64	23.9 (19.1–29.4)	0.433
Treatment error	362	30.9	296	81.8	6.6 (4.0–8.4)	58	19.6 (15.4–24.5)	
Diagnostic error	191	16.3	153	80.1	5.7 (4.6–7.7)	25	16.3 (11.3–23.1)	
Treatment delay	46	3.9	21	45.7	5.2 (3.6–5.9)	3	14.3 (4.5–36.9)	
Diagnostic delay	42	3.6	21	50.0	7.1 (4.7–9.5)	5	23.8 (10.0–46.7)	
Others	30	2.6	21	70.0	4.0 (2.8–5.7)	2	9.5 (2.3–32.0)	
Denial of care	4	0.3	2	50.0	6.3 (0.0–0.0)	0	0.0 (0.0–84.2)	
Incident location								
Outpatient care (includes consultations)	650	55.5	432	66.5	6.4 (4.2–8.2)	93	21.5 (17.9–25.7)	0.520
Operating room	217	18.5	140	64.5	6.2 (4.8–7.6)	25	17.9 (12.3–25.1)	
Emergency department	157	13.4	122	77.7	5.6 (4.0–7.8)	23	18.9 (12.8–26.8)	
Labor room	107	9.1	69	64.5	6.9 (5.0–9.2)	12	17.4 (10.1–28.3)	
Ward	20	1.7	8	40.0	6.4 (2.8–9.5)	2	25.0 (5.7–64.9)	
ICU	11	0.9	1	9.1	7.6 (0.0–0.0)	1	100.0 (2.5–100.0)	
Other/Unknown	10	0.9	10	100.0	3.3 (3.3–5.3)	1	10.0 (1.2–49.6)	
Surgical area								

OST	321	27.4	219	68.2	6.0 (4.0–7.9)	51	23.3 (18.1–29.4)	0.702
GO	301	25.7	209	69.4	6.5 (4.3–8.5)	37	17.7 (13.1–23.5)	
GS	201	17.2	136	67.7	6.4 (4.0–7.8)	31	22.8 (16.5–30.6)	
Ophthalmology	70	6.0	41	58.6	6.6 (5.3–9.1)	8	19.5 (10.0–34.7)	
Urology	57	4.9	37	64.9	6.0 (5.4–9.9)	9	24.3 (13.0–40.8)	
Neurosurgery	52	4.4	37	71.2	6.4 (4.6–8.6)	8	21.6 (11.1–37.9)	
Anesthesiology	35	3.0	17	48.6	5.1 (1.7–9.3)	2	11.8 (2.8–37.9)	
Cardiovascular surgery	33	2.8	15	45.5	5.5 (4.8–7.2)	2	13.3 (3.2–41.9)	
Maxillofacial surgery	30	2.6	20	66.7	5.0 (2.8–6.4)	5	25.0 (10.5–48.5)	
Otorhinolaryngology	29	2.5	20	69.0	5.7 (2.5–5.9)	1	5.0 (0.7–29.4)	
Plastic surgery	19	1.6	13	68.4	7.4 (3.6–13.3)	1	7.7 (1.0–41.1)	
Dermatology	10	0.9	6	60.0	4.7 (2.7–8.6)	0	0.0 (0.0–45.9)	
Vascular surgery	7	0.6	5	71.4	6.5 (4.1–8.5)	1	20.0 (2.1–74.4)	
Thoracic surgery	5	0.4	5	100.0	8.3 (0.0–0.0)	1	20.0 (2.1–74.4)	
Pediatric surgery	2	0.2	2	100.0	0.0 (0.0–0.0)	0	0.0 (0.0–84.2)	
Total	1172		782	66.7	6.3 (4.2–8.2)	157	20.1 (17.4–23.0)	

P for percentage difference: using χ^2 tests (if parametric test conditions are met) and Fisher exact test (nonparametric). To minimize a possible underestimation of the compensation claims, because it was not possible to include the values of claims still open at the study date, only those years where more than 80% of claims were concluded were included in this analysis (these were from 2002 to 2013).

$*P < 0.05$.

ICU, intensive care unit; n, sample; % (CI 95%), percentage (expected interval of such percentage with a confidence of 95%); SUR, surgery, TIR, time from incident to claim resolution.

As a result, incidents and CCs may be an additional financial cost for the health care system: first, because of the need to treat AEs and their complications, which may entail carrying out of new procedures not initially foreseen[15]; second, because of the phenomenon of *defensive medicine*, medical practitioners perform unnecessary procedures to avoid exposure to malpractice litigation[16]; and third, the cost of paying compensation if the claims are resolved in favor of patients, which are borne partially or entirely by the health system. For example, it was estimated that the amount value of compensation in Spain was more than €183,000 in obstetrics from 1986 to 2010,[12] €81,000 in OST from 1995 to 2011,[11] €50,000 in vascular surgery from 1986 to 2009,[17] and €19,500 in maxillofacial surgery from 1990 to 2014.[18]

All this makes CCs a valuable source of information to study the adequacy of clinical practice and identify of potential patient safety issues,[19] an analysis that has been recommended in several documents in the Spanish government's *Patient Safety Strategy for the National Health System.*[20,21]

The aim of this study was to identify the main causes of compensation claims in the surgical setting by means of an analysis of predisposing incidents and to study the financial consequences of their compensation on the health system.

METHODOLOGY

Study Design

We conducted an observational descriptive study with analytical components carried out on the CCs against the surgical activities of the Murcia Health System (MHS) between 2002 and 2018. The MHS is the public health service of the Region de Murcia, an autonomous community of Spain that is geographically located in the southeast territory of the country, covering more than 1000 km^2 and with a population of around 1.5 million inhabitants. According to the Statistical Platform of the Spanish government, in 2018, the MHS had 4759 functional beds distributed for 12 hospitals and performed 62,429 surgeries and 1,102,645 medical consultants.[22]

To this end, we carried out a cross-sectional analysis of the information registered by the MHS as of August 12, 2019. The study population consisted of all CCs made between January 1, 2002, and December 31, 2018, to health care services of the surgical area of the region of Murcia. This included all health care forms related to the surgical activity, such as surgical interventions, consultations, hospital admissions and stays, and preoperative and postoperative care. Nonsurgical and operative claims (damage resulting from poor maintenance, loss, or breakage of personal objects, etc) were excluded because these were not considered to have been directly derived from the care activity.

All data were classified, with the exception of the descriptions of the trigger events, which were recorded in free-text format by MHS administrative staff, and amounts of compensation, which were recorded as quantitative variables.

Analysis Plan

Depending on their status at the study date (August 12, 2019), claims were classified as follows: "successful claims" (SCs), if the court found in favor of the plaintiff, awarding compensation; "unsuccessful claims" (UCs), if the court found in favor of the health system, denying compensation; and "undecided" (CPD), if the claim was pending a decision.

The causal events were considered patient safety incidents, classified as incidents without damage in the UC and incidents with damage (AEs) in SC, following the taxonomy established by the *Conceptual Framework for the International Classification for Patient Safety*, developed by the World Health Organization.[5]

TABLE 2. Breakdown of Compensation Claims Brought Against the MHS Between 2002 and 2018, Depending on the Presence or Absence of Certain Causes and Consequences of the Associated Incident

	Presence							Absence							
	Total CC		CC Resolved		TIR	CC Allowed		Total CC		CC Resolved		TIR	CC Allowed		
	n	%	n	% (Over Total CC)	Median (Q1–Q3), y	n	% (CI 95%) (Above Total CC Resolved), %	n	%	n	% (Over Total CC)	Median (Q1–Q3), y	n	% (CI 95%) (Above Total CC Resolved), %	*P* (% Presence Versus Absence of CC)
Circumstances causes incident															
Cesarean section	60	5.1	35	58.3	7.1 (3.1–8.8)	5	14.3 (6.0–30.4)	1112	94.9	747	67.2	6.3 (4.2–8.1)	152	20.3 (17.6–23.4)	0.382
Defective informed consent	31	2.6	23	74.2	7.1 (4.2–8.2)	6	26.1 (12.0–47.8)	1141	97.4	759	66.5	6.2 (4.2–8.2)	151	19.9 (17.2–22.9)	0.465
Retained surgical foreign bodies	25	2.1	21	84.0	5.5 (2.0–8.2)	15	71.4 (47.8–88.7)	1147	97.87	761	66.3	6.3 (4.2–8.2)	142	18.7 (16.0–21.6)	<0.001†
Hysterectomy	20	1.7	13	65.0	6.8 (5.8–8.8)	3	23.1 (7.2–53.5)	1152	98.3	769	66.8	6.3 (4.1–8.1)	154	20.0 (17.3–23.0)	0.731
Incident consequences															
Musculoskeletal	234	20.0	169	72.2	5.9 (3.8–8.1)	37	21.9 (16.3–28.8)	938	80.0	613	65.4	6.3 (4.3–8.2)	120	19.6 (16.6–22.9)	0.505
Neurological	207	17.7	132	63.8	6.9 (4.9–8.6)	33	25.0 (18.3–33.1)	965	82.3	650	67.4	6.1 (3.9–8.0)	124	19.1 (16.2–22.3)	0.121
Obstetric	201	17.2	138	68.7	6.7 (4.3–9.0)	20	14.5 (9.5–21.4)	971	82.8	644	66.3	6.1 (4.0–8.0)	137	21.3 (18.3–24.6)	0.071
Death	133	11.3	78	58.6	6.5 (4.8–7.5)	18	23.1 (15.0–33.8)	1039	88.7	704	67.8	6.2 (4.1–8.2)	139	19.7 (17.0–22.9)	0.486
Global infections	109	9.3	59	54.1	6.6 (5.1–7.5)	7	11.9 (5.7–23.0)	1063	90.7	723	68.0	6.2 (4.1–8.2)	150	20.7 (17.9–23.9)	0.101
Nonsepsis infection	68	5.8	42	61.8	6.4 (5.1–7.7)	3	7.1 (2.3–20.2)	1104	94.2	740	67.0	6.2 (4.1–8.2)	154	20.8 (18.0–23.9)	0.029*
Sepsis	41	3.5	17	41.5	6.6 (4.7–7.1)	4	23.5 (8.8–49.5)	1131	96.5	765	67.6	6.3 (4.2–8.2)	153	20.0 (17.3–23.0)	0.759
Gynecological	98	8.4	75	76.5	5.8 (3.8–7.1)	13	17.3 (10.3–27.7)	1074	91.6	707	65.8	6.3 (4.3–8.3)	144	20.4 (17.6–23.5)	0.533
Reintervention	96	8.2	63	65.6	6.0 (3.9–7.3)	14	22.2 (13.6–34.2)	1076	91.8	719	66.8	6.3 (4.2–8.2)	143	19.9 (17.1–23.0)	0.658
Gastrointestinal	90	7.7	66	73.3	6.5 (4.8–7.7)	16	24.2 (15.3–36.1)	1082	92.3	716	66.2	6.3 (4.1–8.2)	141	19.7 (16.9–22.8)	0.377
Ophthalmic	79	6.7	46	58.2	6.3 (5.2–9.2)	9	19.6 (10.4–33.7)	1093	93.3	736	67.3	6.3 (4.1–8.1)	148	20.1 (17.4–23.2)	0.929
Urology	71	6.1	51	71.8	6.2 (5.3–8.9)	8	15.7 (8.0–28.5)	1101	93.9	731	66.4	6.3 (4.1–8.1)	149	20.4 (17.6–23.5)	0.418
Otorhinolaryngology	39	3.3	28	71.8	5.7 (3.3–6.3)	2	7.1 (1.7–25.0)	1133	96.7	754	66.5	6.3 (4.2–8.2)	155	20.6 (17.8–23.6)	0.094
Maxillofacial/mouth	38	3.2	22	57.9	4.2 (1.1–6.3)	4	18.2 (6.8–40.3)	1134	96.8	760	67.0	6.3 (4.3–8.2)	153	20.1 (17.4–23.1)	1
Dermatological	37	3.2	24	64.9	5.8 (2.7–8.2)	5	20.8 (8.8–41.9)	1135	96.8	758	66.8	6.3 (4.2–8.2)	152	20.1 (17.3–23.1)	0.925
Burns	15	1.3	9	60.0	5.8 (2.7–10.5)	4	44.4 (16.5–76.4)	1157	98.7	773	66.8	6.3 (4.2–8.2)	153	19.8 (17.1–22.8)	0.085
Other aesthetic	22	1.9	15	68.2	5.8 (2.7–8.2)	1	6.7 (0.9–36.9)	1150	98.1	767	66.7	6.3 (4.2–8.2)	156	20.3 (17.6–23.3)	0.327
Surgery	34	2.9	24	70.6	4.4 (3.0–5.5)	5	20.8 (8.8–41.9)	1138	97.1	758	66.6	6.3 (4.3–8.2)	152	20.1 (17.3–23.1)	0.925
Respiratory	24	2.0	17	70.8	7.1 (6.1–7.6)	7	41.2 (20.5–65.5)	1148	98.0	765	66.6	6.2 (4.1–8.2)	150	19.6 (16.9–22.6)	0.028*
Amputation	19	1.6	15	78.9	6.6 (4.8–7.8)	4	26.7 (10.0–54.4)	1153	98.4	767	66.5	6.3 (4.2–8.2)	153	19.9 (17.3–22.9)	0.517
Hysterectomy	12	1.0	6	50.0	5.0 (3.1–6.9)	0	0.0 (0.0–45.9)	1160	99.0	776	66.9	6.3 (4.2–8.2)	157	20.2 (17.5–23.2)	0.606
Metabolic	4	0.3	2	50.0	-	0	0.0 (0.0–84.2)	1168	99.7	780	66.8	6.3 (4.2–8.2)	157	20.1 (17.5–23.1)	1
Second center involved															
Public management	403	34.4	205	50.9	6.7 (5.3–8.4)	48	23.4 (18.1–29.7)	769	65.6	577	75.0	6.1 (3.8–8.0)	109	18.9 (15.9–22.3)	0.165
Private management	163	13.9	88	54.0	7.4 (5.8–10.7)	25	28.4 (19.9–38.8)	1009	86.1	694	68.8	6.1 (4.0–8.0)	132	19.0 (16.3–22.1)	0.038*

P for percentage difference: using χ^2 tests (if parametric test conditions are met) and Fisher exact test (nonparametric). To minimize a possible underestimation of the compensation claims, because it was not possible to include the values of claims still open at the study date, only those years where more than 80% of claims were concluded were included in this analysis (these were from 2002 to 2013).

*$P < 0.05$.

†$P < 0.001$.

n, sample; % (CI 95%), percentage (expected interval of such percentage with a confidence of 95%), TIR, time from incident to claim resolution.

The causes of the incidents were classified as follows: "difficulty accessing health care," "surgical errors," "diagnostic delay," "treatment delay," "diagnostic error," "treatment error," and "others," with a single option being allocated to each claim.

Simultaneously, based on the text describing the event, all claims were coded by category ("presence"/"absence") to the following: (1) complementary causal factors, including "defects in informed consent (IC)," "retained surgical foreign bodies," "incident resulting from a cesarean section," and "hysterectomy-related incidents; (2) consequences of the incident, including "death," "reintervention," "amputation," "musculoskeletal," "cardiovascular," "maxillofacial," "gynecological," "obstetric," "gastrointestinal," "metabolic," "respiratory," "ophthalmology," "otorhinolaryngology," "urological," "neurological," "hysterectomy," "infection" (stratified into "nonseptic infection" and "sepsis"), and "dermatological" (stratified into "aesthetic except for burns"); and (3) whether the patient was attended in a second health care center involved in the medical activity described in the claim, according to the management system of this second center, such as "public management" and "private management."

A descriptive analysis was performed for each variable by calculating frequency estimators with their respective 95% confidence intervals (95% CIs). The analysis was performed overall and then stratified according to its status or resolution as SC, UC, or CPD.

All compensations awarded were corrected to its equivalent 2019 value according to the variation of the National General Consumer Price Index system, established by the Instituto Nacional de Estadística Español (Spanish National Statistics Institute).

Measures of central tendency and dispersion (mean, typical SD, and 95% CI; median, quartile 1 [Q1], and quartile 3 [Q3]) of compensation for SC were calculated and stratified for each available variable.

Elapsed time (median, Q1, and Q3) was estimated between the following 3 events: date on which the incident occurred, date of filing the CC, and CC resolution date. To minimize a possible underestimation of these times, because it was not possible to include the values of any claims still unresolved on the study date, only those years for which more than 80% of CCs were resolved were included in this analysis (these were from 2002 to 2013).

Bivariate Analysis

The distribution of CC was analyzed and stratified according to the outcome of the CC (SC, UC, or CPD) and the associated surgical setting ("general surgery" [GS], OST, and GO) and classified according to the following aspects: year of claim against the health system; causes, consequences, and location of the triggering incident; related surgical specialty; and the existence of a second involved health center.

Qualitative variables were compared using the χ^2 parametric test; and in the case of noncompliance with the application scenario for this parametric test, we used Fisher exact test. We compared the quantitative data (median times and costs) with polyatomic qualitative variables using the nonparametric Kruskal-Wallis test; and we used the Mann-Whitney U test for the comparison with dichotomous variables. We did a simple linear regression between the cost of the compensation of the SC and the year this was imposed on the MHS. Confidence intervals at 95% ($\alpha = 0.05$) and significant P value for frequency estimates were estimated. Differences with P values less than 0.05 were considered statistically significant. The statistical exploitation of the data was carried out using the Stata v.13 statistical software.[23]

RESULTS

Over the 17 years studied, 1172 compensation claims were brought against the MHS. Of the total number of compensation claims involved, most were associated with surgical incidents (42.4%; n = 497), treatment errors (30.9%; 362), and diagnostic errors (16.3%; 191); OST (27.4%; 321), GO (25.7%; 301), and GS (17.2%; 201) were the most frequent surgical settings (Table 1). The most frequent consequences were musculoskeletal (20.0%; 234), neurological (17.7%; 207), and obstetric (17.2%; 201) (Table 2).

Of the 301 compensation claims involving GO, 66.8% (201) were related to the obstetric setting, 19.9% (60) involved cesarean sections, 5.3% (16) were in response to a suspected defective hysterectomy, and 4.0% (12) were the result of a previous incident. No statistically significant differences were found in the analysis of these compensation claims when compared according to SC and UC.

The average time from incident to resolution of compensation claims was 6.3 years (Q1–Q3, 4.2–8.2 years), which was higher for SC than for UC (6.4 years compared with 6.2 years; $P = 0.383$). The median time from the date of the incident to filing the compensation claim was 1.0 years (0.8–2.1 years). From the filing of the compensation claim to judgment, the average time was 4.3 years (2.4–5.9 years).

Of the 782 compensation claims that had been decided at the study date, 20.1% (157) were found in favor of the plaintiff. In contrast, 79.9% (625) were dismissed in favor of the administration. At the study date, none of the compensation claims filed in 2017 or 2018 had been won by the plaintiffs (Table 1). The CC resolved as SC most frequently and statistically significant were those due to "retained surgical foreign bodies" (71.4% compared with 18.7% for other causes; $P < 0.001$), those related to sequelae of the respiratory system (41.2% compared with 19.6%; $P = 0.028$), and those with a second involved center of private management (28.4% versus 19%; $P = 0.038$). In contrast, those described as a "nonseptic infection" were seen to be less frequent than those that did not include this consequence (7.1% versus 20.8%; $P = 0.029$; Table 2). No statistical significance was obtained in the comparison between SC and UC in the other variables; the "estimation" of CC resulting from errors during surgery was more frequent (23.9%), diagnostic delays (23.8%), treatment errors (19.6%), and diagnostic errors (16.3%; $P = 0.433$; Table 1).

The OST, GO, and GS surgical settings accounted for 70.3% of all the claims filed, and 23.3%, 17.7%, and 22.8% of compensation claims made, respectively, were successful. The percentage of SC brought because of "sepsis" was higher in GS (9.7% compared with 0.0% in OST and GO; $P = 0.016$), as were those based on "death" (32.3% in GS compared with 13.5% in GO and 0.0% in OST; $P < 0.001$). The AE leading to compensation claims occurred most frequently in the GS operating room (83.9% compared with 51.0% in OST and 35.1% in GO). In comparison, 33.3% of OST SCs occurred in emergency care and 32.4% in GO in the delivery room ($P < 0.001$). On the other hand, the average costs of compensation for these SCs were 51,779 for GS, 31,320 for GO, and 12,348 for OST ($P = 0.001$; Table 3).

The total cost of compensation associated with SC was €56,338,247 for the entire period studied, which averaged €3,314,015 per year. The median compensation was €17,207 (Q1, €3,708; Q3, 72,030) and the average of €358,842. A total of 49.7% of SC were settled with compensation ranging from €50,000 to €1500, 35.0% costing more than €50,000, and 15.3% with less than €1500.

Statistically significant differences were found when comparing the cost of compensation according to the years included in the study ($P = 0.017$), but not in the linear regression between the 2 variables ($P = 0.236$). The highest cost of compensation was seen in cardiovascular surgery (median, €70,800), followed by anesthesiology (€60,720) and GS (€51,779) ($P = 0.055$). No statistically significant differences were found in the comparison of compensation according to the cause or location of the AE (Table 4).

TABLE 3. Distribution of the Characteristics of the "Allowed" Resolved Compensation Claims Submitted to the MHS From 2002 to 2016 and Related to the Field of GS, OST, or GO

	OST		GO		GS		
	n	% (CI 95%)	n	% (CI 95%)	n	% (CI 95%)	*P*
Total	51		37		31		0.315
Cause of incident							
Surgical error	16	31.4 (19.9–45.7)	15	40.5 (25.5–57.6)	16	51.6 (33.6–69.2)	0.077
Treatment error	16	31.4 (19.9–45.7)	17	45.9 (30.1–62.6)	11	35.5 (20.1–54.5)	
Diagnostic error	16	31.4 (19.9–45.7)	4	10.8 (3.9–26.5)	2	6.5 (1.5–23.9)	
Treatment delay	1	2.0 (0.3–13.4)	1	2.7 (0.3–18.3)	1	3.2 (0.4–21.6)	
Diagnostic delay	1	2.0 (0.3–13.4)	0	0.0 (0.0–9.5)	1	3.2 (0.4–21.6)	
Others	1	2.0 (0.3–13.4)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	
Circumstances causes*							
Cesarean section	—	—	5	13.5 (5.6–29.1)	—	—	—
Retained surgical foreign bodies	1	2.0 (0.3–13.1)	5	13.5 (5.6–29.1)	4	12.9 (4.8–30.3)	0.076
Informed consent	2	3.9 (1.0–14.7)	1	2.7 (0.4–17.5)	1	3.2 (0.4–20.5)	1
Hysterectomy	—	—	3	8.1 (2.6–22.8)	—	—	—
Consequence incident*							
Musculoskeletal	37	72.5 (58.5–83.2)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	<0.001†
Neurological	12	23.5 (13.7–37.3)	8	21.6 (11.0–38.1)	3	9.7 (3.1–26.7)	0.283
Obstetric	0	0.0 (0.0–7.0)	20	54.1 (37.8–69.5)	0	0.0 (0.0–11.2)	<0.001†
Gastrointestinal	0	0.0 (0.0–7.0)	0	0.0 (0.0–9.5)	16	51.6 (34.1–68.7)	<0.001†
Death	0	0.0 (0.0–7.0)	5	13.5 (5.6–29.1)	10	32.3 (18.0–50.8)	<0.001†
Gynecological	0	0.0 (0.0–7.0)	12	32.4 (19.2–49.3)	0	0.0 (0.0–11.2)	<0.001†
Reintervention	3	5.9 (1.9–17.0)	2	5.4 (1.3–19.7)	4	12.9 (4.8–30.3)	0.501
Infection	2	3.9 (1.0–14.7)	0	0.0 (0.0–9.5)	3	9.7 (3.1–26.7)	0.129
- Sepsis	0	0.0 (0.0–7.0)	0	0.0 (0.0–9.5)	3	9.7 (3.1–26.7)	0.016‡
- Nonseptic infection	2	3.9 (1.0–14.7)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	0.506
Surgery	1	2.0 (0.3–13.4)	0	0.0 (0.0–9.5)	3	9.7 (3.1–26.7)	0.062
Amputation	4	7.8 (2.9–19.4)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	0.124
Dermatological	0	0.0 (0.0–7.0)	1	2.7 (0.4–17.5)	2	6.5 (1.5–23.9)	0.108
- Burns	0	0.0 (0.0–7.0)	1	2.7 (0.4–17.5)	1	3.2 (0.4–21.6)	0.324
- Nonburn aesthetic	0	0.0 (0.0–7.0)	0	0.0 (0.0–9.5)	1	3.2 (0.4–21.6)	0.261
Urological	0	0.0 (0.0–7.0)	3	8.1 (2.6–22.8)	0	0.0 (0.0–11.2)	0.045‡
Respiratory	1	2.0 (0.3–13.4)	2	5.4 (1.3–19.7)	0	0.0 (0.0–11.2)	0.470
Otorhinolaryngology	0	0.0 (0.0–7.0)	0	0.0 (0.0–9.5)	2	6.5 (1.5–23.9)	0.066
Ophthalmology	1	2.0 (0.3–13.4)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	1
Incident location	0	0.0 (0.0–0.0)	0	0.0 (0.0–0.0)	0	0.0 (0.0–0.0)	
Outpatient care (includes consultations)	7	13.7 (6.5–26.6)	7	18.9 (9.0–35.6)	3	9.7 (2.9–27.4)	<0.001†
Labor room	0	0.0 (0.0–7.0)	12	32.4 (18.9–49.7)	0	0.0 (0.0–11.2)	
Operating room	26	51.0 (37.1–64.7)	13	35.1 (21.1–52.4)	26	83.9 (65.4–93.5)	
ICU	0	0.0 (0.0–7.0)	1	2.7 (0.3–18.3)	0	0.0 (0.0–11.2)	
Emergency department	17	33.3 (21.5–47.7)	3	8.1 (2.5–23.3)	1	3.2 (0.4–21.6)	
Other/Unknown	1	2.0 (0.3–13.4)	0	0.0 (0.0–9.5)	0	0.0 (0.0–11.2)	
Ward	0	0.0 (0.0–7.0)	1	2.7 (0.3–18.3)	1	3.2 (0.4–21.6)	
Second center Involved*	0	0.0 (0.0–0.0)	0	0.0 (0.0–0.0)	0	0.0 (0.0–0.0)	
Public management	20	39.2 (26.5–53.6)	9	24.3 (12.8–41.4)	5	16.1 (6.5–34.6)	0.080
Private management	9	17.6 (9.2–31.1)	3	8.1 (2.6–22.8)	4	12.9 (4.8–30.3)	0.434
Compensation costs							
Median (Q1–Q3), €	—	12,348 (3656–31,141)	—	31,320 (3048–255,000)	—	51,779 (13,281–76,716)	0.032‡
Mean€	—	28,544.98	—	176,653.80	—	68,686.64	
<1500	5	9.8 (4.0–22.0)	9	24.3 (12.8–41.4)	3	9.7 (2.9–27.4)	0.001‡
1500–50,000	36	70.6 (56.3–81.7)	11	29.7 (16.8–47.0)	12	38.7 (22.7–57.6)	
>50.000	10	19.6 (10.7–33.3)	17	45.9 (30.1–62.6)	16	51.6 (33.6–69.2)	
Total	51	0.0 (0.0–0.0)	37	0.0 (0.0–0.0)	31	0.0 (0.0–0.0)	

P for percentage difference: using χ^2 tests (if parametric test conditions are met) and Fisher exact test (nonparametric). *P* for cost difference: using the Kruskal-Wallis test (nonparametric). The amounts of compensation awards were corrected to their equivalent 2019 value according to the variation of the National General Consumer Price Index system.

*Variables that include more than one option. For example, a CC can be logged as an incident that has had more than one type of consequence. Therefore, the sum of the values of these variables may be greater than the total number of claims analyzed.

†$P < 0.001$.

‡$P < 0.05$.

ICU, intensive care unit; n, sample; % (CI 95%), percentage (expected interval of such percentage with a confidence of 95%).

TABLE 4. Costs Associated With Compensation of the Allowed Resolved CCs Filed With the MHS Between 2002 and 2018, Depending on the Year the Case Is Brought and the Cause and Location of the AE, the Surgical Setting, and Surgical Area

	Total	Compensation Cost		
	n	Median (Q1–Q3), €	Mean, €	*P*
Total	157	17,207 (3,708–72,030)	358,842	
Year of CC				
2002	12	3497 (899–176,119)	106,674	0.017*
2003	6	1935 (583–13,281)	23,681	
2004	5	106,535 (75,117–635,400)	375,053	
2005	8	20,786 (8267–500,477)	219,125	
2006	3	87,932 (14,693–102,900)	68,508	
2007	5	309 (276–1444)	3589	
2008	9	17,207 (9642–43,227)	77,302	
2009	18	16,281 (3138–61,270)	51,679	
2010	15	18,754 (10,460–62,580)	39,754	
2011	24	10,412 (3473–41,549)	33,415	
2012	6	10,645 (3656–78,740)	54,846	
2013	8	27,463 (10,661–50,416)	29,870	
2014	10	50,402 (24,223–101,000)	107,424	
2015	19	34,627 (10,000–131,600)	2,380,398	
2016	9	10,689 (3280–90,900)	130,034	
Cause of AE				
Surgical error	64	15,768 (3928–66,350)	81,759	0.315
Treatment error	58	14,137 (1357–78,740)	97,059	
Diagnostic error	25	20,213 (7774–72,030)	60,537	
Treatment delay	3	50,308 (40,640–60,163)	50,370	
Diagnostic delay	5	62,580 (49,229–97,045)	8,758,946	
Others	2	8504 (6314–10,694)	8504	
Location of AE				
Outpatient care (includes consultations)	93	14,693 (3239–67,512)	77,820	0.388
Operating room	25	29,007 (3099–72,030)	1,790,560	
Emergency department	23	16,688 (9642–30,480)	40,890	
Labor room	12	118,940 (2318–468,150)	239,009	
Ward	2	51,500 (34,627–68,372)	51,500	
ICU	1	423,600	423,600	
Other/Unknown	1	1836	1836	
Surgical area				
OST	51	12,348 (3656–31,141)	28,545	0.055
GO	37	31,320 (3048–255,000)	176,654	
GS	31	51,779 (13,281–76,716)	68,687	
Ophthalmology	8	1856 (300–14,455)	9478	
Urology	9	52,300 (25,214–67,512)	4,887,598	
Neurosurgery	8	14,035 (10,577–75,256)	91,953	
Anesthesiology	2	60,720 (24,395–97,045)	60,720	
Cardiovascular surgery	2	70,800 (10,000–131,600)	70,800	
Maxillofacial surgery	5	18,222 (3099–208,600)	226,184	
Otorhinolaryngology	1	8526	8526	
Plastic surgery	1	10,689	10,689	
Vascular surgery	1	3708	3708	
Thoracic surgery	1	262	262	
Total	157	17,207 (3708–72,030)	358,842	

P for cost difference: using the Kruskal-Wallis test (nonparametric). The amounts of compensation awards were corrected to their equivalent 2019 value according to the variation of the National General Consumer Price Index system.

*$P < 0.05$.

ICU, intensive care unit; n, sample; SUR, surgery;* <0.05.

Median expenditure was higher in SC whose AE had neurological consequences (median of €60,000 compared with €15,768 without that sequelae; $P = 0.024$), respiratory (€131,600 versus €16,688; $P = 0.033$), or ended in death (€75,916 versus €13,581; $P < 0.001$). However, the cost of compensation was lower in the case of musculoskeletal consequences (€10,460 compared with €29,846; $P = 0.012$) or ophthalmic (€1444 compared with €19,484; $P = 0.003$) consequences (Table 5).

DISCUSSION

The secondary use of CC records allowed us to analyze the frequency and characteristics of possible patient safety problems, with these sources of information, which although not specifically designed for that purpose, being proven useful in this field in other previous studies.[18,24]

Malpractice during a health intervention was the main ground for bringing CC (42.4%). However, a great variation in this result has been observed in other studies carried out in Spain in maxillofacial surgery (65.1%),[18] vascular surgery (31.85%),[17] and overall (22.2%).[25] On the other hand, patient death was responsible for 11.3% of the CC, being this a lower percentage than that found globally in the United States (26%)[26] and in neurosurgery in Spain (22%).[27] In contrast, the percentage of CC filed as a result of a burn (1.3%) was very similar to that obtained in the United States (1.9%).[28] Some of these defects may be due to a failure to follow the recommendations of clinical practice guidelines or prescription of unjustified treatments.[9]

Concerning the surgical settings, this study is consistent with 2 other studies carried out in Spain, placing the OST and GO areas as those in which a greater number of complaints were filed.[10,12]

TABLE 5. Costs Associated With Compensation of the Allowed Resolved CCs Filed With the MHS Between 2002 and 2018, Depending on the Presence or Absence of Certain Causes and Consequences of the Associated Incident

	Presence			Absence			*P* (Allowed CC Cost Presence Versus absence)
	n	Median (Q1–Q3), €	Mean, €	n	Median (Q1–Q3), €	Mean, €	
Circumstances causes AE							
Cesarean section	5	16,688 (6436–106,535)	70,940	152	17,714 (3682–70,201)	368,313	0.830
Informed consent	6	9786 (1444–12,187)	16,004	151	18,754 (3708–75,117)	372,465	0.205
Retained surgical foreign bodies	15	16,688 (4450–29,212)	52,834	142	18,488 (3656–76,716)	391,167	0.587
Hysterectomy	3	24,527 (3048–78,450)	35,342	154	17,126 (3708–72,030)	365,144	0.959
Consequence AE							
Musculoskeletal	37	10,460 (3889–20,213)	23,176	120	29,846 (3494–91,170)	462,339	0.012*
Neurological	33	60,000 (10,694–123,850)	139,845	124	15,768 (3260–60,688)	417,124	0.024*
Obstetric	20	143,898 (1375–370,650)	251,114	137	16,688 (3889–60,163)	374,569	0054
Death	18	75,916 (50,308–102,900)	86,255	139	13,581 (3135–60,106)	394,141	<0.001†
Total infections	7	24,223 (3000–97,045)	42,965	150	17,126 (3708–72,030)	373,583	0.970
- Mild infection	3	10,000 (300–24,223)	11,508	154	17,714 (3708–73,010)	365,609	0.251
- Sepsis	4	81,116 (34,094–99,022)	66,558	153	17,045 (3708–68,372)	366,484	0.344
Gynecological	13	9567 (3048–16,688)	17,836	144	19,562 (3873–75,916)	389,628	0.069
Reintervention	14	21,953 (1775–60,106)	34,996	143	17,207 (3708–73,010)	390,548	0.669
Gastrointestinal	16	46,228 (13,987–74,064)	56,326	141	16,688 (3280–68,372)	393,170	0.175
Ophthalmology	9	1444 (442–10,000)	8586	148	19,484 (4224–75,916)	380,142	0.003*
Urological	8	43,463 (13,494–69,983)	5,478,020	149	16,688 (3708–72,030)	83,987	0.460
Otorhinolaryngology	2	94,139 (56,595–131,682)	94,139	155	17,045 (3656–72,030)	362,258	0.181
Maxillofacial	4	10,661 (2050–113,411)	57,730	153	17,207 (3858–72,030)	366,715	0.632
Dermatological	5	8526 (6436–9,673)	15,440	152	18,488 (3682–74,064)	370,139	0.215
- Burns	4	9100 (7481–30,726)	19,104	153	18,222 (3656–73,010)	367,724	0.525
- Other aesthetic	1	783	783	156	17,714 (3783–72,520)	361,138	0.139
Surgery	5	9111 (3708–68,372)	36,680	152	17,714 (3757–72,520)	369,440	0.639
Respiratory	7	131,600 (31,141–423,600)	252,131	150	16,688 (3656–65,188)	363,822	0.033*
Amputation	4	40,742 (16,897–155,900)	86,399	153	17,045 (3656–72,030)	365,965	0.300
Hysterectomy	0	—	—	157	17,207 (3708–72,030)	358,842	—
Metabolic	0	—	—	157	17,207 (3708–72,030)	358,842	—
Second center involved							
Public management	48	17,056 (5172–60,717)	76,459	109	17,207 (3135–73,010)	483,195	0.912
Private management	25	27,729 (10,460–87,932)	1,838,136	132	16,688 (3137–70,201)	78,673	0.166

P for cost difference: using the Mann-Whitney *U* test (nonparametric). The amounts of compensation awards were corrected to their equivalent 2019 value according to the variation of the National General Consumer Price Index system.

*$P < 0.05$.

†$P < 0.001$.

N, sample.

In OST, a slight variation of the results was observed when compared with another study carried out by Cardoso-Cita et al[11] over a similar period of duration (17 years, from 1995 to 2011), because this study found higher percentages of musculoskeletal disorders (72.5% compared with 43.6%), but fewer neurological events (23.5% versus 34.0%), infections (3.9% versus 11.9%), and deaths (0.0% versus 6.6%).

In GO, compared with the study by Gómez-Durán et al[12] on CC filed in this field with the Catalonian Health System between 1986 and 2010, a slightly higher percentage of CC was obtained by the obstetric area (66.8% compared with 61.9%) and cesarean sections (18.9% compared with 12.8%). On the other hand, when compared with Norway,[9] fewer SCs were obtained associated with a surgical procedure (40.5% compared with 67.6%), a diagnostic error (10.8% compared with 17.0%), or a diagnostic delay (0.0% compared with 22.4%). It should be noted, however, that only gynecology-associated CCs were included in this study, when more than half of CC and GO belonged to the obstetric setting.

On the other hand, the percentage of CC related to defective IC (2,6%) was lower than those derived from OST (14.9%)[11] and neurosurgery (16.7%)[27] interventions in Spain, but similar to that found in maxillofacial surgery services (3.8%).[18] Similarly, it was also lower than that of endoscopic processes in the United States (42%),[29] and hip arthroplasties (13.3%)[30] and overall (6%)[31] in the Netherlands. However, the percentage of these CC decided in favor of the individual was consistent with that obtained by the Dutch study (26.1% compared with 25%).[31] The role of the IC is spatially important in the surgical field because, in Australia, 57% of IC-related CCs were brought against surgeons and 71% claimed insufficient information on risks and complications arising from the surgical intervention.[32] Another cause of the inadequacy of IC could be its inappropriate form of administration because, in Spain, up to 58.1% of health professionals in the surgical field could have a misunderstanding of this practice, especially among those with more than 16 years of work experience.[33]

The percentage of CC filed for retained surgical foreign bodies decided in favor of the individual (71.4%) agrees with that obtained in another study carried out in Spain in the field of GO (71.7%).[12] The causes of this type of incident have been studied in the United States, where it was associated with urgent operations, unexpected changes in surgical techniques, and high body mass index,[34] with surgical sponges being the most frequently forgotten surgical material, before clamps and needles.[34–36] To try to prevent these incidents, several prestigious institutions, such as the American College of Surgeons[37] or the Joint Commission International Center for Patient Safety,[38] have disseminated specific improvement strategies, including surgical material counts and measures to improve communication among health care professionals during surgical procedures.

Regarding the financial impact of the CC studied, the general costs obtained (median, €17,207; average, €358,842) echo those found in the United States between 1991 and 2005 (median, $111,749; average, $274,887)[39] and between 1992 and 2014 (average, $329,565).[40] In the stratified analyses, when comparing the surgical settings with other approximations performed in Spain, the compensation obtained in this study was higher in maxillofacial surgery (average, €226,184 versus €19,639)[18] and lower in OST (average, €28,545 versus €81,767)[11] and GO (average, €31,320 compared with €96,426 in obstetrics and €28,776 in gynecology).[12] On the other hand, in neurosurgery, we found an average (€14,035) lower than other studies in Spain (66.7% of the compensation claims >€60,000)[27] and in the United Kingdom (GBP 203,158).[41] However, the comparison of these values presents several difficulties because not all studies use the same dispersion measures (medians or means; when the compensation tends to adopt a nonnormal distribution) and does not apply corrections to final costs according to temporary economic variations (such as the Consumer Price Index), in addition to the fact that the amounts may be influenced by the different health management systems (public administration versus private management). In addition, the cost of compensation can be assumed partially or totally by the different health systems, depending on whether they have a damage liability insurance policy and the conditions of the policy. This could result in similar compensation figures eventually affecting the various health services unevenly.

The median time between the incident and the resolution of the compensation claim (6.3 years) is in an intermediate position between the one found in the United States (4 years)[26] and that obtained throughout Spain (7.2) and Massachusetts (United States; 7.0) between 2002 and 2012.[25] Although this study only analyzed this aspect in years with more than 80% of resolved compensation claims, the different values available in the scientific literature may be slightly understated, as they cannot include the claim resolution times still open at the study date. In any case, the long duration observed to process and resolve claims could cause additional stress to the patient[42] and health care professionals (as a second victim),[13] as well as a delay in the implementation of possible improvements in patient safety if only safety incidents associated with closed CC were analyzed.

On the other hand, the low proportion of SCs decided for the plaintiff, of the total claims filed (20.1%), is a frequent finding in both national and international studies.[9,10,12,18] This result is consistent with another study carried out in Mexico with claims from 1996 to 2008, where there were possible indications of malpractice in only 20.8% of records,[43] whereas in neurosurgery in Spain, the percentage of "complete malpractice" was slightly higher at 28.3%.[27] This phenomenon could be explained by high patient expectations of success, a concept contemplated by the Spanish jurisprudence in a ruling that, according to the *Lex Artis ad hoc* of the health care sector, "the responsibility of the Health System is the logical consequence that characterises the public health service as a provider of means, and in no case a guarantor of results."[44] This dimension does not interfere with the nature of the IC, which must provide information to the patient about possible risks, therapeutic alternatives, and other circumstances inherent in each intervention, but does not guarantee a specific clinical benefit.[45] Besides, according to this jurisprudence, it could be considered that, in those SCs, there was a lack of provision of resources or improper use of them, producing inappropriateness of health care, because of a medical practice underuse, overuse, or misuse.[46,47]

In turn, the existence of claims has been linked to defensive medicine, which interferes with the usual clinical practice of health professionals and the efficiency of the health system. In Spain, up to 8% of claims of a health area were brought based on a specialist's refusal to grant a patient's request,[48] whereas in a 2017 survey, surgeons and anesthetists assigned a score of 7.5 (on a scale of 1 to 10) to impact of defensive medicine on the overuse of the health system, 20% of them acknowledging that they had recommended unnecessary medical procedures for fear of being sued.[33] However, this percentage is lower than that obtained in Italy (33%)[49] or the United States (84.7%),[50] where 39% of professionals would also avoid performing specific medical procedures on high-risk patients because of fear of legal consequences, and defensive medicine was related to lack of confidence in health insurance.[51] However, despite this influence on real clinical practice, there is no evidence linking higher health spending with a reduction in medical negligence claims.[16]

Strengths and Weaknesses of the Study

The CCs analyzed pertain to a single region of Spain, with its own health system and sociodemographic idiosyncrasies, which may limit the external validity of the results obtained.

Data for CCs were logged by administrative personnel, not by health professionals, so the correct coding of some difficult-to-interpret values could not be ensured. That said, the classifications derived from the description of the CC were carried out and reviewed in detail by the research team.

The sample comprised all CCs brought against the MHS for 17 years, which avoided possible selection bias, ensuring sufficient statistical power, and allowed us to analyze the existence of temporal variations.

Similarly, adjusting the cost of compensation according to the Consumer Price Index and selecting the years with more than 80% of closed CCs for the analysis of resolution times improved the internal and external validity of the study.

CONCLUSIONS

The main grounds for bringing CC were incidents resulting from surgical operations and treatment errors, with surgical settings related to OST, GO, and GS being the most frequently affected. Musculoskeletal, neurological, and obstetric sequelae are the most frequent, followed by deaths and infections.

Only 1 in 5 CCs are decided in favor of the plaintiff, with those involving "retained surgical foreign bodies" having the highest likelihood of success. The median time from incident to resolution of the CC was 6.3 years, similar to that obtained in other national and international studies.

Compensation costs due to health care delivered were high, averaging out at more than €3 million per year. This cost is higher in claims because of neurological, respiratory, or death consequences, and lower in musculoskeletal or ophthalmic consequences. As a result, incidents and their associated CC have major consequences on patients, professionals, and health systems and cause high economic costs that are borne by the public health system, either directly or through possible purchases of liability insurance.

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