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# Global surgery in Mexico: a cross-sectional analysis of the "Extramural Surgery Campaigns"

## *Cirugía global en México: análisis transversal de las "Campañas de Cirugía Extramuros"*

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**Keywords:**
global surgery, Mexican Association of General Surgery, Social Service Commission.

***Palabras clave:***
*cirugía global, Asociación Mexicana de Cirugía General, Comisión de Servicio Social.*

**ABSTRACT**

**Introduction:** "Global Surgery" has recently been introduced into the medical lexicon. A frequently quoted definition states that global surgery "prioritizes improving and achieving equity in health for all people on the planet who are affected by surgical conditions or require surgery." **Material and methods:** a cross-sectional analysis of the results of the extramural surgery campaigns carried out by the Social Service Committees of the Mexican Association of General Surgery A.C. (AMCG) and the Mexican Association of Endoscopic Surgery A.C. (AMCE) during the period from 2004 to 2012, was carried out. **Results:** 143 campaigns were performed nationwide from 2004 to 2012. The average number of procedures per campaign was 71. Overall mortality was two patients in 10,082 procedures (0.02%). There were 36 bile duct injuries in 6,146 laparoscopic cholecystectomies (0.58%). The procedures performed were laparoscopic cholecystectomies 6,146 (60%), inguinal hernia repair 2,351 (23%), umbilical hernia repair 1,212 (12%), and 489 other procedures (5%), including gynecological surgeries, fundoplication, bowel resections, and appendectomies. **Conclusions:** our global surgery program was successful and safe, with low morbidity and mortality compared to usual hospital surgeries. Only two deaths were reported in more than 10,000 patients, equivalent to 0.02% (serious complications). Likewise, the biliary tract injury rate was 0.58%, which is within normal parameters, and only 0.04% of the trans-operative bleeding required blood transfusion (moderate complication). The retribution on the part of our society was of value, correcting the surgical needs of the less solvent Mexican society.

***RESUMEN***

***Introducción:*** *el término de "Cirugía Global" se ha introducido recientemente al léxico médico. Una definición citada frecuentemente señala que la cirugía global "pone como prioridad el mejorar y lograr equidad en la salud para todas las personas sobre el planeta que están afectadas por condiciones quirúrgicas o bien tienen la necesidad de una cirugía". **Material y métodos:** se realizó un análisis transversal de los resultados de las campañas de cirugía extramuros realizadas por los Comités de Servicio Social de la Asociación Mexicana de Cirugía General A.C. (AMCG) y de la Asociación Mexicana de Cirugía Endoscópica A.C. (AMCE), durante el periodo comprendido de 2004 a 2012. **Resultados:** se realizaron 143 campañas a nivel nacional de 2004 a 2012. El promedio de procedimientos por campaña fue de 71. La mortalidad global fue de dos pacientes en 10,082 procedimientos (0.02%). Hubo 36 lesiones de la vía biliar en 6,146 colecistectomías laparoscópicas (0.58%). Los procedimientos realizados fueron: colecistectomías laparoscópicas 6,146 (60%), reparación de hernias inguinales 2,351 (23%), reparación de hernias umbilicales 1,212 (12%) y 489 de otros procedimientos (5%), entre los que se incluyen cirugías ginecológicas, funduplicaturas, resecciones de intestino y apendicetomías. **Conclusiones:** nuestro programa de cirugía global fue exitoso y seguro con morbimortalidad baja comparado con cirugías hospitalarias habituales. En más de 10,000 pacientes sólo se reportaron dos defunciones, lo que equivale a 0.02% (complicaciones graves). Asimismo, el índice de lesión de la vía biliar fue de 0.58% que está dentro de parámetros habituales y sólo 0.04% de los sangrados transoperatorios requirieron de transfusión sanguínea (complicación moderada). Consideramos que la retribución por parte de nuestra sociedad fue de valía, corrigiendo las necesidades de cirugía de la sociedad mexicana menos solvente.*

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## INTRODUCTION

The term "Global Surgery" has recently entered the medical lexicon. One frequently cited definition state that global surgery "prioritizes improving and achieving equity in health for all people on the planet who are either affected by surgical conditions or require surgery."[1]

Global surgery is complex and has multiple determinants, so solutions require a collaborative effort among institutions and stakeholders, who bring diverse resources, experience, and knowledge.[2] Global surgery stakeholders are defined as individuals or organizations operating nationally or internationally with the primary intent of improving health.[3]

Surgery saves lives and promotes economic development. Timely surgical care can treat up to one-third of the global disease burden, and therefore, improving access to surgical care is critical, especially in low-income countries or areas. Health system strengthening includes improvements in infrastructure, equipment, and surgical workforce. Global surgery aims to provide timely access to quality surgical care for all, improving quality of life and well-being.[4] However, populations requiring surgery will only benefit if they have appropriate access to a system that can meet their needs and if the care provided is of sufficient quality. Access to a poor-quality system result in significant mortality and imposes an excessive economic burden on society.[5]

This paper aims to report the outcome of the procedures performed by the AMCG extramural surgery group from 2004 to 2012 and to show the degree of safety achieved solely with national resources.

## MATERIAL AND METHODS

Cross-sectional analysis of the results of the extramural surgery campaigns carried out by the Social Service Commission of the Mexican Association of General Surgery A.C. from 2004 to 2012.

## RESULTS

Fifty-one campaigns were performed nationwide by the group coordinated by Dr. David Olvera-Pérez from 2004 to 2012, 91 campaigns by Dr. Guillermo López's group from 2008 to 2012 in the state of Baja California Norte and one by Dr. Alejandro Inda-Toledo in the state of Chiapas during 2005 *(Table 1)*. The average number of procedures per campaign was 71. Overall mortality was two patients in 10,082 procedures (0.02%). In 6,146 laparoscopic cholecystectomies, 36 biliary tracts were injured (0.58%). The procedures performed were laparoscopic cholecystectomies 6,146 (60%), inguinal hernias 2,351 (23%), umbilical hernias 1,212 (12%) and other 489 procedures (5%), which included gynecological surgeries, fundoplication, bowel resections and appendectomies.

## DISCUSSION

Mexico is the fifteenth largest economy in the world regarding gross domestic product. However, it is a country of great social contrasts. Approximately 50% (59.5 million inhabitants)[6] of the population has access to the welfare of an advanced society, which includes adequate medical care through health institutions (Mexican Social Security Institute, Institute of Security and Social Services for State Workers or Ministry of Health) or private care. However, the remaining 50% (out of a total population of 126 million) need more coverage for their health needs and, due to the prohibitive economic cost, much less for surgical pathology care. In this dichotomy, we find, on the one hand, a properly trained surgical workforce (anesthesiologists, surgical nurses, and surgeons) and, on the other hand, an unprotected population. The conjunction of wills results in local Global Surgery programs called "Extramural Surgery" campaigns.

In October 2003, the AMCG became part of the Colegio de Postgraduados en Cirugía General, A.C. (General Surgery Postgraduate College) to acquire the rights assumed by the professional associations through the Dirección General de Profesiones (General Directorate of Professions) and assume legal representation of surgeons before the authorities. As a result, the associations, or societies of surgeons from the different states of the Republic were promoted to integrate and consolidate as duly recognized

**Table 1: Table of campaigns carried out from 2007 to 2012.**

| Extramural surgery 2004 2012 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Headquarters | Month and year | Laparoscopic cholecystectomy | Inguinal hernia | Umbilical hernia | Hysterectomy | Hiatus surgery | Other surgeries | Complications | Mortality | Patient number | Procedure number |
| Zamora, Mich. | May, 2004 | 0 | 69 | 19 | 0 | 0 | 3 | 2 | 0 | 91 | 102 |
| Tuxtla Gtz, Chis. | March, 2005 | 24 | 28 | 0 | 1 | 0 | 5 | 1 | 0 | 58 | 59 |
| Chetumal Q. Roo | June, 2005 | 17 | 20 | 9 | 2 | 0 | 2 | 0 | 0 | 47 | 50 |
| Cuernavaca, Mor. | June, 2005 | 33 | 14 | 8 | 0 | 0 | 1 | 1 | 0 | 56 | 57 |
| Zacatecas, Zac. | September, 2005 | 43 | 15 | 0 | 0 | 0 | 2 | 0 | 0 | 62 | 62 |
| Tuxtla Gtz, Chis. | December, 2005 | 19 | 13 | 0 | 0 | 0 | 4 | 4 | 0 | 32 | 36 |
| Tuxtla Gtz, Chis. | February, 2006 | 22 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 34 |
| Ixtapa Zihuatanejo, Gro. | April, 2006 | 36 | 40 | 8 | 0 | 1 | 2 | 2 | 0 | 78 | 88 |
| Morelia, Mich. | June, 2006 | 21 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 30 | 33 |
| Jojutla, Mor. | August, 2006 | 0 | 11 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 12 |
| Poza Rica and Tuxpan, Ver. | December, 2006 | 85 | 70 | 44 | 1 | 0 | 0 | 5 | 0 | 200 | 218 |
| Tijuana-Rosarito, BCN. | March, 2007 | 162 | 49 | 23 | 0 | 0 | 0 | 1 | 0 | 234 | 238 |
| Torreon, Coah. | March, 2007 | 23 | 20 | 12 | 0 | 0 | 0 | 0 | 0 | 52 | 55 |
| Puerto Veracruz, Veracruz, Ver. | May, 2007 | 342 | 92 | 34 | 0 | 0 | 0 | 3 | 0 | 478 | 492 |
| Tapachula, Chis. | July, 2007 | 30 | 35 | 18 | 0 | 0 | 4 | 1 | 0 | 87 | 88 |
| Tulancingo, Hgo. | August, 2007 | 29 | 16 | 6 | 0 | 0 | 0 | 1 | 1 | 51 | 54 |
| Yanga, Veracruz | March, 2008 | 168 | 35 | 8 | 0 | 0 | 0 | 0 | 0 | 83 | 83 |
| Merida, Yucatan | June, 2008 | 57 | 17 | 8 | 0 | 0 | 0 | 0 | 0 | 77 | 82 |
| Cd. del Carmen and Campeche | June, 2008 | 102 | 0 | 0 | 0 | 0 | 2 | 4 | 1 | 104 | 105 |
| Mexicali, BCN. | September, 2008 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 60 |
| Durango, Durango | September, 2009 | 26 | 12 | 8 | 0 | 0 | 0 | 0 | 0 | 42 | 46 |
| Tapachula, Chis. | March, 2009 | 45 | 29 | 10 | 0 | 0 | 13 | 0 | 0 | 91 | 97 |
| Sisoguichi, Chihuahua | June, 2009 | 16 | 5 | 0 | 0 | 0 | 4 | 4 | 0 | 22 | 24 |
| Acapulco, Guerrero | October, 2009 | 54 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 74 | 75 |
| Oaxaca, Oaxaca | November, 2009 | 18 | 16 | 12 | 0 | 0 | 2 | 0 | 0 | 48 | 48 |
| Tijuana, BCN | December, 2009 | 48 | 20 | 4 | 0 | 0 | 0 | 1 | 0 | 72 | 73 |
| Tuxtla Gtz, Chis. | January, 2010 | 156 | 40 | 14 | 0 | 0 | 0 | 0 | 0 | 210 | 216 |
| Cd. del Carmen and Campeche | February, 2010 | 100 | 40 | 10 | 0 | 2 | 0 | 0 | 0 | 150 | 152 |
| Valladolid-Tizimín, Yuc. | March, 2010 | 60 | 30 | 15 | 0 | 0 | 0 | 1 | 0 | 105 | 108 |
| Cancun, Q. Roo | May, 2010 | 30 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 42 | 43 |
| Huitzuco, Gro. | May, 2010 | 6 | 6 | 2 | 0 | 1 | 0 | 3 | 0 | 14 | 15 |
| Temixco, Morelos | June, 2010 | 0 | 16 | 6 | 0 | 0 | 0 | 0 | 0 | 22 | 23 |
| Pachuca, Hidalgo | July, 2010 | 38 | 12 | 31 | 0 | 0 | 0 | 0 | 0 | 53 | 56 |
| Tuxtla Gtz, Chis. | August, 2010 | 156 | 40 | 14 | 0 | 0 | 0 | 2 | 0 | 210 | 216 |
| San Luis Potosi, SLP. | September, 2010 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 44 |
| Aguascalientes, Ags. | September, 2010 | 30 | 30 | 10 | 0 | 0 | 1 | 0 | 0 | 70 | 71 |
| Jalapa, Veracruz | November, 2010 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 89 |

**Continue Table 1: Table of campaigns carried out from 2007 to 2012.**

| Extramural surgery 2004 2012 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Headquarters** | **Month and year** | **Laparoscopic cholecystectomy** | **Inguinal hernia** | **Umbilical hernia** | **Hysterectomy** | **Hiatus surgery** | **Other surgeries** | **Complications** | **Mortality** | **Patient number** | **Procedure number** |
| Temixco, Morelos | January, 2011 | 0 | 31 | 4 | 0 | 0 | 0 | 0 | 0 | 35 | 36 |
| Tijuana, BCN | February, 2011 | 52 | 13 | 15 | 0 | 0 | 22 | 0 | 0 | 102 | 103 |
| Tapachula, Chis. | March, 2011 | 100 | 75 | 0 | 1 | 0 | 0 | 0 | 0 | 175 | 175 |
| Tizimín, Yucatán | May, 2011 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 | 50 |
| Veracruz | June, 2011 | 511 | 523 | 443 | 0 | 0 | 0 | 0 | 0 | 1,477 | 1,477 |
| San Luis Potosi, SLP. | August, 2011 | 43 | 13 | 2 | 0 | 0 | 0 | 1 | 0 | 58 | 58 |
| Campeche, Campeche | September, 2011 | 85 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 96 | 96 |
| Acapulco, Gro. | September, 2011 | 48 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 64 | 64 |
| Iguala, Guerrero | November, 2011 | 19 | 12 | 8 | 0 | 0 | 0 | 0 | 0 | 37 | 39 |
| Córdova, Veracruz | August, 2012 | 41 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 57 |
| Rio Blanco, Veracruz | August, 2012 | 25 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 47 |
| Mexicali, BCN. | February, 2012 | 0 | 0 | 0 | 5 | 0 | 14 | 0 | 0 | 19 | 19 |
| San Luis Potosi, SLP. | September, 2012 | 25 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 40 |
| Campeche, Campeche | November, 2012 | 79 | 25 | 0 | 0 | 1 | 0 | 0 | 0 | 105 | 105 |
| **Total, CDMX** | | 3,126 | 1,651 | 822 | 10 | 5 | 81 | 36 | 2 | 5,622 | 5,741 |
| **Associated groups:** | | | | | | | | | | | |
| Chetumal, Q. Roo | 2005 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 |
| Chiapas | 2005 | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 |
| Baja California North | 2008-2012 | 3,000 | 580 | 390 | 100 | 0 | 300 | 0 | 0 | 4,390 | 4,390 |
| **Total (CDMX, BCN, Chiapas)** | | 6,146 | 2,351 | 1,212 | 110 | 5 | 381 | 12 | 2 | 10,052 | 10,171 |

colleges and subsequently form the Mexican Federation of Colleges of Specialists in General Surgery (FMCECG).

One of the obligations of the professional associations of the Mexican Republic is to give back to the population with an activity called "social service." During Dr. Roberto Bernal Gómez's term as president of the AMCG/FMCECG (2003-2004), the Social Service Committee was formed. As a college of surgical professionals, the responsibility was to protect the population through surgical procedures and education.

The first campaign was scheduled for May 2004. The criteria for the call for participating surgeons were that they should be members of the AMCG, certified by the Mexican Council of General Surgery, and with professional recognition. The anesthesiologists and nursing staff were those who usually worked with these surgeons. The participating hospital was selected based on a local contact. The selection criteria for the type of patient, pathology, and surgical anesthetic risk were established, and the routine to be followed from that moment on was systematized. Only abdominal cavity hernia defects were solved in this campaign, and 91 patients were operated on. There was limited participation of the local personnel, and the lack of commitment of this body to participate in these events was a lesson learned. The most important aspect of this campaign was that the process to be followed was structured.

In the beginning, only one hospital was selected, and short-stay surgeries were performed with minimal complications

(umbilical and inguinal hernias, which can also be performed under local anesthesia). The response of surgeons, anesthesiologists, and nurses who specialized in minimally invasive surgery also made it possible to start laparoscopic cholecystectomies in one or two operating rooms. Working in two or even three hospitals simultaneously in the same city was possible in a short time. Subsequently, the ambition and great desire to bring health to more patients resulted in simultaneous campaigns in several hospitals in different cities and states until reaching the grand campaign of 1,000 surgeries performed in Veracruz, surpassing this goal with more than 500 procedures, as can be seen in the official report of the health services of that state.

Little by little, enthusiast people began to gather. The future venues were usually arranged with the state secretaries of health, who also provided resources (hospitals and lodging) agreed upon with the Ministry of Health. The states undertook to cover lodging, transportation, and logistical support. Initially, there was economic support from the AMCG. Attempts were made to obtain other donations from Mexican companies without success; however, it is essential to mention the unrestricted support of the CARSO group.

Quantifying the amount paid to the population with extramural surgery campaigns is complicated. As a reference, there is a study published in the IMSS Medical Journal[7] where at 2011 prices, it was considered that the approximate cost in public hospitals of a cholecystectomy by laparoscopy was $12,507 Mexican pesos, which multiplied by the number of procedures performed by the group would give a total amount of $75 million Mexican pesos. This altruistic contribution to society would not seem to have a great value, but if we consider that the average monthly income of the population of our country is approximately $2,000 Mexican pesos,[8] a patient would have to invest the total of his or her income for six months to be able to pay for this procedure.

One of the inherent guarantees of global surgery programs is to offer patients high-quality procedures. If this objective is not achieved, the personal cost and the economic impact on society make them prohibitive. There are several classifications to quantify the degree of complications; when two of them were compared, the most comprehensive one was not feasible to apply in the global surgery setting in low-income countries due to the frequent lack of resources. The ISOS (International Surgical Outcomes Study) classification divides complications into mild (temporary damage not requiring intervention), moderate (more serious damage but not resulting in permanent damage or functional limitation but frequently requiring clinical treatment), and major (resulting in prolonged hospitalization and leaving functional limitations or death).[9] It is the most useful because of its simplicity in referring specifically to the surgical event, and we consider that in our setting it is the easiest to apply. It should be remembered that the usual complication parameters that are recorded specify the procedure performed, for example, the rate of residual lithiasis or the rate of recurrence of a hernia. Although these parameters are still valid, because of how global surgery campaigns are designed and executed, these events occur when the group is no longer in charge of the patients. In our case, as the campaigns were programmed with the local health secretariat and the patients were clinically monitored pre- and late postoperatively by them, these evolved through direct notification.

It was necessary to transfuse trans-operatively only four patients in 51 campaigns. In Mexico, especially in the interior of the Republic, transfusion is a complex process to structure, so it never goes unnoticed. Three of the four procedures were for bleeding during a cholecystectomy and one for a hernia. One of the four patients died. Trans-operative bleeding is likely underreported in our study since, as in Pearse's study, it was the most frequent complication and present in 11.6%.[9] However, in our cases, it had little clinical impact, compensated by the patients usually having a low anesthetic surgical risk or because the surgical team effectively controlled the bleeding.

There was a low rate of biliary tract injury during the campaigns, limited to only 0.58%. Suppose the percentage of this injury worldwide ranges between 0.4 and 1.5%. In that case,[10] is likely the result of several factors, among which

the surgical capacity of the surgeons involved in the program stands out.

The American Society of Gastrointestinal and Endoscopic Surgeons (SAGES), through the AMCG, has initiated a training program to ensure that there are experts in laparoscopic cholecystectomy in the country. These experts will then train other surgeons. Although this scenario is generous, it needs to be aware of the capacity of national surgeons. This procedure has been performed regularly in the country since its introduction in 1990, so the proper training of surgeons is not the limiting factor. Material resources and increased altruistic interests are needed.

The number of abdominal wall defect repairs was significantly lower than that of cholecystectomies, a curious situation since this surgery is the most frequently performed nationally and worldwide. In all cases of inguinal and abdominal wall hernias, prosthetic material was used, mainly non-lightened polypropylene mesh. In umbilical hernias, this material was used only if they were larger than 3 cm in diameter and at the discretion of the treating surgeon. Unfortunately, it was impossible to perform an adequate follow-up of the patients to determine the recurrence rate. However, if the worst-case scenario is considered and if it had been greater than 10%, 3,207 patients would have been cured.

## CONCLUSIONS

We consider the most critical points to be:

1. Our global surgery program was successful and safe, with low morbidity and mortality compared to usual hospital conditions. Only two deaths were reported in more than 10,000 patients, equivalent to 0.02% (serious complications). Likewise, the biliary tract injury rate was 0.58%, which is within the usual parameters, and only 0.04% of the trans-operative bleeding required blood transfusion (moderate complication).
2. We believe that the management model to establish an extramural surgery program within national boundaries, requires:
   a. Leadership: this is the most important character for the program's success. He/she must have the desire, but fundamentally, the time to dedicate to this program. He/she is responsible for managing the economic and human resources. As duties, he/she must select the site for the next campaign, the characteristics of the patients to be treated, summon the participating doctors and nurses; he/she must also coordinate transportation and lodging, collect material and economic resources, supervise the development of the campaign, and finally, record the procedures carried out with all their vicissitudes. It requires permanent secretarial support and possibly a support committee.
   b. Health professionals: Surgeons, anesthesiologists, and surgical nurses. All must be experienced and duly qualified. Since they sometimes work in non-optimal conditions, experience compensates for deficiencies. While surgical or anesthesia residents' participation is convenient, they should avoid assuming a leading role in developing the campaign.
   c. Dynamics of the campaign: these are initiated by requests for support from state surgeons, hospital directors, the state health secretary through his extramural surgery coordinator, municipal presidents, and others. This request is sent to the campaign coordinator, the Undersecretariat for Sectoral Coordination, and the General Directorate for Extension of Coverage. This request is sent to the coordinator of the campaigns or through the Undersecretary of Sectorial Coordination and the General Directorate of Extension of Coverage.[11] Three months before the campaign, a hospital visit is made to set the date, goals, availability of operating rooms, laparoscopy equipment, anesthesia, staff, and other things. Based on this data, the campaign coordinator and the state authorities request the corresponding supplies through their state extramural surgery coordinator.

Depending on the goals, the campaign coordinator invites anesthesiologists, nurses, and surgeons to participate. A request for transportation is sent to the Director General of Health Services Management. Campaigns are usually held over two or three days on weekends, so the participating group arrives a day early. Patients are screened and scheduled for surgery by local surgeons. It is not feasible for the extramural surgery group to provide pre-surgical consultation; their work is only surgical. These guidelines may only apply to Mexico.

d. Registration instruments: it is necessary to develop documents to manage, program, report events, and follow up on the campaigns. Many of the data from these campaigns have yet to be recorded due to the lack of a correct administrative methodology.
e. Sponsors and participants: the main sponsors are the state and municipal governments through the health services, the state Integral Development for the Family (DIF), and national industry foundations. Major pharmaceutical and surgical technology companies should participate. The surgical associations that should support the project are the Mexican Association of General Surgery/Mexican Federation of Colleges of General Surgery Specialists, the Mexican Association of Endoscopic Surgery, and medical colleges from different hospitals and states.

The strategy for recruiting sponsors should be refined, and this obligation should fall to the AMCG's Social Service Committee. The industry and sponsors would be more likely to participate if donations were tax deductible.

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