



# 2016 Report

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# PRESENTATION

*As an institution that supports the growth and excellence initiatives achieved by the FM/HCFMUSP System year after year, FFM presents its activity report with the results obtained in 2016, in all its instances of operation.*

In the Message from the Board of Directors, we highlight the importance of FFM in its 30 years of operation, with the text "School of Medicine Foundation, 30 years of proficient support to FMUSP and the HC-FMUSP Complex" (page 7).

We present an overview of the social reach obtained by the FFM in 2016, by analyzing the "**The FFM in Numbers**" (page 13), which shows that FFM supports 97% all executed free procedures.

To fulfill its statutory objectives, FFM supports the development of a series of **Actions of integral health care** (page 15), always prioritizing the care of SUS (Brazilian Universal Care System) patients. Other of our priorities is to ensure **special procedures** such as transplants, implants and other high complexity procedures (page 27).

FFM also assumed the maintenance of the performance obtained by the HCFMUSP Complex (page 31) and other Health Units (page 43) through the allocation of human and financial resources.

It was possible for FFM to manage **IRLM Management Agreement** (page 45), Center of excellence in treatment, teaching and research in Rehabilitation since FFM is qualified as a Social Organization. In addition to specialized care, the IRLM has developed music therapy sessions with ambulatory patients, whose work involves motor coordination, instrument manipulation and cognitive area, seeking to stimulate memory, speech articulation, breathing and interaction between people.

The FFM also continued to manage the **ICESP (Cancer Institute of São Paulo)** (page 50), an institution whose ideal is to be one of the biggest institutions in Latin America dedicated to the integral treatment of patients with oncological pathologies. Besides cancer treatment procedures,

ICESP offers practical cooking classes to teach patients and caregivers how to prepare recipes that stimulate taste and reduce the common side effects of chemotherapy such as nausea and pain when swallowing.

Recognized and certified as charity, FFM supported the development of **social assistance** (page 55) inside and outside the FM/HCFMUSP system premises, directed at the most deprived population, without prejudice to SUS service. An example of this is the **Bandeira Científica (Scientific Flag)** (page 56), which carried out more than 5,100 procedures to families under social and economic risk at the municipalities of Acreúna - State of Goiás and held its fourth surgical expedition in the city of Bandeirantes, State of Paraná.

FFM is involved in a series of assistance projects, favoring:

**1) AIDS and Sexually Transmitted Diseases carriers** (page 64), who were benefited by the specialized ambulatory care provided by the Casa da Aids (Aids House (page 42) and several other initiatives supported by FFM.

**2) People with Disabilities** (page 70), who benefited from IMRea's specialized assistance (page 37) and the IRLM (Page 45), in addition to several other initiatives supported by FFM, such as training courses, with the intervention of FFM, aiming to qualify the participants with technical knowledge from the main competencies of a multiprofessional and interdisciplinary program of patient rehabilitation.

**3) Oncological Patients** (page 73), which, in addition to the actions developed by ICESP (page 50), by ITACI (Institute for Treatment of Childhood Cancer) (page 81) and by InRad (Institute of Radiology (page 33), receive benefit through

several other initiatives, with the intervention of the FFM, such as the holding of a training course to spread best practices for all services with teams that need improvement of activities related to the care of severe oncological patients and/or training in diagnostic imaging.

**4) Children and youth** (page 79), besides the ICr (Child Institute) specialized hospital care (page 36) and ITACI (page 81), are benefited by other initiatives such as the research for new forms of early childhood stimulation (between zero and three years), through the development agents or community agents who teach mothers how to stimulate their children's development with toys and books.

**5) Families and women** (page 84), which, in addition to the actions of the "Bandeira Científica" Project (Page 56), are benefited, for example, from the program of home visits for pregnant women with a focus on improving the mother's health in prenatal care.

**6) Elderly** (page 86) that are benefited, for example, from instructional sessions with focus on the elderly, their caregivers and professionals working with this age group, addressing the issues of "With Greater Care" and "Road Safety for the Elderly".

**Researching support** (page 91) is one of the FFM's priority functions, through either its

structure or the stimulation of scientific production, in addition to supporting the development of clinical studies (page 104).

**Supporting Health Policy projects** (page 107), including the training of public health network professionals, development of evaluation, analysis of results, among others, is also part of FFM's activities.

Supporting the development of **Institutional Projects** (page 119) to improve the physical and technological infrastructure of the FM/HCFMUSP System installations was also part of FFM's actions in 2016.

A brief **history** of FFM (page 128), and its **consolidated results** (page 129, **adopted** strategies (page 130), main **partners** (page 131), main **certifications** (page 132), the **organizational structure** (page 135) and the **synthesis of the Financial Statement for 2016** (page 141) are also presented at the end of this Report.

At **Abbreviations** used in this Report (page 143) and the current composition of the **Administration of FFM** (page 146) complete the 2016 FFM Report.

Attached are the **Financial Statements for 2016**, with their respective **Explanatory Notes** and **Independent Auditors' Report**.

## MESSAGE FROM THE BOARD OF DIRECTORS



Professor Dr. Flavio Fava de Moraes



Professor Dr. Yassuhiko Okay

### School of Medicine Foundation, 30 years of profitable support to FMUSP and the HC-FMUSP Complex

*On September 18, 2016, the School of Medicine Foundation (FFM) completed 30 years of existence. It was born from an initiative of the Board of the School of Medicine of the Universidade de São Paulo at that time, They invited the Associação de Antigos Alunos da FMUSP (Alumni Association of the Universidade de São Paulo - AA AFMUSP) to be the proponent of its creation, as a private law, non-profit foundation.*

*Since the beginning, FFM's statutory objectives stood by supporting teaching, researching and health care at FMUSP and at the HC-FMUSP Complex and at the preservation of the assets of the Oswaldo Cruz Academic Center (Centro Acadêmico Oswaldo Cruz - CAOC).*

*The HC-FMUSP Complex, for tertiary care, comprises the following institutions: the Central Institute (ICHC), including the Ambulatory Building (PAMB); The Institute of Psychiatry (IPq); The Institute of Orthopedics and Traumatology (IOT); The Child Institute (ICr), including the Institute for Treatment of Childhood Cancer (ITACI); The Institute of Physical Medicine and Rehabilitation (Instituto de Medicina e Reabilitação - IMRea); The Heart Institute (Instituto do Coração - INCOR), the only one managed by the Zerbini Foundation (Fundação Zerbini - FZ); The Institute of Radiology*

*(InRad); The Cancer Institute of the State of São Paulo (ICESP), including ICESP-Osasco; and two auxiliary hospitals: the Auxiliary Hospital of the City of Cotoxó (Hospital Auxiliar de Cotoxó - HAC), which will be rebuilt soon and will become the Institute of Alcohol and Drugs; and the Auxiliary Hospital of the City of Suzano (Hospital Auxiliar de Suzano - HAS), which undergoes substantial reforms.*

*In addition, 62 Medical Research Laboratories (Laboratórios de Investigação Médica - LIMs), the Aids House (Casa da Aids, the Administration Building (Prédio da Administração - PA), the School of Permanent Education (EEP), the Rebouças Convention Center (Centro de Convenções Rebouças - CCR), the Lucy Montoro Rehabilitation Institute (Instituto de Reabilitação Lucy Montoro - IRLM), the Butantan Health Center and School (Centro de Saúde Escola Butantan), for primary care, and the São Paulo City Verification of Death Service (Serviço de Verificação de Óbito da Capital - SVOC). Including the Western Region Project (Projeto Região Oeste - PRO), developed in the Butantã-Jaguarié Micro region of the City of São Paulo, for the primary care, and the University Hospital of the University of São Paulo (Hospital Universitário da Universidade de São Paulo - HU-USP), for the secondary care, it forms a complete*

Academic Health System, with integration of the three levels of health care.

The FFM activities, in support to FMUSP and to the HC-FMUSP Complex, work in close synergy with the decisions of its various committees: the Decision-Making Body (Conselho Deliberativo - CONDEL) and the Planning and Control Commission (Comissão de Planejamento e Controle - CPC) for the HC-FMUSP and the Body of the CTA from FMUSP. Besides, FFM is subject to rigorous controls under the Foundation of Trustees of the São Paulo Public Prosecution Office, the State and The Court of Auditors of São Paulo, as well as independent external auditing.

The FFM reports to various agencies with which it maintains agreements such as Ministries, State and Municipal Secretariats, and many other public or private institutions, either national or international. Due to the administrative, financial and ethical transparency that conduct the institution, the FFM has gained great credibility, frequently serving as a consultant on new projects. However, FFM truly follows the advising of the Foundation of Trustees and its Trustee Council to restrict its action, predominantly, to the FMUSP and the HC-FMUSP Complex, unless it is fully justified the assumption of new projects, for academic and social matters.

### **Private-law Institution**

In 2016, in spite of being considered by the Foundation of Trustees as a private-law foundation, FFM had to conform to the requirements of the Court of Auditors of São Paulo and adjusted its Procurement Regulation and the personnel selection criteria for FMUSP and the HC-FMUSP Complex, bringing them closer to those of the Brazilian Federal Law 8666/93 and has since been conducting similar procurement and recruitment processes, mainly for the selection of personnel in the middle area. Its purpose is to guarantee greater publicity, competitiveness and economy without losing agility during its processes.

The FFM also reports to its Trustee Council (four meetings/year) and the Advisory Board (two meetings/year), both guided by the Director of the FMUSP. In these cases, the Situation Report presents the accountability. Each year the FFM presents the Work Plan for the coming year for the analysis of these two boards. In the Decision-making Body and in the Planning and Control Commission of the HC-FMUSP, the FFM displays the monthly cash flow "book" of the operational

accounts. In addition, there is the publishing of the bimonthly edition of FFM's Journal, with sorted and up-to-date content related to FMUSP and the HC-FMUSP Complex.

### **Projects supported by FFM**

For the effective execution of its statutory objectives, FFM supports, manages and maintains a range of projects:

1. **Comprehensive Health Care Project**, including:

The) **University Agreement** signed in 1988 between the HC-FMUSP Complex and the State Department of Health, with participation of the FFM, which is dedicated to the free care of patients from the Brazilian Universal Care System (SUS), including with the assurance of special procedures, such as transplants of different organs, various implants and other high complexity procedures. For information purposes, among transplants and implants, the HC-FMUSP Complex carried out 917 in 2014; 823 in 2015 and 861 in 2016. Performed High Complexity Procedures (APACs) in the following quantities: 164,922, in 2014; 170,561 in 2015; and 185,934 in 2016.

b) **Management Agreements** in which the FFM qualifies as a social organization. From 2008-2010, FFM signed four Management Agreements, two with the state and two with the city. On December 9, 2011, through Complementary Law 1160, the HC-FMUSP Complex was transformed into a Special Regime Autonomous Entity. Thus, in 2014, ICESP (Cancer Institute of São Paulo), until then managed by the FFM through a Management Agreement, was integrated as a new institute to the Complex HC-FMUSP and the FFM, and it became, besides being manager, the intervening also for ICESP. It should be noted that since its inauguration in 2008, ICESP has shown surprising growth and development. In 2016, ICESP surpassed the historical mark of more than three million medical procedures among consultations, hospitalizations, chemotherapies, diagnostic procedures, hospital-day and prompt care. There were more than 43,665 patients with active enrollment and an average of 738 new patients per month. Given its technical and humanistic competence, ICESP was elected in 2011 by the users, the best public hospital in the State. The two Municipal Management Agreements - the Region West Project (Projeto Região Oeste - PRO), developed in Butantã-Jaguarié Micro region and the Butantã Emergency Room - that ended on



07/31/2016, were taken over by another Social Organization. However, FMUSP, in with the SMS and with the of the new Social Organization, preserved the teaching of Primary Care, directed to FMUSP students and to the Family and Community Medicine Residence, in the same places.

**2. Assistance Projects** aimed to AIDS patients, people with disabilities, oncological patients, children and young people, needy families, women and the elderly.

**3. Many, numerous Research Projects.**

**4. Health Policy Projects.**

**5. Institutional Projects** - just for information, the FFM together with FM/HC, has recently carried out a major project as an extension of the SVOC, installing, a Magnetom of 7 Tesla, at the FM, in its own building, the only one in South America, which

performs exams on the dead patients and can replace traditional autopsy.

#### **6. Clinical Trials Projects.**

All these projects, together, define FFM's broad spectrum of actions and its different partners. The support and management provided by FFM to these different projects have generated, over time, significant amounts of revenues, but also of expenses of different types.

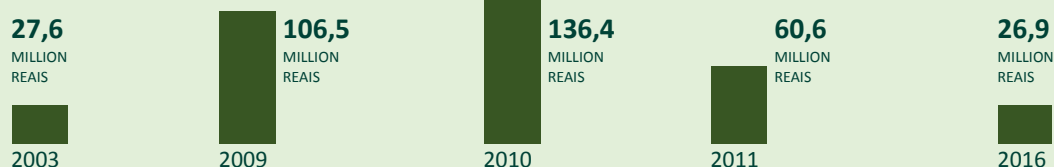
From 2003 to 2016, revenues increased substantially due mainly to the inclusion of ICESP but also to the IRLM (both through state management agreements) and the Western Side of the City and Butantã Emergency Room project (both through Management agreements with the São Paulo City Secretary of Health (Secretaria Municipal de Saúde - SMS). See Table 1 for the Income Statement.

### **INCOME STATEMENT** (in millions of reais - Table 1)

	<b>2003</b>	<b>2016</b>
<b>Revenues</b>	<b>260,9</b>	<b>1.159,5</b>
SUS Medical Care	164,8	277,2
Supplementary Health	28,2	111,4
Projects (ICESP, SP City Hall, IRLM, etc.)	14,7	619,6
Agreements (clinical studies, courses, etc.)	27,4	80,9
Donations	6,6	9,9
Financial incoming	19,2	60,5
<b>Expenses</b>	<b>235,4</b>	<b>1.100,6</b>
Staff	149,0	677,2
Consumables	48,6	201,9
Services (corporate and individual)	23,3	145,1
Others (public utility, transportation, etc.)	14,5	76,4
Surplus	25,5	58,9
% Management of ADM FFM against total revenues (it does not include donations from ADM FFM to the FMUSP/HC System)	4.6%	1.5%


### **INVESTMENTS**

CONSOLIDATED POSITION (HCFMUSP, ICESP, FMUSP AND OTHERS)



## EVOLUTION OF PROJECTS \*

**34,4**  
MILLION  
REAIS  
  
**2003**

**664,4**  
MILLION  
REAIS  
  
**2016**

\*FROM THE 1,552 SIGNED AGREEMENTS FROM 2003 TO 2016, 484 WERE ACTIVE AS OF DECEMBER 31, 2016

*As an update, in 2016 São Paulo State Government transferred 49% of its revenues; SUS, 24%; City Hall, 4%; supplementary health, 9%; financial income, 5%; donations, 1% and other revenues, 8%.*

*SUS patient care and supplementary health represented 97.8% and 2.2%, respectively, in 2003, reaching 95.1% SUS and 4.9%, supplementary health, in 2016. On the other hand, the variation of revenues varied from 87.3% in SUS and 12.7% in supplementary health, in 2003, to 72.9% in SUS and 27.1% in supplementary health, 2016. It also draws attention to the efficiency of the FFM, as regards billed and received amounts, from 2003 to 2016. The percentage of deductions decreased from 2.8% to 1.9%. The total number of SUS patients ranged from 3,428,680 in 2010 to 3,127,893 in 2016; those of supplementary health ranged from 125,322 to 159,728 in the same years.*

*From 2003 to 2016, FFM's cash flow changed by 698%.*

*The percentage of total FFM human resources, in relation to the SUS net revenue (net of fees), set by the Decision-making Body itself at 75%, reached 80.5% in 2016. More urgent needs of the HC Complex for contracting and the precarious release of vacancies, for recruitment, by SES, account for this worrying increase. Until December 2016, FFM had 11,394 employees hired: 26% of the total are "complementary" with an additional two-hour working day; 34% are founders of ICESP; 26% are the so-called pure founders; 8% were allocated to projects; 314 (3%), those allocated to the IRLM and, finally, 347 (3%) belonging to the direct*

*administration of FFM. The total monthly payroll of the 11,394 employees represents R\$ 53.632 million reais.*

*From the 1,552 contracts signed by the FFM, from 2003 to 2016, 484 were active on 12/31/2016. The investments in equipment, buildings and renovations, information technology and others (vehicles, installations etc.), from 2003 to 2016, in ICESP, FMUSP, HC Complex and other investments, were 27.6 million in 2003, 107 million in 2009 and 136 million in 2010. In 2016, they reached 26.9 million.*

*The FMUSP Restoration and Modernization Project, developed from 2000 to 2008, received fundamental support from FFM, which shared with FMUSP the project coordination and funding. FFM itself spent significant amounts of resources to achieve the project. It was verified that the FMUSP, as a consequence of the project, recovered its self-esteem, which can be proven by the positive cultural change in the whole community of our school of medicine.*

*Over time, the FFM Board has participated as a member or consultant of various commissions, agreements, working groups and other initiatives of the FMUSP/HC Complex System.*

*It has supported, including financially, dozens of technical-scientific and institutional events. In 2016, it continued the renovation, restoration and maintaining of buildings, gardens and parking lots of the Polo Cultural Pacaembu (Pacaembu Cultural Center).*

## CASH EVOLUTION

**71,5**  
MILLION  
REAIS  
  
**2003**

**499,2**  
MILLION  
REAIS  
**2016**

### **FFM's social assistance certifications**

As a charity of social assistance, the FFM gained public recognition for its work, receiving and maintaining, periodically, several certifications, among which the following stand out:

1. Federal, State and Municipal Public Utility Declaration;
2. Certificate of Registration and Certificate of Beneficial Entity of Social Assistance (Certificado de Entidade Beneficente de Assistência Social - CEBAS), with the National Council of Social Assistance (Conselho Nacional de Assistência Social - CNAS);
3. Certificate of Registration of the State Council of Social Assistance (Conselho Estadual de Assistência Social - CONSEAS);
4. Certificate of Qualification as a Social Health Organization of the Municipal Department of Management of the City of São Paulo;
5. Certificate of Qualification as a Social Health Organization of the State Department of Health of the State of São Paulo;
6. Certificate of Registration of the Municipal Council of Social Assistance (Conselho Municipal de Assistência Social - COMAS); and
7. Registry No. 1088/CMDCA/2004, in the Municipal Council of the Rights of the Child and the Adolescent.

### **Synergetic relationship with the FMUSP/HC System**

As can be determined by this brief report, FFM performs, supports, coordinates and manages much more than just a few. The synergic relationship with the Board of FMUSP and its Congregation and with the Decision-making body, the Planning and Control Commission, the Clinical Board and Superintendence of the HC-FMUSP

Complex, further strengthens and leverages the joint actions that they practice.

The Board of FFM has guided its management, based on some basic assumptions:

- 1) In the sincere recognition for the quality work developed by its professionals;
  - 2) In the concrete possibility to foster the professional and personal growth of its professionals;
  - 3) In the opportunity of taking part in the leverage and improvement of many institutional processes;
  - 4) In the possible and decent remuneration of its professionals;
  - 5) In the permanent modernization of its material and technical infrastructure to respond to the ever increasing demands of the FMUSP/HC-FMUSP Complex.
- To do so, the FFM guides itself through
- 1) a Model of Participatory and Shared Management;
  - 2) a Code of Positive Values;
  - 3) a Valuation Project for its Collaborating Body;
  - 4) and a standard of permanent Improvement of Institutional Processes and Interpersonal Relationships.

The 357 professionals of the FFM direct administration are distributed and organized in the teams of nine Specialized Management that compose it, in addition to its Board and Financial Superintendence. They are: Legal Consulting, Controlling, Billing and Control, Financial, IT, Materials and Import, Projects and Research, Human Resources and Supplementary Health.

Each Management has more than one leader, that is, it has a leadership with technical and

managerial expertise that coordinates its team with clarity, determination and responsibility. This gives leadership autonomy, but not independence, because the numerous institutional processes (sequence of tasks) are not restricted to a single department.

This work requires a permanent interaction between departments so that the processes are very complete and with quality. In this way, a genuine network of processes is created, with two-way flow, where each department depends on the other. The overall coordination is the responsibility of the Board, followed by the Financial Superintendence.

Aiming at the effectiveness of the management, the FFM Board of Directors performs its Integration Meeting on a monthly basis, with the participation of the Financial Superintendence and the Specialized Management of each department. Everything is shared equally: difficulties, problems, demands of the FM/HC System and the possible pertinent solutions. The meeting is dynamic and has generated greater cohesion and institutional integration. In the second part of the meeting, invited specialized authorities hold lectures on topics that are of interest of FFM.

The management model also emphasizes a Code of Positive Values, which permeate the entire institution, represented by integrity, transparency, reliability, good example, commitment, responsibility, flexibility, tolerance, listening ability and patience. We have previously said that FFM recognizes and values its employees without neglecting its material and technological infrastructure on a daily basis.

The Board of Directors focus especially on people, concerning with their professional and personal growth. The training and qualification program of its employees improves their technical training, making them more efficient and effective. In 2016 alone, it was about 5,179 class hours that, in order to develop team skills, resulted in the improvement of FFM's final results.

In addition, the Board of Directors seeks to meet the legitimate needs of its professionals through the re-examination of positions, functions, frameworks and promotions, always rewarding

those with the merit. This makes way for their professional growth; it generates adherence, spirit of collaboration and a sense of belonging to the institution.

Finally, the Board encourages the Improvement of Processes and Interpersonal Relationship. People have diverse backgrounds, different personalities and varied attitudes and behaviors. The FFM understands that the technical competence of the people, although absolutely necessary, is not enough to fill the profile that the entity wants from its collaborators. Therefore, FFM invests in, and pursues, the improvement of interpersonal relationships so that one recognizes the other, with mutual tolerance, acceptance and bilateral respect. This reduces tension, improves the institutional atmosphere and transforms opposition into cooperation.

As the achievement of the numerous institutional processes - the sequence of tasks to achieve the final result - depends on the sequential performance of several Management and its teams, so the processes can be developed without interruption within the agreed time and with quality, it is necessary the collaboration of all; both people and the institution win.

This is all that makes FFM an integral and transparent, successful, helpful and service-minded institution, aware of its cooperative performance for the recognized institutional success of the Faculdade de Medicina/USP and its Hospital das Clinicas Complex.

Finally, on the 30th anniversary of its existence, the FFM Board of Directors pays tribute to all the leaders of each Management and its respective teams of employees and the Financial Superintendence, and warmly thanks everyone for the invaluable work of Quality, fruit of competence and enviable cooperation, in favor of the FMUSP/HC-FMUSP Complex.

**Professor Dr. Flavio Fava de Moraes**  
**Director-General of the FFM**

**Prof. Dr. Yassuhiko Okay**  
**Vice-Director of the FFM**

# FFM IN NUMBERS

<b>A - Procedures + Free Admission to SUS Patients - 2016</b>		<b>Quantity</b>	<b>Page</b>
High Complexity	ICESP (SES-SP Agreement)	509.814	51
	ICESP Osasco (SES-SP Agreement)	36.982	53
	High Ambulatory Complexity (University Agreement)	(*) 185,934	28
	Transplants and Implants (University Agreement)	(*) 861	27
People with Disability	Instituto de Reabilitação Lucy Montoro (Management Agreement)	35,920	47
	IMRea - Vila Mariana Unit (University Agreement)	150.336	37
People with Aids Virus	Casa da Aids (University Agreement)	18.613	42
Children	ICr - Child Health Care (University Agreement)	625,581	36
	ITACI - Treatment of Childhood Cancer (University Agreement)		
Families	ICHC + PAMB - Assistance in Medical Specialties (University Agreement)	7.688.226	32
	InRad - Assistance in Radiology (University Agreement)	336.584	33
	IOT - Assistance in Orthopedics and Traumatology (University Agreement)	381.160	34
	IPq - Assistance in Psychiatry (University Agreement)	133.781	35
	H.A.S. - Assistance for long-term patients (University Agreement) - <b>(under construction)</b>	6.360	41
	H.A.C. - Assistance in intermediate care (University Agreement) - <b>(under construction)</b>	0	41
	C.S.E. Butantã (University Agreement)	8.026	43
Pharmaceutical Care	Quantity of Exceptional Medications	(*)38.691.750	28
<b>A - Subtotal Procedures + Free Admission to SUS Patients</b>		<b>9.931.383</b>	
<b>B - Free Procedures - Special Projects</b>		<b>Quantity</b>	
Social Assistance	Student Financial Support Program - AFINAL	60	61
	Bandeira Científica Project 2016 (Other Agreements)	5.573	57
	NGA Várzea do Carmo (SES-SP Agreement)	20.913	44
	Vision of the Future Program (SES-SP Agreement)	3,512	60
	Mental Health - CASA Foundation (Other Agreements)	(**) 8.808	59
	Numbers of Visits + Surgeries in Patients with Cleft Palate (Other Agreements)	812	61
<b>B - Subtotal Free Procedures - Special Projects</b>		<b>39.678</b>	
<b>A + B - Subtotal Procedures + Admission Free Patients from SUS + Free Procedures - Special Projects</b>		<b>9.971.061</b>	
<b>C - Procedures for Supplementary Health Patients - Ambulatory and Admission</b>		<b>Quantity</b>	
Procedures for Supplementary Health Patients - Ambulatory and Admission		336.223	25
<b>C - Subtotal Procedures for Supplementary Health Patients - Ambulatory and Admission</b>		<b>336.223</b>	
<b>A + B + C - General Total of Procedures + Free Admissions + Supplementary Health</b>		<b>10,307,284</b>	
Representativeness of Free Procedures (SUS + Other Procedures) on the General Total		97%	
Representativeness of Supplemental Health Procedures over the General Total		3%	

(\*) The quantity is for information only and it is not considered in the Subtotal of Free Procedures for SUS Patients

(\*\*) Approximate average quantity



# Integral Health Care Assistance

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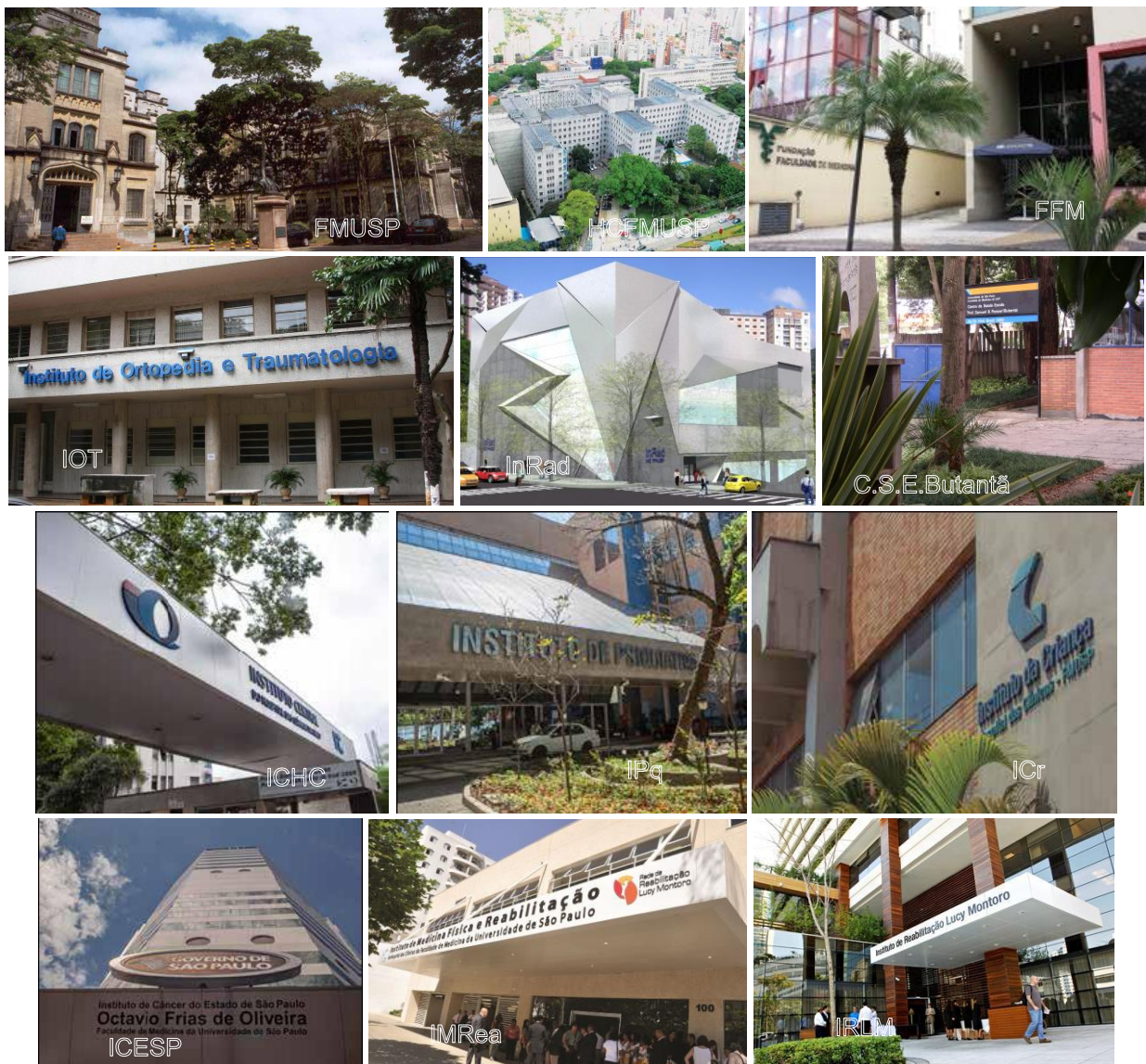
# INTEGRAL HEALTH CARE ACTIONS

*The FM/HCFMUSP System is a network of public and private institutions that integrates the health care, aiming at the training of specialized human resources at their various levels, the generation of knowledge and innovation.*

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## FM/HCFMUSP System

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The FM/HCFMUSP System is a network of public and private institutions that integrates the health care, aiming at the training of specialized human resources at their various levels, the generation of knowledge and innovation. The missions of the two main units of the FM/HCFMUSP System converge integrally in the academic (assistance, teaching and research) and managerial tasks.

The FM/HCFMUSP system is composed of approximately 1,500 professionals, distributed in its various unit, developing research projects in the most diverse areas of science as teachers, supervisors of the graduate programs and researchers who sent their research projects for the assessment of the CAPPesq (Ethics Commission for the Analysis of Research Projects).

Within the FM/HCFMUSP System, the researchers work in the Laboratory for Medical Investigation (Laboratórios de Investigação Médica - LIMs), with a total of 213 groups registered in the Brazilian Council of Technological and Scientific Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq), working for the development of 455 lines of research that cover all areas of medical knowledge and health. Moreover, with researchers who develop projects in basic and clinical areas, they are investigated from mathematical models for understanding cancer biology or epidemiological investigations, to new therapies (cell therapy, generative medicine, immunotherapies, directed targeted therapies, etc.).

The FM/HCFMUSP System leads initiatives that seek the development of several areas of important social impact, such as Medical Biotechnology, Biomedical Engineering and Information Technology for Health, including the Telemedicine area.

In the period from 2012 to 2016, the FM/HCFMUSP System accumulated 9,129 publications, of which 70.73% were articles published in international journals.

The superior instances of the System are the Congregation of FMUSP and the Decision-making Body of the HCFMUSP, both presided over by the Director of FMUSP. The FMUSP Congregation has a consultative and deliberative function and is advised by the Graduation, Postgraduate, Research, Culture and Extension, Medical Residency and International Relations Commissions. The HCFMUSP Decision-making Body defines the guidelines for tertiary-level medical and hospital care and is composed by ten representatives from the FMUSP titular professors, elected by their peers.

In 2010, the FM/HCFMUSP System instituted an unprecedented process of self-evaluation in order to draw the guidelines for the future of the Institution in a participatory and integrated way, taking into account the immense diversity of voices present in the Institution - the Conference "Em Busca do Futuro" (In Search of the Future) - FMUSP 2020 Project.

At that time, several meetings were held to establish the strategic axes of work. From a series of meetings with people involved at all levels of the Institution and also external guests, the areas of humanization, excellence in teaching, internationalization, integration, technological innovation and sustainability were established.

Five years later, the Institution realized the need for a "stop for awareness". It was a reassessment based on the current local, Brazilian and World reality - and the renegotiation with all those involved in actions to be effectively implemented from now on so that, in 2020, the fruits of the seeds planted in 2010 will be harvested.

In May 2016, a conference was held with the participation of 120 employees from the most diverse areas, specialties and hierarchies, distributed in 12 tables, of which two were composed of external guests, USP and other universities, hospitals, companies, etc. The participants then adjusted the macroactions and collectively revalidated the priorities, listing the three major macroactions of each axis, from one vote.

The following institutions compose the FM/HCFMUSP System:

**School of Medicine, University of São Paulo (FMUSP)** (Page 20), today maintains 26 Stricto Sensu Postgraduate programs. FMUSP has 774 Master's and 1,542 Ph.D. students, totaling 2,316 regular students and 1,539 medical students enrolled in 50 different programs. One out of every six Brazilian doctors in the health area are formed in FMUSP. In 2016, FMUSP had 2,300 articles published. In the area of research, FMUSP had, by 2016, 36 patents applied for and seven software applications for protection.

**The Hospital das Clínicas Complex School of Medicine of the University of São Paulo (HCFMUSP)** (Page 22), composed of more than 24 thousand professionals, from different areas, who dedicate their time daily to the primary and quality assistance. It consists of the Central Institute and seven specialized institutes, all of high complexity (tertiary care); two backup hospitals; a unit specialized in the integral care of patients with

HIV/AIDS; 62 Medical Research Laboratories (Laboratórios de Investigação Médica - LIMs), responsible for research activities in various health fields; and an Administration Building. In almost seven decades of strengthening of the tripod Teaching, Research and Assistance, the HCFMUSP, the FMUSP school hospital, reached a standard of excellence in public service, training and qualification of multiprofessionals in the health area with strength, respect and with enthusiasm - A mark of the current management of HCFMUSP.

**Fundação Faculdade de Medicina (FFM - Faculty of Medicine Foundation)**, a private law foundation that strongly supports the initiatives of FMUSP and HCFMUSP through full interaction with the decisions of its collegiate bodies, ensuring the observance of its normative guidelines, both before the state control and oversight bodies and with reputable external audits. Acting as an intervener in agreements and/or contracts, FFM has been making a significant managerial contribution to the Brazilian Universal Care System at the HCFMUSP, Studies and/or Clinical Research and to related organs, such as SES, MS, etc. It also acts as OSS in the management of IRLM. It is also responsible for the administrative financial management of ICESP through a Management Agreement. FFM's support to FMUSP and HCFMUSP is mainly exercised in three areas: human resources (contracting and training), costing (purchasing, maintenance) and investments (equipment, works), whose resources are applied according to decisions prioritized by the Institutions.

**Zerbini Foundation (Fundação Zerbini - FZ)**, a private law foundation that has been playing an important role in promoting agility and administrative efficiency for InCor (Heart Institution), as well as in raising funds.

**Instituto de Reabilitação Lucy Montoro (Lucy Montoro Rehabilitation Institute - IRLM)** (Page 47), a center of excellence in rehabilitation treatment, teaching and research.

**West Side Project (Projeto Região Oeste - PRO)** (Page 48), formed by a partnership between the City Department of Health, FMUSP and FFM, closed in 2016, with the aim of strengthening the integration of health services in the western site of the city of São Paulo.

**University Hospital of USP (HU-USP)** (Page 44), of medium complexity and responsible for the secondary attention of local communities.

**Samuel Barnsley Pessoa Health School Center (Centro de Saúde Escola Samuel Barnsley Pessoa - CSE Butantã)** (page 43), primary and secondary care, is a teaching-assistance unit of FMUSP, focused on the population of Butantã neighborhood.

**City Verification of Death Service (Serviço de Verificação de Óbitos da Capital - SVOC)**, an organ linked to the FMUSP to clarify *causes of death* in cases that the death is due to ill-defined disease or without medical assistance, occurred in the City of São Paulo.

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## USP SCHOOL OF MEDICINE

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*One century after its creation, FMUSP is the largest human resources training center in Brazil.*



*Aerial view of USP SCHOOL OF MEDICINE*

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The FMUSP, founded in 1912 and then known as the Faculty of Medicine and Surgery of São Paulo, received, four years later, financial resources from the State Government and the Rockefeller Foundation for the introduction of a new teaching model based on university hospitals in Brazil.

In 1931, the present building of the School was inaugurated and, in 1934, it became part of USP - that was created that same year -, thus gaining the name of School of Medicine of the University of São Paulo (FMUSP).

Still in with the Rockefeller Foundation, the first building of the Hospital das Clínicas (the Central Institute) was completed in 1944 following the proposed model. Since its foundation, FMUSP has had its history marked by pioneering and excellence in the quality of teaching, which is now internationally recognized.

Currently, the Faculty has a Hospital Complex that allows practical learning to undergraduate students and medical and multiprofessional residences.

In commemoration of its centenary, it celebrated the conquest of following titles: The

institution with the Brazil's largest medical residency program, the leading Brazil's health science research center, and its placement among the top 50 medical science universities in the world, according to the "Times Higher Education World University", 2012-2013. IT is the only representative from Latin America.

The Faculty offers four undergraduate courses: Medicine, Physiotherapy, Speech and Language Therapy and Occupational Therapy.

Gathering 52 of the 53 medical specialties recognized in Brazil, the Medical Residency Program is characterized as the largest and most popular in the country, being a benchmark of quality and excellence.

The program is based on activities supervised by renowned specialists, working in the three levels of health care: in primary care units (primary care), USP University Hospital (secondary care) and Hospital das Clínicas Complex (tertiary care). The student of residence, besides being in contact with the avant-garde research, has direct access to state-of-the-art technological equipment.

The Faculty also offers Multiprofessional Residency in Health and Professional Health Area,

distributed in 12 Programs between the Institutes of the HC Complex: Hospital and Clinical Pharmacy Assistance; Nursing in Mental and Psychiatric Health; Medical Physics; Clinical Nutrition in Cardiopneumology; Clinical Nutrition in Gastroenterology; Hospital Dentistry; Cardiovascular Prevention and Therapy; Health Promotion and Care in Hospital Care; Rehabilitation of Patients with Incapacitating Physical Disability; Collective Health and Primary Care; Health of the Elderly in Palliative Care and Mental Health with Emphasis on Chemical Dependence.

One century after its creation, FMUSP is the largest human resources training center in Brazil. It currently maintains 26 Strictu Senso Post-Graduation programs, two scoring 7; Six scoring 6; Eleven scoring 5; and seven scoring 4 according to Capes (Brazilian Coordination for Improvement of the Graduate Person) assessment (triennial evaluation 2013). The Faculty has more than 630 counselors and, in 2016, 774 master students and 1,542 doctoral students were enrolled in its board, totaling 2,316 students enrolled regularly and 1,539 medical residency students enrolled in 50 different programs. One out of every six Brazilian doctors in the health area are formed in FMUSP. Currently, there are 179 postdoctoral researchers.

It is responsible for about 14% of the national production of medical research, 4% of all national scientific production in all areas (Humanities, Biological and Exact Sciences) and 2.2% of all production in Latin America (in all areas).

Since its inauguration, it has maintained its commitment to pioneering, excellence in Teaching, Assistance and Medical Research. Throughout its history, it has pioneered the implementation of new techniques, which represent scientific advances in the medical field and have saved thousands of lives.

Since 2010, FMUSP has been implementing the FMUSP 2020 Project, which was based on the Search for the Future Conference in 2012, which has periodically brought together professionals from all areas and hierarchies of the FM/HCFMUSP System to discuss strategic axes for the development of the institution. **Six axes** were defined, which are in full implementation.

The **integration** among the various areas of the System is one of the priorities. After all, there are more than 24 thousand employees working in eight different Institutes, let alone the professors

and collaborators from FMUSP. In this sense, a process mapping is underway and, among other things, the creation of an electronic medical record system that gathers patients' information in a single place.

In the teaching area, one of the priorities is the **internationalization**. The process began more than ten years ago, with exchanges in several areas and, since 2015, FMUSP has brought undergraduate students from all over the world to a vacation course in specific areas. FMUSP has also sent students to international programs at all levels - undergraduate, graduate and medical residency.

The **excellence in teaching** is also one of the axes, with the implementation of a new undergraduate curriculum, since 2014, and the construction of a building for learning.

In the **humanization axis**, the Relational Skills Lab is being developed, with a strong work in interpersonal communication and conflict management, as well as activities to improve leadership skills and to train managers in the most modern management practices. The implantation of a multidisciplinary education is also part of the work, in the sense of developing a holistic and integrated formation in undergraduate students.

In terms of **technologic innovation**, training in entrepreneurship at all levels, as well as information technology, is being proposed, which also includes the training of teachers for new teaching methods, aiming at creating more horizontal spaces of exchange between those involved in each area. In addition, there is the implementation of the Pole of Innovation in Health, a center that brings together the main activities focused on innovation.

The **sustainability** axis raises concernment with the reduction of waste and the standardization of care and support processes. In addition, it is also being discussed how to improve the collection and how to increase the resources obtained through donations.

One of the main objectives of the project is to value and train the Human Capital from the Institution, promoting a constant dialogue in order to reduce the hierarchical steps, valuing the sense of purpose associated with the mission of the System and the leading role of individuals.

FFM takes part in all discussions of the FMUSP 2020 Project and works to ensure that all its objectives are implemented.

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## HOSPITAL DAS CLÍNICAS DA FMUSP (CLINICS HOSPITAL OF THE UNIVERSITY OF SÃO PAULO SCHOOL OF MEDICINE)

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*The assistance activities promoted by HCFMUSP consist of health promotion activities, disease prevention, medical-hospital service and highly complex rehabilitation for users from the Universal Care System (SUS).*



*Aerial view of Hospital das Clínicas, School of Medicine, USP (HCFMUSP)*

The HCFMUSP was founded on April 19, 1944 and, with the subsequent transferring of clinics that operated in the Santa Casa de Misericórdia Hospital, the integration and creation of the three pillars that supported it were provided: assistance, teaching and research. Initially constituted by the Central Institute, the HCFMUSP gradually expanded in both physical space and in areas of activity and specialization.

The HCFMUSP is associated with the University of São Paulo, through the School of Medicine, for purposes of teaching, research and provision of actions and health services to the community. The purpose of HCFMUSP is to be a

Brazilian Reference Center to increase research, aiming at scientific and technological development.

The assistance activities promoted by the Hospital das Clínicas (Clinics Hospital) of the USP School of Medicine (HCFMUSP) are activities to promote health, the prevention of diseases, medical-hospital service and highly complex rehabilitation for users from the Universal Care System (SUS). In facilities that are increasingly modern and technologically equipped according to the most recent international quality guidelines, the assistance also counts on highly specialized and trained teams.

In recent years, the focus of HCFMUSP has been on people, prioritizing humanization in

**sectors.** In this sense, the **Eye Shine** Project, aiming at improving the results and, at the same time, bringing more enthusiasm and satisfaction to all who work in the largest University Hospital Complex in Brazil and one of the largest hospitals in the Southern Hemisphere. To make the work easier, the project was divided into three phases:

- **Diagnosis:** Data collection and mapping of processes, with the intention of obtaining reliable numbers and understanding the functioning of the sectors. In parallel, a system was implemented that values small achievements, small projects that show, in a daily basis, that the work is in progress.

- **Culture:** Process of implanting and consolidating the new culture, always focused on results.

- **Free Wheel:** phase in which the principles have been incorporated and the system starts to operate by itself.

To build this model, the Superintendence of HCFMUSP used the guidelines that conduct the 2020 Future Search Conference - Integration, Humanization, Sustainability, Internationalization, Excellence in teaching, incorporation of new technologies - and added to the Eye Shine Project premises for optimizing institutions results.

Since 2012, Complementary Law no. 1,160, of 12/09/2011, transformed HCFMUSP into a Special Regime Autonomous Entity, a new legal entity that led to the reformulation of the HCFMUSP Regulation to implement an innovative management model, aiming to raise the levels of Efficiency, according to the needs of planning, coordination, execution and control of activities, acquiring administrative and financial autonomy.

HCFMUSP also provides education to its employees and to the external public.

The Program of Advanced Studies in Hospital Administration and Health Systems (PROHASA) was created in 1972, based on a partnership between HCFMUSP and the School of Business Administration of São Paulo from the Getúlio Vargas Foundation, for the training of hospital administrators and health systems.

In 1992, it included the improvement in health administration - Professional Improvement Program (PAP), for graduating professionals, except doctors, being both programs modalities of the *Lato sensu* post-graduation course. The program, which lasts two years, uses the HCFMUSP as a training camp, providing technical visits to the various support and assistance services; participation and monitoring of routines of the intra-hospital areas and development of projects and advisory services in the numerous sectors.

The HCFMUSP School of Continuing Education (Escola de Educação Permanente - EEP) is the training and improvement center of the FM/HCFMUSP System, offering courses with different durations and levels of details, not only for doctors, as well as for graduated health professionals and technicians. Inaugurated in 2009, EEP acts in the technical area, with training courses and initial continuing training; and higher education in the areas of diffusion, updating, improvement, specialization and professional improvement.

Online courses allow students to autonomously manage their time and place of study. Classes are not scheduled and can be accessed at anytime from anywhere. Specific topics such as diabetes, drug interactions, radiological physics, food intolerance or electrocardiography are found in the schedule, as well as courses that complement the training of all professionals, such as text tools, spreadsheets and other computer resources. There are also a number of free classes that only require the participant to signup online.

In almost seven decades of strengthening of the tripod Teaching, Research and Assistance, the Hospital das Clínicas, the FMUSP school hospital, reached a standard of excellence in public service, training and qualification of multiprofessionals in the health area with strength and respect.

Today, the HCFMUSP is composed by more than 24 thousand multiprofessionals, which dedicate their time to the primordial and quality Assistance.

Formed by eight Institutes - **ICHC** (Including the PAMB), **InCor**, **ICr** (Including ITACI), **InRad** (Including IRLM), **ICESP** (Including ICESP Osasco), **IOT**, **IPq** and **IMRea**; Two Auxiliary Hospitals - **HAC** (Future Institute Specialized in Alcohol and Illegal Drugs) and **HAS**; A unit specialized in the integral care of patients with HIV/AIDS - the **Casa da AIDS**; 62 **LIMs**, responsible for research activities in various fields of health; and the **Administration Building** -, gather today 75 operating rooms, in which are performed 41 thousand surgeries and 800 transplants per year, besides 80 thousand hospitalizations in its more than 2,100 beds.

In this context, it is incumbent upon the FFM to receive the SUS and Supplementary Health payments due to HCFMUSP (with the exception of the Heart Institute - InCor), through the University Agreement (page 23).

## University Agreement

*In the operationalization of the University Agreement, the FFM's objective was to prioritize and continue to direct all its financial and human resources to the maintenance, in 2016, of the average index of 95% of free procedures to SUS patients.*

The **University Agreement**, Signed in 1988 between the HCFMUSP and the SES-SP, with participation of the FFM, which is dedicated to the free care of patients from the Brazilian Universal Care System (SUS), including with the assurance of special procedures, such as transplants of different organs, various implants and other high complexity procedures.

The access and care for SUS throughout HCFMUSP (except InCor) is ensured by FFM, through the allocation of human and financial resources of the System in the Hospital itself, thus enabling HCFMUSP to achieve levels of SUS care (ambulatory and admissions) in an average percentage of 95%. The **number of patients attended** in the last three years is shown in the tables and graphs below:

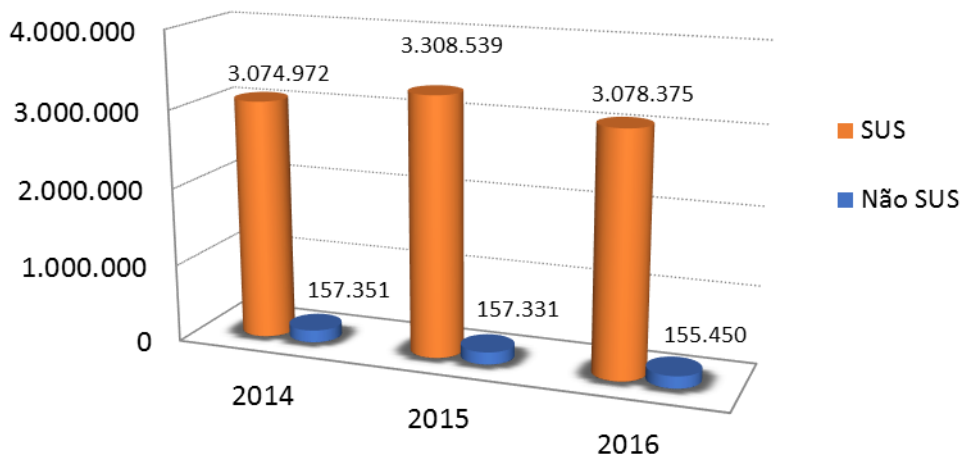
QUANTITY OF ATTENDED PATIENTS - SUS			
Type of Attention	Time		
	2014	2015	2016
Ambulatory	3.074.972	3.308.539	3.078.375
Admission	52.124	50.874	49.518
<b>Total SUS</b>	<b>3.127.096</b>	<b>3.359.413</b>	<b>3.127.893</b>

**Note:** The admission data refers to the first presentation

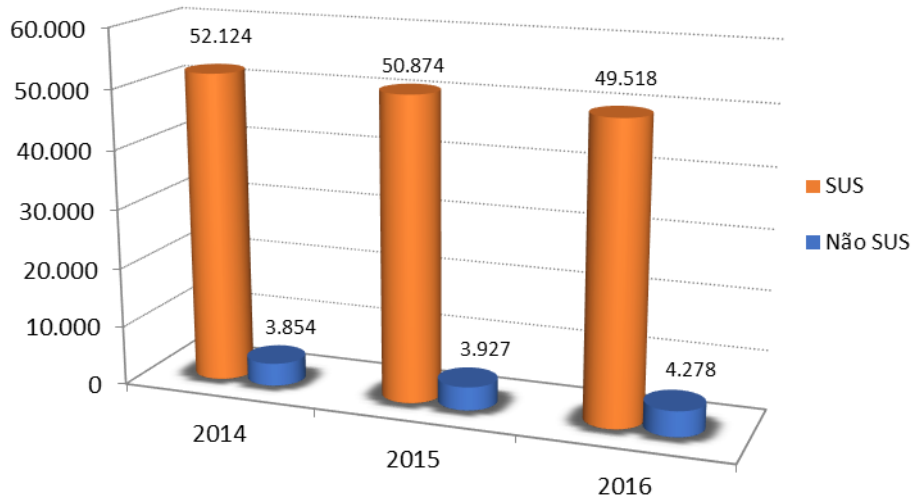
QUANTITY OF ATTENDED PATIENTS - SUPPLEMENTARY HEALTH			
Type of Attention	Time		
	2014	2015	2016
Ambulatory	157.351	157.331	155.450
Admission	3.854	3.927	4.278
<b>Total Supplementary Health</b>	<b>161.205</b>	<b>161.258</b>	<b>159.728</b>

QUANTITY OF ATTENDED PATIENTS - SUS + SUPPLEMENTARY HEALTH				
SUS REPRESENTATIVITY				
Patient Profile	Type of Attention	Time		
		2014	2015	2016
Total SUS + Supplementary Health	Ambulatory	3.232.323	3.465.870	3.233.825
	Admission	55.978	54.801	53.796
<b>Grand total</b>		<b>3.288.301</b>	<b>3.520.671</b>	<b>3.287.621</b>
SUS Representativeness	Ambulatory	95.1%	95.5%	95.1%
	Admission	93.1%	92.8%	92.04%

**Number of Patients Assisted from  
SUS x Supplementary Health - outpatient**



**Number of Patients Assisted from  
SUS x Supplementary Health - hospitalizations**





In the operationalization of the University Agreement, FFM's objective was to prioritize and continue to direct all its financial and human resources to the maintenance, in 2016, of the

average index of 95% of free procedures to SUS patients, according to the tables and graphs below, which demonstrate **how many procedures** were performed in 2014, 2015 and 2016:

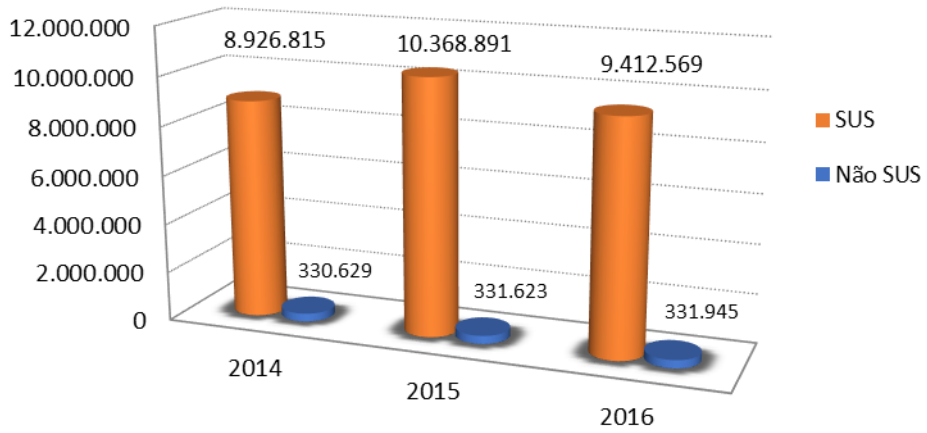
AMOUNT OF ACCOMPLISHED PROCEDURES SUS PATIENTS			
Procedures	Time		
	2014	2015	2016
Outpatient Procedures	8.926.815	10.368.891	9.412.569
Authorizations for Hospitalizations	52.124	50.874	49.518
<b>Total</b>	<b>8.978.939</b>	<b>10.419.765</b>	<b>9.462.087</b>

**Note:** The data of Authorization of Hospitalization refers to the first presentation.

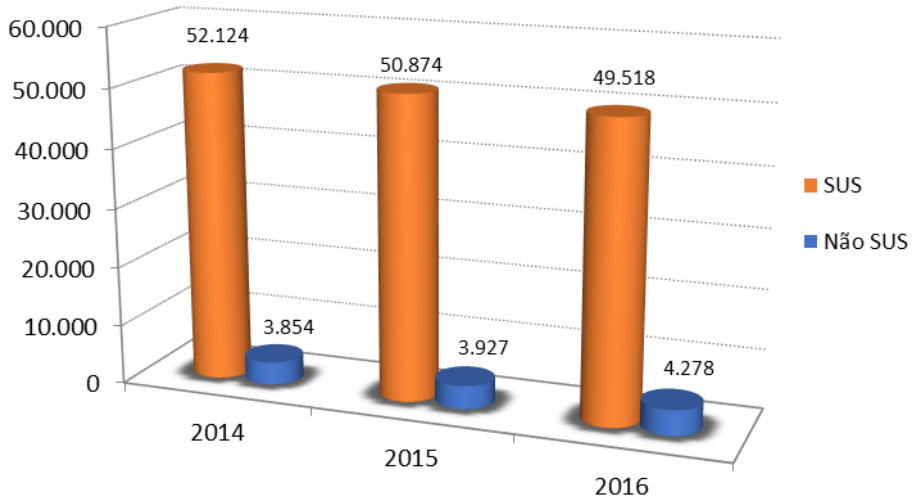
AMOUNT OF ACCOMPLISHED PROCEDURES PATIENTS FROM SUPPLEMENTARY HEALTH			
Procedures	Time		
	2014	2015	2016
Outpatient Procedures	330.629	331.623	331.945
Authorizations for Hospitalizations	3.854	3.927	4.278
<b>Total</b>	<b>334.483</b>	<b>335.550</b>	<b>336.223</b>

AMOUNT OF PROCEDURES CARRIED OUT - SUS + SUPPLEMENTARY HEALTH SUS REPRESENTATIVITY				
Patient Profile	Procedures	Time		
		2014	2015	2016
Total SUS + Supplementary Health	Ambulatory	9.257.444	10.700.514	9.744.514
	Admission	55.978	54.801	53.796
<b>Grand total</b>		<b>9.313.422</b>	<b>10.755.315</b>	<b>9.798.310</b>
SUS Representativeness	Ambulatory	%96.4%	96.9%	96.6%
	Admission	93.1%	92.8%	92.04%

**Number of Procedures Made to SUS patients x Supplementary Health - outpatient**



**Number of Patients Attended from SUS x Supplementary Health - outpatient**



## Special Procedures

*In addition to conventional procedures and hospitalizations, FFM also supports the implementation of special procedures, such as transplants and implants, performed free of charge.*

### Transplants and Implants

In accordance with the objectives of the University Agreement, signed between HCFMUSP and SES-SP, with the intervention of FFM, the implementation of transplant and implant procedures is of great importance for the

population and considered of strategic importance for the SUS service. The number of transplant and implant procedures performed free of charge in the last three years through FFM was as follows:

STRATEGIC PROCEDURES - TRANSPLANTS AND IMPLANTS			
Description	Quantity		
	2014	2015	2016
Cochlear implant	103	108	93
Partial hepatectomy for transplant (live donor)	31	34	49
Unilateral nephroureterectomy for transplant	78	60	62
Allogeneic transplant of hematopoietic stem cells transplant from bone marrow - related	21	14	13
Allogeneic transplant of hematopoietic stem cells from bone marrow - not related	6	16	13
Allogeneic transplant of hematopoietic stem cells from blood from the umbilical cord - not related	1	1	-
Allogeneic transplant of hematopoietic stem cells from peripheral blood - not related	7	14	14
Allogeneic transplant of hematopoietic stem cells from peripheral blood - not related	7	8	6
Autogenic transplant of hematopoietic stem cells from bone marrow	1	6	4
Autogenic transplant of hematopoietic stem cells from peripheral blood	92	87	125
Corneal transplant	99	97	96
Corneal transplantation (in combined surgeries)	3	2	4
Corneal transplant (in reoperations)	4	5	-
Sclera transplant	4	0	4
Liver transplant (deceased donor organ)	125	94	101
Liver transplant (live donor organ)	34	36	56
Pancreas transplant	1	4	3
Kidney transplant (deceased donor organ)	201	174	142
Kidney transplant (live donor organ)	91	58	69
Concurrent transplantation of pancreas and kidney	8	5	7
<b>Total</b>	<b>917</b>	<b>823</b>	<b>861</b>

## High Complexity Procedures

Among the various health care actions, we highlight the implementation of Ambulatory High

Complexity Procedures, whose production of the last three years is shown in the table below:

AMBULATORIAL DEMONSTRATION AUTHORIZATION OF HIGH COMPLEXITY PROCEDURES - APAC			
Description	Quantity		
	2014	2015	2016
Diagnosis in Clinical Laboratory	21.134	26.746	27.072
Radiology Diagnosis	33	46	61
Tomography Diagnosis (*)	0	409	1.746
Ultrasonography	17	4	5
Diagnostic Methods in Specialties	19.854	20.601	18.515
Appointments/Attending/Follow up	7.373	8.238	8.889
Oncological Treatment	59.870	57.465	72.852
Nephrology Treatment	21.437	22.059	21.949
Dental Treatments	65	66	48
Specialized Therapies	1.362	1.752	1.279
Eye Tract Surgery	5.374	5.008	4.209
Genitourinary Tract Surgery	229	253	235
Repair Surgery	1.101	943	818
Nephrology Surgeries	48	46	86
Small Surgery and Surgery of the Skin, Subcutaneous Tissue and Mucosa	0	0	01
Collection and Examination for Organ Donation Purposes	7.971	8.333	10.065
Post-Transplant Follow-up and Intercurrences	9.323	9.681	10.345
OPMs Not Related to Surgical Act	4.530	4.559	5.045
OPOs Related to Surgical Act	595	741	617
Tissue Processing for Transplantation	159	134	55
Clinical Treatments (other specialties)	4.447	3.477	2.042
<b>Total</b>	<b>164.922</b>	<b>170.561</b>	<b>185.934</b>

**Note:** (\*) Procedure included in the SIGTAP table as of January/2015.

## Integral Pharmaceutical Care

In line with the objectives of the University Agreement, signed between HCFMUSP and SES-SP, with the intervention of FFM, in comprehensive health care, pharmaceutical care is determinant for the resolution of health care and services. The guarantee of supply of drugs of the Specialized Pharmaceutical Care Program (CEAF) is fundamental so as not to endanger the lives of patients, and to complement complex medical procedures and high cost, such as transplants. In

2016, they were distributed, through FFM, **38,691,750** Units of CEAF medicines, representing the value of **R\$ 26,642,380.87**.

The control of the delivering of CEAF medicines and the issuance of APACs are performed through the Hospital Information System - SIGH Prodesp.

In 2016, the HCFMUSP Pharmacy served more than **1.25 million** of outpatient prescriptions, with an average of 5,000 prescriptions per day. There is

also a home delivery service that since 2013 has become free. About 65% of outpatients receive their medication at home at no cost.

Located on the 8th floor of ICHC's PAMB, HCFMUSP has the largest hospital pharmacy in Brazil. Founded in the same year of the Hospital, 1944, today it counts with **230** employees, of which **43** are pharmacists.

Much more than a drug distribution center, there is a real factory, where medicines that do not exist in market are produced because these are medicines with no commercial interests. Dilutions and dosages other than those available on the market are also prepared therein, depending on the need of the patient, or compositions other than the traditional ones.

In 2016, the production of medicines generated savings of about **R\$ 8,034,835.89**. Were produced **71** Types of drugs, with over **10.47** Million units. The pharmacy also delivered **30** special drugs, produced for research protocols, in 11,146 units. In addition to the internally produced medicines, **315** Different medicines were also acquired and unitized, totaling over **2.6** Million units to meet inpatient prescriptions.

It is also worth mentioning the pharmacotechnical development of the drug ursodeoxycholic acid 300 mg tablet, in partnership

with the Gastroenterology Clinic, which will provide an estimated savings of 40% of the value spent on the acquisition of the pharmaceutical specialty.

In 2016, the area of Pharmaceutical Care, in which pharmacists guide outpatients about the use of their medicines and analyze their prescriptions, started to attend to the patients in use of new drugs incorporated in the treatment protocol of hepatitis C, Component Specialized in Pharmaceutical Assistance.

Also noteworthy is the improvement of the Clinical Pharmacy process, with the creation of the Prescription Evaluation Center (CAP) and restructuring of the functional organization chart, providing an increase in the Prescription Assessment Rate of 20% in 2015 to 29%, in 2016.

In the area of Pharmacovigilance, the process of active search for adverse reactions to new drugs incorporated in the hospital is highlighted.

In order to innovate and improve the services provided, in 2016, the Center for the Distribution of Individual Dose (Central de Distribuição de Dose Individualizada - CADI) was implemented, which enabled the improvement of the process of separation and conference of inpatient medicines, providing a significant reduction of the Distribution Error Rate after implementation.

## Institutes, Auxiliary Hospitals and Specialized Health Units from FM/HCFMUSP System



*Aerial view of Hospital das Clínicas, School of Medicine, USP*

When acting in the care, HCFMUSP develops actions of health promotion, disease prevention, medical-hospital care and rehabilitation of high complexity to SUS users. At eight Institutes, two Auxiliary Hospitals and

Specialized Health Units listed in the table below, assistance is provided in the most modern hospital facilities, with the support of highly specialized teams and a state-of-the-art technology park.

### INSTITUTES, AUXILIARY HOSPITALS AND SPECIALIZED HEALTH UNITS OF HCFMUSP

Units	Year of start of activities
Central Institute - ICHC	1944
Institute of Psychiatry - IPq	1952
Institute of Orthopedics and Traumatology - IOT	1953
Auxiliary Hospital of Cotoxó	1960
Auxiliary Hospital of Cotoxó	1971
Administration Building - PA	1972
Medical Research Laboratories - LIMs	1975
Institute of Physical Medicine and Rehabilitation - IMRea - Vila Mariana Unit	1975
Institute of Child - ICr	1976
Heart Institute - InCor	1977
Ambulatory Building - PAMB	1981
Institute of Radiology - InRad	1994
Casa da AIDS - Outreach Service to HIV/AIDS Patient Care	1994
Institute of Physical Medicine and Rehabilitation - IMRea - Umarizal Unit	2001
Institute for the Treatment of Childhood Cancer - ITACI	2002
Institute of Physical Medicine and Rehabilitation - IMRea - Lapa Unit	2007
Octávio Frias de Oliveira Institute of Cancer of the State of São Paulo	2008
Institute of Physical Medicine and Rehabilitation - IMRea - Clínicas Unit	2008
Lucy Montoro Rehabilitation Institute – IRLM - ImRea Morumbi Unit	2009

The FFM is responsible for receiving SUS and Supplemental Health payments due to HCFMUSP (with the exception of InCor), through the **University Agreement**, signed between SES-SP and HCFMUSP, with the intervention of the FFM, since 1988, which enables comprehensive health care

through the implementation of free procedures for SUS patients. On average, 95% of the patients seen come from SUS. The development of several Institutes, Auxiliary Hospitals and Specialized Health Units from HCFMUSP, in 2016, is summarized as follows:

INSTITUTES, AUXILIARY HOSPITALS AND SPECIALIZED HEALTH UNIT OF HCFMUSP PERFORMANCE					
Institute/Hospitals	No. of Admissions	No. of Procedures	Procedures + Admissions	Qty. Admission beds (**)	Qty. ICU beds
ICHC + PAMB	32.293	7.655.933	7.688.226	797	156
InRad	-	336.584	336.584	08	-
ICr + ITACI	6.576	619.005	625.581	133	51
IOT	6.023	375.137	381.160	123	12 (*)
IPq	2.905	130.876	133.781	154	04
IMRea – Vila Mariana	121	150.215	150.336	30	-
Casa da Aids	04	18.609	18.613	09	-
HAS	1.202	5.158	6.360	120	-
HAC (***)	-	-	-	-	-

**Note:** (\*) Two beds not yet published in CNES.

(\*\*) In the number of beds above it is not included the ICU beds, which are highlighted in a specific column.

(\*\*\*) HAC is under construction.

The following pages summarize the activities carried out in 2016 by these and other units of the FM/HCFMUSP System.

Inaugurated in April 1944, the Central Institute of Hospital das Clínicas (**ICHC**) originated the HCFMUSP. Its structure concentrates most of the specialties of the FM/HCFMUSP System with 31 medical and surgical specialties distributed by two interconnected buildings - the Central Building, which includes the Referenced Emergency Unit, and the Ambulatory Building (PAMB).

The units of hospitalization and intensive care are concentrated in the Central Building, which count on several international quality certifications in their processes.

The PAMB, in turn, serves patients in outpatient and clinical-surgical hospital-day, in addition to having areas of diagnostic and therapeutic support.

The largest surgical center of the entire FM/HCFMUSP System is located in the ICHC, and the Pharmaceutical Unit (page 28), where the prescribed drugs are produced and distributed.

In addition to technological resources and constant structural renewal, the ICHC has also implemented a major humanization project, focused on the collective construction of ethical and technical commitments, which are expressed in actions to care for patients and to improve working relationships among health professionals. Being called "Rede Humaniza" (Humanize It! Network), it is coordinated by the Technical Humanization Center, which is formed by the Humanization Working groups present in the various instances of HCFMUSP.

The ICHC Emergency Relief Unit has already activated its new wing, whose facilities were part of the third phase of works completed and delivered in November/2016. Consisting of 14 observation rooms, the facilities are intended for patients considered to be under severe observation, whose recovery requires, for example, greater monitoring of vital signs. The new structure has two nursing rooms and for prescription and was built in the space of the former installation of the offices of Neurology and Inhalation Room. The unit now has two procedure rooms and one for endoscopy exams.

In 2016, the Interdisciplinary Home Care Center (Núcleo de Assistência Domiciliar Interdisciplinar - NADI) of ICHC made 20 years of pioneering in the treatment of patients in the home environment. They are, for the most part, elderly people with serious illnesses or sequelae

that make it impossible to attend the hospital. That implemented model of interrupts the concept of hospital as the only space of care, extending quality care to the patient's home and became a Brazilian reference. Today, the Center benefits more than 120 patients/month of ICHC. During 20 years, there were over 20 thousand visits, with about 1.2 thousand patients and their families assisted by the center.

The General Surgery and Trauma subject from FMUSP offers a series of courses focused on qualified emergency care, which has become a reference throughout the country. Advanced Trauma Life Support (**ATLS**), Or Life Support in Advanced Trauma courses, are offered to 16 students. Such students are physicians, and for two days they receive intense theoretical and practical programming over 12 hours a day.



*FMUSP students take part in specialized training in dummies*

The core courses also provide the **PHTLS**, A course of pre-hospital care directed to physicians, nurses and paramedics. Also theoretical and practical, the course covers techniques of patient withdrawal and transport, and resuscitation. Within the FMUSP Medicine course, the sixth year students have a course titled **TEAM** (Trauma Evaluation and Management).

In addition to the ATLS, the **ATCM**, a course dedicated especially to nurses who attend the same theoretical classes and then develop the specific practical work separately. The courses have their inscriptions and organization administered by FFM, which also guarantees the supplement of equipment and assure that the involved personnel get paid.

In 2016, through FFM, 32,293 hospitalizations and 7,655,933 outpatient procedures were performed, totalizing 7,688,226 procedures and hospitalizations.



Created in 1994, the Institute of Radiology of HCFMUSP (**Instituto de Radiologia - InRad**) brings together diagnostic resources for imaging and therapeutics by ionizing radiation to diagnose and monitor the evolution of patient care at the various institutes of the HCFMUSP. It is recognized both in Brazil and abroad as a center of excellence in diagnostic through imaging methods and procedures and in interventional radiology and nuclear medicine.

Since 2013, its facilities - which already housed state-of-the-art equipment for assistance, teaching and research, such as the magnetic resonance imaging of 7 Tesla, which produces molecular images of the human body - has undergone extensive renovation to modernize and expand technological resources for the promotion of teaching, research and assistance.

Today, there are two buildings: **the main one**, which concentrates the outpatient resources of conventional and interventional radiology and radiotherapy; the **annex**, which houses the Nuclear Medicine Center and InRad's Integrated Radiopharmaceutical Production Center (CinRad), a pioneer in the development of radiopharmaceuticals for treatment and research in oncology and neurology, a pioneer in South America. CinRad has Anvisa's Good Manufacturing Practices Certification (GMP), which indicates that its products can guarantee the correct quality, purity, safety, identification and concentration.



*Nuclear Medicine Center Facilities*

This certification places HCFMUSP at the same quality levels as the large pharmaceutical multinational companies.

Also worthy of mention are the Breast Disease Imaging Diagnostic Center (Centro de Diagnóstico por Imagem da Mama - CEDIM) and the Imaging Diagnostic Technical-Scientific Center (Núcleo Técnico-Científico de Diagnóstico por Imagem - NDI), which is responsible for the management of the corporate acquisition of imaging diagnostic equipment, the coordination of maintenance contracts and support to the implementation of the system for the digital storage and distribution of images - Radiology Information System (RIS)/Picture Archiving and Communication System (PACS), which provides access to the information of any hospital unit, eliminating thus the need of printing reports and images of exam results.

It was the first institution in Latin America to apply Nuclear Medicine techniques and the first on in South America to have high dose rate brachytherapy equipment. It was also the first public hospital in the country to have installed a Unit for the Production and Development of Radiopharmaceuticals emitting positrons in Nuclear Medicine (**Cyclotron Project**), for use in diagnostic tests for small tumors and research projects in the area of molecular imaging.

On June 8, 2016, the new facilities of the LIM-44 - Magnetic Resonance Laboratory in Neuroradiology of the Department of Radiology of FMUSP were inaugurated. Located on the fourth floor of FMUSP, the LIM-44 is dedicated to advanced research on brain and the PISA Project (Autopsy Room Image Platform Project), with an interdisciplinary approach.

The new laboratory is of crucial importance for the execution of the Project, which carries out advanced research on the brain and is being prepared to perform virtual autopsies with the use of imaging equipment. The work is interdisciplinary, made in partnership with areas such as Pathology, Engineering and the City Verification of Death Service.

The project also includes researchers from Germany, the United States and Israel, who participate in the development of techniques that will allow the post-mortem analysis by computed tomography, not only for the identification of diseases and cause of death, but for the improvement of the study about these diseases as well.

In 2016, **336,584 outpatient procedures were carried out by InRad through the FFM.**

The great epidemic of poliomyelitis, a disease known as infantile paralysis, afflicted children in São Paulo in the early 1950s, leading us to the create the Institute of Orthopedics and Traumatology of HCFMUSP (**Instituto de Ortopedia e Traumatologia - IOT**), In 1953. Its initial function was to receive cases of poliomyelitis of those patients in phase of respiratory compromise.

Today, IOT treats patients with orthopedic and traumatological disorders, and has become a reference center for spinal cord injury, limb reimplant, endoprosthesis reconstruction, or tissue bank for treatment of large tumors resections.

Consisting of two interconnected buildings, where ambulatory care and hospitalization activities are carried out, it also has the Referenced Emergency Unit, which uses the risk classification system to prioritize the most serious cases.

The Institute is among the largest hospitals of Orthopedics and Traumatology in Latin America and among the main Research Centers in Brazil, also becoming a reference in the treatment of traffic accidents, which account for a large part of the emergencies attended at HCFMUSP.



*IOT staff are honored for good service*

With the objective of enabling employees to offer excellent service, aligned with the IOT service standard, since September 2016, approximately 90

employees were trained in the "HC Way of Serving" project at IOT. At the end of the training, the participants were able, through a letter, to praise a colleague who worked well at some point.

On December 15, a special tribute to the professionals and sectors mentioned in this activity was dedicated to about 70 people, who received letters and gifts, delivered by the Executive Director, as a way of recognition for the good work done.

The training, intended for administrative and service staff, will be done by September 2017 by the "HC Way of Serving" subcommittee. During three days and a six-hour workload, the goal is to train, in this period, about 540 employees.

Using dynamics and lectures that lead the attendee to reflection and discussion, the topics addressed are: Communication; Personal presentation; Professional attitude; Dealing with the Customer in Conflict; Assistance to the Person with Disabilities; and Teamwork.

In 2015, the IOT obtained the Accreditation Seal ONA 1 from the National Accreditation Organization (Organização Nacional de Acreditação - ONA), linked to patient and employee safety. This seal lasts for two years, and may be renewed if there is interest of the institution. Obtaining the ONA Accreditation Seal is a reflection of team integration, which should contribute to meet all the requirements stipulated by ONA. Everyone needs to understand that changes only tend to improve the care processes and the relationship between patients and employees.

The action integrates a project of the Center of Planning and Management, which is seeking the continuous improvement of quality throughout the Hospital das Clínicas complex.

In 2016, through FFM, 6,023 hospitalizations and 375,137 outpatient procedures were performed at IOT, totaling 381,160 procedures and hospitalizations.

Inaugurated in 1952, the Institute of Psychiatry of HCFMUSP (**Instituto de Psiquiatria - IPq**) was created to provide psychiatric and mental health care. Conceived in the international molds of psychiatric hospital organizations, since its inception it was seen as a milestone in São Paulo and Brazil psychiatry when compared to other institutions offering the same service.

Pioneer in care, it covers all psychiatric disorders in the different stages of life, and it is the only hospitalization unit in Brazil that is specialized in children care. The service is not concentrated in the hospital, since after discharge, the patient can follow the treatment in day-hospital and in the specialized outpatient clinics, besides participating in the programs of training and job reinsertion, which make it easier to socially reintegrate them.

Completely rebuilt at the beginning of the 21st century, it maintains the status of reference in neuropsychiatry and mental health in the country and Latin America, expanding the area of assistance with the incorporation of functional neurosurgery service, emphasizing the use of reference neuronavigators in Brazil.

As one of the institutes of the HCFMUSP, IPq brings together the best professionals in the country to offer personalized and high level of service.

A pioneer in the creation of specialized groups and services, the Institute is prepared to provide a comprehensive and integrated service to the most diverse types of psychiatric disorders, both in children and teenagers and in adults and geriatric patients. For such, IPq has an infrastructure inspired by the most advanced psychiatric institutions in the world, designed to combine the use of state-of-the-art equipment, many of them unique in Latin America, with the aim of accommodating patients and their relatives.

This modern infrastructure covers, among other items, general and specialized outpatient clinics, laboratories and diagnostic services, day hospital, hospitalization units, rehabilitation centers, psychotherapy, dentistry for psychiatric patients and a functional neurosurgery division that is a Brazilian reference center.

In November 2016, at IPq, more than 50 voluntary body therapists were available to the population, putting into practice the benefits of integrative and complementary therapies to physical, mental, physical, and emotional health.

This is the "Zen IPq", whose objective is to

spread and stimulate the adoption of these therapies in daily practices. Modalities such as reflexology, *reiki*, *shiatsu*, Emotional somato integrative touch, *Quick massage*, auriculotherapy, aromatherapy and kinesio rhythmical expression, besides workshops of self-esteem (makeup, braid and manicure), mandalas and aromas.



*Zen IPq: integrative and complementary therapies for health and well-being*

Patients, caretakers and employees of the Day Adult Hospital (Hospital Dia Adulto - HDA) of the IPq held a lively *Halloween*, at the end of October/2016, with and they could use cool costumes, make-up and make personalized food. The event attracted all the patients of the HDA, who had moments of pure relaxation and joy, important to promote the reinsertion and social rehabilitation.

In 2013, the IPq received the ONA 1 Accreditation Certification and, in 2014, obtained the seal maintenance, reaffirming the quality and success of its work.

In December 2016, IPq achieved the maintenance of ONA 2 Certification. Result of hard and collective work, executed by many hands, this achievement is the recognition of the work by extremely demanding criteria, which place the IPq at the level of the largest health institutions in the Brazil.

ONA 2 Certification represents high quality standards in care, ensuring safety for patients and healthcare professionals. IPq is the only psychiatric hospital in Brazil with ONA Quality Certification.

In 2016, through FFM, 2,905 hospitalizations and 130,876 outpatient procedures were **performed** by IPq, totaling **133,781 procedures and hospitalizations**.

Delivered in August 1976, the Children's Institute (Instituto da Criança - ICr), a Brazilian reference in children's health, brings together 20 pediatric specialties, providing care of high complexity to the newborn, the child and the adolescent. Considering as a priority the global care, it integrates the biological, psychological and social vision of the patient, with the integrated action of multiprofessional teams and the adoption of the most modern resources of diagnostic and therapeutic procedures.

The ICr offers services in intensive care, hospitalization, outpatient and day-care services, especially in the treatment of chronic and complex diseases, such as rare syndromes, oncology, AIDS, as well as liver, kidney and stem cells and hematopoietic.

In a comfortable and child-friendly environment, with games, drawings and colors, in the hospital each child is treated in a unique way and professionals are trained to provide care and well-being for each patient.

The ICr has been developing a mature and consistent Humanization work, which combines

high technology with the quality of care, respecting and valuing the rights and duties of patients, their subjectivity and cultural references. Today, the ICr has 12 Humanization programs, which involve actions aimed at the patient and his or her accompanying person and/or collaborators.

In December 2016, the ICr celebrated its 40 years as the main reference in the high complexity care of SUS for children and adolescents. To celebrate, it was officially inaugurated the exhibition that filled corridors and wings of the hospital with the multicolored panels of the internationally recognized work of Gustavo Rosa. To follow the process of humanization of care, what is a brand for the hospital, the ICr established a partnership with the Gustavo Rosa Institute, with the main objective of transmitting art and culture to the hospital environment through the works of this award-winning artist. The exhibition, which gathers more than 100 prints, has aroused much curiosity and enthusiasm from children and families in the different wings of the hospital.



*In 2016, the ICr turned 40 and won an art gallery for the little ones.*

In 2016, after a year in operation, the ICr Neonatal Center is a source of pride for professionals working in the area. The physical area was adequate according to ANVISA standards to provide high-quality care to newborns. Among the benefits of the new area are three isolation rooms with negative pressure and a procedure room for minor surgeries. New equipment was also acquired, such as mechanical ventilation, ultrasound and echocardiography equipment.

The Neonatal Center has an installed capacity of 40 beds for neonatal intensive care. The prematurity rate is around 30%. The average

staying time of patients in the unit is ten days, and it may be longer in the extreme preterm neonates.

Located in an annex building, the Institute for the Treatment of Childhood Cancer (Instituto de Tratamento do Câncer Infantil - ITACI) is also part of the ICr (page 81). Inaugurated in 2002, it stands out as a specialized center in oncology and other haematological or rare diseases, as well as in performing transplants in high-risk infants.

In 2016, through FFM, the joint production of the ICr and ITACI (page 81) was 6,576 hospitalizations and 619,005 outpatient procedures were performed, totaling **625,581 procedures and hospitalizations**.

The Institute of Physical Medicine and Rehabilitation of HCFMUSP (**Instituto de Medicina Física e Reabilitação - IMRea**) was created in 2009, by means of a State decree. Its origin, however, dates back to 1975, when the HCVMUSP (DRPV) Vergueiro Professional Rehabilitation Division was inaugurated, which later became known as the Rehabilitation Medicine Division (Divisão de Medicina de Reabilitação - DMR). Due to its relevance and expansion of services rendered to the population, it acquired the status of Institute, currently encompassing five Units distributed throughout Greater São Paulo: Vila Mariana, Umarizal, Lapa, Clínicas and Morumbi (IRLM - page 45).

Aimed at assisting people with physical, transient or permanent disabilities who need rehabilitation care, IMRea works to develop the physical, psychological, social, professional and educational potential of patients and to support their families.

The Rehabilitation Programs are organized, emphasizing the multiprofessional work, coordinated by a physiatrist and carefully developed by physicians, social workers, psychologists, physiotherapists, occupational therapists, speech therapists, nurses, nutritionists and physical educators. They are highly specialized teams, responsible for the planning and execution of specific treatments, valued by the constant development and incorporation of new technologies.

They also include experiences in therapeutic/cultural workshops, income generation and evaluation and professional training, with a view to professional and social inclusion, as well as the pursuit of excellence in Rehabilitation. The main deficiencies treated by IMRea are due to brain injury, spinal cord injury, amputations, neurodegenerative diseases, in addition to congenital malformations of the upper and/or lower limbs, cerebral palsy and/or delayed neuropsychomotor development, hemophilia, Down Syndrome and disabling benign pain.

The headquarters of IMRea is located in **Vila Mariana**, in the southern area of São Paulo, and serves an average of 280 patients per day, in addition to offering specialized exams and cutting-edge equipment for treatment in its Laboratory of Robotics and Neuromodulation, inaugurated in 2013. The Assistive Technology Lab also operates in this unit. It has a team of physiatrists and specialists in the areas of: Urology, Cardiology,

Neurology, Psychiatry and Dentistry. It allows the hospitalization of patients with rooms adapted to provide patients and their caregivers with a more humanized and comfortable reception.

In 2016, the ambulatory production and hospitalization from SUS of the IMRea Vila Mariana, **billed Through FFM**, was 150,215 procedures and 121 hospitalizations, totaling **150,336 procedures**.



*Attendance at the Robotics Laboratory of IMRea Vila Mariana*

In the neighborhood of Campo Limpo, also in the south, **Umarizal Rehabilitation Center** opened in 2001. It serves an average of **110 patients per day** in its many rehabilitation programs. It has a Robotics Laboratory, whose purpose is to develop the maximum potential of the patient. It offers a physical conditioning program (during and after the Rehabilitation Program), Therapeutic and Income Generation Workshops, specialized laboratories in Electroneuromyography, Isokinetic Evaluation, Neuromuscular Blocking Ambulatories, Acupuncture, Anesthetic Block, Dentistry and Posture School.

In the western side of the city is the **Lapa unit**, inaugurated in 2007, which currently serves an average of **270 patients per day** in many rehabilitation programs, in addition to providing complementary activities after the physical rehabilitation program, among them: Physical Conditioning, Therapeutic Workshops, Generation of Income and Professional Training, within the Program of Rehabilitation, and Professional and Social Inclusion. The Institute also counts with specialized outpatient clinics, such as the Integral Care of the Person with Down Syndrome, which

serves patients from zero to 18 years of age, with differentiated programs according to the age groups and the different stages of development, and Hemophilia. In this Unit also occur the activities of the Wheelchairs Technologies Center and management and development related to the delivery of Orthoses, Prostheses and Locomotion Auxiliary Means for patients in a rehabilitation program.

Inaugurated in 2008, the **Clinical Unit** is located within HCFMUSP and meets an average of **100 patients per day**, in diverse rehabilitation programs, which are sent by the community, Basic Health Units, Specialized Ambulatories, as well as HCFMUSP. It gives priority to the cases of greater complexity, such as brain injury, cerebral palsy and/or retardation of neuropsychomotor development, neurodegenerative diseases and musculoskeletal disorders, besides having specialized laboratories such as Eletroneuromiography and Neuromuscular Block Outpatient Clinic.

In 2016, the number of outpatient visits to IMRea, including medical and dental appointments, multiprofessional consultations and examinations, was **429,069** according to the table below:

INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION - ATTENDANCE IN 2016	
Attention Unit	Quantity
Vila Mariana	152.777
Umarizal	78.833
Lapa	129.994
Clínicas	67.465
<b>Grand total</b>	<b>429.069</b>

The Institute is also responsible for medical education, through the Regular Discipline (Disability and Discapacity) and the Optional Discipline (Principles in Physiatry), taught to FMUSP students.

It also works in the training of professionals specialized in rehabilitation at the undergraduate and postgraduate level and specialization courses.

The technical visits of national and international professionals, in search of knowledge and improvement, are constant in the Institution. During the year 2016, several trainings and qualification courses were made available to employees. Some of these capabilities were also made available to external audiences.

As for the activities related to the development of scientific research, in 2016, four research projects were initiated and scientific publications were carried out, in indexed national and international journals, as well as research orientation in postdoctoral, doctoral and master's studies. In addition, in conjunction with other entities, IMRea publishes the Revista Acta Fisiátrica Magazine quarterly. In the year 2016, 40 articles were published. Another highlight of IMRea's Clinical Research Center (Centro de Pesquisas Clínicas - CPC) is the participation in Brazilian and international events.

IMRea was invited to coordinate the Support of Medical Volunteers and other Health Professionals of the Rio 2016 Paralympic Games.



*IMRea Team at the Paralympic Village - Rio 2016 Paralympic Games*

The coordination was to recruit doctors from the Lucy Montoro Network; verify and ensure accreditation and access to the workplace; and to plan the activities, in order to offer excellent service to more than four thousand Paralympic athletes, along with their committees and relatives, hosted in the Paralympic Village. The visits took place at the Polyclinic of the Paralympic Village, where emergency services, diagnostic and therapeutic support were also available, among others.

Founded in 1975, through an agreement between FMUSP and HCFMUSP, and incorporated into the HCFMUSP structure in 1977, the Medical Research Laboratories (**Laboratórios de Investigação Médica - LIMs**) are aimed at the development of scientific research in its various modalities and the standardization of new diagnostic techniques and methods. In addition, they promote the training of researchers in basic and applied research, serving as a field of education, development and training for health professionals and students of higher education, and conducts courses in the areas of medicine and health.

The creation of LIMs was a strategy to foster scientific production, which took place after the University Reform of 1960, which determined that the basic departments of FMUSP, as well as the research laboratories linked to them, should be transferred to the Cidade Univesitária Campus, where they settled in several institutes. Benefiting from the research orientation of the HCFMUSP, some professors from FMUSP proposed the structuring of an agreement between HCFMUSP and FMUSP to create the LIMs. The Agreement lasted until 1977, when the LIMs became a unit of the HCFMUSP, made official by Decree 9729/77, becoming linked to the departments of the FMUSP.

The opening of the commemorative year was held at the FMUSP Theater on November 13, 2015, bringing together professors, researchers and research staff. Lectures were given to tell the history, impact and innovations of research in clinical, surgical, mental health, environment and epidemiology.

The LIMs closed the celebrations of their 40th anniversary with a scientific event, held on December 9, 2016, at the FMUSP Theater. Throughout the day, topics selected from the proposals of the coordinating teachers of LIMs and leaders of research groups were discussed, on the results of the work carried out in clinical areas, mental health and epidemiology, as well as innovation and impact of the results when defining public and social policies.

In the 212 research groups that work in the 62 Laboratory Units of LIMs, there are currently about 1,300 people linked to the HCFMUSP and FMUSP, which are: scientific researchers, physicians, teachers, biologists, and upper and middle level technicians.



*The closing of the commemorations of the 40th anniversary of LIMs took place at the FMUSP Theater*

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The FM/HCFMUSP system is composed of approximately 1,500 professionals, distributed in its various unit, developing research projects in the most diverse areas of science as teachers, supervisors of the graduate programs and researchers who sent their research projects for the assessment of the CAPPesq (Ethics Commission for the Analysis of Research Projects).

With researchers who develop projects in basic and clinical areas, they are investigated from mathematical models for understanding cancer biology or epidemiological investigations, to new therapies (cell therapy, generative medicine, immunotherapies, directed targeted therapies, etc.).

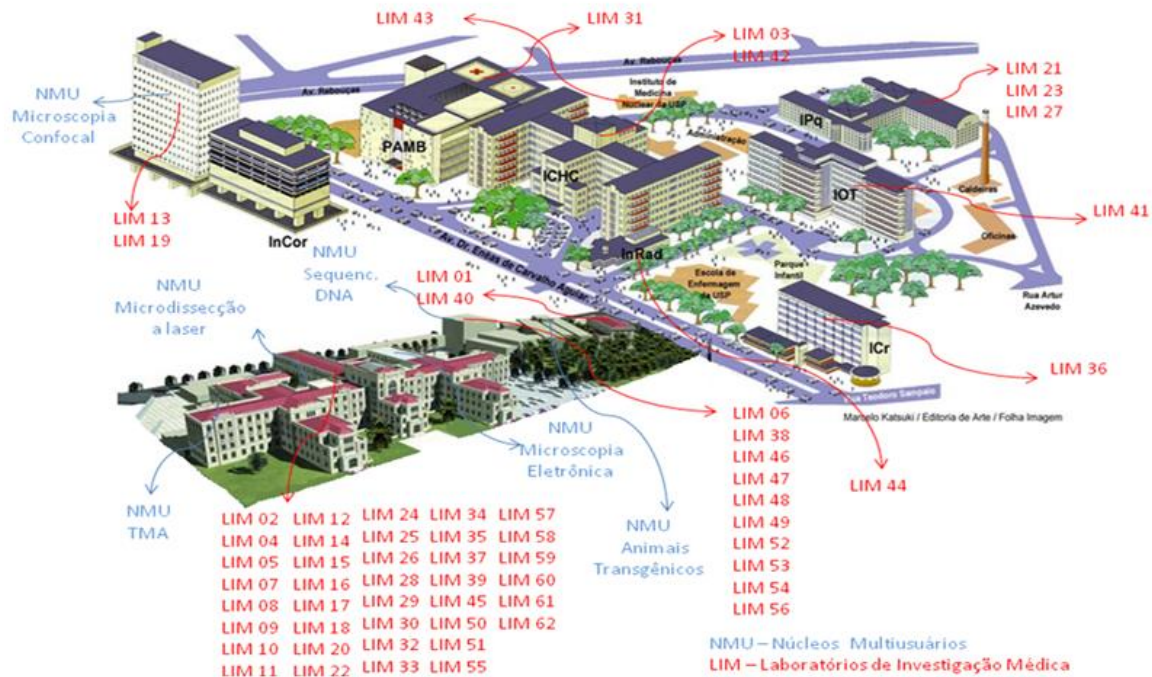
The FM/HCFMUSP System leads initiatives that seek the development of several areas of important social impact, such as Medical Biotechnology, Biomedical Engineering and Information Technology for Health, including the Telemedicine area.

With numerous research projects funded by national and international agencies, LIMs' research groups today occupy an unquestionable position in scientific leadership in medicine and related fields, producing annually more than 1,600 scientific articles in indexed journals and introducing diagnostic approaches, therapeutic and preventive measures for the most diverse medical conditions.

In order to stimulate the research and innovation activities of the FM/HCFMUSP System, the FMUSP Board and the LIMs Executive Board created the Multi-User Equipment Network Program (PREMiUM) (page 125). The program, launched in 2006, enabled the deployment of decentralized cores, equipped with the most modern technologies and organized in the form of a network, making them accessible to researchers in the System and beyond. At the same time, it made it possible to optimize the application of specialized financial and human resources. Currently the PREMiUM Network has 35 registered

centers, which houses about 50 specialized equipment, in addition to the auxiliary equipment, allowing the provision of services such as publishing, storage of Biobank samples, services of microscopy and image, DNA sequencing, among

others. The complete list of equipment and services available on the PREMium Network can be found at <http://www.premium.fm.usp.br/index.php>.



Fonte: Diretoria da FMUSP

Location of Medical Research Laboratories within the FM/HCFMUSP System

LIMs do not have their own building and the Laboratory Units are distributed through the various buildings of the FM/HCFMUSP System, the Instituto Oscar Freire and the Tropical Medicine Institute of USP, remaining in a higher concentration (42 units) located in the Central Building of FMUSP.

Results of the research activities developed by its professionals project the institution in the scientific environment and position it as a national reference. As an example of this image, the participation of researchers of the institution in the National Institutes of Science and Technology Program (Programa Institutos Nacionais de Ciência e Tecnologia - INCT), launched in July 2008, stands out. From the 115 National Institutes of Science and Technology of the State of São Paulo, five are

located in the FM/HCFMUSP System and linked to LIMs. They are: National Institute of Science and Technology in Medicine Assisted by Scientific Computation (Instituto Nacional de Ciência em Medicina Assistida por Computação Científica - INCT-MACC); National Institute of Developmental Psychiatry (for Children and Adolescents) (Instituto Nacional de Psiquiatria e Desenvolvimento - INPD); Institute of Immunology Research (Instituto de Investigação em Imunologia - III); National Institute for the Development of Research in Alzheimer's Disease and National Institute of Biomarkers in Neuropsychiatry (Instituto Nacional de Biomarcadores em Neuropsiquiatria - INBioN). In addition to these, the INCT for Integrated Environmental Risk Analysis has been in operation since 2008.



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## Auxiliary Hospital of Cotoxó

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Inaugurated in 1960, the Suzano Auxiliary Hospital (Hospital Auxiliar de Suzano - HAS) is located in the municipality of Suzano, in Greater São Paulo, and is a back-up center for the HCFMUSP Institutes, providing medical and hospital assistance to long-term patients, mainly in the specialties of General, Surgical, Neurological, Orthopedic and Pediatric.

It assists to adults and children in order to allow the restoration of functional and sequential rehabilitation in different stages of diseases.

It has 120 beds, of which 15 are reserved for children and 12 for adults, both with diseases of high complexity.

Today, SAH is in the process of reforming the current building and the construction of the new building to expand its service capacity and extend its vocation, offering modern resources for diagnostic and therapeutic procedures, which are scheduled to take place in 2017.

The new structure of the HAS is built on an area of 5,2 thousand m<sup>2</sup> and will provide another 120 beds, including 12 beds in Day-Hospital, nine

beds of Semi-Intensive Therapy and two operating rooms. The hospital will also have a new Diagnostic and Therapeutic Support Service, which will treat patients from the hospital and the region. The service will be equipped with magnetic resonance imaging, tomography, mammography, x-ray, echocardiogram, among other equipment for the diagnosis of diseases.



*Perspective of the building of the Auxiliary Hospital of Suzano*

In 2016, through FFM, 1,202 hospitalizations and 5,158 outpatient procedures were performed, totaling **6,360 procedures and hospitalizations**.

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## Auxiliary Hospital of Cotoxó

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The Auxiliary Hospital of Cotoxó (Hospital Auxiliar de Cotoxó - HAC), located in the district of Pompeia, less than five kilometers from the FM/HCFMUSP System, is also a backup hospital. Its previous facilities have been demolished to make room for a new building, which will expand its installed capacity and create a specific wing geared toward chemical dependents.



*Perspective of the building of the Auxiliary Hospital of Cotoxó*

The new center will have 104 backup beds and another 56 beds dedicated to the treatment of patients with alcohol and drug problems. It will also house the Center for Teaching and Training of Human Resources and the new Collaborating Center for Alcohol and Drugs (page 123), a partnership with the Department of State for Health, USP and the Brazilian Department for Alcohol and Drugs (Secretaria Nacional de Álcool e Drogas - Senad) from the Justice Ministry.

The Collaborating Center, which will provide assistance, teaching, care and research related to the use, abuse and dependence of crack, alcohol, tobacco and other drugs, will be managed by IPq and will have beds for hospitalization, day hospital, and areas for the teaching and reception of the family of patients.

The works continued in 2016.

The HCFMUSP Extension Service for the Care of HIV/AIDS Patients - Casa da Aids, inaugurated in 1994, develops teaching, research and assistance activities for HIV/AIDS patients and has administrative support Of FFM since 2004.

Since September 2014, it works in the premises of the Pinheiros Health Center of SES-SP, where it provides outpatient care to approximately 3,200 adult HIV patients. There are 53 collaborators in a multidisciplinary team of infectologists, gynecologists, psychiatrists, nurses, psychologists, pharmacists, nutritionists, social workers, dentist surgeons, nursing and administrative support staff

In the **teaching** area, in 2016, the following stand out:

- Development of classes and activities of the League for Prevention of HIV/AIDS of the FMUSP CAOC.

- Lectures given to the students of the fourth and fifth years of the medical graduation of FMUSP, in the context of the set of Subjects of Communicable Diseases and hospital internship in Communicable Diseases.

- Development of practical activities of the Medical Residency Program in Infectology of FMUSP during its three years of training - R1, R2 and R3, as well as optional internships for Gynecology Residents of FMUSP.

- Development of the activities of the Hospital Psychology and Social Service Improvement Program related to HCFMUSP HIV Infection.

- Completion of FMUSP post-graduation discipline - Control of Sexually Transmitted Infections.

- Development of activities of Continuing Education to the workforce that acts in the Service.

In the field of **search**, stand out, among other activities:

- From the SEAP HIV/AIDS medical team, four medical students are enrolled in the PhD program by the Graduate Program in Infectious and Parasitic Diseases of FMUSP.

- Participation of a PhD Sandwich doctorate at McGill University in Canada.

- Presentation of the results of the research project developed with young people living with HIV by vertical transmission, in the *AIDS International Conference* Held in Durban, South Africa, and the research project "Adherence to HIV prophylaxis and laboratory follow-up of victims of sexual violence" at the International Conference on the Prevention of Sexually Transmitted Diseases, held in Atlanta, USA.

- Presentation of research projects developed in SEAP HIV/AIDS by the multidisciplinary team at the IV São Paulo State Meeting on STD/AIDS - "São Paulo Response to STD/AIDS: from Prevention to Cure" and the Scientific Conference of the Division of Infectious and Parasitic Diseases of the HCFMUSP.

In the **Care** sector, we highlight the multidisciplinary projects of prevention, with application of the rapid test for diagnosis of HIV, viral hepatitis and syphilis; adherence to antiretroviral treatment; follow-up of young people living with HIV transferred from ICr of HCFMUSP; and HIV/Hepatitis co-infection, mental health and tuberculosis in patients living with HIV.

On December 1, 2016, World AIDS Day, the AIDS House held a rapid HIV testing unit. The attendance to the public was held, from 9:00 am to 5:00 pm, at Rua Ferreira de Araujo, 789, in the Pinheiros neighborhood, between the Faria Lima and Pinheiros subway stations. The test consisted in the collection of secretion of the mouth mucosa with a cotton swab. The result could be obtained in 30 minutes. Participants who presented reactive serology were referred to a new confirmatory and follow-up test at the "Casa da AIDS" HCFMUSP, with access to antiretroviral treatment, if necessary. Serological tests for HIV were also carried out in the square in front of the HCFMUSP Administration Building.

In 2016, through FFM, 4 hospitalizations and 18,609 outpatient procedures were **performed**, totalizing 18,613 procedures and hospitalizations.

933 HIV rapid tests were applied, with the identification of 2.5% with positive result.

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## Other Health Units

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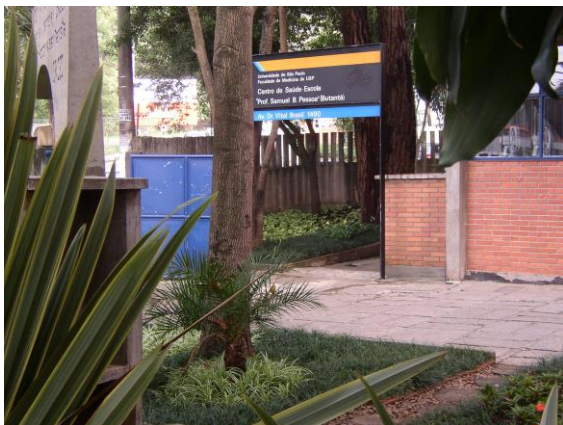
*FFM also develops actions to improve other Health Units and Centers, also intended for the free care of SUS patients.*

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### Butantã School Health Center

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The **Samuel Barnsley Person's School Health Center (Centro de Saúde Escola Samuel Barnsley Pessoa - CSEB) - CSE Butantã** is a teaching and care unit of FMUSP, under the responsibility of the Departments of Preventive Medicine, Pediatrics, Medical Clinic and Speech Therapy, Physiotherapy and Occupational Therapy (Departamentos de Medicina Preventiva, Pediatria, Clínica Médica e Fonoaudiologia, Fisioterapia e Terapia Ocupacional - FOFITO), to the population of Butantã.



*School Health Center Samuel Barnsley Pessoa*

Since 1977, the CSEB has contributed to the development of primary health care practices in Brazil, especially through its in-service training and research activities.

CSEB's mission is to develop, in a perfectly integrated way, teaching to medical, nursing and phonoaudiology graduates, resident physicians and other health professionals. In addition, to develop lines of research related to teaching projects and innovative technologies in primary health care. Furthermore, to offer quality health care to the population of the CSEB area in the areas of health promotion, disease prevention and health care.

The CSEB offers CONFAD (Difficult Family Conflicts) to women aged 12 years and older, living in the geographic area of the District of Butantã, to offer women in situations of violence an attentive and qualified listening of their problems, informing about the services that are part of the network and supporting the woman in the transformation of the situation of violence, especially in the home-family situation. CONFAD also seeks to give visibility to the aspects of gender inequality involved to human rights and to the repercussion of violence on health.

The work of the CONFAD consists of one-hour meetings (at most four meetings), where woman talks about her situation and is supported and oriented about the specialized services available to meet her needs, seeking to establish a plan for overcoming the situation, in a shared way.

In 2016, through the FFM, the CSEB made **8,026 outpatient procedures**.

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### NGA Várzea do Carmo

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Since 2010, the HCFMUSP Clinical Gastroenterology Service has been the responsible for the Endoscopy and Hepatology Service of the Assistance Management Center, through Agreements signed between HCFMUSP and SES-SP, with the intervention of FFM. **(NGA) Várzea do Carmo**, An SES specialty outpatient clinic in São Paulo Downtown. The service has filled a gap in the care of secondary patients by the SUS, solving most

of the cases and referring the more complex cases to specialized treatment at HCFMUSP.

The Várzea do Carmo outpatient clinic is a reference for 39 municipalities in Greater São Paulo. The cases are referred from primary care services, such as AMAs, UBSs and emergency care hospitals.

In 2016, the HCFMUSP Gastroenterology Service performed **20,913 calls**, With 6,436 examinations and 14,477 consultations.

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## Emilio Ribas Institute

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The **Institute of Infectious Diseases Emilio Ribas (Instituto de Infectologia Emilio Ribas - IIER)** was one of the first public health institutions in São Paulo, and it was inaugurated on January 8, 1880.

In 1932, the Hospital was renamed "Emílio Ribas" Isolation Hospital. The nine-storey hospital was inaugurated in 1961.

In June 1991, the Hospital was transformed into Emilio Ribas Institute of Infectology.

The IIER has its important participation as a major center for the treatment, diagnosis and treatment of infectious diseases and for the

control of epidemics in the State of São Paulo and Brazil.

Alongside the assistance activity, it is a reference center for teaching and research, contributing to the training and qualification of health professionals.

In 2014, an agreement was firmned between HCFMUSP and SES-SP, with FFM as an intervener, aiming at the Execution of the IIER Management, Actions and Services Operation Project, which was closed in 2014. In 2016, a new agreement was signed for the execution of laboratory services.

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## USP School Hospital

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The USP School (HU-USP) is of medium complexity and responsible for secondary care of local communities. He had the Pediatrics and Obstetrics area in 1981, the Medical Clinic in 1985 and, in 1986, the Surgical Clinic.

In 2000, in order to improve the quality of care, it underwent a care redirection and, finally in 2003, it resumed its academic mission.

It is located in the campus of the Cidade Universitária, occupying 36,000 m<sup>2</sup> of constructed area, distributed in 258 beds; Surgical Center with nine rooms and seven recovery beds; Obstetric Center with four rooms; Adult ICU with 14 beds; Pediatric ICU with six beds; Ambulatory with 57 offices; 5 Amphitheatres; and 17 classrooms throughout the hospital.

At HU-USP, undergraduate and postgraduate students of health care units (physicians, nurses, dentists, nutritionists, psychologists, physiotherapists, occupational therapists, speech therapists and pharmacists as well as medical residents) receive practical and theoretical content to complete their training.



*Frontal view of the HU on campus of USP*

The HU USP serves not only the neighborhood where it is located, but also the Rio Pequeno, Morumbi, Jaguaré and Vila Sônia neighborhoods. In addition, it also assists USP, enabling students of the School of Public Health to practice and study in the field.

HU has its own Clinical Research Center (Centro de Pesquisa Clínica - CPC), with a Commission for Ethical Analysis in Research and high scientific production, especially in the maternal-infant and adult health areas.

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## Management Contracts

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***In 2008, the FFM became recognized as a Social Organization. From then on, it began to play an important role in the management of some public institutions.***

In 2008, the Fundação Faculdade de Medicina (FFM) was recognized as a Social Organization (a private non-profit organization whose activities are directed to teaching, scientific research, technological development, protection and preservation of the environment, culture and/or health, receiving this title from the Public

Administration and authorized to conclude with it management contracts to perform services not exclusive to the State). From then on, it began to play an important role in the management of some public institutions that are detailed described below.

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### Lucy Montoro Rehabilitation Institute Management Contract

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In 2010, FFM signed a management contract with SES-SP for the management of health activities and services at the Lucy Montoro Rehabilitation Institute (IRLM). Inaugurated in September 2009, the Institute is a unit of ImRea (page 37), located in the neighborhood of Morumbi, and it was designed to be a center of excellence in treatment, teaching and research about Rehabilitation. The 10-storey building is 13,500 m<sup>2</sup>, fully adapted, and houses the ambulatory care and hospitalization in a pleasant environment, which does not look like a hospital.

The unit serves people of all ages. However, the children audience, since it needs a differentiated approach, has an exclusive floor. The ambiance was designed so that the children associate the therapies with the fun, being a place totally decorated and the furniture adapted for them.

Since its inauguration, the IRLM team consists of physiatrists, physiotherapists, occupational therapists, social workers, psychologists, nurses, nutritionists, speech therapists, music therapists and physical educators.

Cerebral palsy is the most frequent diagnosis in the Institute, with 81% of cases. Other significant numbers are cases of spinal cord injury (12%) and amputation (2%), with the remaining 5% corresponding to other injuries.

IRLM work goes beyond the office. One of the most common activities of the team is to visit schools. The inclusion of children with disabilities, despite being a law since 2010, is still quite

difficult. If the parents of the patients want an indication of a school prepared to receive children with disabilities, the Social Work team provides the recommendations.



*Music: the great ally of the rehabilitation process at IRLM*

Family members can count on the support of the Institute in all matters involving the citizenship, rights and duties of persons with disabilities. IRLM also provides wheelchairs, orthotics and prosthetics for its patients. Adults can request a new chair if it is worn or broken, every two years. Moreover, children, because of the growth, can request a new one annually. Families have this support throughout their lives.

In 2016, the IRLM continued the development of Music Therapy activities among outpatients. The history of Music Therapy at IRLM began in 2011 with a pilot project in the area. In 2012, a specific

sector was created for these professionals in rehabilitation. Activities involve motor coordination, instrument manipulation (According to patient's limitations) and cognitive area, seeking to stimulate memory, speech articulation, breathing and interaction between people. During the week, eight group activities take place, lasting 30 and 45 minutes, depending on the age of the audience.

With children, we emphasize sensory exploration, exploration and perception through the use of instruments of different forms, materials and weights, stimulating tactile, auditory and visual issues. The dynamic with the adults works in a different way: at each meeting, the patients are comfortable to say what songs they would like to sing.

On September 7, 2016 holiday, with simple and often reused materials - such as used coffee strains - 43 IRLM patients and their companions took part in the Therapeutic Cartoning Workshop, the process of using new and reused paper to apply coating on objects such as boxes, notebook skin covers and calendars, etc., forming drawings or compositions of images.



*Cardboard activity promotes motor development and creativity of IRLM patients*

The workshop has a vocational character, allowing participants with physical disabilities to develop an income by generating an activity that they can perform at home. On holidays, the IRLM team organizes therapeutic activities that flee conventional clinical care, seeking to bring more playful and cultural activities that promote socialization, interaction, creativity and autonomy.

Another activity that is usually developed is cooking, a practice that requires planning, develops the motor and cognitive aspects and can be commercialized.

In 2016, the IRLM met the needs of a hospital specializing in the rehabilitation of people with physical disabilities, with their human and

technical resources, exclusively through the SUS, offering, according to the degree of complexity of its assistance and its operational capacity, Health services that fit into specific modalities.

The assistance offered by the IRLM includes outpatient care, hospitalization and emergency care.

Between the **Technologies** available for the care of the disabled, the following stand out:

**The) Baropodometry:** an evaluation that identifies the distribution of pressure areas on the sole of the feet during walking; **b) Transcranial Electromagnetic Stimulation:** methodology of stimulating the central nervous system through which it is possible to build up and obtain favorable responses to the physical reconditioning and progress of movements; **c) Telethermography:** a system that assists in the diagnosis, treatment and evolution of some diseases, such as tumors of the musculoskeletal system, bedsores and thrombosis and infections of paraplegic patients, etc.; **(d) IMN MOTION Shoulder Elbow:** promotes the rehabilitation of patients with diminished function of the upper extremities; **e) IREX:** Equipment that uses virtual reality to guide patients in exercises that work specific functions; **f) I-TOY:** by means of video capture technology, the patient is stimulated to move themselves; **g) LOKOMAT:** equipment for the treatment of the recovery of patients with motor deficits affected by Central Nervous System lesions; **h) ERGYS:** allows patients with complete spastic spinal cord injury to perform aerobic training on exercise bikes; and **i) ARMEQ:** promotes the motor rehabilitation of partial polarization of upper limbs.

It can be noted, in 2016, the following improvement **activities:**

1. Bi-weekly follow-up of the Assistance Goals agreed with SES-SP;
2. Elaboration of Descriptive Memorial Model;
3. Preparation of Guidelines for Procurement Guidelines;
4. Review of the main contracted scopes of the Outsourced Services for the financial sustainability of the Management Contract;
5. Review of the staff and employees through the optimization of Administrative and welfare processes;
6. Easter celebration;
7. Cookies' making workshop;
8. Workshop of painting using mouth and feet for Patients and Caregivers;
9. Exhibition of Pictures and Lecture with the Artist Daniel Ferreira;
10. Family Day, with a visit from the relatives of the IRLM employees;
11. Storytelling for patients, accompanying people and collaborators;
12. Dinner and live music for Patients and Caregivers Celebrating the Mother's Day;
13. Volunteer presentation of musicians in celebration of Father's Day;
14. Day HH, when the Hospitality and Hosting team are offered some

activities to reinforce the partnership and commitment of the team with the Institution; **15.** Traditional Brazilian Party for the Patients; **16.** Activity of the patient in external experience; **17.** Training and Guidance for locomotion in the Shopping Mall; **18.** External activity with hospitalized patient - Parque do Povo; **19.** Street racing, in partnership with the "NGO Pernas de Aluguel" - Track and Field Circuit, Villa Lobos stage (10km); **20.** Continuity of the activities of the project entitled "Association for the Transcranial Direct Current Stimulation (tDCS) with Partial Weight Support in the Robotic Device (Lokomat) for Treatment of Patients with Incomplete Traumatic Spinal Cord Injury" (page 70); **21.** Continuity of the activities of the Project entitled

"Training: Rehabilitation in Brain Injury" (page 71); **22.** General improvements in IRLM, such as: **a)** Cleaning of the four water reservoirs, as recommended by ANVISA for hospital environments; **b)** External Paint; **c)** Garden Cleaning - tenth floor; **d)** Restoration of Lamps; **e)** Application of anti-slip resin in UH's bathrooms; **f)** Repair in the floor of vinyl coating - hospitalization; **g)** Recovery of the sealing of the accessing ramp of vehicles and the central distribution of hot water; **23.** Development of seat and backrest (vest type) and convex wheelchair seat; **24.** Office of Carton Works; and **25.** Makeup Workshop.

The quantities of procedures in 2016 were as follows:

INSTITUTO DE REABILITAÇÃO LUCY MONTORO - 2016	
<b>Outpatient activity - Medical Specialties</b>	
<b>Accomplished Procedures</b>	<b>Quantity</b>
Outpatient activities - Physiotherapy	5.166
Outpatient activities - Urology	599
Outpatient activities - Others	345
<b>Outpatient activity - Non-Medical Specialties</b>	
<b>Accomplished Procedures</b>	<b>Quantity</b>
Outpatient activities - Nursery	5.888
Outpatient activities - Physiotherapy	5.205
Outpatient activities - Speech and Language Therapy	1.831
Outpatient activities - Nutrition	1.322
Outpatient activities - Psychology	2.226
Outpatient activities - Occupational Therapy	5.741
Outpatient activities - Others	93
Outpatient activities - Social Service	2.195
Distribution of Orthoses, Prosthetics and Locomotion Means	3.730
<b>Hospital Assistive Activity - Admissions</b>	
<b>Accomplished Procedures</b>	<b>Quantity</b>
Medical Clinic Rehabilitation - Hospital Leave	1.579
<b>Grand total</b>	<b>35.920</b>

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## City Management Agreement of the West Region Project - PRO

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A Management Contract between SMS-SP and FFM, together with FMUSP, established in 2008 a partnership for the rearrangement of the primary health care network in the region that includes the families enrolled in the PSF of the Butantã/Jaguapé Microregion.

Comprising six administrative districts (Butantã, Morumbi, Raposo Tavares, Rio Pequeno, Vila Sonia and Jaguapé), this Microregion is located in the western zone of the City of São Paulo and has a total population of about 420 thousand inhabitants. The partnership, **terminated in 2016**, aimed at the development of a platform for teaching, research and extension, harmoniously reconciling academic and care activities, objectives that were fully achieved throughout the period.

The provided for the management of public health facilities in the region (Basic Health Units - UBSs, Medical Ambulatory Services - AMAs, Specialty Ambulatories and Emergency Rooms), as well as the management of the human resources of the City Hall in the area of operation, with the needy complement for a quality action.

The realization of the Western Region Project (Projeto Região Oeste - PRO) was fundamental for a better understanding of the importance of integral health care, a concept transmitted to undergraduate and postgraduate students.

FMUSP has proposed to work in a primary care area and integrate it into its secondary and tertiary care equipment, in order to create an integrated and hierarchical system of care, as proposed by the Brazilian Universal Care System (SUS).

The **Termination of the removes the FFM from the management activities of the PRO**, but the students' presence in the units continues, from a partnership with the new manager of the center.

In this sense, we reached important achievements. Among them, it is worth mentioning the maintenance of the connection between FMUSP and São Paulo City Hall (PMSP), with the purpose of reaffirm the interest in consolidating teaching activities in Basic Health Units (UBSs). Besides, there has been an approximation with the Institution that won the selection process that elected the Social Organization that assumed the management and execution of the services of Technical Supervision of Butantã: the Paulista Association for the Development of Medicine

(Associação Paulista para o Desenvolvimento da Medicina).

Another significant action was the creation of a Subcommittee on Primary Health Care Education linked to the Graduate Commission of FMUSP, which will be responsible for the organization of teaching and research activities in Primary Care.

To guarantee the functionality of the internships and to promote the improvement of teaching and field research activities carried out, a technical-administrative structure was also created, composed of professionals hired for teaching, who will be responsible for the organization of internships, the dynamics among the health professionals in the units and the discussion of practical activities carried out by students.



*Students from FMUSP at UBS Vila Dalva (Basic Care Unit) in the Primary Health Care*

The presence of students in the public health system at all levels - primary, secondary and tertiary - allows them not only to have contact with the reality of the country in its most pressing needs and its diversity and social inequality, but also to let them know the management process regarding the Universal Care System (SUS). It makes them to become strategic agents of the public health system, knowing the needs, demands and representations of the people and being able to propose process improvements and contextualized and focused actions.

The FMUSP, with more than 100 years of history, after establishing the training of students in the secondary care services (HU-USP and HCFMUSP clinics) and tertiary (HCFMUSP Institutes), has developed strategies to reach excellence also in the teaching of primary care.



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## City Management Agreement of the Pronto-Socorro do Butantã (Emergency Room)

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In July 2010, we widened the partnership between SMS-SP and FFM with the conclusion of another Management Agreement. This new contract contained in its **Butantã Municipal Emergency Room** (Prof. Dr. Caetano Virgilio Neto), thus broadening the implementation of actions of the PRO - West Region Project (page 48).

The City Emergency Rooms are part of the service network of São Paulo City Secretary of Health (SMS-SP), whose function is to provide unplanned medical care and to attend emergencies and medical emergency of patients referred by mobile prehospital care or Basic Health Care Units.

The inclusion of the Butantã Emergency Room to the Management Agreement has increased the scope of care to health system users, since its

location is close to that of the Unity of Basic Care Units that were already part of the agreement.

The emergency room serves patients in critical condition, who are observed for up to 24 hours, then released or referred to other reference hospitals, when necessary.

The ER of Butantã offers General Medical, Pediatrics, General Surgery, Orthopedics and Traumatology assistance. The management contract anticipated an average of four thousand monthly visits, referencing the health units of the Butantã District region.

The management contract for the Butantã Emergency Room **Was extended until 2016, when it ended**, together with the general contract for the Region West Project (PRO).

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## ICESP Management Agreement

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*ICESP is the largest and most modern cancer center in Latin America, equipped with state-of-the-art technology.*

Signed in 2008 with SES-SP, the Management Contract (from 2014 to 2016, a Management Agreement and, from 2017 to 2021, a Management Contract) provides for the administration of the activities of ICESP, a tertiary hospital highly specialized in the treatment of Cancer, which treats patients for complex treatments from all over the state. For the first time, this kind of contract was signed foreseeing teaching and research activities, as well as the service to the population.

ICESP is the largest and most modern cancer center in Latin America, equipped with state-of-the-art technology procedures. In an area of 84 thousand m<sup>2</sup>, it was being implanted gradually in its 28 floors.

From 2010 to 2016, ICESP ranked among the best public hospitals in the state, according to the SUS User Satisfaction Survey, promoted by SES-SP, annually, with the population served, becoming the best since 2011. This is due to the strong humanization policy implemented at ICESP, which became a reference for the other Institutes of HCFMUSP and other state hospitals.

In 2013, a state law passed to qualify the HCFMUSP as a special regime autarchy, and thus ICESP became part of the FM/HCFMUSP System. This change, however, did not diminish the responsibilities of the FFM to the management of ICESP, which kept the responsible for the management of the Human Resources area, with the nearly four thousand employees from ICESP, in addition to receiving and transferring funds from public agencies such as Ministries and Secretaries of Health.

FFM also manages partnerships between researchers and funding institutions linked to clinical trials.

In 2016, ICESP surpassed the historic mark of three million performed medical procedures, including consultations, hospitalizations, chemotherapies, diagnostic procedures, examinations, "day hospital" and emergency room. There are more than 43,665 patients with active enrollment and an average of 738 new patients monthly.

When it was inaugurated, ICESP had 90 beds, two operating rooms, 12 ICU beds and 48

chemotherapy outpatient armchairs. ICESP, now with 100% of its installed capacity, has 499 beds in hospitalization units for patients with complications or on clinical, hematological, iodotherapeutic, palliative or surgical follow-up. For intensive therapy support, there are 85 ICU beds installed. The Surgical Center has 16 rooms installed to perform elective, emergency, outpatient and robotic surgeries. In the year, the activity resulted in about 8,400 surgeries.

In 2016, the installed base of equipment had a reduction of 0.5%, going from 6,182 to 6,149 installed equipment.

Eight Architecture and Facilities projects were elaborated, as well as reform works that allowed better attendance to employees, current legislation and workflows, such as:

- Single Cell Room on the eighth floor;
- Restroom for Ostomized Patients on the third floor;
- Implementation of CAOC Exhaustion System for Cafeterias on the third floor;
- Adequacy for the installation of COBAS 6000 for the Laboratory of Emergency (DLC), in the eighth floor.

Avoiding waste and maintaining building systems are the main objectives of the Building Engineering team, and in 2016, the executed 14 major projects. In addition, 16 more Hospitality projects were implemented, including patrimonial safety, cost reduction and sustainability projects.

The Ambulatory Pharmacy has the objective of providing medicines for the integral continuity of oncology patient care and is an integral part of the ICESP Pharmacy Service, with a list of standardized medications (currently 216), among them: chemotherapy drugs, medicines for control Of nausea or vomiting, analgesics, Anti-depressants, anticoagulants, antihypertensives, antimicrobials, dermatological drugs and vitamins, as well as several standardized diets.

On average, 10,188 ICESP patients and/or companions visit the Consolação Ambulatory Pharmacy on a monthly basis, and in 2016, more than 220 thousand prescriptions were sorted, separated and dispensed. It is also responsible for the execution of the Send Medication to Home

Program (Programa de Medicamentos em Casa - PMC) and Home Nutrition Program (Programa Nutrição em Casa PNC), which have as a criterion to deliver previously authorized medications and all nutritional diets at no cost to the patient. More than 42 thousand deliveries were made in 2016. At the Osasco unit of the Ambulatory Pharmacy, in 2016, 9,838 consultations were performed.

Because it is an oncology institute that values education not only for patients but also for employees, the Sector of People Development and Management created the Program: "Understanding Cancer", to provide employees with an overview about Oncology. The project addresses information on the main types of cancer during the perception phase: prevention, diagnosis, treatment and rehabilitation, with an accessible language address to those people without technical information. This project is conducted by the specialists in the topics from the institution. In 2016, three meetings were held and the following topics were addressed: Hodgkin's and non-Hodgkin's lymphoma; Breast cancer; Prostate Cancer and Uterine, Ovarian and Endometrial Cancer. The evaluation of the events was, on average 98% between excellent and good.

For outpatient consultations, there are 103 doctor offices, distributed over six floors. There were more than 1.4 million medical consultations in the last seven years, with more than 221 thousand medical appointments in 2016, representing a monthly average growth in production of 81.5% between 2010 (10,183) and 2016 (18,483).

Based on the principle of humanized care, ICESP counts on the support of the multiprofessional team (psychologists, speech therapists, nutritionists, social workers, among

others) to patients and families, seeking to welcome them at the moment of health fragility, resulting in 2016, a monthly average of 10,076 multiprofessional consultations (120,915 thousand/year) and more than 2,151 non-medical therapies per month (25,814 thousand/year).

The Chemotherapy Infusion Unit reached the capacity of 107 armchairs for treatment in standardized care protocols and clinical research protocols. In the progressive operational growth of the Unit, the attendance since the inauguration has already approached 400 thousand sessions of chemotherapy. The average number of monthly sessions grew 30% between 2010 (3,105) and 2016 (4,033).

It is very common for cancer patients to lose their appetite during treatment. Because of it, ICESP offers practical cooking classes to teach patients and caregivers how to prepare recipes that stimulate taste and reduce the common side effects of chemotherapy such as nausea and pain when swallowing. In addition to the weekly classes in the Experimental Kitchen, ICESP also offers, free through the Internet, a menu elaborated with tips and preparations of savory dishes, desserts and drinks, indicated to soften each type of symptom.

With the beginning of the activities of the Radiation Therapy Unit in July 2010 and the Unit of Brachytherapy in August 2012, ICESP reached a monthly production of more than 4,682 sessions in 2016, registering more than 364 thousand sessions of Radiotherapy and 2,6 thousand sessions of Brachytherapy, from the beginning of the activities until December 2016.

In this way, the number of procedures performed by ICESP in 2016 can be summarized in the table below:

SUMMARY OF ICESP'S SERVICE IN 2016	
Accomplished Procedures	Qty.
Doctor's appointments	221.795
Chemotherapy sessions	48.401
Radiotherapy sessions	56.186
Surgeries	8.478
Multiprofessional consultations	125.701
Hospital Outings	20.519
Emergency Calls	28.734
<b>Total</b>	<b>509.814</b>

Over the years, ICESP has been collecting awards and the recognition from the population. In 2010, just over two years after its inauguration, it

was already in second place in the SUS User Satisfaction Survey promoted by SES-SP. Among the evaluation criteria are the patient satisfaction

regarding the care they received, the level of the service and the professionals who provide the service, the quality of the accommodation and the waiting time for the hospitalization. In 2011, it moved to the top spot and remained in this position.

Always pursuing excellence, ICESP has sought to achieve national and international quality certifications. In a few years, it is possible to observe a trajectory of attention to quality and safety in patient care and management excellence:

- a) 2010:** Achievement of the accreditation seal (level 2) by the ONA;
- b) 2011:** Elected the best public hospital in the State, according to a research conducted with SUS users;
- c) 2011:** Achievement of the accreditation seal (level 2) by the ONA;
- d) 2012:** Renewal of the accreditation seal (level 2) by the ONA;
- e) 2013:** Preparatory process for accreditation by JCI;
- f) 2014:** Achievement of accreditation by JCI, an international seal that aims to measure and share the best practices of quality and patient safety;
- g) 2014:** Conquest of the accreditation by CARF in the Rehabilitation sector of ICESP, an international seal recognized by its high levels of requirement in the accreditation of rehabilitation centers worldwide;
- h) 2014:** Benchmarking Brazil Best Sustainable Practices Award;
- i) 2014:** Honorable Mention at Healthy Hospitals Seminar;

- j) 2014:** Environment Friend Award 2014;
- k) 2015:** Pro-Sustainability Certificate;
- l) 2015:** Benchmarking Brazil 2015 Ranking;
- m) 2015:** Mario Covas Award;
- n) 2015:** Excellence in Health Award;
- o) 2015:** Hospital Friend the Elderly Seal - Intermediate Level;
- p) 2015:** Environment Friend Award;
- q) 2016:** Hospital Friend the Elderly Seal - Full Level;
- r) 2016:** Environment Friend Award.

Keeping the focus on the patient in 2016, several actions were taken to welcome and consolidate humanized care, such as: **a)** Parade with patients "À Flor da pele", in partnership with the Santa Marcelina Fashion School; **b)** Volunteers Christmas Bazaar, selling Christmas items, toys, etc.; **w)** Pink October, debuting as one of the actions called "Sowing the Pink", where the population that passed in the Barra Funda Subway Station was invited to send messages to the patients in treatment of breast cancer; **d)** Blue November, where one of the actions was "Score a Goal for Prevention", an action in partnership with the Sociedade Esportiva Palmeiras Team, where it was presented, at the stadium, a banner about the prevention of prostate cancer; **e)** Inauguration of the bathroom for patients with ostomy; **f)** Exhibition of Artistic Awareness with pictures made by collaborators; **g)** Beginning of the "Open Talk", lectures with themes about cancer prevention; and **h)** II Symposium on "Humanized Hospital Practices: Challenges of Humanization in Conflict Situations."



*Pink October "Sowing the Pink"*



*Blue November "Score a goal for prevention"*

Currently, ICESP has 128 humanizing actions, which are classified in the following Humanization Policy guidelines: Intake Program; Ambience; Art and Popular Culture; Inclusive Management Practices; Educational Actions and Permanent

Education; Care Practices and Welfare Practices; and Quality of Life.

Since the inauguration in August 2014 of the new **ICESP Ambulatory Unit in Osasco**, which serves the patients of the municipalities of Osasco

and other six neighboring municipalities: Barueri, Carapicuíba, Itapevi, Jandira, Pirapora do Bom Jesus and Santana de Parnaíba cities, integrating the Regional Network of Health Care - Rota dos Bandeirantes (RRas 05) what absorbed more than two thousand patients with more than 66 different diagnoses in clinical oncology, corresponding The study was carried out in the city of São Paulo, corresponding to the part of patients served at ICESP and living in the region (with about 30% of

active patients from the Oncoclínica, 9.4% from the Institute's chemotherapy sessions and 8.6% from the radiotherapy services). The Osasco Ambulatory Unit is the first cancer service in the region, making it an important reference and offering greater ease of access for RRAS 05 patients.

Throughout 2016, the following procedures were carried out at the ICESP Unit in Osasco:

SUMMARY OF ICESP'S SERVICE IN 2016	
2016	
Accomplished Procedures	Qty.
Doctor's appointments	9.578
Outpatient multiprofessional consultations	10.112
Ambulatory chemotherapy infusion sessions	4.762
Radiotherapy sessions	5,728
Blood collections	5.251
Hormone therapies	527
Nursing procedures	756
Therapeutic infusion outpatient clinic	268
<b>Total</b>	<b>36.982</b>

ICESP also has an **Advanced Nucleus of Special Care (Núcleo Avançado de Cuidado Especial - NACE)** located in the City of Cotia, with 30 beds, 25 fixed and five with variable payment, if there is occupation. This unit, known as the NACE - ICESP PROGRAM, is included in ICESP's Humanization Policy, a pillar for the actions of the current management, and is a natural consequence of the concern with the care that ICESP has prioritized to fully develop its mission. It includes the commitment to humanistic bioethics, which aims to guarantee dignity during life and death, providing quality of life and reducing suffering to patients with no curative treatment and their families.

NACE objectives include:

- Provide active and integral (bio-psycho-socio-cultural-spiritual) assistance to patients with progressive neoplastic disease, progressive and

incurable, with symptoms of difficult control, which makes home care unfeasible, being its main objective to guarantee the best Quality of life for both the patient and his/her family;

- Maximize the remaining quality of life of patients out of curative therapeutic possibility and their primary caregivers, using techniques that increase comfort;

- Provide multidisciplinary care, providing the maximum possible comfort to the patient, with emphasis on the adequate control of symptoms and emotional, spiritual, social and family aspects of the patient.

Given this scenario, ICESP understands that an infrastructure that includes greater contact with the external environment promotes better patient/family comfort.



# Social Aid Actions

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# SOCIAL AID ACTIONS

*In addition to actions in integral health, FFM also supports social aid programs and projects for most deprived population*

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## Major Social Aid Projects

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### "Bandeira Científica" Project 2016

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*Images of the expedition of the "Bandeira Científica Project 2016" in Acreúna - Goiás*

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The *Bandeira Científica* Project is an academic project of university extension, which involves academics from multiple units of USP, among them, School of Medicine, School of Public Health, Institute of Psychology, School of Dentistry, Polytechnic School, School of Economics, Administration and Accounting and School of Pharmaceutical Sciences, coordinated by the Department of Pathology of FMUSP, with about 200 participants in each edition. Since 2013, the surgical expedition is also part of the Scientific Flag (*Bandeira Científica*).

Its mission is to contribute to the social, academic and professional formation of University students, through actions that emphasize integral care, interdisciplinarity, longitudinality, dialogue and humanization in health, established in

conjunction with a city in a vulnerable situation in the Brazil Countryside.

The group carries out two annual expeditions, one with surgical activities and the other one to deliver clinical and educational activities in cities in the Brazil Countryside with lack of health care or with particular health care situations, developing social activities of teaching, research and assistance.

In the period of **December 10 to 22, 2016**, with the support of the Essilor Group, Miguel Giannini, Finnet and the intervention of the FFM, the expedition of the "*Projeto Bandeira Científica 2016*", operated in the municipality of **Acreúna**, in the State of **Goiás**, which also had partnerships with the University of Brasília and the Federal University of Goiás. In this expedition, the following results were obtained:



BANDEIRA CIENTÍFICA 2016 PERFORMANCE - GO	
Service	Qty.
Medicine	2.132
Physiotherapy	185
Nutrition	141
Psychology	77
Dentistry	1.118
Speech Therapy	83
Occupational therapy	29
Pharmacy	342
Shared Attendance	33
<b>Total Service</b>	<b>4.140</b>
Exams	Qty.
Scheduled Ultrasound	130
Pathological and Anatomical examinations	135
Scheduled Electrocardiograms	68
<b>Total Exams</b>	<b>333</b>

BANDEIRA CIENTÍFICA 2016 PERFORMANCE - GO	
Participants	Qty.
Area Directors and Coordinators	29
Participants - Academics	120
Participants - Professionals	54
Coordinator Teachers	13
Students from partner universities	13
Professionals from partner universities	03
Activities	Qty.
Home visits	16
Health promotion and prevention activities	43
Discussion of counterreference with teams	10
Management Meetings	5
Other Procedures	Qty.
Dental Prosthetics	48
Dental surgical procedure	133
Orthoses	4
Audiometrics	27
Adaptations	38
Anthropometric assessments	403
<b>Other Procedures Total</b>	<b>653</b>
<b>Approx. Service and Procedures</b>	<b>5.126</b>

The fourth surgical expedition of the Bandeira Científica Project was carried out in **June 18 to July 25, 2016** in the municipality of **Bandeirantes-PR**.

In addition to surgical procedures, ultrasound and educational activities were carried out with the population and health professionals about first aid.



*Surgical procedure performed by Bandeira Científica 2016, in Bandeirantes, PR*

The surgical expedition was focused on minimally invasive procedures in Gynecologic Surgery and Gastric Surgery.

BANDEIRA CIENTÍFICA 2016 EXPEDITION PERFORMANCE - PR	
Team Composition for the Expedition	
Participants	Qty.
Professionals in Gynecology	10
Professionals in Gastric Surgery	5
Professionals in Anesthesiology	10
Professionals in Radiology	4
Professionals in Pathology	1
Professionals in Instrumentation	2
Students (Medical course)	16
Academic directors	4
Procedures and Activities	Qty.
Screening Services	204
Gynecological Surgeries	19
Surg. for hernioplasties and cholecystectomies	27
Ultrasound examinations	163
Pathological and Anatomical examinations	34
<b>Procedures Total</b>	<b>447</b>
First Aid Activity Attendance	101

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## Street Children and Adolescents in the Center of São Paulo: the mental health of this population and the effectiveness of multidisciplinary intervention in the process of social and family reintegration - Equilíbrio Program

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The main objective of the Equilíbrio (Equilibrium) Program is to promote the social and family reintegration of children/adolescents living in situations of risk and social vulnerability. Most of them live in shelters. In cases where they are with their families, the objective is to strengthen these relationships in order to reduce conflicts and promote the safe stay of child/adolescent within the family.

This project, originated from an agreement signed in 2007 between FFM and SMS-SP, and coordinated by IPq, was no longer renewed by SMS-SP in mid-2015. Since then, the area responsible for developing the project started to seek other partnerships at the state level to continue the activities.

At the end of 2016, the State Department of Social Aid and Development of São Paulo (SEDS-SP) approved a proposal for an agreement, sent through the FFM, aiming at starting, in 2017, the care for children and adolescents in situations of social vulnerability from the metropolitan areas of São Paulo (North, South, East and West) and municipalities such as: Suzano, Mogi das Cruzes, Embu, Taboão da Serra, Mauá, Franco da Rocha, among others. The goal, in this initial phase of the project, will be to attend, on average, 37 children and adolescents by bimester in the most needy specialties - psychiatry and speech therapy.

The previous experience of the Equilíbrio Program shows that psychic and emotional stabilization is the first step towards better utilization of other therapeutic interventions.

It was also found that, especially in the areas of communication and pedagogical support, they are fundamental in the building of each child's life project and in promoting their social and family reintegration. On the other hand, in the current network of care, there is a shortage of specialist psychiatrist in childhood and adolescence, as well as speech therapists with specific training and neuropsychologists.

Therefore, the contracting of a psychiatrist and speech therapist is foreseen, professionals not currently available in the service network, especially in the poor suburb of São Paulo and neighboring cities. Psychiatric care is fundamental for the emotional and psychic stabilization of these children, so that they can benefit from and take advantage from other multidisciplinary interventions. Speech-language pathology is aimed at rehabilitating communication disorders, as well as improving and stimulating, through workshops, oral and written communicative functions, providing the necessary support to improve school performance and, thereby, self-esteem.

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## Mental Health Program for Interns - CASA Foundation - City of São Paulo

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Through an agreement signed with the CASA Foundation, with the intervention of FFM, this project, approved at the end of 2009, is being developed by NUFOR-IPq. Its main goal is to give outpatient service, in the medical specialties of Psychiatry and General Clinic, to the inmates in socioeducative measure in the several Units of the CASA Foundation of the city of São Paulo, including the following Units: DRM I - Franco da Rocha; DRM II - Tatuapé; DRM III - Brás; DRM IV - Raposo Tavares; and DRM V - Vila Maria.

The activities carried out in 2016 were as follows:

**Psychiatric Attention:** **a)** Performance in primary, secondary and tertiary prevention in the field of psychiatry, through assistance and

educational activities in mental health; **b)** Outpatient care for young inmates from CASA Foundation; **c)** Preparation of individual medical records; **d)** Prescription of medicine and periodic reassessment of young people submitted to such intervention; **e)** Referral to psychotherapy, when applicable; **f)** Support to the technical staff of the CASA Foundation (psychologists, social workers, nurses and nursing assistants) in conducting cases in psychiatric care; **g)** Elaboration of medical documents (declarations), when requested by the Law; **h)** Conduct initial psychiatric evaluation of juvenile offenders in socio-educational measure, with preparation of medical report to the technical team and the Legal System.

**General Clinic Attention:** **a)** Performance in primary, secondary and tertiary prevention in the field of general clinic, through assistance and educational activities in health; **b)** Outpatient care for young inmates from CASA Foundation; **c)** Preparation of individual medical records; **d)** Prescription of medicine and periodic reassessment of young people submitted to such intervention; **e)** Support to technical staff of the CASA Foundation (psychologists, social workers, nurses and nursing assistants) in conducting cases in clinical care; **f)** Elaboration of medical documents (declarations), when requested by the Law; **g)** Development of individual and collective measures to avoid the dissemination of infectious diseases; **h)** Development of individual and collective measures to make it clear and give orientation on the prevention of STD/AIDS.

**Structure of Medical Outpatient Clinics:** The physicians are allocated to CASA Foundation units in the capital, the NAISA (Comprehensive Care Center for Adolescent Health), UIP (Provisional Hospitalization Unit) and UI (Internment Unit). In these units the following actions are performed: **a)** Clinical-psychiatric care of the inmates, when they present complaints related to mental health; **b)** Guidance of the multidisciplinary team of attention to the adolescent, contributing with the technical team (composed of psychology, social aid and pedagogy) with the relevant information about the health of inmates; **c)** Elaboration of periodical service reports, and elaboration, together with the teams that work in the units, the technical-conclusive opinion about the inmates; **d)** Carrying out legal evaluations on inmates who are not attending, supporting the Department of Processing of Children and Youth (DEIJ) in the conduct of the socio-educational measures. The partnership also includes the development of assistance, teaching and research activities within the IPq, inserting the doctors in the various groups of the hospital, where: **1)** They serve in specific outpatient clinics; **2)** Supervise trainees; and **3)** Research at the graduate level.

**Attention in Psychology and Neuropsychology:** **a)** Diagnostic aid in

neuropsychology, seeking to investigate which functions are involved in more complex brain processes and their result in behavior; **b)** Diagnostic aid in personality assessment, which allows to increase the knowledge about the emotional aspects and their relation with the behavior; **c)** Supervision in a process of brief psychotherapeutic support to the body of psychologists of the CASA Foundation.

**Attention in Psychiatry and General Practice:**

The maintenance of the project allows the follow-up of the health care procedures for the inmates, either in psychiatry or in general practice. Such aspect has systematically corroborated to reduce the emotional impact of deprivation of freedom, as well as intervening in pre-hospitalization episodes.

Considering the period from January to December/2016, **there were 3,258 clinic appointments and 5,550 in psychiatry, totaling 8,808 consultations.**

**Diagnostic aid in neuropsychology and personality:** The neuropsychological evaluation consists of a process that investigates the brain function from the person's cognitive, sensorial, motor, emotional and social behavior, seeking to identify possible alterations, in different degrees, of superior functions of the cortex such as attention, motor functions, praxis, comprehension, speech and language, memory, temporal and spatial orientation, calculation and judgment and their insertion in the project to consolidate the possibility of different diagnosis. In 2016, we made **87 assessments.**

In 2016, 24 physicians, one psychotherapeutic psychologist, a neuropsychologist and an administrative assistant, including psychiatric care and neuropsychological assessments, were performed to youngsters between 12 and 21 years old that were under corrective social or educational programs as inmates in the CASA Foundation in the city Of São Paulo and Franco da Rocha.

In the year 2016, the body of psychologists of the Casa Foundation was in responsible for the supervision of short psychotherapeutic support.

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## "Visão do Futuro" (Future View) Program

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This program, that started in 2010 and keep on going in 2016, is promoted by the SEE-SP, SES-SP, SME-SP, SMS-SP and SMADS-SP. Its objective is to prevent eye problems and to recover eye health in children between six and eight years old. Those children should be enrolled in the first grade of elementary public schools maintained by the São Paulo City Hall and State Government. Such children were previously submitted to eye examinations. This work is developed in the city of São Paulo in partnership with the three main medicine schools in the city - Santa Casa, Unifesp and FMUSP.

We have to be very careful about our eyes, giving them the conditions to develop adequately. And, once our vision reaches its higher potential, we have to work in order to maintain it.

The procedures made to find problems in the eye functions through the observation of the children behavior and the eyes themselves (by parents, teachers, community health agents or anyone who interacts with the child), the eye examinations and the early treatment of eye disorders using glasses, eye occluders, etc., allow the recovery and normal development of eye functions and, consequently, a better school performance and greater social integration.

At FMUSP, through an agreement signed between HCFMUSP and SES-SP, with the intervention of the FFM, the Clinical Ophthalmology Division of HCFMUSP is responsible for the care of children who went under previous screening in schools. The program began with the training of state and municipal teachers to observe the eye behavior of six- to eight-year-old students. From this screening, the children are referred to the ophthalmological groups, which happen, on average, five times a year in HCFMUSP.

Each collective effort brings together approximately 700 children, who arrive at HCFMUSP, on certain Saturdays, on buses provided by the government. They undergo all types of ophthalmologic examinations and, if a problem is detected, they are put into HCFMUSP care and continue with the treatment, or go to one of the accredited eyeglass stores to provide frames and lenses to make the eyeglasses. The Program also includes guidance on wearing glasses, how to take care of them, and the need for periodic review.

The main demands generated for the HCFMUSP's Ophthalmologic Outpatients Department are strabismus and amblyopia, which are easily corrected if detected in this age group.

Amblyopia is the abnormal development of one eye, which causes the brain to try to compensate this underdevelopment by concentrating all vision in the normal eye. If the problem is not detected in time, the brain compensates for this asymmetry by nullifying the underdeveloped eye, which can no longer be recovered.



*Images from one of the 2016 "Visão do Futuro" Task Force*

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While waiting, kids can play games. In addition to the group of doctors and nurses who carry out the examinations, the work is only possible thanks to the collaboration of volunteers, who help in all stages, from the organization of the line to the direction to the eyeglass stores. There is about 200 people involved in each task force. Doctors compose an average of 60 of them.

In 2011, 4,717 consultations and 2,230 ophthalmological examinations were performed. In 2014, five campaigns were carried out, with the attendance of 2,600. In 2014, five campaigns were carried out, with the attendance of 2,600. In 2014, five campaigns were carried out, with the attendance of 2,600. In 2015, 3,225 consultations were carried out, of which 1,770 children underwent ophthalmological examinations in five campaigns.

In 2016, five campaigns were carried out with the total participation of **3.512** children. From those, 1,625 children underwent all ophthalmological examinations, while 1,877 were dismissed because they did not need correction lenses. There was diagnoses of 132 cases of strabismus; 65 cases of amblyopia, one case of nystagmus, one of hypermetropia, one of congenital ptosis and one of trichiasis.

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## Protocol for the Treatment of Patients with Cleft Palate

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The Protocol of Craniofacial Surgery for the Treatment of Patients with Cleft Palate, developed by the Department of Plastic Surgery and Burning of the HCFMUSP, was made possible through donations from *Smile Train*, with the intervention of FFM. It begun at the end of 2008, benefiting patients with cleft palate that need reconstruction of lip, nose, alveolus and palate defects, and their repercussions on speech and facial growth.



In the year 2016, 84 patients were treated in **88 surgical procedures**, Distributed among primary cheiloplasty surgeries, primary palatoplasty surgeries and other secondary procedures.

In addition to surgeries, outpatient visits were performed, around 25 patients per week, making a total of about 1,198 patients seen per year.

In the year 2016, an amount of 262 patients were attended by **Speech Therapy**, totaling **724 calls**, with 245 evaluations and 479 follow-ups and/or speech-language therapies. Speech therapy is divided into three stages, based on speech/language development:

**1) Speech and Language Therapy Assistance** to pregnant women whose babies received prenatal diagnosis of Cleft Palate, which guides pregnant women about feeding, and speech, language and hearing development;

**2) Assistance from Speech Therapist for child with Cleft Palate**, which attends pregnant women and children up to five years old who are in a pre or post-surgical situation. The evaluations occur at the beginning of the follow-up with a multiprofessional team for guidance on breastfeeding, breastmilk feeding, and speech and/or language stimulation;

**2) Assistance from Speech Therapist for child/adult with Cleft Palate**, which attends people from five years old and up who are in a pre or post-surgical situation. The evaluations occur at the beginning of the follow-up with a multiprofessional team to determine if there is the necessity of surgical or speech treatment, or both;

In October/2016, a *Smile Train* task force was made in the city of Manaus/AM, with the participation of an undergraduate student from FMUSP. In the month of November/2016, it was realized the Operation *Smile Train* in Morocco, in addition to a *Smile Train* event in the state of Pará, which included the participation of training activities of an undergraduate student from FMUSP.

Patients that wen under treatment came from all over Brazil and the project has the purpose of training professionals from different areas to deal with patients with cleft palate.

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## Student Financial Support Program - AFINAL

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Since 2007, a commission composed by representatives of the Board of Directors of FMUSP, HCFMUSP, FFM, the Graduation Committee of FMUSP, the Association of Former Students of FMUSP, the Tutors Program of CEDEM - Center for the Development of Medical Education "Prof. Eduardo Marcondes" from FMUSP, representatives of the students, the Student House, the Ethics Committee, the Academic Advisory Board of FMUSP and the courses in Speech Therapy, Physiotherapy and Occupational Therapy, develops the Student Financial Support Program (AFINAL), which financially assists undergraduate students so they can focus on their studies. This commission meets monthly, or occasionally, when it is needed, to make all

decisions and discuss new ways of raising funds and other matters.

The annual selection process to obtain the scholarship is carried out by the Chief Officer of Social Aid of USP (SAS-USP), which receives the students' applications and select them taking into consideration their social and economic profile, using the same financial criteria of the FAPESP Grant.

The selection process for the program occurs each year and it is carried out by the Coordination of Social Aid of USP (Coseas). It takes into account the social and economic aspects of the students to grant annual scholarships, using the same models and values applied in the FAPESP' Undergraduate Research Grant.

This initiative came after many undergraduates with financial difficulties sought the Board of FMUSP to ask for cost aid for transportation, materials and small daily expenses. The University offers housing in the Student House, with individual apartments and daily meals. Students with scholarships use much of the money

to buy food and learning materials, but also set aside a portion of the money to help their families.

In 2016, **60 Scholarships** were granted. The responsibility of funding the scholarships were divided as follows: FFM, 15; FMUSP, 15; AAAFMUSP, 5; Chief Officer of the HCFMUSP, 15; and Zerbini Foundation, the remaining 10.

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## Family Health Program - PSF

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Created by the Ministry of Health in 1994, the Family Health Program (PSF), currently responsible for the health care of 118 million people registered (2011), has as main objective to improve the health situation of the population through the construction of a care model based on the prevention, promotion, protection, early diagnosis, treatment and recovery of health, through care provided at the Family Health Units or at home.

Its actions have been developed in several Brazilian states, aiming to guarantee the access of all to health services.

The Program was implemented in 1996 in the city of São Paulo, under the coordination of City Health Department - SMS, with the collaboration of 12 partner institutions responsible for the administration of specific areas.

FFM, a partner of the PSF since 2002, has supported the program implemented in the Lapa/Pinheiros and Butantã Technical Health Supervisors, of the Regional Coordination of Central-Western District Health. The total population registered in 2011 was about 150 thousand people in 52 family health teams, made up of approximately 520 professionals: doctors, nurses, nursing assistants and community health agents.

At the end of 2014, PMSP issued Public Calls for the selection of Social Organizations for the management and execution of actions and services in health units in the city of São Paulo. **The FFM acted, until mid-2016**, During the process of transition of activities to the new manager.

# Aid Projects

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# MAIN AID PROJECTS

*FFM is involved in a series of assistance projects, helping women, children, the elderly, families, people with disabilities and people with HIV virus and cancer, among others.*

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## HIV/AIDS Virus and Sexually Transmitted Disease People

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In addition to the actions developed by **Home of AIDS** (page 42), which has received administrative support from FFM since 2004, FFM

has been involved in a number of other initiatives that have benefited people with HIV/AIDS virus, among which the following projects stand out.

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### GBV-C mediated protection against AIDS

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This subproject was started in 2016 by LIM 60 of HCFMUSP, through a contract signed with the NIH, with the intervention of the FFM.

GBV-C virus causes asymptomatic, persistent and high viral load infection in humans. However, after years of research, little is known about the *in vivo* biology due to the lack of functional *in vitro* models in animal form.

Several clinical studies, however, found a significant association between persistent GBV-C infection and increased survival of HIV-positive patients by decreasing disease progression and reducing the AIDS mortality rate by 2.5 times, a so-called phenomenon Associated with GBV-C (GPFA).

With more than 37 million people infected worldwide and lacking the resources to provide antiretroviral treatment for all, HIV infection is still one of the major public health problems. Better understanding of the mechanisms by which GBV-C protects the individual against HIV infection can

help in the search for treatment options that mimic this action.

Thus, the present project aims to determine one of the most important aspects of virus biology: the tissue tropism of the virus in humans, in order to determine which cells, permissible to viral replication, are responsible for the high viral load found *in vivo*. For such, blood, bone marrow and tissue samples from autopsied human cadavers will be collected at the SVOC unit of São Paulo at FMUSP and blood and bone marrow samples from patients undergoing orthopedic surgery to replace the hipbone.

These results may help in the development of a cell line that can generate high viral *in vitro* load, making it easier to understand the main aspects of GBV-C/HIV co-infection and the exploration of the various mechanisms that have been associated with GPFA.

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### Evaluation of the tropism of HIV infection in individuals co-infected with the HTLV-1/2 virus in Brazil

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This study was initiated in 2016 by LIM 56, through a contract signed between the *University of California Davis* and FFM.

Sexual transmission of HIV is the most frequent form of transmission in women in Brazil,

but the influence of coinfections by other viruses in this process is not well understood.

Coinfection by the human lymphotropic virus type 1 and 2 is quite common in HIV-infected individuals, mainly drug users and prostitutes. In



Brazil, in some regions, about 10% of HIV-positive patients are also infected with HTLV-1.

The overall objective of this study is to assess whether viruses produced from cells from HIV-infected patients and HTLV-1/2 are capable of infecting CD4-negative cells.

The specific objectives are: **1)** To determine the presence of HIV integrated into the DNA of

CD4 positive and negative cells in patients infected by the HIV-1 alone and in patients coinfecting with HIV-1 and HTLV-1/2; and **2)** Check if the *in vitro* virus produced by stimulation of CD4 + T lymphocytes from patients infected with HIV-1 alone or coinfecting with HTLV-1 or 2 is able to infect CD4 negative cells *in vitro*.

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### Prospective Cohort Study of the Biology of HIV Transmission (AMPLIAR Protocol 020)

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This research, developed by LIM 60 of HCFMUSP, through a contract signed with the *University of California*, At the end of 2012, with the intervention of FFM, aimed at obtaining demographic, behavioral and biological samples to study the HIV, the host's immune response and immunogenic and treatment factors related to HIV transmission and to the point of Viral load in infected individuals.

The realization of this project was of fundamental importance for the creation of a database and a history of conducting ability of patient recruitment. Without it, future larger-scale research and scientific impact will become impracticable, as well as proposing projects for funding from national and international agencies.

These activities finished in 2016.

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### Development of a method of identifying mutations that confer antiretroviral resistance through next-generation sequencing

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This research, developed by LIM 03 of the HCFMUSP, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of FFM, had the purpose of evaluating the possible implantation of an HIV-1 resistance test to antiretrovirals through next-generation sequencing.

Currently, HIV-1 antiretroviral resistance testing is performed through DNA sequencing, based on the methodology known as Sanger. This methodology is capable of generating sequences of readings of up to 1,000 bases of high accuracy, although it is extremely expensive. Until recently, the main techniques used in the detection of minority variants of HIV-1 included sequencing from clones of PCR products, or from amplification products by serial limiting dilution; and essays for spot mutation detection, such as oligonucleotide binding assay and Real-time Polymerase Chain Reaction (qPCR). However, the yield of the sequencing reaction from these methodologies is considered low and, therefore, few clones from the same region of the viral genome are analyzed.

In the context of the identification of minor mutation variants that confer resistance to antiretroviral drugs, point mutation detection assays are considered more efficient and specific in relation to sequencing-based methodologies. However, they need to be specifically delineated for each mutation and are not suitable for large-scale trials.

New generation sequencing technologies, on the other hand, are capable of generating up to 5,000,000 genomic sequences with high specificity from each PCR product. Because of the high yield of these new sequencing technologies, minority variants of HIV-1, present in ratios below 1% of the viral quasispecies, can be detected. Studies published in the literature in high-impact journals have demonstrated extremely relevant data related to the genetic diversity of HIV-1, to the presence of antiretroviral resistant viral variants and to the detection of minority variants of HIV-1.

These activities finished in 2016.

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## Analysis of the effectiveness of antiretroviral drugs for the prophylaxis of post-exposure sexual transmission of HIV (PEP) in a cohort of exposed individuals from five Brazilian cities

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This research, developed by the Department of Preventive Medicine of FMUSP, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of FFM, aims to analyze the effectiveness of antiretroviral drugs for the prophylaxis of HIV infection through sexual exposure, as well as measuring the effects of this technology on sexual practice and service organization.

As specific objectives, we can highlight: **a)** analyzing of the effectiveness in using antiretroviral therapy to avoid the transmission of HIV after the occurrence of an exposure in sexual relations; **b)** estimating, for a period of up to 18 months, the proportion and number of times that individuals who used the post exposition prophylaxis (PEP) return to the service due to a new exposure; **c)** Analyzing the social and

epidemiological characteristics of individuals repeatedly seeking the service for the use of PEP and their perception of the risk of HIV infection and the possibility of PEP increasing the number of unprotected practices; **d)** Estimating the proportion of individuals taking PEP who drop out of treatment and to know the aspects that contribute to this event; **e)** studying the perception and practice of health professionals regarding the PEP and exposed individuals who sought the service for the use of prophylaxis; **f)** identifying aspects that may lead individuals repeatedly exposed to HIV infection to participate in HIV prevention programs and strategies; and **g)** analyzing the agreement between therapeutic prescription and the recommendations of the Ministry of Health for post-exposure prophylaxis.

The works continued in 2016.

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## Access to diagnosis: design and evaluation of intervention technologies for a user invisible to CTA

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This research, developed by the Department of Preventive Medicine of FMUSP, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of FFM, aims to develop and analyze the intervention and communication technologies that allow the health services, especially the Counselling and Testing Centers (CTA), to identify and stimulate those people that are more exposed to infection with HIV through sexual practice to take part in anti-HIV tests and to have access to prevention actions.

As specific objectives, we can highlight: **a)** Develop intervention technologies, based on peer strategies, to encourage people who are more exposed to infection to seek CTAs for HIV testing and to use other services offered by the service

(catchment technologies); **b)** Develop communication strategies to support intervention and recruitment activities of individuals more exposed to HIV infection; **c)** To develop a methodology for the epidemiological analysis of the clients that seek the CTA through the new capture technologies, enabling the identification and description of segments of higher prevalence of HIV; **d)** To develop processes for the diffusion and incorporation of technologies developed in the scope of the services using, therefore, face-to-face and distance approaches; **e)** Deploy, in three selected CTAs, the technologies developed; and **f)** Evaluate the effects of intervention technologies on the services in which they were implemented.

The works continued in 2016.

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## Implementation of the Genotyping Test for the detection of mutations that generate resistance to Enfuvirtide Inhibitor - in patients submitted to HAART, but without previous treatment with this class of drugs.

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This study, funded by the Ministry of Health, with the intervention of FFM, and developed by LIM 56, was initiated in 2011 and continued in 2016.

The main objectives of this initiative are: **1.** To verify the resistance profile of HIV-1 to Enfuvirtide, through the genetic sequencing of the HR1 domain of gp41 of the viral envelope in treatment-naive

patients for this drug, but with multiple therapeutic failures against HAART; and **2.** To investigate the presence of accessory mutations at codons 126, 137 and 138 in the HR2 domain of viral envelope gp41 previously described (Shafer, Et al., 2003) and increasing the replication capacity of HIV-1 (viral fitness).

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## Center for the Treatment and Training of HCFMUSP Patients with Transsexualism

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The care for transsexual patients in HCFMUSP, considered one of the four Reference Centers for the Treatment of Transsexuals in Brazil, has been carried out since 1998.

The project titled "Actions on HIV/AIDS - Training Center to Assist Patients with Gender Identity Disorders (Transsexualism) at HCFMUSP", that started at the end of 2010 and is developed by the Department of Endocrinology of FMUSP, continued in 2016, through Agreement signed between HCFMUSP and SES-SP, with the intervention of the FFM.

Its objectives are as follows:

**a)** To continue the highly specialized clinical follow-up to patients who have already completed the transsexualizing process;

**b)** To continue the clinical and surgical care of the 133 patients prepared for sex reassignment surgery;

**c)** To put, in the HCFMUSP Transgender Treatment Program, the 220 patients waiting in the queue;

**d)** To organize and maintain the group of professionals in the technical areas of Endocrinology, Psychiatry, Psychology, Plastic Surgery and Gynecology for specialized and integral care of the transsexual patient; and

**e)** Provide, according to CFM and SUS regulations for the sex reassignment process, teaching and training professionals in a Reference Center, with the objective of creating new treatment centers for these patients.

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## Innate Immune System NKT Cells into HIV/*Mycobacterium tuberculosis* coinfection

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This study was initiated in 2014 by LIM 60, through a contract signed between the *George Washington University* and FFM.

Natural Killer T cells (NKT) are cells of innate immunity with important immunoregulatory functions. They directly recognize and respond to glycolipid antigens of bacterial origin, making them an active part in the immune responses against such pathogens. Studies have shown that the NKT cell compartment is seriously compromised in HIV-1 infection, but it can be partially recovered through interleukin-2 (IL-2) therapy.

Its objectives are as follows: **1.** To verify whether treatment of HIV-1 infected individuals with antiretroviral therapy (ART) combined with IL-2 is able to induce a sustainable increase in the

frequency and function of circulating NKT cells; **2.** To determine the mechanisms and consequences of negative regulation of CD1d in HIV-infected dendritic cells (DCs); **3.** To investigate the relationship between the loss of NKT cells in HIV-1 infected individuals and the emergence of microbacterial infections.

These studies are believed to contribute considerably to understanding both the functioning of NKT cells in the disease caused by HIV-1 and the ways in which the virus attempts to escape the activation of NKT cells, and how such cells can contribute to the innate defense against HIV-1 infection and opportunistic infections typical of AIDS.

The works continued in 2016.

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## Prospective assessment of the use of isoniazid in the prophylaxis of pulmonary tuberculosis (TB) prevention in HIV-infected patients

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Despite the various studies indicating isoniazid (INH) as a prophylactic to reduce the incidence of Tuberculosis (TB) in the HIV-infected population, this measure is not widely met in all services in Brazil. Therefore, this study aims to evaluate the incidence of TB in individuals, adherence to prophylaxis, as well as its efficacy compared to a historical series of service.

Through an agreement signed with the Ministry of Health, at the end of 2010, with the intervention of FFM, the research is developed by LIM 56 and has the following objectives: **a)** Prevalence of reactivity to PPD in HIV-infected patients; **b)** To evaluate the impact of the use of INH in patients with PPD  $\geq$  5 mm) and the

incidence of TB; **c)** To determine the incidence of PPD turnover in non-reactive PPD subjects; and **d)** Study specific immune restoration in HIV-positive patients cured of tuberculosis and presumed to be immune restoration by the use of antiretroviral therapy (ART).

These data may point to the relevance of tuberculosis program and make a more incisive guideline for INH, since TB remains the most incident disease in the HIV-infected population in Brazil.

These activities started at the end of 2013, due to the delay in the release of funds, and continued in 2016.

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## Study of specific immune response and genetic aspects in HIV-1 infected patients not long-term progressors or slow progressors for AIDS

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Non-Progressive Individuals for a Long Time (*Long term non progressors* - LTNP), or also called Slow Progressors (SP), remain free of AIDS progression for many years and make up about 1-3% of all HIV-infected individuals. These individuals remain asymptomatic and have a number of CD4 T lymphocytes<sup>+</sup> stable and above 500 cells/mm<sup>3</sup> of blood, without any use of antiretroviral treatment (ARTs) for more than 8-10 years. The factors that determine non-progression or slow progression in these individuals are not very clear and have been little studied in our country. T lymphocyte responses to HIV play a key role in immune control of HIV and in vaccine, prophylactic or therapeutic strategies.

This study, developed through an agreement signed with the Ministry of Health, at the end of 2010, with the intervention of FFM, is developed by LIM 56 and intends to analyze HIV-1 individuals<sup>+</sup> LP comparing with typical and rapid progressors for AIDS, matched by evolution time and paired by sex and age.

Thus, it shall be carried out:

**A)** Detection of viral and host genetic markers associated to the slow progression phenotype of AIDS infection, polymorphisms in immune system components involved in viral infection, such as the deletion of 32 base pairs in the CCR5 gene, in addition to the polymorphisms in the promoter region Of CCR5 (CCR5-P-59029A/G), CCR2-V64I, and SDF-1-3'A;

**b)** Determination of HLA haplotypes that may be associated with disease progression; and

**c)** Verification of the anti-HIV immune response *In vitro* Determination of the specific T lymphocytes against *Pools* Of peptides from *Gag nef* and *RT* Of subtype B.

A cohort of HIV-infected patients from various specialized care services in the State of São Paulo will be constituted, aiming to select 100 individuals with predefined criteria for slow progressors.

These activities started at the end of 2011, due to the delay in the release of funds, and continued in 2016.

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## Tools for creating and analyzing indicators of clinical and molecular data of HIV patients for PN-DST-AIDS management and decision-making

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Considering that the STD, AIDS and Viral Hepatitis Department needs Bioinformatics tools to assist in the analysis of its results, this project, funded by the Ministry of Health, with the intervention of FFM, and developed by LIM 46, aims to achieve: **1.** Technical training to understand the computational environment and the source code of the systems: DBCollHIV, HIVdag and extraction and analysis of clinical and molecular data indicators; **2.** Domain and application of techniques to classify and analyze clinical and molecular data, as well as the automated identification of associations between mutations and drug resistance. **3.** Development of the algorithm for identification of mutations, starting with files of sequences in FASTA format;

and **4.** Transactional systems for the insertion of reliable clinical and molecular data available on the internet.

In other words, the objective is the development of computational tools for the creation and analysis of indicators of clinical and molecular data of HIV patients for management and decision making of the STD, AIDS and Viral Hepatitis Department, as well as the Implementation of the Genotyping to detect mutations that generate resistance to Enfuvirtide Inhibitor - in patients undergoing HAART, but without previous treatment with this class of drugs.

This study was started at the end of 2010 and continued in 2016.

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## People with Disabilities

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In addition to the actions developed by IMRea (page 37) and IRLM (page 45), one of the ImRea Units that has been managing the health activities and services by FFM since 2010, through a

management contract signed with SES-SP, FFM was involved in several other initiatives that benefited people with disabilities, among which the following projects stand out.

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### Evaluation of the data of the research called "Effects of the Lokomat robotic suspended gait system in patients with incomplete spinal cord injury"

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This evaluation, developed by IMREa of HCFMUSP, through a contract signed between FFM and the Office of Naval Research Global, began in 2016.

The initiative will allow the realization, in partnership with the Neuromodulation Laboratory of Harvard University, of a complementary evaluation of the Electroencephalography data collected in the research entitled "Effects of the Lokomat robotic suspended gait system in patients with incomplete spinal cord injury."

The project, entitled "New Approaches to Rehabilitation of Brain Injury: Applications,

Development and Evaluation," supported by USP, developed at the Center for Advanced Studies in Rehabilitation, investigates the use of robotic therapy as a method for the rehabilitation of patients with neurological brain lesions and, currently, patients with Cerebral Vascular Accident. However, it can also be applied to the spinal cord injury.

The objective of this specific study is to verify the effects resulting from the robotic gait training applied to the recovery of the functional capacity of the lower limbs of patients with spinal cord injury.

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### Association of Transcranial Current Stimulation (ETCC) with Partial Weight Support in Robotic Device (Lokomat) for Treatment of Patients with Incomplete Traumatic Spinal Cord Injury

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This project, which began at the end of 2015, was approved by the Ministry of Health, within the framework of PRONAS/PCD, which provides for the raising of resources of individuals and legal entities with deduction of income tax, and benefited the IRLM. Funding from private initiative (Itaú Group) was made at the end of 2014.

The present study has the general objective of analyzing the effects of the association of transcranial direct current stimulation (CTEF) with

partial weight bearing training in the robotic device (Lokomat) for the treatment of patients with incomplete traumatic spinal cord injury.

The main objective is to test the hypothesis that the supplementation of the training in the robot by the active CTSE treatment will be more effective in obtaining the excellence of motor performance, compared to the training associated to the placebo stimulation.

These activities continued in 2016.

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### Training: Rehabilitation in Brain Injury

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This project, which began in mid-2016, was approved by the Ministry of Health under PRONAS/PCD, which provides for the collection of resources from individuals and legal entities with deduction of income tax, and benefited the IRLM. Funding from private initiative was made at the end of 2015.

The objective of the proposal is to conduct a course, which will aim to qualify the participants with technical knowledge of the main competences of a multidisciplinary and interdisciplinary rehabilitation program for patients with encephalic cerebrovascular accident (stroke), including the indication and the application of the use of technologies.

It also aims to promote the recognition of the health demands of a patient with stroke sequelae, providing home care guidelines and correct referral to rehabilitation centers or for maintenance treatment and, thereby, reducing the morbidity

and mortality resulting from the sequelae of stroke and also The probability of relapse, allowing greater functional independence and, where possible, early reintegration into society, be it in work, educational, sports or leisure activities.

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### Permanent Education Program: Improvement Course for Workers in Orthopedic and Prosthesis Workshops, linked to SUS (IOT)

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The National Policy on the Health of Persons with Disabilities defines as general purposes: to protect the health of the disabled person; To rehabilitate persons with disabilities in their functional capacity and human performance, contributing to their inclusion in all spheres of social life; and prevent diseases that determine the appearance of deficiencies.

Orthopedic workshops are confection, dispensation, adaptation and maintenance services for orthotics, prostheses and ancillary means of locomotion. These workshops need to have qualified and qualified human resources to enable them to meet the specific objectives that make up the Network of Care for Persons with Disabilities, among them the expansion of the supply of

Orthoses, Prosthetics and Locomotion Assistance (OPM).

This project, **carried out by the IOT**, through an agreement signed with the Ministry of Health, with the intervention of the FFM, at the end of 2012, provides for a course aimed at improving the workers of orthopedic and prosthetic workshops - public, Private and philanthropic - that work linked to the SUS, representing an action of permanent education directed to the fulfillment of policies established in favor of People with Disabilities.

The course is free and will enable, with theoretical and practical classes, **32 workers** from orthopedic workshops linked to SUS in confection and maintenance of lower limb prostheses, suropodal orthoses and wheelchair adequacy.

These activities continued in 2016.

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### Permanent Education Program: Improvement Course for Workers in Orthopedic and Prosthesis Workshops, linked to SUS (IMRea)

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Orthopedic workshops are confection, dispensation, adaptation and maintenance services for orthotics, prostheses and ancillary means of locomotion. These workshops need to have qualified and skilled human resources to enable them to meet the specific objectives that make up the Network of Care for Persons with Disabilities, among them the expansion of the supply of Orthoses, Prosthetics and Locomotion Assistance (OPM).

This project, **carried out by IMRea**, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of the FFM, provides for a course aimed at the improvement of workers in orthosis and prosthetics workshops - public, private and philanthropic - that work linked to the SUS, representing an action of permanent education directed to the fulfillment of policies established in favor of People with Disabilities.

The course is free and will enable, with theoretical and practical classes, **70 orthopedic** workers linked to the SUS in confection and maintenance of lower limb prostheses, sutromodal orthoses and wheelchair adequacy.

These activities continued in 2016.

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## ICESP Rehabilitation Center

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The IMRea, beneficiary of a donation from a public civil action filed by the MPT against a company, which was carried out as a substitute for the reparation of collective moral damages, enabled the facilities of the ICESP Rehabilitation Center, inaugurated on September 22, 2008.

The ICESP Rehabilitation Service is focused on the care of persons with disabilities, transient or permanent, aiming to optimize their functional potential, in the physical, psychological and social participation spheres. Rehabilitation focuses on the stimulation of functional potential and independence, but also seeks to help patients

adapt to their limitations in order to live as fully and independently as possible. For that, it counts on physiatrists, physiotherapists, speech therapists, neuropsychologists, occupational therapists, rehabilitation nurses and physical educators.

The team's performance in the hospitalization units permeates the entire Institute and monitors its growth. These units have a rehabilitation room, aimed at the patients inpatient in the outpatient clinics, and with the Rehabilitation Center, aimed at outpatients.

These activities continued in 2016.

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## Project to manage intervention projects in the schooling process of students with special educational needs, through the Specialized Pedagogical Support Center - CAPE

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The CAPE - Specialized Pedagogical Support Center - was created by the State Secretariat of Education of São Paulo in 2001 to support the process of inclusion of students with special educational needs in the State Education Network. The center acts in the management, follow-up and support to the regional actions of special education, in the processes of continuous formation, in the provision of resources and in the articulation of the schools with the community, proceeding to orientations and referrals.

This project, supported by the FFM, facilitates the actions developed by the Specialized Pedagogical Support Center of the SEE, with the purpose of strengthening the learning teaching process following the principle of school inclusion, through the performance of Multidisciplinary Assessments through a team composed by Speech Therapists, Psychologists, Psychopedagogues and Occupational Therapists.

The multidisciplinary approach (health and education) of the evaluation allows a direct and qualified action with the schools and, especially, with the teachers, with devolutives and orientations directed to the family, educators and school staff, according to the specific needs of each student in the aspects of school and social development.

With ample attendance in the state, the project attends the 91 Regional Directorates of

State Education, involving the 645 municipalities of São Paulo. The work of the multiprofessional team is aimed at contributing to and promoting the inclusion of students with special education, such as students with intellectual, auditory, visual, physical, deaf blindness, multiple disabilities), Autistic Spectrum Disorder (ASD) and high skills or giftedness, enrolled in the schools of the state education network.

The professionals evaluate the functionalities and potentialities of each student, involving in this process the proposition of methods and activities aimed at improving the performance and learning of this target audience, respecting the space-time and the current condition of the student.

After the evaluation, activities are proposed that facilitate the process of inclusion of the student, considering their singularities: Specialized Pedagogic Attendance Service for students targeted by Special Education; Communicative Accessibility; Curricular Adaptation; Adequacy of access to the curriculum; Pedagogical mediation; Organizational proposals; Curricular enrichment; Aid for daily life; Accessibility features; Postural adequacy; Mobility aids; Prescription of adapted furniture; among others.

In 2016, 1,593 evaluations were performed, 1,181 referrals, 474 interventions in the Occupational Therapy area and an average of 3,000 educators were trained.



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## Oncology Patients

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In addition to the actions developed by **ICESP** (page 50), **ITACI** (page 81) and **InRad** (page 33), FFM was involved in several other initiatives that

benefited cancer patients, among which the following projects.

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### Breast's Pictures

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This project, which benefited ICESP, was approved, at the end of 2016, by the Ministry of Health, within the scope of PRONON, which provides for the collection of resources from individuals and legal entities with deduction of income tax. Funding from the private sector was finalized in 2016 and the project will start in 2017.

Breast cancer is the second most common neoplasm in the world, and the first among women. GLOBOCAN (Estimated Cancer Incidence, Mortality and Prevalence Worldwide) estimates that in Latin America there are approximately 115,000 new cases of breast cancer each year (Ferlay, 2010) and in Brazil, according to the National Cancer Institute (INCA), an estimated 57,120 new cases occur in 2014 (INCA, 2014).

The objective of the research will be:

**a)** to analyze the molecular alterations of breast cancer through complete exome sequencing;

**b)** to correlate molecular findings with clinical, epidemiological, histological and immunohistochemical data;

**c)** to study and select potential molecular markers with prognostic relevance (clinical evolution) or predictive (response to treatment);

**d)** establish standardization of (non-invasive) methodology in plasma (CTCs, VEs and ctDNA);

**e)** to analyze the potential molecular markers found in the plasma exome for monitoring breast cancer; and

**f)** to develop a computerized system that integrates the different databases of patients with breast cancer (molecular, clinical, pathological and imaging) for integrated analyzes.

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### Training in Patient Care Critical Oncology and Imaging Diagnosis in Oncology

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This project, which benefited ICESP, was approved, at the end of 2016, by the Ministry of Health, within the scope of PRONON, which provides for the collection of resources from individuals and legal entities with deduction of income tax. Funding from the private sector was finalized in 2016 and the project will start in 2017.

The National Cancer Care Policy determines the need to qualify the assistance and promotion of the permanent education of the health professionals involved with the implementation and implementation of the Oncology Care Policy, in addition to promoting the training and specialization of human resources.

This project aims to disseminate best practices for all services that have teams that need improvement of the activities related to the attention to the severe cancer patient and/or

training in diagnostic imaging, in order to disseminate good practices and collaborate with quality Of the care provided to the SUS patient served by the health care network of the São Paulo State.

The idea is to train professionals, who work in the SUS network of the State of São Paulo in patient care, in the following modalities:

**a)** Conducting Magnetic Resonance, Computed Tomography, Bone Densitometry, Contrasted Examinations, Mammography, Radiological Protection and Digital Radiology;

**b)** performing imaging tests that collaborate with diagnosis in critically ill patients with cancer;

**c)** epidemiology of the critical patient with cancer; and

**d)** evaluation, diagnosis and treatment of critical patients with cancer.

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## Evaluation of the Safety and Efficacy of Synthetic Phosphoethanolamine in Patients with Advanced Solid Tumors

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Oncological diseases represent the second main cause of mortality in the general population today, with an estimate by the Ministry of Health of 196,954 deaths in the year 2013. Important advances were observed in the treatment and care of cancer patients, In the last decades, and the number of patients that reach the cure or survive with quality of life to the diagnosis of cancer is increasing. However, for an expressive group of patients, the therapeutic options currently available are insufficient, which makes the search for new treatments a constant challenge for Medicine.

Phosphoethanolamine (FEA) is a primary amine, which plays a central role in the biosynthesis of cell membrane phospholipids. The search for the antitumor potential of FEA occurred from the observation of the cytotoxic effects on tumor cells with the synthetic analogues of lysophosphatidylcholine, a new category of drugs

collectively called antineoplastic alkylphospholipids, which target not the DNA but the cell membranes.

Despite promising results from preclinical studies with the use of synthetic FEA in tumor models, no clinical study has been published to date. Thus, the efficacy of synthetic FEA in humans, or even its toxicity profile, is not known. However, this substance has been widely used by cancer patients as an alternative treatment. In this uncontrolled experience there are individual reports of potential benefits and, to date, no significant toxicities reported by users, justifying the conduct of a clinical study to evaluate the safety and efficacy of FEA in patients with solid neoplasms.

Through an agreement signed in 2016 between HCFMUSP and SES-SP, with the intervention of FFM, this study is being carried out in the premises of ICESP.

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## Use of Laser Fluorescence with SPY ELITE, PINPOINT and FIREFLY Robotic Platform in Surgical Cancer Treatment

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This project, which began in mid-2016, was approved by the Ministry of Health under PRONON, which provides for the collection of resources from individuals and legal entities with deduction of income tax, and benefited ICESP. Funding from private initiative was made at the end of 2015.

The objectives of the research are: **1)** to determine the incidence of complications related to tissue ischemia in the short and medium term, local, in patients submitted to oncological surgical procedures; **2)** to analyze the influence of circulatory mapping during the intraoperative

period and potential associations with the incidence and prevention of complications determined in item **1)** and to compare with the historical series of the same institution; **3)** to evaluate the efficacy of the method for identification of lymph node structures of interest in the state and treatment of patients with digestive, urological and gynecological tumors; and **4)** to evaluate the impact of local and systemic complications on the hospital cost of surgical treatment of cancer and the influence of the use of fluorescence in the surgical treatment of cancer.

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## Towards Liquid Biopsies

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This project, which benefited ICESP, was approved, at the end of 2014, by the Ministry of Health, under PRONON, which provides for the raising of resources of individuals and legal entities with income tax deduction. Funding from the private sector was finalized in 2014 and the project started at the end of 2015.

The general objective of the proposal is the study of the evolution and heterogeneity of

tumors, from individualized tumor cells in the bloodstream.

The specific objectives are:

**a)** longitudinally collecting blood samples from patients with colorectal carcinoma, breast, lung, head and neck tumors and melanoma, evaluating the number of circulating cells/particles derived from the tumor and sequencing their contents; and

b) to relate laboratory variables, such as number of cells/particles, abundance of nucleic acids and in sequences with clinical endpoints, in

response to therapy, disease-free interval and overall survival.

These activities continued in 2016.

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### Training in oncology, palliative care and pain for the cancer network of the State of São Paulo

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This project, which benefited ICESP, was approved, at the end of 2014, by the Ministry of Health, under PRONON, which provides for the raising of resources of individuals and legal entities with income tax deduction. Funding from the private sector was finalized in 2015.

The objective of the project is the realization of free permanent education courses for professionals working in the Oncology Network SUS of the State of São Paulo in the following

modalities: technical training in Radiotherapy; Technical training for Dosimetrista in Radiotherapy; Permanent education for physicians in Radiotherapy; Permanent medical education in pain and palliative care; Permanent multiprofessional education in pain and palliative care; and Multiprofessional continuing education in oncology.

The project was started at the end of 2015 and continued in 2016.

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### Replacement, due to obsolescence, of equipment for ICESP

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The technological updating of equipment is necessary to provide a more agile, efficient and comfortable service to the patient and the medical staff.

This project, approved at the end of 2016 and will benefit ICESP, is supported by the Ministry of Health, with the intervention of the FFM, and has

the objective of technological update of echocardiograph, oximeters, computers and server, in addition to the acquisition of otoscope, For the deployment in emergency and emergency care to employees, and the acquisition of televisions to replace projectors by obsolescence.

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### Acquisition of Computerized Tomography Intervention for ICESP

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The technological updating of equipment is necessary to provide a more agile, efficient and comfortable service to the patient and the medical staff.

This project, approved at the end of 2016 and will benefit ICESP, is supported by the Ministry of Health, with the intervention of FFM, and aims to

update the technology of tomography equipment of interventional radiology, making possible the increase in the number of procedures Interventionists with higher image quality and efficacy in evaluations for treatment of cancer patients.

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### Acquisition of Videogastrosopes, Shower Chairs and Air Conditioning Splits for ICESP

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This project, approved at the end of 2016 and which will benefit ICESP, is supported by the Ministry of Health, with the intervention of the FFM, and has the objective of Flexible Endoscope Replacement (Fibroendoscopy) and bathing chairs and the acquisition of splits of Air conditioning for

installation in the logistics area of supplies of medical and hospital materials.

With this, it is intended the technological updating of equipment and the guarantee of the climatization of the inventory of hospital medical materials, obeying the best practices of storage of products.

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## Replacement, due to obsolescence, of monitoring center and multiparametric monitors for ICESP

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Equipments of crucial importance for patient care, providing real-time data of their physiological conditions, the Monitoring Center allows the integration of the monitoring equipment, providing a more agile, efficient and comfortable service to the patient and the medical staff.

This project, approved at the end of 2016 and will benefit ICESP, is supported by the Ministry of Health, with the intervention of the FFM, and has as its objective the acquisition of monitoring center and multiparametric monitors, which are currently leased.

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## Acquisition of hospital beds for ICESP patients at high risk of falls

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Prevention is a WHO guideline established in Brazil through the National Patient Safety Program (PNSP), Administrative Rule No. 529 of April 1, 2013. There are several factors that put cancer patients at high risk for falls. Cancer treatments often affect coordination, balance, blood pressure, and sensations. Staying in bed and decreased activity leads to loss of muscle strength, changes in physical and mental state.

Currently, beds have characteristics that do not meet the needs of care for patients classified as having a high risk of falls: **a)** Bed with fixed height, without control: Maximum height of 45 cm;

**b)** Height of the bars: from the platform to grade 43 cm, being at least 40 cm.

This project, developed by ICESP, through an agreement signed at the end of 2015 with the Ministry of Health, with the intervention of the FFM, aims at the acquisition, for ICESP, of beds suitable for patients with high Risk of falls for clinical and surgical units, which have the following characteristics: **a)** Greater range of movements; **b)** Head Angle of 60° and Angle of knees of 28°; **c)** Bed height control; **d)** Less space between upper and lower grids.

These activities continued in 2016.

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## Acquisition of monitoring center, multi-parameter bedside and transport monitors for ICESP

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Equipments of crucial importance for the care of the patient, providing real-time data of their physiological conditions, the Monitoring Center allows the integration of the monitoring equipment, providing a more agile, efficient and comfortable service to the patient and the medical team, as it allows The monitoring of vital signs directly from the clinical staff's workstation remotely, without the need for displacement between beds.

This project, developed by ICESP, through an agreement signed at the end of 2015, with the Ministry of Health, with the intervention of the FFM, has the objective of acquiring monitoring center and multi-parameter bedside monitors for the areas of ICU, ambulatory, post-anesthetic recovery (RPA) and transport monitors to the surgical center, replacing the current equipment, which are leased.

These activities continued in 2016.

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## Technological update of ICESP equipment

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The technological updating of equipment is necessary to provide a more agile, efficient and comfortable service to the patient and the medical staff.

This project, developed by ICESP, through an agreement signed at the end of 2015 with the Ministry of Health, with the intervention of the

FFM, has the objective of acquiring replacement equipment due to obsolescence or due to complexity/new techniques Diagnosis/pathologies related to the toxicity of chemotherapies in patients with heart disease.

These activities continued in 2016.

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## Technological suitability of the radiotherapy service of the Cancer Institute of the State of São Paulo

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With the largest and most advanced radiotherapy and imaging park in Latin America, the continuous technological update aims to guarantee the reliability, dynamism, efficiency and productivity of the service.

Planning Systems are used by physicians and dosimetrists at different stages of the planning process. Since its inauguration, ICESP has increased the number of attending physicians and residents by approximately 30%, which currently consists of nine physician assistants, one medical coordinator and 18 resident physicians.

It is necessary, therefore, to increase the use licenses of the planning systems, to optimize the routines of the area and the productivity of the sector as a whole.

The objective of this project, initiated at the end of 2015, developed by ICESP, with the intervention of FFM, through an agreement signed with the Ministry of Health, is to complement the quantitative of the planning system of the radiotherapy service of the institute.

These activities continued in 2016.

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## Project of Acquisition of Videolaparoscopy and Fibroendoscopy System for the Cancer Institute of the State of São Paulo

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ICESP provides the care of cancer patients referred by an established referral network, currently having 42,000 patients in care, with about 1,000 new cases sent per month.

This project aims at the acquisition of videolaparoscopic equipment, which will allow the performance of transurethral resection surgeries, thorascopies, gastrectomies, prostatectomies, colectomies, rectum amputation, hysterectomies, transoral resection of laryngeal and pharyngeal cancer, cystectomies, nephrectomies, by video, all for cancer treatment.

Regarding fiberoptic endoscopy, the nasopharyngoscope may be able to diagnose malignant tumors of the upper digestive tract.

The objective of this project, initiated at the end of 2015, developed by ICESP, with the intervention of the FFM, through an agreement signed with the Ministry of Health, is to diagnose and surgically treat, by video, patients with malignant tumors in a minimally invasive way.

These activities continued in 2016.

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## Immunohistochemical characterization of new antibodies of interest oncology

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This research, coordinated by LIM 14, continued in 2016, was made possible through a contract signed in 2006 between FFM and PR & D Biotech S/A and was supported by FINEP and the Butantã Foundation.

Chemotherapy has been shown to be an efficient technique in the treatment of advanced stage tumors. The studies in the area are able to produce drugs with increasingly specific morphological characteristics, according to the type of neoplasia and even the patient's own specificities. However, this therapy ends up destroying non-tumor cells in the process, because it detects any proliferating cell.

In this scenario, there are researches in Oncology with the objective of discovering less aggressive forms of treatment, able to recognize and eliminate only the neoplastic cells.

The aim of the study was to identify the antigens related to the Lewis y antibodies (hu 3S193), Lewis b, from Sloan-Kettering Memorial Hospital, in samples of colorectal, ovarian and prostate cancers, MX 35 in ovarian cancer and A34 in cancers of the prostate, stomach and esophagus, as well as in normal tissues.

Its specific objectives are:

**a)** the anatomo-pathological review of the selected cases, for making Tissue microarrays (TMA's) and preparation of database in the form of spreadsheets, with all the information pertinent to the different cases;

**b)** the selection and marking of areas in the slides and respective paraffin blocks, for later confection of the TMAs;

**c)** supervision and technical assistance in the construction of TMA blocks;

**d)** the preparation and presentation of seminars on topics related to ongoing research;

**e)** analysis and interpretation of the immunohistochemical results, obtained from the cases arranged in the TMAs, with tabulation of the

data in own matrices for later statistical evaluation; and

**f)** involvement in the preparation of data and activity consolidation reports, as well as evaluation of results, for publication in periodicals

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## Children and Youth

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In addition to the actions developed by the ICr (page 36) and the "Vision of the Future" (page 60), FFM was involved in several other initiatives that

benefited Children and Youth, among which are the projects below.

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### Risk factors and protection for violent behavior among teenagers in the city of São Paulo - São Paulo Project for the social development of children and youth.

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This study, developed by the Department of Preventive Medicine of FMUSP, through a contract signed with the University of Cambridge, with the intervention of FFM, began in late 2016.

In Brazil, there are no studies that consider individual, situational and contextual risk factors in the determination of violent behavior among adolescents and young people using multilevel analysis models.

The objectives of this project are:

**1)** to estimate the prevalence of violent behavior and victimization;

**2)** to investigate the association between individual, situational-relational and contextual characteristics with violent behavior and victimization; and

**3)** to analyze, in a comparative way, the prevalence and factors associated with violent behavior and victimization in São Paulo, Montevideo and Zurich.

It is a cross-sectional study, with a representative sample of adolescents attending the ninth year of elementary education in the public and private network of the city of São Paulo, population estimated at 3,300 subjects.

The schools will be approached in three stages: **(i)** presentation of the proposal to the State and Municipal Secretariats of Education of São Paulo; **(ii)** contact with the Regional Teaching Offices; and **(iii)** contact with directors to schedule submission of the proposal and request authorization for data collection.

Data collection will be done in the classroom, through a digital platform, with questionnaires made available to the students through self-filling tablets, based on those used in the Zurich Project on the Social Development of Children and the *Proyecto Montevideo* for social development Of children and teenagers.

The questionnaires will be previously coded with the same number that identifies the class and the school. Also, a questionnaire, with information about characteristics of the context and school structure, will be applied to the directors of the selected schools. In addition, structural characteristics of the school space and its environment will be recorded through observation, following a structured guide.

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### Influenza Incidence Study among children and adolescents in Araraquara, Brazil, 2016-2017

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This study, developed by IMT-USP, through a contract signed with Sanofi Aventis Farmacêutica Ltda., With the intervention of the FFM, was initiated at the end of 2016. It is an amendment to the project entitled "Dengue Incidence Study Brazil, in municipalities of high and medium

endemicity Goiânia - GO and Araraquara - SP (Chapter "Research Projects" of this report).

The main objective of the study is to determine the incidence of influenza virus and other respiratory viruses in the cohort studied, which will help evaluate future strategies for vaccination against dengue.

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## The Effect of the Visitation Program for Young Pregnant Women on Child Development: A Pilot Study

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This project, developed by IPq of HCFMUSP, through a contract signed between FFM and the Foundation for Scientific and Technological Development in Health - FIOTEC, began in mid-2016.

To complement the use of the HAZ and HAD scores, which provide distinct and valuable data on growth reduction and recovery, and to allow evaluation alternatives, a new tool, the Pixel Averages for Auxiliary Assessment (PIXA), was developed to obtain frequent and accurate measures of length or height.

This approach will be tested in the context of a randomized clinical trial evaluating an intensive home visitation program for adolescent pregnant women and subsequently on their children to promote child development and prevent exposure to toxic stress.

The main objective of this proposal is to test an innovative method, from the PIXA tool, to obtain frequent and precise measurements of height or length in the home environment, thus improving the detection capacity of suppression and recovery of child growth.

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## Home visiting programs to improve early childhood development and maternal mental health – evidence from the Western Region Project

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Plastic bottles, polka dots, adhesive tapes, strawberries and string are some of the recycled materials used to make toys.

This project, developed by the Department of Pediatrics of FMUSP, through a contract signed between FFM, *Fundação Maria Cecília Souto Vidigal* and Grand Challenges Canada, began in late 2014 and was completed in 2016.

Toys made of scrap and people trained to teach mothers the right games for each age group, from six months to three years were the resources used in this initiative. The results were so expressive that the Project will be replicated at a municipal scale, in a city still to be defined in the State of São Paulo, throughout 2017.

The project is part of a research platform of the Department of Pediatrics of FMUSP, dedicated to the study of child development that accompanies more than five thousand children from the South and West regions of the city of São Paulo since 2013. The cohort is formed by children born No HU.

The study developed in Paraisópolis involved 850 children, divided into four groups: **1.** Children in areas covered by the PSF, attended by community health agents; **2.** Children in areas covered by the PSF, without intervention (control

group); **3.** Children in areas not covered by the PSF, attended by child development agents; and **4.** Children in areas not covered by the PSF and without intervention (control group).

The community health workers of the PSF were trained to teach mothers to play with their children with the toys offered, reconciling the project with their other activities of home visits.

Child development workers, on the other hand, had the same profile as community agents, ie they were recruited in neighborhoods of the project and received the same training, but had the specific task of interacting with mothers and children.

Among the objectives of the program for the mother were: **a)** to provide the mother with knowledge about child development; **b)** promote an improvement in the way mothers talk, play and interact with their children (strengthening the bond); **c)** teach mothers how to make toys and make their home a stimulating environment for child development; **d)** to promote an improvement in their self-confidence; **e)** reduction of maternal depression.



For the child, the objectives were: **a)** to improve intellectual and language development; and **b)** improve behavior and social-emotional development.

After a year of follow-up, with biweekly visits, the research showed that children who received the dedicated child development agents achieved a development far superior to the other groups.

Toys and toys, which can be produced at home, have been adapted from a similar study in Jamaica. Made with scrap and recyclable materials, they can be created by the family itself.

The adherence of the mothers was great and impacts not only the child who participated in the study, but also a family practice that will be applied to other children that will be born.

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## Institute for the Treatment of Childhood Cancer - ITACI

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In 2016, the FFM, in partnership with SES-SP and HCFMUSP, through an Agreement, supported the activities of the ITACI of the ICr, a reference in the care of children with cancer.

The current HCFMUSP Onco Hematology Service (SOH), known as ITACI, started its activities on 12/17/2002, with the activation of 12 doctors' offices and two rooms for ambulatory procedures, as well as 12 hospital beds/day for chemotherapy. On 06/16/2003, began the care in the area of hospitalization, opening six of the 17 beds installed. Since 2009, it has two beds for hematopoietic stem cell transplantation.

The teaching, research and assistance activities are developed for children and adolescents aged 0 to 19 years old who have onco-hematological diseases from the SUS or from the supplementary health system.

Today, the SOH has 19 hospital beds, four of which are for Autologous Transplants and three beds for Hematopoietic Stem Cell Transplants; The *Hospital Dia*, with 20 chemotherapy box; The Ambulatory, with 13 treatment rooms; Besides dental care.

With the end of reform and expansion, in January 2012, the seven beds of ICU, six beds of Semi Intensive, six beds of Hematopoietic Stem Cell Transplants, a room of minor surgeries and two beds of Recovery after Anesthetic are in gradual process of activation.

The beds are being opened gradually since April 2014.

In 2015:

**a)** seven of the 13 Intensive Care beds for oncology-hematology patients were activated, remaining six beds to be activated;

**b)** six hospitalization beds, adding up to the already existing 13 onco-hematology hospitalization beds, totaling 19 active installed beds;

**c)** six of the six special beds for Allogeneic Pediatric Transplants, thus reaching the six active beds;

**d)** the Surgical Center and Post Anesthesia Recovery, which allows the team to perform small and medium-sized procedures, thus avoiding, in such cases, the transport of the patient to ICr-HCFMUSP.

In 2016, under the coordination of the ITACI Humanization Group, a number of initiatives were undertaken.

In August, in a partnership with the Ronald Institute, ITACI was once again benefited by the "McDia Feliz" (Happy McDay) Project, whose purpose this year was to purchase various equipment.



ITACI's Facade - "Setembro Dourado" (Golden September)

ITACI embraced the "Setembro Dourado" (Golden September) campaign in favor of early diagnosis in the fight against childhood and juvenile cancer. Idealized by the National Confederation of Child and Adolescent Cancer Institutions (CONIACC), it is the largest campaign to raise the banner of Early Diagnosis and raise the awareness of the entire population that this is a powerful weapon to combat childhood and juvenile cancer.

"Overcoming Pain" was the proposal of ITACI's "Happy without Pain" week in October. The outpatient team gave guidance, in a very entertaining way for the patients.

On the occasion of Children's Day and Christmas, about 1,000 toys were distributed.



ITACI's "Happy without Pain" week

In November, singer Samuel Rosa participated for the second consecutive year in a charity night organized by the Children's Foundation, and held a pocket show to help ITACI raise funds to modernize the hospital's ICU. The event was held at Fundação Maria Luiza and Oscar Americano.

In 2013, ITACI received the certification of ONA 1 Accreditation and, in 2014, obtained the seal maintenance. In 2015, ITACI received Accreditation ONA Level 2 - Full Accreditation, which, in addition to meeting patient safety criteria, presents integrated management, with processes occurring in a fluid and full communication between activities. In August/2016 it received the maintenance of Accreditation ONA Level 2 - Full Accreditation.

In 2016, the main indicators were as follows:

ITACI – 2016 INDICATORS			
Parameter	SOH	Transplants	CTI
Occupancy rate	91,6%	88,5%	87,5%
Average Stay (in days)	14,7	34,5	11,3

In 2016, there were **16,168** medical consultations; **18,027** multiprofessional consultations; **32** Hematopoietic Stem Cell Transplants, of which **13** Autologous, seven Alogenic Disorders and **12** Unlogenic Alogenics; and **5,657** outpatient chemotherapy sessions.

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### Disease in early childhood development: a study of birth cohorts in the Brazilian Amazon

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This study, developed by ICB-USP, through an agreement signed with the David Rockefeller Center for Latin American Studies - Harvard University, with the intervention of FFM, began in mid-2016.

There is a paucity of information about nutritional recommendations in pregnancy, based on evidence that considers obstetric and postnatal outcomes for both mother and baby, especially in low- and middle-income countries. This project integrates a program of epidemiological research on health conditions and maternal and child nutrition.

The main objective will be to initiate a birth cohort to investigate determinants measured

during pregnancy, associated to the health and nutrition profile of infancy in the city of Cruzeiro do Sul, in the state of Acre.

The study design will be of the longitudinal type of population base, from the tracing of pregnant women in the municipality. Obstetric data and prenatal, anthropometric, dietary and biochemical maternal and infant care will be collected.

The results of this research will contribute to the planning of intervention actions aimed at reducing the gestational risk associated with morbidity and nutritional disorders and their consequences on child health.

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### Center for Studies, Research and Training in Child Development - CePeDI

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The Department of Pediatrics at FMUSP has always been dedicated to the study of pathologies affecting the newborn, infant, preschool and adolescent, with the aim of improving the quality of life of these patients and proposing actions,

projects and promotion programs and health prevention.

The result of a partnership in 2012 between the Pediatric Department of FMUSP and SES-SP, through an agreement signed between HCFMUSP and SES-SP, with the intervention of FFM, the idea

of creating a Research in Child Development started from the need to gather scientific information from various areas of knowledge through the collaboration of national and international researchers from various disciplines to carry out studies on the influence of adverse events occurring in the early stages of development the standard of health and disease that will be established throughout the life of individuals.

Its objectives are based on two perspectives: the first refers to the understanding of the health-disease process, widely studied in this decade, which points to the influence of the environment and the conditions of life during the process of growth and development of the individual In the origin of the metabolic diseases and psychic disorders of the adult; the second part is based on the need for research in the field of public policies that take into account the scientific knowledge of the origins of metabolic diseases and mental disorders and propose efficient measures to promote the health of individuals with a view to longevity with quality of life.

The Center has an interdisciplinary team, with an intersectoral scope, responsible for the integration of the areas of knowledge that have been working on the theme of Child Development for the elaboration and execution of new research projects that transform the scientific evidences into Public Policies, promote a dissemination of Knowledge that is accessible to the population and is material for the training and qualification of health professionals in São Paulo.

In 2014, CePeDI structured and started the research project "Cohort of births of the Western Region - COORTE ROC", which accompanies the development of 5,164 children born in the West Region of São Paulo city. At 12 months of age, the children received a follow-up home visit and collected information on health status and motor development (Ministry of Health Development File).

In 2015, the project "Home visiting programs to improve early childhood development and maternal mental health - evidence from the Western Region Project" (Saving Brains Child Assessment Tool), which aims to use a multidisciplinary process to generate a measurement tool of the cognitive, motor and socio-emotional development for children, which can be globally used. The preliminary results of a project in rural Tanzania have shown great promise within the age group 18-36 months.

In 2016, the follow-up of the COORTE ROC was carried out through home visits with the application of a structured questionnaire. In addition, in relation to the Saving Brains Child Assessment Tool, data from 100 evaluations were tabulated to verify the reliability of the test, compared to the scores achieved in other instruments.

It was planned to monitor the approximately 5,000 children registered at birth and visited at 12 months (with an adherence rate of around 83%). The continuity of the follow-up allowed the continuation of research projects in progress, through a three-year-old home visit.

It was made available to health professionals and to the population, in videos format with free access in the channel "Child Development", videos with contents on: Fever; Nutrition; Read to your child; and Respiratory diseases.

"COORTE ROC" has become a teaching and research platform in the area of child development science, receiving foreign and national undergraduate and graduate students, who carry out their scientific initiation, master's and doctoral activities, through data Collected during home visits. The research platform created also allows controlled randomized trials to propose and evaluate interventions in the area of child development.

These activities were completed in 2016.

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## Families and Women

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In addition to the actions developed by the Scientific Flag Project (page 56), FFM was involved

in some initiatives that benefited Families and Women, among which are the projects below.

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### Cohort study with pregnant women to evaluate the risk of congenital malformations and other adverse consequences for pregnancy after Zika virus infection - ZIKAlliance Consortium

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The objective of this study, initiated at the end of 2016 by the Department of Infectious and Parasitary Diseases of FMUSP, through a contract signed with the European Union, with the intervention of FFM, is to evaluate the causal relationship between Zika virus infection (ZIKV) During pregnancy and congenital malformations. The absolute and relative risks of congenital malformations and other adverse consequences for pregnancy among women who have been infected by ZIKV during the gestational period compared to uninfected pregnant women and to clinically characterize Zika congenital infection syndrome will be estimated.

The maternal-infant transmission rate of ZIKV will also be determined and cofactors or effect modifiers will be evaluated, contributing to the great variability observed in the preliminary estimates of absolute risk derived from population studies and microcephaly reports in different states of Brazil and From Latin America.

This will be a cohort study of pregnant women (MG) in areas at risk for ZIKV infection. Pregnant women will be included and followed up with visits every four weeks, performed in parallel to prenatal care. At each visit, urine and blood samples will be collected for testing and biobank storage.

For the MG who present during the follow-up uncharacteristic picture of fever and/or recent or present rash, the episode will be characterized in more detail. MG with suspected ZIKV infection (ie, according to the PAHO - Pan American Health Organization) during pregnancy will be monitored in accordance with national protocols. Regardless of the symptoms, the MG included in the study will be followed prospectively after inclusion and reassessed at birth (or after miscarriage) for detailed documentation of pregnancy outcome.

Live newborns will receive a detailed neonatal examination, during which biological samples will be collected and stored. Other potential causes of congenital anomalies (TORCHS maternal infection, toxic substances, chromosomal abnormalities) and potential effect modifiers or interaction factors (eg., infections/prior vaccination by other flaviviruses, socioeconomic status) will also be evaluated.

After appropriate counseling and consent, biological samples will be collected from seriously malformed newborns, deceased newborns, stillbirths, and aborted fetuses of ZIKV-infected mothers to help elucidate the etiological contribution of ZIKV to neurological malformations and other congenital malformations.

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### The Effect of the Young Pregnant Visitation Program on Child Development: A Pilot Study

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This project, developed by IPF of HCFMUSP, through a contract signed between FFM and Grand Challenges Canada, began in late 2015 and continued in 2016. The initiative was also supported by the FMCSV, which donated part of the budget.

Home visit programs for pregnant women focused on improving mother-infant relationships have received great attention in the last 30 years around the world. These programs are considered

an important strategy to improve the mother's prenatal health, the child's birth conditions and the tools that the parents have to properly care and stimulate their baby, thus promoting health and early development of the child, which will significantly influence their future physical, emotional and cognitive development.

This project aims to promote healthy intrauterine and infant development in the first few months of life in a high-risk population.

Sixty pregnant women, aged 14 to 20 years, were randomly allocated to the visitation group or for prenatal and usual childcare.

As an intervention proposal testing, for the first time in Brazil, a proven prevention strategy in other contexts, it can pave the way for large-scale

program implementation in Brazil. At the same time, the project aims to discover the processes underlying the positive environmental and social stimuli promoted by the intervention, thus clarifying the mechanisms involved in healthy neurodevelopment.

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## Elderly

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In 2016, FFM was involved in several other initiatives, which involve public and private

institutions, which benefited the elderly, among which are the projects below.

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### Genomic Risk Factors for Alzheimer's Disease and Other Dementias in European-American Ancestry

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The objective of this research, developed by the FMUSP Geriatrics Discipline, through a contract signed in 2016 with Rush University Medical Center, with the intervention of the FFM, is the regularization of the activities of a *Biobanco para Estudos de Envelhecimento* (Biobank for Aging Studies) - BEE.

The BEE has three main objectives:

**1)** To evaluate, through a rigorous protocol, the clinical and anatomopathological profile of a large number of elderly individuals submitted to necropsy. Individuals assessed should compose a

heterogeneous sample of aging, encompassing individuals with or without chronic-degenerative diseases.

**2)** Promote the collection of large amounts of data and biological material for a network of interdisciplinary research, which may cover aspects of normal aging and related chronic-degenerative diseases.

**3)** To form a critical mass of researchers and technicians, in diverse degrees of formation and also of multidisciplinary character, concentrated in the study of the human aging.

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### Ancestrality study in neurodegenerative diseases

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This study, developed by the Discipline of Geriatrics of FMUSP, through a contract signed with Rush University Medical Center, with the intervention of the FFM and the NIH grant, was approved at the end of 2016.

The prevention and treatment of Alzheimer's Disease (AD) and other dementias are priority issues in public health. Unfortunately, so far, there are no effective interventions. Understanding biology by linking genomic risk factors and dementia is urgent.

The proposed study will identify genomic variants in European and African ancestral *loci*, associated with the neuropathological indices of Alzheimer's Disease (AD), Cerebrovascular Disease (CVD), Lewy Body Dementia (DCL), Hippocampal Sclerosis (EH) and Tau Binding DNA protein 43 kDa (TDP-43). Finding the genomic variants related to these major neuropathological indices has a significant and sustainable impact in this field of study.

The objectives of the research are:

**1.** In an exploratory analysis of 6,000 deceased individuals, autopsied in the SVOC and

included in the BEE, identify genomic variants and ancestry associated to the following indices:

**a)** Quantitative measurement of the pathological load of AD based on blades stained for tau and betaamyloid protein in multiple brain regions, as well as specific indices for amyloid plaques and neurofibrillary tangles;

**b)** Lewy's corpuscles in multiple brain regions using antibodies against alpha-synuclein;

**c)** Phenotypes for cerebrovascular diseases, such as macro and microinfarcts, atherosclerosis and hyaline arteriolosclerosis;

**d)** Deposits of TDP-43 in multiple brain regions, using specific staining for the phosphorylated protein; and

**e)** Hippocampal sclerosis.

**2.** Conduct identical confirmatory analysis in another 4,000 elderly autopsied in the SVOC and included in the BEE for:

**a)** Validate the associations found in objective 1; and

**b)** Conduct a joint analysis with 10,000 individuals to increase the power to detect alleles and haplotypes with lower magnitude of effect on different ancestralities.

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## "With Greater Care" and "Road Safety for the Elderly" Projects

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The objective of this initiative, developed by the FMUSP Discipline of Geriatrics, through a contract signed in 2016 with Fundación Mapfre, with the intervention of the FFM, is the holding of educational sessions addressing the themes "With Greater Care" and "Road Safety for the Elderly", both aimed at the elderly, their companions and professionals working with this age group.

The progressive aging of the population, with the need to maintain autonomy and independence of the aging, determines the need for services and

products better adapted to this emerging population.

This requires actions aimed at adapting the individual to this new phase of life, with strategies for prevention, diagnosis and treatment of causes that can cause functional limitations associated with environmental adequacy, in order to minimize the magnitude of potential impediments to activities that allow The elderly to integrate into the community.

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## Muscular Dystrophy Association - Jagged1 as a genetic modifier of Dystrophin Deficiency

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This project was initiated by the Geriatrics discipline of FMUSP in 2015, through an agreement signed with the Muscular Dystrophy Association, with the intervention of the FFM, and continued in 2016.

Only about 20 years ago did the population begin to grow old enough for a number of neurological diseases to appear. Until the 1950s, life expectancy was little more than half of what we have today and, therefore, dementia did not have as a line of research.

In order for aging to happen in a healthy way, the individual must maintain the capacity to choose and make decisions, besides having autonomy and independence. It was observed the contrary of that the Group of Research in Aging was founded, in the middle of 2003, by researchers of the diverse areas of health.

Among the dementias, the main one is Alzheimer's, but there are others that are also common, such as vascular dementia and Lewy Bodies. Even if doctors are aware of the other diseases that lead to the same clinical picture, it is still impossible to discern what is happening in the brain in life, so the disease can be confused and treated inefficiently.

The brain of a person who has undergone more stimuli, studied more and had an active social cycle in life is physically more developed and has more connections than another who has not had the same privileges.

It is to advance in the studies that the researchers have a collection of brains for study, often denominated "bank of brains".

The team is already analyzing the lives of volunteers who will donate their brains to post-mortem analysis, and from now on it will be possible to do an analysis according to the genotyping of each patient, carefully studying the appropriate treatment model according to ancestry.

In Duchenne muscular dystrophy (DMD) the absence of dystrophin in the muscle causes muscle degeneration, but other factors involved in the pathogenesis of the disease remain poorly understood and represent an unexplored territory for possible therapies.

Although there are several preclinical and clinical tests for a treatment for DMD, there is still no cure. The most recent approaches include cell therapy, exonskipping, restoration of mini-dystrophin expression via AAV and read-through aimed at increasing dystrophin in muscle. Although these therapeutic trials have shown some efficacy, there is still a need for complementary alternative approaches by altering the signaling pathways that generate disease pathology.

The elucidation of the mechanism of action of Jagged1 in muscle cells and dystrophic muscle may open new avenues for therapies.

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## Proposal for the Development of a Program of Permanent Education and Training of Health Professionals at the Reference Center on Cognitive Disorders, in the city of São Paulo

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Dementias and, in particular, Alzheimer's disease have their prevalence increased with the aging of the population. Some Brazilian studies confirm this same tendency observed in population studies around the world.

The patient with dementia represents a direct cost to health services, due to an increase in hospital admissions and a higher risk of falls, besides indirect costs, due to the need of a caregiver, a majority of the family, or a paid professional caregiver; By income reduction, by the patient himself. Costs include: medical visits throughout treatment and at the time of diagnosis, drug treatment, treatment of other comorbidities, personal care, and expenses increasing with the stage of illness.

In Brazil, the costs of patients with dementia increase according to the severity of cognitive impairment.

Several studies have verified the reduction of expenses of patients with Alzheimer's disease to the public service, diagnosed early and in use of the appropriate medications. Therefore, early diagnosis and treatment, as opposed to making the system more expensive, reduce the cost of the disease; In general, by reducing the number of

hours of care spent and slowing the progression of the disease, reducing dependency and institutionalization.

HCFMUSP is registered as a Reference Center for Health Care for the Elderly and is therefore in a position, according to the guidelines of the Ministry of Health, to create a model center for Alzheimer's disease and related disorders.

The objective of this project, initiated by CEREDIC-HCFMUSP, in 2014, through an agreement signed with the Ministry of Health, with the intervention of FFM, which continued in 2016, is to promote the update on aging and cognitive and Behaviors for SUS professionals, through: **a)** Provision of supervised internship to physicians in the basic health care network and specialists in specialized medical care units; **b)** Multidisciplinary care for the elderly with cognitive disorders; **c)** Remote support for the care of the elderly with cognitive disturbance, through telemedicine and partnerships with interested municipalities; **d)** Update Course on Cognitive and Behavioral Disorders of Aging: Multidisciplinary Approach; and **e)** Guidance manuals for care in the elderly with cognitive and behavioral disorders.

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## Fragility in the Elderly: Evaluation, Early Determinants, Evolution, Assistance Demands and Impact on the Use of Social and Health Services

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The objective of this project, initiated by the Faculty of Public Health of USP in 2014, through an agreement signed with the Ministry of Health, with the intervention of the FFM, which continued in 2016, is to develop studies and research to identify The determinants of the fragility syndrome among the elderly, aiming to strengthen and qualify the health care of the elderly with emphasis on basic care.

Fragility can be defined as a clinical syndrome characterized by decreased energy reserve and resistance to stressors, a result of the cumulative decline of multiple physiological systems, which increases vulnerability to adverse conditions, due to the difficulty in maintaining homeostasis in situations of exposure to situations More extreme.

According to Fried et al. (2001), the fragility would be in the form of a phenotype that includes five components that can be measured: **1)**

Unintentional weight loss; **2)** Self-reported fatigue; **3)** Decreased strength; **4)** Low level of physical activity; and **5)** Decreased pace speed.

The presence of one or two components of the phenotype would be indicative of a high risk of developing the syndrome (pre-fragile) and three or more components would be present in fragile elderly.

Early detection of the components of the syndrome (pre-frail condition) could prevent its installation, from the adoption of specific interventions. In our country, unlike that observed in developed countries, the syndrome has been settling earlier and given the increase in life expectancy of the population, this situation, in the medium and long term, will generate important health care demands, increase in the use of social services and health, and consequently a significant increase in related costs.



Fragility, however, is understood as a distinct clinical phenomena of aging with potential for reversibility through appropriate interventions. Early identification of the determinants of this condition among the elderly, their evolution and,

consequently, the health care demands generated and the use of social and health services over time, in order to contribute to the adequacy of the Health and social policies.

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### Study of the Sociodemographic and Epidemiological Conditions of the Elderly Residents in Institutions of Long Stay for Elderly Registered in the Census SUAS

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The objective of this project, initiated by the Faculty of Public Health of USP in 2014, through an agreement signed with the Ministry of Health, with the intervention of the FFM, and which continued in 2016, is to carry out an intersectoral census survey aiming at To draw the profile of the living and health conditions of the residents in the Long Stay Residents for the Elderly (ILPIs) registered in the Ministry of Health, as well as their structural conditions, to provide care to this population, in every country. The results will support the policy of reordering the host services.

With the growing aging population, the demands of the elderly population with greater social vulnerability and the need to improve social policies with an intersectoral approach are increasing. In this sense, for a more precise identification of such needs (social and health), it is

necessary to carry out a specific Census of the elderly population residing in ILPIs.

Historically supported by social needs, it can be observed that, with the advancement of the age and the aging of the population, this profile is being modified and significantly increased of demands related to health. The specificity of such demands as well as the adequacy of structural resources to meet them is still unknown, including the important regional differences existing in our country. Thus, the Census of ILPIs, at the national level, intends to contribute to the formulation and/or reformulation of intersectoral actions that guarantee integral attention to the elderly, strengthening their rights guaranteed by the Statute of the Elderly and having as guiding axis the National Health Policy of the Elderly Person and the National Social Assistance Policy.

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### Gero Saúde School Project

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This project, initiated by the FMUSP Discipline of Geriatrics at the end of 2015, through an agreement signed between FMUSP and Fundación Mapfre, with the intervention of FFM, had the objective of analyzing aspects of the functionality of the elderly that can be the Predictors of successful aging and intervene through socio-educational strategies, with physical activity as the main agent for promoting behavioral changes, aiming at the promotion of healthy aging in physical, psychic and social aspects.

The activities, completed in 2016, were held at AAAOC and were divided into three modalities:

- 1) Reception / stretching /walking;**
- 2) Specific physical activity, composed of free exercises that aim at the improvement of resistance, joint mobility, muscle stretching, balance and motor coordination; and**
- 3) Educational and social practice, which includes games of socialization that will allow greater integration of the components for greater learning about the functioning of the organism and what are the potential benefits and/or risks that may result from its activities.**



# Research Projects

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# Research Projects

*FFM supports the development of several research projects, which, with hundreds of papers published in indexed journals, gain global reach and visibility.*

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## Main Research Projects

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### Evaluation of New Alternatives to Increase Accuracy in Determining the Cause of Death: An Autopsy-Based Approach

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This study, developed by the Department of Pathology of FMUSP, through a contract signed with the Bill and Melinda Gates Foundation, with the intervention of the FFM, was started at the end of 2016.

The project is designed and validated for methods that allow the identification of the cause of the death of people where there is a lack of professionals or training for this. These methods will determine the immediate cause and the underlying cause (main disease) of death.

In the pilot phase will be applied the methods to be developed and made a thousand autopsies during a year, in the city of São Paulo. If the methodology of this initial phase presents a high reliability index, the project may have its continuity and expansion of the research areas, since the

initiatives supported by the entity should be of worldwide application.

Difficulties in collecting information about the reason for death due to illness are due to several factors, including the lack of a physician to determine the cause of death or, therefore, the lack of training of the existing professional. There are also situations in which the body was examined by a physician but there was no recording and collection of samples or the information was not concentrated in a database or the system is not transparent.

This line of research will be complemented by another project already underway: the Verbal Autopsy (page 96), which consists of the development and validation of questionnaires applied to family members by health agents.

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### VIA T HELPER 17 in Diabetes Mellitus Type 1 Autoimmune

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This study, developed by the Department of Clinical Medicine - Discipline of Endocrinology and Metabolism of the HCFMUSP, through a contract signed with the European Foundation for the Study of Diabetes, with the intervention of the FFM, was started in 2016.

This project aims to define Single Nucleotide Polymorphisms (SNPs) related to the T helper pathway 17 that may be involved in the

predisposition to autoimmune type 1 diabetes mellitus (DM1A). SNP genotyping will be in 500 patients with DM1A and 500 healthy controls. In addition, the expression of the total peripheral lymphocyte RNA genome will be determined in 20 newly initiated DM1A patients and 20 healthy controls, paired to provide data on the T helper pathway 17.

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## Programs and policies for obesity prevention in low, middle, and transition countries - evidence-based studies and program evaluation

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This study, developed by NUPENS of the School of Public Health of USP, through a contract signed with The University of North Carolina at Chapel Hill, with the intervention of the FFM, began in 2016.

The activities planned are as follows: **1)** Revision studies on food consumption patterns and temporal trends in household food purchases in Brazil; **2)** Revision studies on the prevalence of obesity, hypertension, diabetes and other chronic non-communicable diseases related to food in

Brazil; **3)** Conduct a study on price elasticity for beverages and non-essential foods; **4)** Creation of a database with the nutritional composition of beverages and industrialized foods marketed in Brazil; **5)** Review Brazilian data sources on food advertising in the media; **6)** Develop a research plan to evaluate Brazilian regulatory policies on nutrition in the school environment; and **7)** Support Brazilian civil society groups that advocate regulatory policies to promote healthy eating.

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## Participation of astrocytes located on the ventrolateral surface of the bulb in ventilatory responses to hypercapnia and hypoxia

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This study will be developed by ICB-USP, through an agreement with The Ohio State University, at the end of 2016, with the intervention of FFM.

Respiratory automatism and the chemical control of respiration are inseparable processes. The paraplegic/retrotrapezoid nucleus (pFRG/RTN) is a group of glutamatergic neurons, which expresses the transcription factor PHOX2B and appears to play a relevant role in the central chemoreceptor process and in respiratory automatism.

The PHOX2B transcription factor is responsible for modulating cell differentiation and survival of neurons and glia cells in the central nervous system (CNS), especially the structures located in the bridge and bulb, which are involved in autonomic and respiratory control. Therefore, the correct maturation of these neural cells is of paramount importance, since mutations in the PHOX2B gene may be involved with the Central Congenital Hypoventilation Syndrome (SHCC).

Neurons are not the only CNS cells capable of detecting carbon dioxide (CO<sub>2</sub>), suggesting a participation of astrocytes in chemoreception. There is probably an indirect pathway through which CO<sub>2</sub> levels are detected and release transmitters to promote the activation of pFRG/RTN neurons involved in respiratory control. From these evidences, it becomes important to investigate the role of embryologically derived neural cells (neurons and astrocytes) of the transcription factor PHOX2B in respiratory control, under physiological conditions and during development.

It is believed that correct expression of the PHOX2B gene during development is necessary to establish adequate functionality of the central chemoreceptor process and thus regulate CO<sub>2</sub> levels under conditions considered physiological. The experiments elaborated in this project try to test this hypothesis and will be performed through neurophysiological and neuroanatomic techniques.

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## Multiplex test for evaluation of cure of Chagas disease

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Infection by the protozoan *Trypanosoma cruzi* is generally controlled, but not eliminated by the host immune response. Persistent infection ultimately results in muscle tissue injury, termed Chagas' disease.

Although there are several drugs with partial efficacy to treat the infection, it is estimated that only about 1% of infected individuals receive treatment.

The absence of reliable tests to definitively determine the efficacy of treatment is the main obstacle, both to the wider use of available medicines and to the development of more advanced therapies against Chagas' disease.

Recently, the group demonstrated that donor anti-reactivity in conventional ELISA tests was associated with the presence of the parasite detected by PCR. It can also be detected that some

donors lose antibody over time, suggesting that spontaneous healing may occur.

This study, developed by LIM 46 through a contract signed between FFM and NIH, was

approved at the end of 2016 and aims to develop a curing test that can identify individuals previously exposed to the infection and have evolved to cure, with or without therapeutic treatment.

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### **Dynamic crime models: a new frontier of application of Mathematics to Psychology and Social Sciences**

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This study, developed by FMUSP's Medical Informatics Discipline, through a contract signed between FFM and the Office of Naval Research Global, began in late 2016.

The project consists of a mathematical model designed to study the dynamics of the criminal career, which considers the phenomenon of crime in Brazil and probably in other parts of the world as a "contagious" event.

It is understood, therefore, that the entry and maintenance of young people in the criminal career is determined by the induction of individuals who are already in the criminal career, including, mainly, but not exclusively, those who already serve their sentence in the Brazilian penitential system.

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### **Phase III clinical trial to evaluate the efficacy and safety of the dengue vaccine 1, 2, 3, 4 (attenuated) of Butantan Institute**

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This study was made possible through a Scientific Technical Cooperation Agreement signed in 2016 between the Butantan Foundation and HCFMUSP, with the intervention of the FFM.

This is a randomized, multicenter, double-blind, placebo-controlled Phase III clinical trial to evaluate the efficacy and safety of the Dengue Vaccine 1,2,3,4 (attenuated) vaccine produced by the Butantan Institute. In this study, healthy and/or clinically controlled participants of both genders, aged between two and 59 years, will be stratified into three age groups: 2 to 6 years, 7 to 17 years and 18 to 59 years. Pregnant women, women who are breastfeeding or who intend to become pregnant within 28 days after vaccination can not participate.

There is, to date, no licensed vaccine for dengue prevention with protection against the four dengue serotypes; Thus, Dengue Vaccine 1,2,3,4 (attenuated) produced by the Butantan Institute (research product) will be compared with placebo. Voluntary participants will be randomized to receive a subcutaneous dose of the investigational product or placebo in a 2: 1 ratio. All participants will be followed up for five years for active dengue surveillance.

Currently, there is no effective and licensed vaccine for dengue prevention, so it is not possible to use an active control to evaluate the above product. The use of placebo will allow to appropriately determine the safety profile of the vaccine under test by comparing the incidence of adverse events.

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### **Characterization of Risks for Neurological Damage and Neuropsychomorphic Development of Children of Pregnant Women Exposed to Zika Virus**

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This research, developed and completed in 2016, by the Department of Physiotherapy, Speech and Hearing Therapy and Occupational Therapy of FMUSP, through a Cooperation Agreement signed between the Medical University of Graz and FFM, was a cohort study under the leadership of Oswaldo Cruz Foundation, whose results were recently published.

The Neurofunctional Evaluation Laboratory of FMUSP, in collaboration with the University of Graz, will be responsible for the neurodevelopmental follow-up of infants whose mothers were exposed to the Zika virus during pregnancy.

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## **Bloomberg Initiatives for Global Road Safety: Observational studies of speed, helmet use, seat belt, child restraint equipment and steering under the influence of alcohol, in the city of São Paulo**

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This research is being developed by the LIM 40, through a contract signed in 2015 with Johns Hopkins University, with the intervention of the FFM.

This is an observational cross-sectional study where data from five risk factors for traffic accidents are collected in a noninteractive way with the subjects: motorcycle helmets, seatbelts, Child restraint equipment in vehicles, speeding direction, safety and alcohol use. Data collection will be done through random systematic observations that will be conducted in six to 12 selected locations in the city of São Paulo, at the edge of streets and avenues. This collection will be held twice between the years 2015 and 2016.

The data will be collected by personnel previously trained by the Johns Hopkins International School of Public Health (JH-IIRU) team and will use data collection methodology already in use and used in phase 1 of the Bloomberg's Initiative for Global Road Safety (BIGRS) 2010- 2014). All the information will be collected randomly without contact with the research subjects - always at a distance and without identification collection. It should be remembered that the data collection on the direction under the effect of alcohol will happen passively, observing the routine police commands in the city that will occur during the studied period.

These activities continued in 2016.

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## **Production of recombinant proteins from different expression systems**

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This study, developed by LIM 25, through a contract signed with Ouro Fino Saúde Animal Ltda., With the intervention of FFM, was started in 2015.

The general objective of this research project is to make possible the unprecedented recombinant production of therapeutic proteins of interest in animal health, in order to preserve the biological activity in vivo of these proteins in both laboratory animals and the target species.

Such proteins should be used to improve the productivity of animals used in livestock for food production.

This partnership seeks to unite expertise and capabilities in different areas of knowledge, aiming to make feasible the industrial scale production of the recombinant proteins of interest and the proof of their efficacy and safety in domestic animals.

These activities continued in 2016.

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## **Biomarkers screening and development of multiparametric test TheraCruzi**

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This research was initiated at the end of 2015 by LIM 46 of HCFMUSP, through a contract signed with the Institut Mérieux, Infynity Biomarkers, with the intervention of FFM.

A significant proportion of patients chronically infected by *Trypanosoma cruzi* develops the chronic form of the disease, with cardiac and/or digestive alterations. Although they discovered markers associated with the disease, none of them could be used alone as a marker of disease prognosis. In addition, there is a low degree of persistence of the parasite, which is a fundamental aspect of chronic Chagas disease, whose current parasitological tests, such as blood culture or PCR to detect *T. cruzi* DNA, have low sensitivity and are not practical for the patient Or the large-scale use of clinical trials.

Still, in Brazil there is a single available drug, Benznidazole, with questionable efficacy in the treatment of patients with chronic Chagas' disease. Thus, there is an urgent need to conduct clinical trials to develop new drugs for chronic Chagas' disease. However, the lack of reliable biomarkers for the reduction of parasitism, and consequent inflammatory responses and damage, is a major obstacle to the evaluation of new drugs.

The identification of differentiation markers to evaluate the presence of levels and parasitism of *Trypanosoma cruzi*, resulting in immune and inflammatory modifications, could solve this problem. Therefore, the purpose of the present study is to evaluate the response of individuals to *T. cruzi* synthetic peptides by enzyme-linked immunosorbent assay in patients before and after treatment with benznidazole in the search for

antibody response patterns that correlate with presentations Clinics and compare the results with other biomarkers, for the formation of a composite

profile of biomarkers for the prognosis and monitoring of the treatment.

These activities continued in 2016.

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### Basic Project of Implementation of the Observatory of the Medical Profession and Studies of the Medical Demography

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This project, developed by the Department of Preventive Medicine of FMUSP, with the intervention of the FFM, has the support of CREMESP and was started at the end of 2015.

The objectives of the project implementation are: **a)** to produce and disseminate studies, research and data; **B)** to deepen and update the profile, distribution, aspects of the work and the

specialization of Brazilian physicians; and **c)** seek to trace the relationship between the concentration and distribution of physicians and the organization and functioning of the Brazilian health system, as well as the relationship with health inequalities in Brazil.

These activities continued in 2016.

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### Verbal Autopsy in Brazil: Validation of the Instrument

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Having an adequate information system on deaths and their causes is of fundamental importance, as it provides subsidies to assess the health situation of the populations and to promote the planning, monitoring and evaluation of health services. The proportion of deaths of ill-defined cause or cause ignored, among all deaths occurred, has been the most used indicator to evaluate the quality of information on causes of death.

The Mortality Information System (SIM), despite being highly consolidated, presents coverage and quality of information on unequal deaths, both among Brazilian regions and in relation to population groups stratified by socioeconomic level, with underreporting and high proportion of recorded deaths With ill-defined causes in some areas.

Este projeto, desenvolvido pelo Departamento de Patologia da FMUSP, por meio de convênio firmado entre o Ministério da Saúde,

no final de 2015, e a FFM, tem por objetivo geral avaliar e validar o formulário de autópsia verbal para adultos no Brasil. Os objetivos específicos são os seguintes: **a)** review the bibliography of research and studies on verbal autopsy (VA) assessments and present an executive summary of those studies; **b)** elaborate a proposal of reference document of the VA (form in Portuguese and instruction manual); **c)** carry out the validation of the verbal autopsy questionnaire for adults; **d)** compare the TARIFF methodology (automated method) with certification of the causes of death by physicians in Brazil; **e)** to verify the reliability of certification of causes of death among physicians (Death Verification System - SVO and VA certifiers); and **f)** to verify the reliability among death cause coders.

The start of project activities, however, depends on the approval by the Ministry of Health of a request for budgetary re-direction.

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### S. pyogenes vaccine for the prevention of rheumatic fever and cardiac rheumatic disease: a phase I/IIa clinical study

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This study, developed by InCor, through a contract signed between HCFMUSP, Butantan Institute and BNDES, with the intervention of the FFM, began in 2015. Its main objective is to conduct a Phase I/IIa clinical trial of A vaccine produced entirely in Brazil against *Streptococcus pyogenes* to prevent new cases of rheumatic fever (RF) and cardiac rheumatic disease (CKD), a consequence of the oropharynx infection caused by the *S. pyogenes* bacteria, mainly in Brazil, the

African continent and India, Where rheumatic fever and/or its sequelae are still very important.

The Phase I/IIa clinical trial is the result of the extensive research developed by InCor over the last 20 years, with the support of several development agencies, mainly national.

In summary, the results obtained were innovative and promising and safe. The vaccine epitope has been shown to be alpha helix structure and is recognized by individuals carrying several



HLA class II molecules, which makes it universal, besides being stable in different temperature and pH conditions, a very important aspect in that it concerns To the transport and stability of the vaccine (Guilherme L, et al, J. Biol Chem, 2011).

In order to obtain immune response mediated by IgA and IgG, new experiments were performed

with the MPLA and WP adjuvants manufactured by the Butantan Institute. These data are very important and opened the possibility of conducting human phase I/IIa assays in a vaccine developed entirely in Brazil and with a high social and economic impact.

These activities continued in 2016.

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### **Pilot Project on Drug Traceability in HCFMUSP and its integration with the Drug Traceability Pilot Project of the Drug Registration Holder**

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With a view to increasing patient safety, HCFMUSP was chosen in 2015 to carry out a pilot project of Anvisa Resolution RDC No. 54, linked to drug traceability. The idea is to test a system that can map products from production to consumer arrival. The goal of Anvisa is to create a mapping network capable of serving the whole of Brazil, but since there are many agents involved in this process, this test at HCFMUSP will be a first step.

The pilot project is being developed by the InRad Technological Innovation Center, through a Scientific Technical Cooperation Agreement signed between HCFMUSP through InRad and Libbs Farmacêutica Ltda., With the intervention of the FFM, and began at the end of 2015.

The proposal is to trace 13 medicines, produced by national and international industries, for ten months. After that time, a report will be prepared for the Management Committee for the Implementation of the Sistema Nacional de

Controle de Medicamento (National Drug Control System), linked to Anvisa. Thus, it would be possible to detect the difficulties and analyze the possible ways to expand the action throughout Brazil.

The Anvisa resolution, approved in December 2013 (RDC No. 54), establishes mechanisms and procedures to track all medicines circulating in the national territory. This includes a record of products from manufacturers / producing companies, wholesalers, retailers, importers of medicines, transporters and dispensing units.

It is about charting the application or location of the drugs through information recorded in a system - data on products, service providers and users would be stored. This control must be maintained at all stages of production, including dispensing and collection.

These activities continued in 2016.

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### **Evaluation of the Impact of Industrial Emissions on Health of the Population of the Polo Petroquímico de Capuava (Capuava Petrochemical Complex)**

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The implementation of the Polo Petroquímico de Capuava (Capuava Petrochemical Complex) - RECAP, in the Municipality of Mauá, attracted a large contingent of workers and encouraged the installation of an Industrial Pole, at a time when both environmental licensing and Brazilian urban planning lacked criteria and procedures that Guarantee a safe operation of the industries, with continuous monitoring and with minimum risk to the health of the population installed in its surroundings.

Today, international and other studies conducted on the ground bring together plausible evidence to consider the impact of environmental emissions of these enterprises on the health of the region's population.

The present study, initiated in 2014, originated in a Statement of Commitment of Adjustment of Environmental Conduct of the Santo André Environmental Justice Prosecutor's Office, developed by LIM 05, with the intervention of the FFM, intends in a first stage to elaborate a Map where it is possible not only to identify the magnitude of the concentration of environmental pollution, but also to obtain this behavior in terms of its spatial distribution, also making it possible to identify and locate the areas where there is potential health risk arising from the historical and current operation of the industrial activities and petrochemicals of the region, objectively establishing the affected area and the possible existence of a gradient of this health risk.

These activities continued in 2016.

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## Genome of landscapes in latitudinal gradients and ecology of *Anopheles darlingi*

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This study, developed by the Department of Epidemiology of the School of Public Health of USP, through a contract signed with Health Research Incorporated, with the intervention of the FFM, was initiated in 2014.

The primary malaria vector in the Amazon Region, *Anopheles darlingi*, has the ability to adapt quickly to micro-geographic changes resulting from new environmental conditions such as those found in agricultural settlement areas. Therefore, the presence of this mosquito represents an important threat to human health in Latin America. The proposal will examine three biological aspects of *Anopheles darlingi*, which have been underestimated, aiming to identify the main mechanisms responsible for the success of the vector in the transmission of the pathogen: broad plasticity or genetic specialization.

Firstly, the *Hipótese de Malária de Fronteira* (Border Malaria Hypothesis) - HMF - will be tested, in which settlement age predicts incidence of malaria cases, explicitly separating the effects of settlement age and forest cover.

Secondly, genomic characteristics of *An. Darlingi* populations exposed to: **(i)** different levels of Plasmodium in the Amazonian endemic region will be compared with the populations of southern Brazil, where malaria is rare, and **(ii)** environmental variables in several settlements Amazonian.

Third, experiments on the life history of *Anopheles darlingi* will be developed that will address characteristics of temperature response patterns that are directly related to vector capacity.

These activities continued in 2016.

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## Incidence study of dengue in Brazil, in municipalities of high and medium endemicity Goiânia - GO and Araraquara - SP

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This study, developed by IMT-USP, through a contract signed with Sanofi Aventis Farmacêutica Ltda., With the intervention of FFM, was initiated in 2014.

The main objective of the project is to outline and implement epidemiological studies that will support the evaluation of future dengue vaccination strategies. The specific objectives are as follows: **a)** Describe the serological profile and immunological status of the population before a possible future vaccination strategy; **b)** To identify

the proportion of asymptomatic, oligosymptomatic cases and the clinical profile of the symptomatic cases and their serological status; **c)** To estimate the rate of seroconversion in a cohort at two distinct stages of transmission; **d)** Identify the risk factors for severe dengue, according to the age group; and **e)** Epidemiological data needed to model the dynamics of dengue transmission in different epidemiological scenarios.

These activities continued in 2016.

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## A randomized, double-blind, placebo-controlled clinical trial to evaluate the efficacy of creatine as adjuvant therapy in the treatment of bipolar depression

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Bipolar disorder (TB) is a chronic mental illness that affects approximately 1% of the adult population and is associated with a suicide rate of 10-19%. While there are several options for treating refractory mania, treatment-resistant bipolar depression with mood stabilizers remains difficult to treat. Even with the publication of studies that support pharmacotherapies that shorten the duration and decrease the severity of depressive episodes and reduce the risk of recurrence, more than half of the patients do not respond adequately to the treatments available for bipolar depression.

Creatine plays an important role in cerebral energetic homeostasis, acting as a temporal and spatial buffer for the cytosolic and mitochondrial reserves of ATP (adenosine triphosphate). Recent studies suggest an increase in brain oxygen utilization following oral creatine supplementation.

The aim of this study, initiated in 2014, developed by IPq with the intervention of FFM and supported by NARSAD, is to verify if creatine improves depressive symptoms when used in the adjuvant treatment of conventional treatment of bipolar depression.

These activities continued in 2016.

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## Fighting Infections through Research, Science and Technology (FIRST) Phase 1 and 2: Creating a Partnership to Combat Neglected Infectious Diseases in Mesoamerica

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This subproject, initiated in 2014 by LIM 46 of HCFMUSP, through a contract with Blood Institute Systems Research, with the intervention of the FFM, which was completed in 2016, is part of the program called "Research Center on Biomarkers In Tropical Neglected Diseases of São Paulo / Minas Gerais," which aims at the discovery of biomarkers related to Chagas' disease. The present subproject aimed to search for new biomarkers related to the cure of this disease.

Currently, it is believed that direct treatment against the parasite *T. cruzi* is necessary to avoid the consequences of the disease in the long term. However only one anti-*T. cruzi* drug is available, benznidazole (BZN). New drugs are being

developed, but the lack of reliable biomarkers for assessing treatment efficacy is a major hurdle to validation in humans.

Few studies have evaluated what happens in terms of changes in immune parameters following treatment with BZN. Understanding the effect of these drugs on immunological parameters may favor the discovery of biomarkers. In the present study, about 100 patients with positive PCR who were nominated for BZN treatment were followed. The objective of the study was to follow up these patients systematically and to collect blood samples in eight visits (pre and up to one year post treatment) for the research and validation of biomarkers.

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## Latin America Treatment & Innovation Network in Mental Health

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Recent research suggests that the redistribution of clinical tasks in health systems and in health teams, known as task-shifting, is an effective and efficient strategy to expand access to treatment in situations where there is a lack of specialized human resources. Most of these studies focused on improving infant survival, maternal health, and HIV programs, with Peru becoming one of the leading Latin American countries in this type of experience.

Today, there are more mobile phones than landlines in most Latin American countries, covering almost their entire population.

The objectives of this study, initiated in 2014, supported by the NIH, through a contract signed with the FFM and developed by the Department of Preventive Medicine of FMUSP are: **a)** to evaluate the effectiveness of an intervention, by automatic mobile messages assisted by auxiliaries in the treatment of symptoms of depression in individuals with chronic physical illnesses (diabetes and/or hypertension) attended at Family Health Strategy units in the city of São Paulo, Brazil; and **b)** to evaluate the cost-effectiveness of this intervention program.

These activities continued in 2016.

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## SARCOSI: Sarcomere Based Signals in Muscle Remodeling (FP7-PEOPLE-2011-IRSES)

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This study was developed by ICB-USP, through an agreement signed with the Research European Agency in 2013, with the participation of FFM.

Sarcomero is a structural unit of striated muscle, where fine and coarse filaments cooperate to generate muscle contraction. Recently, it has become clear that sarcomers also play a role as an intracellular flag, especially stretch-sensitive proteins such as titin and nebulin. Recent studies have shown, in fact, the role of flag in addition to the structural role of titin and nebulin, and the next important step is to understand how these giant proteins exert this flagging role by controlling the remodeling of striated muscle tissue.

This network of researchers investigates this issue by doing intense exchange in muscle biology from the American continent, Japan, and the

European Union. Each group will contribute with specific methodologies to study the molecular bases of titin and nebulin in muscle remodeling, including transgenic animals, synthetic compounds and direct measurements in myofibrils.

The participants of this consortium of researchers have collaborated and occasionally published jointly. The SARCOSI network will allow a more solid long-term interaction, with exchange of team members and joint orientation of post doctoral theses. The exchange of team members will enable the transfer of technology and models between participating laboratories, bringing faster results and greater depth in the field of heart failure and skeletal muscle atrophy.

These activities were completed in 2016.

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## Prospects for the elimination of residual malaria in the Brazilian rural Amazon: strategy of investigation of reservoirs of *Plasmodium vivax*

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This study, developed by the ICB-USP, through an agreement signed with the Ministry of Health, with the intervention of FFM, at the end of 2013, aims to implement and evaluate a strategy to detect symptomatic and asymptomatic carriers of the parasite (potential Reservoirs of infection) in areas of residual malaria transmission, focused on the monitoring of potential transmission foci around clinical episodes (index cases) diagnosed by BA or BP of febrile cases.

The specific objectives of the study are: **a)** To classify all new episodes of malaria (index cases) detected by BA or BP and laboratory confirmed in the municipality of Acrelândia over 12 months, such as autochthonous cases, relapses, imported

cases or cases introduced; **b)** To evaluate the efficacy of detection of potential malarial reservoirs around each index case, combining conventional microscopy and molecular diagnosis, comparing the results of monitoring the index domicile and its neighbors (within the potential focus of transmission) with those obtained in non-related households (outside the potential transmission focus) but belonging to the same locality; and **c)** To determine the epidemiological links between malarial infections, diagnosed by means of the genotyping of the parasites obtained during the monitoring of the potential foci of transmission.

These activities continued in 2016.

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## Combination of Cerebral Stimulation and Peripheral Nerve Stimulation to Increase the Beneficial Effects of Functional Electrical Stimulation on the Parical Hand after Stroke

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There are no universally accepted treatments to reduce disability in patients with severe motor impairment in the chronic phase after Acidente Vascular Cerebral (Stroke) - AVC. Neuromodulation techniques, such as transcranial direct current stimulation (tDCS) and somatosensory stimulation in the form of peripheral sensory stimulation (ESP), are emerging techniques with great potential to improve motor performance or increase the effects of Motor training in stroke patients.

In this research, developed by the Department of Neurology, through a contract signed with the NIH, with the intervention of FFM, the hypothesis will be tested that tDCS and ESP will increase the effects of functional electrical stimulation (FES) and training Specific task on motor function. It is planned to collect data related to this hypothesis, investigating the following specific objectives: **1)** To compare the effects of FES in close association with isolated tDCS, isolated ESP, tDCS + ESP or ESP alone, in patients with moderate to severe weakness in one Cross

drawing. The hypothesis of this study is that either active tDCS or active ESP will increase effects of FES to a greater extent than placebo tDCS and placebo placebo, and that the combination of tDCS and ESP will have greater effects than tDCS or ESP Isolated; and **2)** to compare effects of the FES combination and motor training to the more efficient neuromodulation intervention, according to the results of Objective 1, with FES effects and motor training associated with the placebo intervention (ESP / tDCS placebo) administered three times per week. Week for six weeks to two groups of adult patients with moderate to severe weakness. The hypothesis is that neuromodulation intervention, combined with FES and motor training, will decrease the incapacity of the upper limb paretic and improve quality of life when compared to tDCS / ESP placebo combined with FES and training motor.

These activities began in 2012 and were continued in 2016.

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## Center for Biomarker Research on Neglected Tropical Diseases of São Paulo-Minas Gerais

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This study was initiated in 2012 by LIM 46 of the HCFMUSP, through a contract signed with the NIH, with the intervention of the FFM. The long-term goal is to establish a Center of Excellence for Biomarker Research on Neglected Infectious Diseases in Brazil. The initial focus will be on Chagas disease, with the aim of finding biomarkers that can be used to infer the risk of disease progression.

Two interrelated studies will be developed: Project 1 will focus on gene expression in previously well characterized samples. In Project 2, it is planned to use the Unified Health System in the State of Minas Gerais, recording and collecting blood samples from 2,000 patients with Chagas' disease. These patients will be followed up for two

years, with death outcomes or admission to a hospital for heart disease.

The main objective is to obtain a baseline risk score based on levels of biomarkers and electrocardiogram (ECG) findings that could identify high-risk patients in order to guide therapeutic approaches and serve as an institution for future clinical trials.

Two nuclei will be established: the Administrative Nucleus and the Database and Epidemiology Nucleus, which will support the activities of the two projects, as well as create and sustain research training programs for young Brazilian scientists.

These activities continued in 2016.

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## Receiver Epidemiology and Donor Evaluation - REDS III Study - International Post

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This proposal, initiated at the end of 2011 by LIM 46, through a contract with the Blood Systems Research Institute, with the intervention of the FFM, counts on the partnership of four large blood centers in Brazil (Pro-Sangue Foundation / Hemominas (MG) / Hemope (PE) / Hemorio (RJ)). The study aims to: **a)** establish the basis for a National Research Program on blood safety in Brazil and provides for the expansion of the three centers during the REDS-II Program for four centers during REDS-III; **b)** maintenance of the database of donors and donations; and **c)** continuation of specific aspects of two REDS-II projects: re-evaluation of patients who participated in the Chagas disease cohort study and continued

analysis of viral characteristics and risk factors in HIV-infected blood donors.

Two new main protocols are proposed for REDS-III. The first project will focus on an extremely relevant threat to blood safety in Brazil and in the world, which is the Dengue virus (Dengue virus). The second major protocol is an observational blood receptor design, focusing on epidemiology and transfusion therapy in Sickle Cell Anemia (SCD).

The combination of ongoing activities, new protocols and training efforts will ensure that Brazil continues to evolve into a Center of Excellence in Transfusion Medicine Research in Latin America.

These activities continued in 2016.

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## Longitudinal Study of Adult Health - Wave 2 - SP

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This project, developed by HU-USP and made possible through an agreement signed between FFM and FINEP, at the end of 2010 and concluded in 2016, had the following general objectives: **a)** to estimate the incidence of diabetes and cardiovascular diseases; **b)** study their natural history and investigate the associations in biological, behavioral, environmental, occupational, psychological and social factors related to these diseases and the resulting complications, seeking to compose a causal model that contemplates their interrelationships; and **c)** it

was also intended to describe the temporal evolution of these factors and the determinants of this evolution, as well as to identify modifiers of the observed associations and to compare the risk patterns among the participating centers that can express regional variations related to these diseases in the parents. In order to allow future studies, including genetic tests, the storage of biological material and the extraction of DNA were maintained.

Continuing the first stage of data collection (Wave 1), the present project aimed to meet the following

specific objectives: **1.** Continue the monitoring of cohort outcomes to identify new cases of diseases related to the period of validity of the proposal; **2.** Plan Wave 2 for interviews and study exams, including: protocol definition; Pre-test interviews, examinations and measures; Conducting pilot studies; and preparation of the data system; **3.** Perform the data collection for Wave 2; **4.** Perform analyzes with the data collected in Wave 1,

prepare scientific articles and submit them to the publication; **5.** Expand the library of SP, for the storage of the biological material collected in Wave 2; **6.** Perform biochemical tests and the measurement of blood hormones and urinary microalbuminuria in the central laboratory in SP; and **7.** Interpret, encode and send to the Data Center the ultrasound data performed in Wave 1.

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### Medical Images of Electrical Impedance Tomography for Anesthesia and Neonate Patients

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This project was conceived by LIM 09 researchers and made feasible through an agreement signed between FFM and FINEP at the end of 2010 and was concluded in 2016 with the main objective of developing two diagnostic, complication prevention, and monitoring of therapy in neonates and anesthetic procedures. Two dedicated Electrical Impedance Tomography - TIE - modules have been developed, a portable and inexpensive technology that generates real-time images of transverse sections of the body without the use of contrasts or radiation.

Were developed:

**1. Anesthesia Module (for Surgical Center):** development of specific hardware, with software to detect accidental disconnection, inadequate ventilation, poor placement of the orotracheal tube and atelectasis;

**2. Neonatal module (for neonatal ICU):** development of specific hardware, with software for monitoring and adjustment of CPAP, adjustment of mechanical ventilation and high frequency ventilation, diagnosis of bronchiolitis severity.

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### Validation of rk39 immunochromatographic test in humans using whole blood and exudate of oral mucosa (saliva)

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This research, developed by LIM 38, was approved, at the end of 2010, through an agreement signed with the Ministry of Health, with the intervention of the FFM.

To date, the diagnosis of visceral leishmaniasis (AVL), based on parasitological and immunological methods available for use, presents an immense variety in sensitivity and specificity, as well as delay diagnosis, due to the need to use material not always available, such as ELISA reader, optical and fluorescence microscopes, as well as the urgent need for trained personnel with the ability to handle the inputs.

Currently, rapid tests with rk39 are validated for the use of serum as a specimen, and there is no validation for use of other clinical specimens, such as whole blood and saliva, which would speed up the diagnosis and could be used in the field at the time of patient care with AVL suspected.

Thus, the aim of this study was to validate the rapid immunochromatographic test with rk 39, for use in whole blood and saliva, comparing with serum and other serological methods, using total antigen and with parasitological methods.

These activities were completed in 2016.

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### Peruvian / Brazilian Amazon Center of Excellence in Malaria

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This research, initiated in 2010 by the ICB-USP, with funding from the University of California and the intervention of FFM, aims to: **a)** To estimate the prevalence of asymptomatic infection by plasmodium and to characterize risk factors for the development of symptoms during the period of malaria infection; **b)** To estimate the prevalence and risk factors for the presence of gametocytes in

symptomatic and asymptomatic infections; **c)** To estimate the risk of subsequent symptomatic infection among patients with asymptomatic parasitemia and uninfected individuals; **d)** To determine, based on parasite genotyping, whether subsequent episodes of symptomatic malaria are due to the persistence of parasitic strains, originally found in the asymptomatic carrier; and **e)**

To compare the levels of genetic diversity of the parasites in symptomatic and asymptomatic infections.

The entomological component of this proposal, centered on the main vectors of malaria found in the study area, aims to: **a)** determine the

diversity of vectors in this region, through molecular tools of identification and genotyping of vectors; and **b)** to evaluate the impact of the different economic activities on the population structure of the vectors.

These activities continued in 2016.

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## Clinical Studies

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*In the last ten years, one of the areas with the greatest growth among FFM's attributions was the management of the research projects of the faculty and clinical staff of the FM/HCFMUSP System*

In the last ten years, one of the areas with the greatest growth among FFM's attributions was the management of the faculty and clinical research projects of the FM/HCFMUSP System. At FFM, the work is coordinated by Project Management, in partnership with the EPeClin (Clinical Research Office) of HCFMUSP, formerly NAPesq (Clinical Research Support Center), which was created in early 2005 and linked to the Clinical HCFMUSP, aims to support researchers, adapt procedures and advise the areas of the FM/HCFMUSP System that carry out scientific investigations involving human beings.

Under the supervision of FMUSP professors and with the support of the Centros de Pesquisa Clínica (Clinical Research Centers) - CPC - of the Institutes of HCFMUSP, Clinical Studies and Research aims to evaluate the efficacy, tolerability and safety of medications and also ensure that animal and Human beings are made according to the technical-scientific, ethical and legal parameters and under the current legislation for the species, besides ensuring the smoothness of the research funding, origin of resources, return on investment, adequacy of policy guidelines Institutional, integration with other sectoral actions, and interest and convenience for the Public Service.

Clinical research, clinical trial or clinical study are the terms used to designate a process of scientific investigation involving human beings. All human investigations are aimed at discovering or verifying the pharmacodynamic, pharmacological, clinical and/or other effects of the product (s) and/or identifying adverse reactions to the investigational product (s) To ascertain their safety and/or effectiveness.

The Clinical Research area has become increasingly complex and multidisciplinary, having as a characteristic the need for constant evolution and updating of processes, as it acts at the forefront of knowledge, technology and innovation.

The HCFMUSP Complex is among the largest Research Centers in Latin America, where, on average, a thousand projects related to Clinical Research are submitted for analysis by the Ethics Committee each year. The growing demand for Clinical Research in the HCFMUSP complex proves that despite the slow regulatory and operational process, the Institution is recognized as a Clinical Research center of excellence, with many researchers considered opinion leaders.



ICESP Clinical Research Center

In fact, the potential of the HCFMUSP Clinical Research Complex is still undersized. There is great potential for growth in this strategic area of research, which is based on the transfer of knowledge from basic research to the improvement and creation of new methods to prevent, diagnose and treat diseases, characterizing Translational Medicine or Translation Medicine.

It allows the evaluation of new drugs, new treatments, new vaccines, as well as a better understanding of the diseases and the behavior of the population, which is reflected in benefit to patients and society. It is considered, therefore, the main instrument to validate innovation in the health sector.

It should also be highlighted the important role of Clinical Research in the training of human resources, as well as the formative role of the scientific method in medical education and its strong link to Post-Graduation.



It is also important to highlight Clinical Research as a sector of financial resources generation, which enables investments in the area.

One of EPeClin's main challenges is to contribute to greater agility of internal regulatory and legal flows, thus placing the Institution in a highly competitive and leading position in the coordination of clinical research. Thus, EPeClin offers researchers strategic advice for the evaluation of opportunities, fundraising and sponsorships, feasibility studies as well as support in negotiating contracts and bioethical and regulatory issues related to Clinical Research, whether this research sponsored by the private initiative, By public development agencies or by researcher own initiative studies.

In integrated actions with FFM, in particular with the General Management of Projects and Research (GGPP-FFM) and Legal Consultancy (CJ-FFM), EPeClin has an active participation by issuing technical opinions and monitoring the flow, processing and approval of contracts and stock exchanges. Clinical research, in compliance with the requirements and institutional norms that regulate this theme. Among the actions implemented is the application of institutional overhead in the contracts of Clinical Research, which will allow the funding of funds that will be invested in the sustainability of the Clinical Research infrastructure of the Institution.

In 2016, FFM managed approximately **484 clinical studies** (number in 12/31/2016), approved by the Ethics Committee of HCFMUSP (CAPPesq) and coordinated by researchers from the FM/HCFMUSP System.

The centralization of the development of research projects takes place through the CPCs. In the FM/HCFMUSP System, CPCs are installed in the ICHC, ICr, Ipq, InRad, IOT, InCor and ICESP, intended to provide medical and hospital assistance to research volunteers; ensure that Good Clinical Practices are observed during the conduct of research projects; to guide the research volunteers and to clarify any and all doubts mentioned by them; guarantee all the resources needed by researchers; support the coordinators in conducting research projects; monitor the activities and provide necessary information to the monitors of the different research projects; and ensure that audits of research projects are

conducted in accordance with pre-established procedures.

In addition, institutionally, the main objectives of the CPCs are: reduction of expenses; Optimization of equipment use; Installation of physical area suitable for conducting studies related to various specialties; Centralization of the development of research projects; Ensure better service to the research volunteer; Improve the quality of teaching and the service provided to the community; Train teams to carry out rigorous studies, with quality and reliability within ethical and scientific standards, often with strict deadlines; and provide continuing education.

For the faithful development of these objectives, the CPCs prepared supporting documents, such as: **a)** Internal Rules; **b)** Information from the Protocol for Admission to the Clinical Research Center (CPC); **c)** Term of commitment of the researcher; **d)** Weekly plan of attendance of the research protocols prepared and sent by the researcher's team previously for service planning; **e)** Confidentiality for researchers, sponsors and visitors; **f)** Communiqués; **g)** Intercurrent Bulletin; **h)** Documentation of calibration, validation and certification of all equipment; **i)** Registration card of the exams collected in the CPC; **j)** Temperature control cards; **k)** Control kits of laboratory kits, with dates of receipt, validity and disposal; **l)** Control charts of nursing care for each patient; **m)** Drug control charts; **n)** Monitoring schedules, initiation visits, closure and audits; **o)** Survey of the degree of satisfaction of the research volunteer; **p)** Scheduling of appointments of offices; **q)** Internal identification sheet of the research protocols; **r)** Spreadsheet with names and contacts of all team members; and **s)** Procedimentos Operacionais Padronizados (Standard Operating Procedures) - POPs.

The CPCs have the archiving of copies of all research protocols, completed admission form, appointment letter signed by the principal investigator, as well as the following copies: approval by CAPPesq, CONEP and ANVISA (CE); and contract and budget, these being the minimum requirements necessary for the protocol to enter the Center.

These activities continued in 2016.



# Health Policy Projects

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# Health Policy Projects

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*FFM also supports the implementation of several Health Policy projects, including training of public health professionals, development of evaluation tools, among others.*

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## Main Health Policy Projects

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### Attendance at the HCFMUSP Emergency Care Center in Reconstructive Microsurgery and Hand Surgery (CEMIM)

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The creation of CIMIM of the IOT of HCFMUSP was due to the great increase in the number of patients with high complexity traumas. The phenomenon of motorcycle accidents, urban violence, chaotic traffic and the increase of speed contributed to this situation.

Since the 1980s, numerous publications have demonstrated scientific evidence of the importance of treatment in the acute phase of trauma. Adequate primary treatment promotes better outcomes, decreases complication rate,

incidence of infection, hospitalization period and cost of health, and reduces trauma-related mortality and amputation rates.

Through an agreement signed in 2014 between HCFMUSP and SES-SP, with the intervention of FFM, highly trained and trained professionals performed 1,163 surgeries, among them reimplants, revascularizations and flaps. Aiming at the continuity of these actions, a new Agreement was signed in 2016.

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### Air transport of the organ capture team for liver and pancreas transplants

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Through an agreement signed in 2014 between HCFMUSP and SES-SP, with the intervention of the FFM, financial resources were made available to cover expenses for the private air transportation of teams from the Division of Liver Transplants, Pancreas and Of Organs of the Digestive System when organs were removed for transplants outside the capital of São Paulo, benefiting HCFMUSP patients on waiting lists for organ transplants of the digestive tract.

The goals of this initiative are to increase the number of abstractions and transplants and reduce the average waiting time of the organ, guaranteeing the quality of cold ischemia conditions recommended for transportation.

These activities, coordinated by the HCFMUSP Division of Liver Transplants and Organs of the Digestive System, continued in 2016.

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### Intestinal and Multivisceral Transplantation Program

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The Falência Intestinal (Intestinal Failure) - FI - is a condition where the gastro-intestinal tract is unable to maintain adequate nutrition, hydro-electrolyte balance, growth and development. In complicated and pediatric patients, mortality reaches more than 60% per year. For these reasons, bowel transplantation has been indicated

to treat patients with irreversible IF, either alone or as a multivisceral transplant, in which the intestine is transplanted with other organs (liver, stomach, duodenum and pancreas) to treat multiple organ failure. Digestive tract.

It is estimated that 200 people per year have an indication for these transplants in our country.

However, there is no active program of these transplants in Brazil, which limits the treatment of these patients.

This program, to be developed by the FMUSP Liver Transplant and Surgery Discipline and funded by the Ministry of Health, through an agreement signed with the FFM intervention in 2011, plans to

perform a transplant/month and Initial obstacles, and it is expected to reach 36 transplants annually in the next three to five years.

These activities began in mid-2016, as they awaited the approval of a request for re-allocation of items from the project budget.

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### **Economic evaluation of the introduction of the dengue vaccine in the National Immunization Program in Brazil**

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This project, initiated at the end of 2015 by the Department of Infectious and Parasitic Diseases of FMUSP, through a Letter of Understanding signed with PAHO, with the intervention of FFM, had the general objective of producing evidence to support the decision to introduce a vaccine Dengue in the Brazilian PNI. Therefore, a study was proposed that involved a systematic review of the existing literature on

available dengue vaccines, proposed vaccination strategies and economic evaluation studies of dengue vaccines.

This systematic review evaluated the current state of the art, being necessary and preparatory for a cost-effectiveness study of the dengue vaccine in the Brazilian context.

These activities were completed in 2016.

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### **Specialization Course in Health Education for Teachers of the Medicine Course of the The State University of Amazonas**

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This project, started at the end of 2015, by the Discipline of Medical Clinic of FMUSP, through an Agreement signed with the UEA, with the intervention of the FFM, has the general objective of providing support to the undergraduate course in Medicine of the UEA from a Model of educational practice based on local reality, aimed at strengthening the local health system and the qualification of health care offered to the population of the host city (and even others located in the metropolitan region), through the Qualified faculty in the aspects of assistance, management and teaching.

The proposal for medical training in the 21st century is to transform content-centric education into a content-integration education that respects the student's previous knowledge, stimulates their autonomy in the search for new knowledge and develops in the student the awareness of their responsibility as a transformer of reality. Such a paradigm shift fundamentally depends on the transformation of the educator; Therefore, change in training begins in teacher development.

These activities continued in 2016.

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### **Regulation of Health Professions in Brazil: legal and institutional mapping, identification of points of articulation and disarticulation and formulation of proposals for regulatory harmonization**

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This project, initiated in 2015 by the Department of Preventive Medicine of FMUSP, through the Letter Agreement signed with PAHO, with the intervention of FFM, had the following general objectives: **a)** To map and analyze the current legal norms and the different state institutions responsible for regulating the health professions in Brazil, in order to comprehensively understand the current legal, normative and institutional configuration of the regulation of

health professions in the country; **b)** To identify the points of articulation and disarticulation of the current juridical, normative and institutional configuration of the health professions in Brazil, having as analytical reference the impacts of this configuration for the development of health policies in Brazil and for the realization of the right to health; and **c)** Formulate proposals for adequacy, updating and harmonization of the regulation of the health professions, with

reference to the full realization of the right to health in Brazil.

The regulation of the health professions is determined, preliminarily, by the laws that regulate these professions and create the corresponding professional councils. However, the legal nature of these councils is still the subject of

intense legal controversy, and a broad normative search is therefore necessary to understand, based on empiricism, the actual legal nature of these councils and how they are linked to the Federal Direct Administration.

These activities were completed in 2016.

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### **Support Project for the Extension Nucleus in Tropical Medicine of the University of São Paulo in Santarém-PA**

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This project, initiated at the end of 2015, by the Department of Infectious and Parasitary Diseases of FMUSP, through the Charter Agreement signed with PAHO, with the intervention of the FFM, has the following specific objectives:

**a)** Provide network professionals support in infectious and parasitic diseases for health care, undergraduate students in the health area, resident physicians, physicians of the Mais Médicos program and participants in the medical supply programs of the Santarém region;

**b)** Maintenance of the assistance activities in infectious diseases under the SUS already performed in the municipality of Santarém by the Nucleus of Support to Culture and Extension University, called Núcleo de Extensão em Medicina Tropical (Nucleus Extension in Tropical Medicine) - NACE-NUMETROP;

**c)** Offer of specialization / postgraduate courses for health professionals in Santarém;

**d)** Maintaining discussion of clinical cases at a distance using telemedicine;

**e)** Offer field of internship with supervision in infectious diseases for residents and

undergraduate students of Institutions of other locations;

**f)** Elaboration and execution of research projects of practical relevance to the improvement of health indicators of the region; and

**g)** Support and training in the elaboration / implementation of Family and Community General Medicine Residency Programs, including Rural Medicine modality in the region and in areas that have Basic Fluvial Health Units and Family Health teams for the riverine populations.

The creation of NACE-NUMETROP and partnerships with local institutions, coupled with the recent policies of the Ministry of Health to expand medical and multiprofessional residency training and the provision and retention of medical professionals in remote areas, have given a new Medical work and reorganization of local network services at all levels of complexity. Taking advantage of this new moment to strengthen this institutional partnership is the main motivator of this agreement, seeking to contribute with the new challenges that are presented to the local SUS with this new configuration.

These activities continued in 2016.

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### **Personnel dimensioning and characterization of the competencies of health professionals from basic care to collaborative practice**

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This project, initiated in 2015, by the Nursing School of USP, through the Charter Agreement signed with PAHO, with the intervention of the FFM, has the general objective of dimensioning the need for workers and characterizing their duties and competences, considering the different professions (AB), with a view to their internal articulation in the units and in the network of health care.

In the process of building SUS, health workers are recognized as a critical component for the implementation of health policies and quality of health care, which leads to recognition of the link

between work and education and, in particular, between work management and Education of health professionals, including planning and regulation of work and professions.

This project seeks to respond to the need for adequate methodologies for personnel sizing, as well as to characterize the skills of the professionals of the teams that work in the AB, highlighting the perspective of practices and interprofessional education, contributing with subsidies for new approaches to labor regulation and Professions.

These activities continued in 2016.

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## Analysis for Improvement of the Surveillance System of Risk Factors and Protection for Chronic Diseases by Inquiry

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In 2006, the Ministry of Health implemented the VIGITEL System - *Vigilância de Fatores de Risco e Proteção para Doenças Crônicas por Inquérito Telefônico* (Surveillance of Risk Factors and Protection for Chronic Diseases by Telephone Inquiry). The implementation of this system has been carried out in partnership with NUPENS/USP. The agreement between NUPENS/USP and the Health Surveillance Secretariat of the Ministry of Health (SVS/MS) has existed since 2006 and was essential for the design, operation and improvement of VIGITEL. This partnership has been essential for the planning of prevention, promotion and health care actions, being useful to guide the implementation of national public health policies.

This project, developed by the Faculty of Public Health of USP, through an agreement signed

with the Ministry of Health, at the end of 2015, with the intervention of FFM, its main objective is to support the Ministry of Health in the operation and improvement of the System VIGITEL regarding data collected in 2013 and 2014. Its beginning, however, occurred only at the end of 2016, due to the delay in the release of funds by the Ministry of Health.

The specific objectives are: **a)** annual review of the system questionnaire and the main groups of indicators; **b)** annual update of the weighting factors, necessary to estimate the system indicators, for each of the 27 cities and for all of them; and **c)** preparation of annual reports of the system.

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## Design and Evaluation of Permanent Education Methodologies for the Implementation of the Food Guide for the Brazilian Population in the Field of Basic Health Care

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Health promotion strategies in SUS focus on the determining aspects of the health-disease process in the country. Ensuring the effectiveness of health interventions presupposes that they focus on the living conditions of individuals and communities, favoring the adoption of healthy choices. Thus, the reform of basic health care in the country, materialized in the Family Health Strategy, should prioritize the integrality of the actions of the health system.

Knowing the role of food as a risk factor or protection for several diseases that configure the current epidemiological panorama, the insertion of food and nutrition actions in basic health care becomes essential for the health promotion of individuals and collectivities.

This project, developed by the Faculty of Public Health of USP, through an agreement signed with the Ministry of Health, at the end of 2015, with the intervention of FFM, began at the end of 2016, due to the delay in the release of by the Ministry of Health.

The objective is to support the Ministry of Health in the implementation of the Food Guide for the Brazilian Population as a tool for qualifying actions to promote adequate and healthy food, within the scope of basic care. To this end, a proposal for an educational intervention in health based on the Food Guide for the Brazilian Population will be developed, tested and evaluated, aimed at health professionals who are part of the Family Health Support Unit.

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## Development of the Virtual Library of Education in Health Sciences BVS-EDUC

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This project, developed by the Library and Documentation Division of FMUSP, with the intervention of FFM, was supported by CREMESP, started in 2015 and completed in 2016.

The activities developed were as follows:

**a)** Indication of a CREMESP medical professional to be part of the Advisory Committee

of the Virtual Library in Health Sciences Education (VHL-EDUC), for the period 2014-2018;

**b)** Participation of the CREMESP Library as a Cooperating Center of the BVS-EDUC (and, consequently, of BVS Brasil) by the Term of Accession and, thus, not only collaborate in the Network but also enjoy its information products as LIS Sites in the area of Medical Education), DirEv

(Event Directory in the area), Scientific Literature and Access to Documents;

c) Hiring of services for maintenance in the installed VHL applications, in the sense of correction of failures, support to the library staff of the Coordinating Center (FMUSP), changes in layout, adjustments in the indexes of research, among others;

d) Detail of operational prerequisites, both local and remote, for access to the servers;

e) Training of the CREMESP Library in the LILACS Methodology and, upon the entry of CREMESP in the VHL-EDUC, publishing space available on the site for an Institutional Charter of the Council to its members; and

f) Indexing of CREMESP publications: *Being a Medical* and Journal of CREMESP.

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### Training of Preceptors and Supervisors of University Hospitals Branches of EBSRH

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This project, to be developed by the HCFMUSP EEP, with the intervention of the FFM, would benefit the preceptors and supervisors of the Medical Residency Programs (RM) and Multiprofessional Programs (RMP) linked to the Hospitals of the Brazilian Company of Hospital Services (EBSERH) and Was started at the end of 2015.

The aim of the Course was to contribute to training in education and health education management of professionals who work as preceptors and/or supervisors of RM and RMP programs, taking into account the diversity of the residency programs in the country and developing

competencies applicable to Every reality. This would allow the inclusion of preceptors linked to programs of different natures and locations, contributing directly to the professional training and, indirectly, to the improvement of the health care offered to the population and to the strengthening of SUS.

There are many pedagogical and managerial skills that are common to supervisors and preceptors of RM and RMP programs. There are also specific knowledge and skills of each area. The course would take these two aspects into account. The activities were interrupted in 2016, due to the termination of the contract by EBSERH.

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### Innovation in Interactive Health Education Technologies with HR Training and Structuring of a Digital Production Center

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This project, begun in late 2014 by the Department of Telemedicine of FMUSP, through an agreement signed with the UEA, with the intervention of the FFM, was completed in 2016 and had as its general objective the structuring of an educational digital environment based on the Internet (Repository of educational materials), interconnecting laboratories of undergraduate education, organization of a platform for training in teleassistance, and structuring of a Digital Production Center.

The formation of a collaborative network of institutions through Telemedicine / Telehealth facilitates the organization of efficient educational programs by means of interactive distance learning (interactive distance education). When associated

with teleassistance services (second opinion training and consultation), Telemedicine / Telehealth facilitates the contextualization of the training, in a way directed to practical needs.

The use of second opinion environments at a distance tends to become more and more common as the universalization of telecommunications takes place and digital inclusion increases. The Second Formative Opinion is a mixed approach resulting from the association between care and education. It is equivalent to a complementary training stage, "in loco", focusing on the specific problem. With the computerization of UEA's undergraduate courses, students will have new technological learning tools, seeking more and more excellence in the area of medicine.



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### Tutoring Activity for the state of Tocantins

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The policy established by the Federal Government, through the Ministry of Health, National Transplantation System and Strategic Committee for the Development of New Centers for Capture and Transplantation, defined that all the Federation Units should develop, autonomously, procedures for the capture of multiple organs / Tissues and cornea and kidney transplantation in the medium / long term. To that end, it issued Portaria 2,172, dated September 27, 2012, creating the Tutoring Activity, with the objective of developing the System of donation and transplantation in Brazilian states that require technological cooperation for its improvement or implantation, as well as covering the Gaps.

The objective of this project, developed by the Liver Transplantation Service of HCFMUSP, through an agreement signed with the Ministry of Health, at the end of 2013, with the intervention of the FFM, is to assist the implementation of the donation service and organ transplants In the State of Tocantins, promoting the improvement of the services already authorized and qualifying the local health professionals, thus promoting the development of services for the **capture of multiple organs** and the **accomplishment of transplants of cornea and kidney**.

These activities continued in 2016.

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### Tutoring Activity for the state of Roraima

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The policy established by the Federal Government, through the Ministry of Health, National Transplantation System and Strategic Committee for the Development of New Centers for Capture and Transplantation, defined that all the Federation Units should develop, autonomously, procedures for the capture of multiple organs / Tissues and cornea and kidney transplantation in the medium / long term. To that end, it issued Portaria 2.172, dated September 27, 2012, creating the Tutoring Activity, with the objective of developing the System of donation and transplantation in Brazilian states that require technological cooperation for its improvement or implantation, as well as covering the Gaps.

The objective of this project, developed by the Liver Transplantation Service of HCFMUSP, through an agreement signed with the Ministry of Health, at the end of 2013, with the intervention of the FFM, is to assist the implementation of the donation service and organ transplants In the State of Roraima, promoting the improvement of the services already authorized and qualifying the local health professionals, thus providing the development of the services of **capture of multiple organs** and the **accomplishment of kidney transplants**.

These activities continued in 2016.

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### Tutoring Activity for the state of Goiás

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In order to develop the System of donation and transplantation in Brazilian states, which require technological cooperation for its improvement or implementation, the Ministry of Health published Portaria 2,172, dated September 27, 2012, creating the Tutoring Activity.

Considering the high investment in Outpatient Treatments (PDT) for transplant procedures, and even the high social cost imposed on patients who need treatment outside their home, the state of Goiás opted to request the Donation Tutoring activity and Transplants, under the National Transplantation System by HCFMUSP, in order to

initiate the liver transplantation program in the state of Goiás.

The objective of this project, developed by the Liver Transplantation Service of HCFMUSP, through an agreement signed with the Ministry of Health, at the end of 2013, with the intervention of FFM, is to send trainees from the state of Goiás to the Transplant Service Of Liver of the HCFMUSP, which will allow, after a year, the accomplishment, with autonomy, of the **procedure of liver transplantation**.

These activities continued in 2016.

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## ARENA Project (Donation of Organs and Tissues for Transplants)

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The high rate of family denial in the transplantation centers of the least developed countries of the country is one of the aggravating factors for our low rate of organ and tissue transplantation.

In the first semester of 2013 (Brazilian Transplant Registry - RBT), the index remained high especially in the North, Northeast and Central West regions, reaching 96% in Sergipe, 89% in Maranhão, 75% in Mato Grosso and 72% in Acre.

The general index of family refusal in Brazil is 45%, well above the acceptable level, which is 30%. It is believed that the population's lack of knowledge about the concept of brain death is one of the factors responsible for the high negative rate in these regions.

In addition, the lack of preparation of the local teams at the time of the family interview also contributes to reduce the level of agreement. Thus, the project includes actions both for the awareness of the population and for the better preparation of the interviewing teams.

The Arena Project, developed by OPO - Organ Procurement Organization of the HCFMUSP, through an agreement signed with the Ministry of Health, at the end of 2013, with the intervention of FFM, is inspired by other itinerant campaigns in the area of health, like carts and communal work, but unpublished in the area of the transplants. Unlike the first ones, which normally provide diagnostic tests and even treatment (such as "cataract exercises"), this campaign only specifically aims to raise public awareness of the importance of organ donation by providing information that Decide on the act of giving and eventually reduce the high rates of family refusal observed so far.

The project includes 12 centers for transplantation and transplantation under development, which already receive training actions (courses and internships) in organ and tissue procurement for transplantation (Strategic Committee and SNT).

These activities continued in 2016.

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## Development and validation of methodology for the evaluation of SUS services at secondary and tertiary levels that provide outpatient referral assistance to Tuberculosis

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The good quality of referral services is an important component of tuberculosis control programs around the world. In Brazil, these services work under the normative orientation of the National Tuberculosis Control Program (PNCT). They have, however, institutional characteristics, heterogeneous structure and process, since they are part of the SUS decentralized organization. Several NTP initiatives have disseminated guidelines for service organization and conducted local monitoring; However, does not yet have a valid methodology that allows the evaluation and homogeneous monitoring of the quality of all services.

This project, developed by the Department of Preventive Medicine of FMUSP, through an

agreement signed with the Ministry of Health, at the end of 2013, with the intervention of FFM, aims to develop and validate quality indicators of the organizational dimension of care. It is based on the ethical-normative assumption that, irrespective of local institutional characteristics, all services must have resource availability, organization of the assistance process and technical management of the work, in order to allow a desirable quality care. The indicators will comprise an electronic questionnaire - QualiTB - which, as answered by local service teams, will produce quality measures comparable and usable by all levels of NTP management.

These activities continued in 2016.

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## HumanizaSUS Network - Consolidation of Expansion and New Developments

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The HumanizaSUS Network (RHS) is today one of the main lines of action of the National Humanization Policy (HNP) of the Ministry of Health (MS), in a context in which major challenges for the Policy are: **a)** Policy by the various areas of the Ministry of Health and by other health policy makers and executors; **b)** To broaden the

capillarization of the Policy with the production of networks in the territory, permeating the different spaces in which the health production takes place; and **c)** Expand participation in the Policy with the growing inclusion of the various actors that build the SUS, particularly the social movements of health.

This project, developed by the Department of Preventive Medicine of FMUSP, through an agreement signed with the Ministry of Health, at the end of 2013, with the intervention of FFM, concluded in 2016, aimed at promoting new developments of the HumanizaSUS Network, consolidating the Strong growth and intensification of communication flows in recent years, continuing to favor health work processes, support activities, support by network professionals of an

interdisciplinary team, always with a view to a greater transversalization and capillarization of the actions of the National Humanization Policy in the different spaces of construction of SUS and health production, as well as the expansion of the democratic participation of different actors and social movements in the formulation of the Policy and in the qualification of health production practices.

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### Proposal for the creation of an Integrated Center for Research and Teaching in Organ Transplants - (CIPETRO)

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With the objective of developing in Brazil a critical mass of technological knowledge capable of allowing national transplant centers access to the benefits of regenerative medicine, especially those aimed at increasing the number of organs and reducing rejection, this project proposes the Creation of an Integrated Organ Transplant Research Center (CIPETRO), focusing mainly on the development of new technology related to regenerative medicine.

The specific objectives of this project, coordinated by the Discipline of Transplantation and Liver Surgery of FMUSP, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of FFM, are the following:

**A)** Support for updating and adapting a university center for kidney, liver, lung and multivisceral transplantation with clinical and experimental sectors (CIPETRO), to become the national reference center of the National Network of Regenerative Medicine and Transplantation (RENART); and

**B)** Training of university centers through post-graduate education to reproduce and sediment, in several regions of the country, the technology related to the research lines of the project. In doing so, it is intended that, after this period, several national transplant centers will be able to assimilate and put into practice the anticipated progress as a RENART.

These activities continued in 2016.

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### Integrated Center for Research and Teaching in Organ Transplants – CIPETRO

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This project, developed by the FMUSP Liver Transplantation and Surgery Discipline, through an agreement signed between HCFMUSP and SES-SP, in 2013, with the intervention of the FFM, has the objective of costing expenses for: **a)** support for updating and adapting a university center for kidney, liver, lung and multivisceral transplantation, with clinical and experimental sectors (CIPETRO), to become the national reference center of the National Network of Regenerative Medicine and Transplantation (RENART); and **b)** training of university centers, through post-graduate education, to reproduce and sediment, in several regions of the country, the technology related to the research lines of the project. It is intended that, after this period,

several national transplant centers will be able to assimilate and put into practice the anticipated progress, forming a RENART.

The final product of the agreement will be the development, in Brazil, of a critical mass of technological knowledge capable of allowing national transplant centers access to the benefits of regenerative medicine, especially those aimed at increasing the number of organs (redirecting organs) and reduced rejection (production of modified organs). The use of borderline organs, now neglected (20 to 40% of the patients), and the reduction of immunosuppression will considerably reduce the costs of transplants for the SUS.

These activities continued in 2016.

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## Improving health statistics through the use of the tools of the WHO International Classification Family

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Proper use of the WHO International Classification Family Classifications is critical to the quality of health information and is the basis for disease prevention and control programs.

The general objective of this project, developed by the Faculty of Public Health of USP, through an agreement signed at the end of 2012 with the Ministry of Health, with the intervention of FFM, and completed in 2016, was to improve health statistics and to contribute to the implementation of the Family Classifications (CIF) of WHO International Classifications of Health (ICD)

in Portuguese-speaking countries. The specific objectives were as follows:

- A)** ICD - Training (Training of multipliers; Training in mortality; Training in morbidity);
- B)** ICD - Updates (ICD-11; Mortality; Morbidity);
- C)** CIF (Training and dissemination);
- D)** Family (Disclosure (Bulletin, webpage) and Automation in the use of classifications); and
- E)** Coordination and research (Monitoring and publication).

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## Epidemiological Surveillance Service at Hospital scope

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The hospital epidemiological surveillance service of the HCFMUSP was accredited as Hospital Nucleus of Epidemiological Surveillance level III in 2005. The maintenance of its objectives in 2016 was guaranteed by means of an Agreement signed between HCFMUSP and SES-SP, with the Intervention of the FFM.

Its main objectives can be listed as follows:

**A)** to improve the Epidemiological Surveillance System for Compulsory Notification Diseases, attended at HCFMUSP with a focus on detention, investigation of complaints and notification;

**B)** improve the dissemination and dissemination of information in Epidemiological Surveillance produced at HCFMUSP;

**C)** to evaluate and monitor the Epidemiological Surveillance System at HCFMUSP;

**D)** to promote continuous training for professionals of HCFMUSP services;

**E)** provide field of probation in surveillance; and

**F)** develop research aimed at the improvement of the Epidemiological Surveillance System.

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## Implementation of the State Network of High Cost Medication Dispensing Centers – CEDMAC

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The Coordinating Center of the State Network of Dispensation of High Cost Medication - CEDMAC is a partnership of SES-SP for dispensing immunobiological medications in Rheumatology.

This model has the advantage of using the established university infrastructure for assistance; Attendance of administrative processes; Reduction of costs, through sharing and adjustments of doses; and Training of efficacy, safety and pharmacoconomics database (standard electronic medical records).

The work of the CEDMAC of HCFMUSP covers two main aspects:

**1)** care for the patient with rheumatic disease requiring special medications; and

**2)** coordination of the CEDMAC Network. The first one encompasses the functions of evaluation and orientation of the patient, the drug infusion, the pharmacovigilance actions, besides the care and evaluation of the patients coming from administrative processes of SES-SP.

In order to continue these actions, initiated in 2009 by the Rheumatology Department of FMUSP, an Agreement was signed in 2016 between HCFMUSP and SES-SP, with the intervention of the FFM.

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## Operationalization of the management and execution of laboratory services actions, to respond to new challenges, in line with the needs of the population and the SUS goals

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The Instituto Adolfo Lutz (IAL) works in the promotion of health in the state of São Paulo. As a Central Laboratory of Public Health, accredited by the Ministry of Health, together with its twelve Regional Laboratories, based in the state strategic municipalities, leads the actions of sanitary, epidemiological and environmental surveillance. It also works on the frontier of knowledge, developing multidisciplinary scientific projects with international collaboration in the areas of Biomedical, Bromatological and Chemical Sciences.

Its main objectives can be summarized as follows:

**1** - Contribute decisively in the planning of the Epidemiological, Sanitary and Environmental Surveillance actions for the prevention, control and

elimination of diseases and diseases of interest in Public Health;

**2** - Carry out tests of high complexity for Surveillance;

**3** - Perform scientific research and technological innovation of interest in Public Health; and

**4** - To form specialized human resources for laboratories of interest to Public Health.

Through an agreement signed in mid-2012 between FFM and IAL, the FFM carries out the operationalization of the management and execution of laboratory services actions, in order to respond to new challenges, in line with the needs of the population and Objectives of SUS.

These activities continued in 2016.

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## Proposal of the Strategic Committee for the Development of New Transplantation Centers

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One of the problems that deserves the greatest attention in public health care in Brazil is the difference of regional quality between the littoral states and the others. Historically easy to understand, this difference becomes increasingly unacceptable in view of the recent socioeconomic development of the interior states. In this sense, highly complex actions acquire special attention, among them organ transplantation.

In 16 states, with about 60 million inhabitants, no transplants are performed or only kidney transplants occur sporadically and with a living donor. Thus, a space is defined to investigate the most appropriate method to develop centers capable of initiating the practice of this surgical act, which, in turn, implies the development of a series of related specialties.

This proposal, financed by the Ministry of

Health, through an agreement signed with the intervention of the FFM, at the end of 2011, is based on: **a)** the evaluation of a method of qualification; and **b)** the qualification of the poles in multicenter organ transplantation.

The objectives depend on the interaction of several specialties, demonstrating the opportunity to qualify, at the same time, all the inherent variables of the process, in the Brazilian states that, due to their geographic location, will be constituted in regional poles and, in those that have been better utilized, in courses and Previous stages. Thus, the AM, MS, PA, PB and RN states, by their location, and the States of CA, AL, GO, MA, MT, PI and SE, were included for the qualification already obtained in abstraction Tristes, Diagnosis of Brain Death and Eye Enucleation).

These activities continued in 2016.

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## Integration of Competencies in the Performance of Judicial Activity with Drug Users and Dependents

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This project, approved at the end of 2010, developed by GREA, in partnership with the Faculdade de Direito da USP (FDUSP), through an agreement signed with Senad, with the intervention of FFM, was completed in 2016.

The objective of the project was to promote a careful analysis of Law 11.343/2006, focusing on the drug user, and guarantee a new look:

prevention, care, attention, treatment and social reintegration.

The project consisted of courses, scientific research, seminars and dissemination of good practices aimed at professionals in Health and Psychosocial Care, Law and Public Safety that deal in some way with drug users in Brazil. In the first edition of the course, there were 15,000

participants and its success led SENAD to expand the program to 30,000 people.

The new legislation brought about significant changes in the way of considering the possession of drugs for personal consumption, extinguishing the decree of the arrest in flagrante by possession of drugs for personal consumption. The program, therefore, sought to analyze the aspects and effects of the new Drug Law for the professionals involved, from a human rights and health and social assistance perspective, in line with the global trend, with a focus on harm reduction and On imprisonment.

The offered courses followed the distance modality, with a team of tutors and supervisors qualified to attend the students through the teaching platform, email and free telephone, from

Monday to Friday from 8am to 8pm. The content, created in partnership by FMUSP and FDUSP, addresses the types of drugs and their actions as well as legislation.

The subject had to be treated very carefully, so that each agent knew its role in the scenario of prevention and treatment and fight against harmful use of drugs. With a broad educational material, the project aimed to improve the model of approach to users and drug addicts, recognizing them as people who need attention, treatment and social reintegration, also contributing to a qualified debate about the theme and dissemination of Good habits. The project counted on the fundamental participation of the National Council of Justice, through its National Comptroller.

# Institutional Projects

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# Institutional Projects

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*FFM also supports the development of institutional projects, mainly aimed at improving the physical and technological infrastructure of the FM/HCFMUSP System installations.*

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## Main Institutional Projects

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### Infra-LIMs 2015 - Expansion of the equipment park of the PREMiUM Multiuser Network of HCFMUSP

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In order to continue the process of increasing the research capacity of the FM/HCFMUSP System, a proposal was sent to FINEP at the end of 2015, with the intervention of FFM, for the development of the following subprojects:

**SP 1** = Creation of 3D printing nucleus of nano, micro and macrostructures for application in regenerative medicine, anatomical models and others;

**SP 2** = Creation of the Multi-user Nucleus of Cardiac Optical Coherence Tomography and expansion of the Image Platform in the Autopsy Room;

**SP 4** = Expansion of the Multiuser Nucleus of Bioinformatics and Nucleus in Information Technology.

The proposal was approved in mid-2016 and awaits the arrival of the agreement so that its activities can be initiated.

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### Maintenance, Operation and Consolidation of PREMiUM - Multiuser Equipment Network Program of the HC-FMUSP System - USP Medical School

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In order to consolidate the PREMiUM - Network Program of Multiuser Equipment of the HCFMUSP and FMUSP System (page 125), a proposal was sent to FINEP, at the end of 2015, with the intervention of FFM.

The general objective is to enable the preventive and corrective maintenance of high cost equipment and advanced technology installed in the Network, especially those with high potential for generating research in partnerships, be they with other national or international institutions or private initiative.

In addition, the proposal also aims to acquire equipment to complement existing nuclei (sequencing, chromatography/mass spectrometry and Biobank), complementary accessories (7 Tesla magnetic resonance whole body) and highly specialized labor, increasing not only the Productive capacity of the services rendered, but also its varieties, attending the requests of users and diversifying the researches carried out.

The proposal was approved at the end of 2016 and awaits the arrival of the agreement so that its activities can be initiated.



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## Structuring of the laboratory network as centers for the continuous training of professionals and technical support for the care of patients with coagulopathies and hereditary plaque diseases

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The formation of a network of technical support to the laboratories for specialized examinations and, consequently, the improvement of care for patients with hereditary coagulopathies and plaque diseases, is of paramount importance to the patient and to the ICHC medical staff.

This proposal, approved at the end of 2016, by the Ministry of Health, with the intervention of FFM, to be developed by the Hematology Service of HCFMUSP, aims to: **a)** Improve equipment

structures of laboratories trained in Laboratory diagnosis of hereditary haemorrhagic diseases; **b)** To create training centers for professionals, so that they can offer continuous training to professionals involved in the laboratory diagnosis of hereditary hemorrhagic diseases; **c)** Acquire equipment for reference laboratories in the laboratory diagnosis of hereditary hemorrhagic diseases, to serve as technical support.

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## Renovation of the Technological Park and Furniture of the Children's Institute of HCFMUSP

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Considering the technological evolution in the hospital area, as well as the increasing demand for new treatments by patients throughout the national territory, the replacement of equipment by obsolescence is of extreme importance.

This project, approved by the Ministry of Health, at the end of 2016, with the intervention of the FFM, which benefited the ICr, aims to replace Anesthesia Apparatus, Thermodisinfesting Washers and furniture installed in the Children's Institute more than ten years ago. Obsolete

equipment, which does not offer the minimum conditions of safety and quality for the care of patients in the ICr.

Such equipment is required for support in performing endoscopy and tomography procedures, as well as in the Central of Sterilized Material, for cleaning respiratory articles and disinfecting surgical instruments. The same applies to the armchairs, which are necessary in the Inpatient Units for accommodation of inpatient companions.

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## Renewal of the Technological Park - Replacement of Hospital Conservation Chambers and Computers of the Children's Institute of HCFMUSP

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The ICr-HCFMUSP serves children and adolescents with complex diseases (650 hospitalizations/month, 98% of hospital occupation). Many of the medicines used for treatment are thermolabile and require adequate storage conditions. The processes, assists and monitoring are carried out with the technological support of computers and software, necessary for registration of dispensing medications, electronic prescription, clinical evolution, visualization of clinical and imaging exams.

This project, initiated at the end of 2016 by ICr, through an agreement signed with the Ministry of Health, with the intervention of the FFM, aims to replace the current chambers of refrigeration (to improve the control and monitoring of temperature and Alarm) by appropriate equipment for the storage of medicines, and replace aging and obsolete computers with modern equipment, improving the care and safety of patients, medical professionals and multiprofessional teams.

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## Development of an Anatomical Atlas of Computed Tomography for Application in Tomography Equipment by Electrical Impedance

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The general objective of this project, developed by LIM 09 of HCFMUSP, initiated in 2014, through an agreement signed with FINEP, with the intervention of FFM, is the development of an Anatomical Atlas, that is, a unified database with information Anthropometric data, tomographic images and pulmonary function data of about 300 female patients and 300 male patients from a Computerized Tomography (CT) database.

This new technology will be applied in Electrical Impedance Tomographs, allowing its expanded use in pulmonary function tests (earlier and more sensitive detection of pulmonary pathologies, for example, fibrosis or rejection of transplanted lungs), in cardiovascular function

tests (Non-invasive cardiac output for evaluation of athletes or patients and preoperative), as well as in ICU settings (noninvasive cardiac output estimation, estimation of pulmonary strain during mechanical ventilation, better accuracy in the detection of pathological conditions such as pneumothorax, Pneumonias and atelectasis).

This Anatomic Atlas represents an unprecedented effort to improve the images of Electrical Impedance Tomography, achieving a much better spatial resolution and accuracy than is available in current tomographs. Both ventilation analyzes and pulmonary perfusion analyzes will be greatly benefited by this technological improvement.

These activities continued in 2016.

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## Reform of the ICHC Surgical Center

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The ICHC has almost 50% of the existing beds in HCFMUSP, being considered a hospital of excellence and reference in care, education and research and pioneer in many medical procedures in high complexity.

The surgical center unit consists of the set of elements destined to the surgical activities, as well as to the anesthetic and postoperative recovery.

Since its installation 30 years ago, the ICHC Surgery Center has not undergone major interventions in its physical structure; However, in recent years, there have been significant changes

in surgical procedures, including new techniques and deployment of new equipment.

This project, developed through an agreement signed in 2014 between HCFMUSP and SES-SP, with the intervention of the FFM, aimed at the improvement works in 23 rooms of the Surgical Center of the ICHC, currently constituted by 33 rooms Surgical, divided into four blocks.

The complete reform totals 1,326 m<sup>2</sup>, allowing an improvement in patient safety and the working conditions of the technical staff.

These activities continued in 2016.

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## Infra-LIMA 2013 - Expansion of the Research Execution Capacity in the FM/HCFMUSP System

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The present project, developed by DIREX LIMs of HCFMUSP, started at the end of 2013, through an agreement signed with FINEP, with the intervention of the FFM, aims to continue the process of increasing the research capacity of the FM/HCFMUSP System, looking for Identify their niches of competitiveness. This strategy is necessary, since a more detailed analysis of the científicometric databases clearly indicates that production is good in quantitative terms, is improving on a qualitative basis, but it is still far from our international "neighbors", which have a

higher index of Citations per article. That is, the world class is reached quantitatively, but there is still a long way to go for quality production, estimated from the citations of articles.

It is important to emphasize that FM/HCFMUSP System research planning should not only focus on increasing scientific production and quality, but should also consider ways to introduce FMUSP into the discussion and elaboration of proposals for the country's development. In this context, identifying topics of interest to the nation and stimulating the

production of knowledge in critical areas and demanding qualified information should be one of the scope of research planning. Thus, this proposal is inserted in the pursuit of three main goals:

- 1) increase in the index of scientific productivity, both quantitatively and qualitatively;
- 2) to encourage and facilitate collaboration between the different research groups of the System with other universities, within and outside the country, in order to increase its scientific excellence and competitiveness;
- 3) design a plan of action to stimulate an effective contribution of the FMUSP to the production of knowledge in strategic areas for the scientific and technological development of the country.

In other words, the researchers of the FM/HCFMUSP System sought to study the subject by asking about the topics that could be executed in their environment with greater advantages over the international reference research centers. Strengthening clinical research seemed to be a highly competitive alternative, given the size of their hospital complex, as well as being responsible for the largest medical autopsy service in the world, with about 14,000 cases per year. In this way, the present proposal aims to improve the

capacity of the System in analyzes of biological material obtained in HCFMUSP patients or of deceased individuals who are submitted to autopsies, which constitute the unique characteristics of this system.

The activities carried out in 2016 were as follows:

1) Nucleus Installation of Multiuser Support Nucleus in Clinical Microbiology: The equipment has been acquired and is in operation.

2) Consolidation of the use of liquid chromatography associated with torsade mass spectrometry (LC-MSMS) in the determination of steroid hormones: The equipment has been acquired and is in operation.

3) Consolidation of the Laboratory of Psychophysiology and Virtual Reality: Some of the equipment was purchased and are in operation. The two companion Sony Personal 3D displays will be purchased with other features.

4) Implantation of the Cellular and Regenerative Medicine Center of the FM/HCFMUSP System: The equipment was acquired and will be installed after the completion of the work of adaptation of the room.

The project was completed in 2016.

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## Preliminary Draft for the HCFMUSP Collaborating Center on Alcohol and Drugs

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This project, funded by Senad and developed by GREA, with the intervention of FFM, from 2013, presents the proposal to equip the Collaborating Center in crack and other drugs, whose purpose is to provide assistance, teaching, care and research related to Use, abuse and dependence on crack, alcohol, tobacco and other drugs.

This center should have its own physical area, provided for in the "Coxo Hospital Complex" (page 41), and it will be developed aiming at an integrative model of care for patients and relatives at the outpatient and inpatient level, associated with high social reintegration services Complexity and fully incorporated into a functional research structure, as is expected from a collaborating center of excellence, adding to this technical training activities in the multiprofessional residency modality.

Nearly two billion people use alcohol, 1.2 billion tobacco, and between 155 million and 250 million people have already reported using recent

(in the last 12 months) and illicit use of some other psychotropic substance (UNODC, 2010), Which is currently associated with 9.0% of the global burden of diseases (WHO, 2009).

In addition to the individual effects of morbidity and mortality, the use of psychotropic substances is related to important social developments, such that the phenomenon has transcended from the category of "health problem" to the category of "social problem". Among these social effects, drug use has generated a burden on the economic system, through direct costs, indirect costs and unattainable costs, such as worsening quality of life. (Murray & Lopez, 1997).

In Brazil, 22.8% of the population over 12 years of age reported having made illicit and experimental use of at least one psychotropic substance (except alcohol and tobacco) (Carlini et al., 2007), a consumption that increased, In the period from 2001 to 2005 (Fonseca et al., 2010).

Currently, crack dependence is the most frequent cause of hospitalization for cocaine use. In a cross-sectional study of 440 patients from six psychiatric hospitals in Greater São Paulo between 1997 and 1998, 70% of patients hospitalized for

cocaine problems were users of crack cocaine (Ferreira-Filho et al., 2003).

These activities continued in 2016.

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### **Project to strengthen the Center for Studies and Laboratories Maria Cecília Souto Vidigal of the Hematology Service**

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The concept of Permanent Education, better known as Continuing Education, is associated with the idea of training and improvement, aiming at adapting the professional to a world that changes daily and requires constant updating. In this way, Permanent Education is one of the most important strategies for professionals to ensure that they are updated in the light of the new knowledge, methods and work processes resulting from a continuous scientific and technological development.

Particular importance should be given to distance education as a teaching-learning process in Permanent Education, where teachers and professionals are separated spatially and/or temporally, but connected and interconnected by technologies, especially telematics, such as the Internet. But also, mail, radio, television, video, CD-

ROM, telephone, fax and similar technologies can be used.

This project, completed in 2016, made possible through a contract signed with the FMCSV in mid-2010, with the intervention of FFM, continued the profitable relationship established between the field of Hematology and Hemotherapy in Brazil and the role of FMCSV. For a long period of time, professionals and technicians were trained at the FMCSV Laboratories and used their important Library, providing relevant services to different medical and hospital care entities in Brazil and abroad. In recent years, with the partnership that was signed between the FMCSV and the Department of Hematology and Hemotherapy of FMUSP, through the FFM, the laboratories were loaned to the Hematology Service of HCFMUSP, and the Library was donated to Collection of the Department.

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### **Parliamentary amendments benefiting the Department of Digestive Surgery of the HCFMUSP**

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This project, completed in 2016, approved at the end of 2010, developed by the Department of Digestive Surgery of the HCFMUSP, through agreements signed with the Ministry of Health, with the intervention of FFM, aimed at investing in infrastructure and equipment that allow the employability of state-of-the-art technology in the area of digestive surgery, which allows support to procedures of high complexity and specificity.

The main objective of this project was to improve the physical and technological infrastructure of the ambulatory and operating rooms of the Department of Digestive Surgery and

Coloproctology, with the acquisition of diagnostic and surgical support equipment, microcomputers and printers, to make available and consult results of Examinations, make reports, consult images, collect all pertinent information to the patient's electronic chart in the hospital and the processes of the support areas.

This proposal to restructure operating rooms should increase the number of surgeries performed and triple the number of surgeries, from 1,600 surgeries/year (about 1,000 high complexity) to 3,500, in a period of two to three years.

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## Multiuser Equipment Network Program (PREMiUM)

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The Multiuser Equipment Network Program (PREMiUM) is a service provider platform created by the Board of Directors of FMUSP and Direx of LIMs, developed and implemented with the support of FFM and with funding from agencies such as FAPESP and FINEP, which aims to stimulate Research and innovation in the FM/HCFMUSP System optimizing the application of financial and human resources, increasing the complexity, integration and cooperation in the works.

The PREMiUM Network concentrates, in a wide and specially dedicated space, cytometry equipment, experimental models, biobank, structural and functional genomics equipment and for special analyzes, imaging devices, microscopy and microscopic technique. Requests for use of the equipment are conditioned to research projects under development.

The internal user can register in the site of the multiuser system, which generates a valid identification during the use of the Network. External users can also register for the site, for request of budget and conditions of payment. The financial management of the laboratories is the responsibility of the Faculty of Medicine Foundation, which issues invoices and controls payments and registrations.

Based on the observation that the research projects had different themes, but similar approaches, the elaboration of the Program was based on the premise of acquiring an equipment park, to be maintained collectively and used simultaneously, offering the most modern technologies related to biomedical research and identified as common among researchers.

The program has different laboratories, distributed by the FM/HCFMUSP System, to receive the certain technology, and with this, the host laboratories gain the responsibility of managing the platform openly, making available even the agendas on the site.

For this, the services provided are coordinated by renowned researchers in their areas of practice, who will ensure the conditions necessary for both researchers of the FM/HCFMUSP System and researchers outside the System to benefit from the equipment fleet.

To date, the following Multiuser Cores have been implemented:

1. Cytometry;
2. Experimental Models;
3. BioBank;
4. Structural and Functional Genetics;
5. Special Analyzes;
6. Image;
7. Microscopy and Microscopic Technique;
8. Scientific Documentation; and
9. Publishing.

The services provided by the multiuser cores are available on page [www.premium.fm.usp.br](http://www.premium.fm.usp.br).



The Multi-user Equipment Network Program of the HC-FMUSP System (PREMiUM) will receive a contribution of R\$ 5.7 million from Finep - research promotion agency of the Ministry of Science and Technology - for its maintenance, operation and consolidation (page 120).

The resources are the result of the approval of the project sent from the Finep Public Call for National Multi-User Centers, which sought to select proposals for strengthening the multi-user Centers already established, as well as to induce the organization of new centers in the North, Northeast and Central West regions of Brazil, through the improvement of the infrastructure necessary for their development, so that they can act as national centers in their related fields.

The PREMiUM was created in order to provide conditions for all researchers in the System and elsewhere to have access to the most modern technologies of contemporary biomedical research and at the same time optimize the application of specialized financial and human resources. The laboratories are coordinated by researchers with experience in their areas of operation and operated by trained technicians.

These activities continued in 2016.



# FFM Profile

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# FFM Profile

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## Brief History

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On September 18, 2016, the FFM celebrated its 30th anniversary. It was born of an initiative of the Board of the FMUSP of the time, which invited AAAFMUSP to be proponent of its creation, as a foundation of private law, non-profit.

From the outset, FFM's statutory objectives were supported by support for teaching, research and health care at FMUSP and at HCFMUSP and in the preservation of CAOC assets.

Over time, the FFM became responsible for receiving the SUS and Supplementary Health payments due to HCFMUSP, giving greater agility and seriousness to national and international procurement procedures and allowing technological updating, increase and Activities.



*Facade of the headquarters of FFM, Av. Rebouças*

FFM's support to FMUSP and HCFMUSP is mainly exercised in three areas: human resources (contracting and training), costs (purchases, maintenance) and investments (equipment, works), events that occur with resources managed by FFM, or its Own assets, which are applied according to decisions prioritized by the Institution.

Today, FFM works in three main axes: the University Agreement, signed in 1988 between SES-SP and HCFMUSP, with the intervention of the FFM, which is dedicated to the free care of SUS patients and which also guarantees, performing special procedures such as transplants of different organs, various implants and other procedures of high complexity; The Management Agreement and

Agreement, in which it is responsible for the administrative and financial management of two institutions or health systems: IRLM and ICESP, respectively, and the various legal instruments signed with partner institutions interested in the development of the medical sciences.

The FFM's activities, in support of FMUSP and the HC-FMUSP Complex, are synergistic with the decisions of its various collegiate bodies: the Deliberative Council (CONDEL) and the Planning and Control Commission (CPC) of HCFMUSP and the Congregation and Technical Council Administrative (CTA) of FMUSP. In addition, FFM is subject to rigorous controls of the Foundation Curatorship of the São Paulo Public Prosecutor's Office, the State and Municipal Court of Accounts and independent external auditing.

The FFM supports several social assistance projects, carried out inside and outside the FM/HCFMUSP System facilities, aimed at the most needy population, without prejudice to SUS care. A number of research and assistance projects aimed at combating and treating HIV infection, motor rehabilitation, cancer patients, the health of children, young people, the elderly, women and families are also being developed with the support of FFM. The FFM also supports HCFMUSP's Clinical Studies projects, public and institutional policies.

The FFM reports to various agencies with which it maintains agreements, such as Ministries, State and Municipal Secretariats, and several public or private institutions, national and international. Due to the administrative, financial and ethical transparency that presides over it, the FFM has gained great credibility and is therefore frequently consulted to take on new projects. However, it faithfully follows the recommendations of the Curatorship of Foundations and its Curator Council to restrict its action, mainly, to FMUSP and HCFMUSP, unless it is fully justified the assumption of new projects, for academic and social reasons.



## FFM Consolidated Results

The University Agreement, signed in 1988 between HCFMUSP and SES-SP, with FFM intervention, focused on the free care of SUS patients, enabled FFM to direct its efforts in promoting comprehensive health care for **SUS users**, in addition to the development of actions and services for the improvement and expansion of HCFMUSP's operational capacity, the training and improvement of human resources in the health area and the encouragement of teaching and research.

From the qualification as a Social Organization, it was possible for the FFM to manage the IRLM **Management Contract** (page

45), which obtained expressive results in the promotion of integral development to health, for the benefit of the population.

The FFM also continued the management of **ICESP** (page 50), designed to be one of the largest institutions in Latin America for the integral treatment of patients with oncological diseases.

Partnerships with public and private, national and international institutions allow FFM to develop several programs, mainly in the areas of health and education, that benefit the population. The annual result of these revenues can be verified by means of the summary table below.

FFM CONSOLIDATED RESULTS							
(In thousands of R\$)	2010	2011	2012	2013	2014*	2015	2016
<b>Income</b>	<b>863.169</b>	<b>961.418</b>	<b>1.012.867</b>	<b>1.206.359</b>	<b>1.222.869</b>	<b>1.183.383</b>	<b>1.159.527</b>
SUS health care	211.941	222.270	246.519	282.535	291.880	276.587	277.231
Private medical care	63.671	73.464	73.343	86.892	90.920	87.654	111.018
Subsidies and contributions	496.602	559.163	573.995	713.826	680.251	649.926	619.578
Financial income (net)	26.522	37.767	30.436	35.004	51.335	56.076	60.510
Technical services	28.571	27.560	39.825	39.432	52.299	49.834	44.815
Other (courses, donations, etc.)	35.862	41.194	48.749	48.670	56.184	63.306	46.375
<b>Expenses</b>	<b>690.101</b>	<b>809.317</b>	<b>967.274</b>	<b>1.043.148</b>	<b>1.132.588</b>	<b>1.132.359</b>	<b>1.100.606</b>
Personal	381.372	468.362	555.616	595.332	666.520	704.885	677.160
Materials for consumption	154.080	174.784	209.529	223.114	237.924	207.134	201.922
Professional Services	98.765	118.943	139.499	166.129	163.469	152.892	145.116
Other (general, depreciation, etc.)	55.884	47.228	62.630	58.573	64.675	67.448	76.408
<b>Result</b>	<b>173.068</b>	<b>152.101</b>	<b>45.593</b>	<b>163.211</b>	<b>90.281</b>	<b>51.024</b>	<b>58.921</b>

\* With the closing of the ICESP Management Agreement in 2014, there were occasional operations that, due to their nature, were not incorporated in the above statements, namely: return of the contingency fund to SES (R\$ 43.8 million), return of residual balances to SES (R\$ 12.7 million) and transfer of inventories to HC (R\$ 25.8 million).

When comparing FFM's total revenues, in 2016, there is an **increase of 34%** in relation to 2010. Income from medical consultations performed by the SUS **increased by 31%** in that period, mainly obtained through Of revaluations of the fixed amounts established in the formal agreements that regulate the onlendings.

The percentage increase observed in SUS revenues was, however, well below that of private medical assistance (Supplementary Health and similar) revenues, which increased 74% in the period, as a result of the joint efforts of HCFMUSP to expand healthcare, and FFM in the

improvement Of flows, controls and collection. FFM has fully reversed this substantial evolution of operating revenues in favor of the operation itself and the execution of the projects.

The investments in infrastructure and equipment made by FFM in 2016 totaled approximately R\$ 26.9 million. R\$ 19.8 million were invested in HCFMUSP, R\$ 2.3 million in FMUSP, R\$ 2.1 million in ICESP, R\$ 2.0 million in the IRLM and R\$ 87 thousand in other agreements. The FFM Management, in turn, made investments of about R\$ 743 thousand, with emphasis on equipment and computer systems.

FFM CONSOLIDATED RESULTS							
(In thousands of R\$)	2010	2011	2012	2013	2014	2015	2016
<b>Total</b>	<b>136,4</b>	<b>60,6</b>	<b>39,6</b>	<b>49,2</b>	<b>54,9</b>	<b>42,5</b>	<b>26,9</b>
Equipments	77,6	22,5	26,1	22,8	16,9	26,4	13,2
Buildings and Facilities	46,6	27,7	5,2	15,1	25,8	7,8	7,3
Computers	5,2	4,6	4,4	6,1	6,3	5,4	4,1
Others (furniture, vehicles, etc.)	7,0	5,8	3,9	5,2	5,9	2,9	2,3

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## Strategies

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### *FFM reaches the age of 30 with eyes on the future - tracing a path of excellence next to the FM/HCFMUSP System.*

Since its creation on September 18, 1986, FFM has been playing a crucial role in fulfilling its mission as a foundation to support the activities of FMUSP and its HCFMUSP.

The organizational structure of FFM, established in order to tailor and organize its responsibilities and competencies in the development of assistance, teaching and research, is divided by strategic areas of specialization, so as to better meet the needs of its partners.

In all, there are nine Departments: **1)** Controllorship; **2)** Legal Consulting; **3)** Billing and Control; **4)** Financial; **5)** Computer science; **6)** Materials; **7)** Projects and Research; **8)** Human Resources; and **9)** Supplementary Health.

The FFM counts with the Curator Council as its maximum control body, headed by the president (who corresponds to the Director of FMUSP) and nine other members. Another body is the Advisory Council, composed of 30 invited members of the FM/HCFMUSP System and civil society.

By managing the resources and boosting projects, giving an administrative and financial support to all activities carried out in the areas of teaching, research and assistance, FFM reaches the age of 30 with the eyes on the future - tracing a path of excellence with the System FM-HCFMUSP.

The activities of FFM are in synergy with the decisions of the various collegiate organs of the FM/HCFMUSP System.

Over the course of its 30 years, it has sought to constantly improve its standard of services and is committed to fulfilling its objectives and meeting the needs of its partners. The continuous **modernization** of its technical infrastructure, adaptation to the current technological demands and the training and specialization of its team of professionals are another of its priorities; Thus, the investments in human resources and internal infrastructures and in the maintenance of the FM/HCFMUSP System are translated by innumerable positive indicators obtained during its existence.

The growth of FFM in the last ten years has been quite significant. Its infrastructure was already quite similar in organizational terms and, proportionally, the increase in the number of employees, focused on the management and

operational area, grew in much smaller proportions than the projects and resources they manage.

The financial guideline maintained the search for positive working capital, guiding its spending decisions or investments in the prior requirement of the existence of financial resources to do so.

In 2016, the FFM direct management employees' valuation program was continued, where reassessment of positions, functions, frameworks and merits continued to be a focus of the Board of Executive Officers. At the same time, the Training and Training Program of its team of professionals resulted in the improvement of the Foundation's final results.

Since 1988, it has signed cooperation agreements with SES-SP, which provides for a series of managerial activities, ranging from billing for medical-hospital services and human resources management of the FM/HCFMUSP System, until Reforms and purchases of equipment and supplies, among others. It also supports programs of the FM/HCFMUSP System, its extension courses, events, research projects, clinical studies, among other initiatives.

It also responds to the management of Clinical Studies, under the supervision of House teachers, to evaluate the efficacy, tolerability and safety of drugs and research in humans and animals. In 2016, there were 146 assistance / teaching and research programs / projects, in addition to 338 clinical studies, developed in the FM/HCFMUSP System.

In 2008, FFM was recognized as a Social Organization, a private non-profit organization whose activities are directed to teaching, scientific research, technological development, protection and preservation of the environment, culture and health, receiving this title from the Public Administration and authorized to conclude with it management contracts to perform services not exclusive to the state.

Signed in 2008 with SES-SP, the Management Contract (as of 2014, Management Agreement) provided for the administration of the activities of ICESP, a tertiary hospital highly specialized in the treatment of cancer, which serves patients for complex treatments, coming from all the state.

In 2010, FFM signed a management agreement with SES-SP for the management of health activities and services at IRLM. Inaugurated in September 2009, the Institute is a unit of ImRea, located in the neighborhood of Morumbi, and was designed to be a center of excellence in treatment, teaching and research in Rehabilitation.

In addition, in 2016, it developed, in conjunction with the FM/HCFMUSP System, partnerships with institutions interested in the development of medical sciences, such as:

- Ministry of Health - MS;
- Ministry of Justice/National Secretariat for Drug Policy - Senad;
- Ministry of Science and Technology/FINEP - Financier of Studies and Projects;
- Ministry of Science and Technology/CNPq - National Council for Scientific and Technological Development;
- Ministry of Education/Brazilian Company of Hospital Services - EBSRH;
- Ministry of Labor - MPT;
- National Bank for Economic and Social Development - BNDES;
- Regional Council of Medicine of the State of São Paulo - CREMESP;
- São Paulo State Department of Health - SES-SP;
- Secretary of State for Education - SEE-SP;
- Secretary of State for Justice and Defense of Citizenship/CASA Foundation - Foundation for Socio-Educational Assistance to Adolescents;
- State Secretariat for Social Assistance and Development of São Paulo - SEDS-SP;
- The State University of Amazonas;
- Municipal Health Secretariat of São Paulo;
- World Health Organization - WHO/Pan American Health Organization - PAHO;
- United Nations Office on Drugs and Crime - UNODC;
- Maria Cecília Souto Vidigal Foundation;
- AMBEV Group;
- Itaú Group;
- Ouro Fino Saúde Animal Ltda.;
- Alzira Benefit Association Denize Hertzog da Silva - ABADHS;
- Adolfo Lutz Institute;
- National Institutes of Health - NIH;
- Blood Systems Research Institute;
- Mapfre Foundation;
- Harvard University;
- University of California;
- The George Washington University;
- The Smile Train;
- Grand Challenges Canada;
- International Atomic Energy Agency - IAEA;

• David Rockefeller Center for Latin American Studies;

- Health Research Incorporated;
- Research European Agency;
- European Union;
- The Brain and Behavior Research Fund - NARSAD;
- General Electric Health Care;
- Johns Hopkins University;
- Office of Naval Research Global
- Institut Mérieux, Infynity Biomarkers.

A key feature of its institutional strategy is **transparency**, given the broad scrutiny to which it is submitted. The FFM's activities are audited by the Public Prosecution Foundation Curators, independent external auditors and the State Audit Court, as well as reporting on its projects to bodies such as Ministries, State and Municipal Secretariats, and various public and private institutions. Private, national and international. In the relationship with the partners, it operates according to regulations agreed on a case-by-case basis, always guaranteeing transparency and austerity in management.

Because of the credibility that the FFM inspires to the subsidizing agencies, the volume of amounts managed by FFM has increased significantly, year after year. In view of the substantial evolution of **operating revenues**, projects, contracts and agreements, FFM has received significant amounts of income from financial investments, fully reverted in favor of the operation itself and the projects executed by FFM.

In 2016, a **consolidated operating surplus** of approximately R\$ 59 million was obtained, with a cash balance of approximately R\$ 499 million. The financial management of these resources is done through the management of accounts of the Management Centers, or CGs (about two thousand active accounts), according to the guidelines approved by the FFM Curator Council, the HCFMUSP Deliberative Council and the FMUSP Congregation.

In parallel, in 2016, FFM continued to **manage** 146 welfare / teaching and research programs / projects, as well as 338 clinical studies developed in the FM/HCFMUSP System.

The FMUSP **Restoration and Modernization Project**, developed between 2000 and 2008, had the fundamental support of FFM, which shared with FMUSP the coordination of the Project and the funding of resources. The purpose of the initiative was to value the historical heritage and adapt its spaces to the activities currently carried out, improving the infrastructure and logistics of work processes. The Project promoted not only a physical reform, but a profound human and

cultural change throughout the FM/HCFMUSP System community. Maintenance work continued, in 2016, now incorporated into the operating routine of FMUSP.

In its 30 years of existence, the FFM has been publicly recognized for its role as a social assistance charity, through the obtaining and maintenance of several certifications, among which:

- Federal Public Utility Declaration (repealed by Law no. 13.204/2015), State and Municipal;
- Attestation of Registration and Certificate of Beneficial Entity of Social Assistance (CEBAS), deferred by Portaria SAS / MS nº 946, of 09/25/2014, published in the DOU on 09/26/2014, with validity of 06/12/2010 To 06/11/2015 (currently under renovation);
- National Register of Health Establishment (CNES) as maintainer (2078015, 2812703 and 2091348);
- Certificate nº 018/2008 of Qualification as Social Organization of the Municipal Secretariat of Management of the Municipality of São Paulo;
- Certificate of Qualification as Social Health Organization of the State Health Department of the Government of the State of São Paulo - Case SS 001/0001 / 002.913/2008;
- Accreditation with CNPq nº 900.0011 / 1990, valid until 04/13/2021;
- Declaration of Immunity Recognition of Tax on Transmission "Causa Mortis" and Donation of any Goods or Rights - ITCMD - Process nº 51096-113273/2015, valid until 2017;
- Registration nº 1088 / CMDCA/2004 in the Municipal Council of the Rights of the Child and the Adolescent, renewed until 11/11/2016;
- Certificate of Registration No. 647/2007 of the Municipal Council of Social Assistance (COMAS), valid from 03/10/2007 to 09/03/2010);
- Registration Certificate nº 0308/SP/2000 of the State Council of Social Assistance - CONSEAS;

It should also be noted that, in 2016, the FFM received, through **donations**, the amount of R\$ 10 million, which were reverted for the realization of several projects in the area of assistance, teaching and research, especially purchases Equipment and medicines for FMUSP and for the FM/HCFMUSP System, in addition to ICESP and IRLM projects.

In 2016, FFM actively participated, as a Member or Consultant, in the following Commissions, Committees, Working Groups and other initiatives:

Financial Support for the FMUSP Medical Student;

- ✓ Scientific Advisory Board of FAPESP;
- ✓ FMUSP Research Committee;
- ✓ Planning and Control Committee of the Deliberative Council of HCFMUSP;

- ✓ Information Technology Committee;
- ✓ Management Committee of the Contract of Management of the West Region with the Municipal Health Department;
- ✓ FMUSP Congregation;
- ✓ Advisory Board of Fundação Zerbini;
- ✓ Advisory Council of HCFMUSP;
- ✓ HCFMUSP Deliberative Council;
- ✓ Board of Directors of the Morumbi Unit / Lucy Montoro Rehabilitation Institute;
- ✓ Board of Directors of ICESP - Cancer Institute of the State of São Paulo;
- ✓ Council of the CIEE Enterprise-School Integration Center;
- ✓ Higher Council for Advanced Studies - Federation of Industries of the State of São Paulo (FIESP);
- ✓ Higher Council of Health Management of the State of São Paulo;
- ✓ Family Health Program (PSF) agreement with the city of São Paulo;
- ✓ Coordination of the Pacaembu Polo Property;
- ✓ HCFMUSP Innovation Polo Team;
- ✓ School of Permanent Education;
- ✓ Clinical Studies of the HCFMUSP Clinical Board;
- ✓ Management of the Satellite Institute of Oncology / Osasco-SP;
- ✓ West Region Project Technology Group;
- ✓ Operating Group HC / FMUSP / FFM;
- ✓ HCFMUSP / FFM Scoring Goals;
- ✓ People Management Center;
- ✓ Computer Master Plan;
- ✓ Coalition Health Institute Project.

The FFM also supports the conveners in carrying out its various events. In 2016, he participated in the following technical-scientific and institutional events: **a)** Support to the 14th CIAD - Brazilian Interdisciplinary Congress of Home Care; **b)** Support to the Fourth Congress of Psychiatric Clinic; **c)** II Forum of Pharmaceutical Attention and Clinical Pharmacy and III Pharmaceutical Attention Week; **d)** Interdisciplinary Symposium of the Department of Clinical Medicine (SICLIM); and **e)** International Seminar on Policy, Planning and Management of Regions and Health Care Networks in Brazil.

In 2016, FFM continued to carry out the renovation, restoration and maintenance of the buildings, gardens, parking lots and infrastructure of the Pacaembu Cultural Complex - PCP. In addition, it developed the following activities: **a)** participation in public hearings on the Review of the São Paulo Strategic Master Plan; and **b)** participation in meetings with committees of city councilmen and leaders of the São Paulo City

Council to deal with the correction of the mistaken launch of the PCP area as a residential, by launching the area as ZOE - Special Occupation Zone (NR3), without damaging the preservation of the area, as required by DEPAVE, CONPRES, CONDEPHAAT, SEHAB, SEMPLA and SVMA. It also expanded alternative suggestions for the use of the Polo, so

that the social use of the property could be operative, in compliance with that required by the process of land foreclosure.

In addition, it financially supported the FM/HCFMUSP System in the following technical-scientific and/or institutional initiatives, whose objectives were in line with its Bylaws:

APPROVAL	EVENT
24/09/15	Congress of Psychiatric Clinic
09/01/16	Introductory Course to the EMA (Academic Medical Extension)
27/01/16	Introductory Course to the League to Combat Rheumatic Fever
27/01/16	Introductory Course to the League of Obstructive Pulmonary Diseases (Asthma and Chronic Obstructive Pulmonary Disease)
05/02/16	XX Introductory Course to the League of Geriatrics and Gerontology
05/02/16	3rd Introductory Course to the League of Cardiovascular Emergencies
05/02/16	Human Heat Event
12/02/16	13th Introductory Course to the League of Cardiology and Cardiac and Pediatric Transplantation
12/02/16	IX Introductory Course to the Otorhinolaryngological Leagues
16/02/16	Introductory Course to the League of Neurosurgery
25/02/16	Introductory Course to the League of Blindness Prevention
25/02/16	Introductory Course to the Multidisciplinary League of Palliative Care
25/02/16	Introductory Course to the Chemical Dependency Treatment League
25/02/16	Introductory Course to the League of Clinical Emergencies
02/03/16	XXXV University Medical Congress of FMUSP - COMU
02/03/16	Mad Alegria Project (FMUSP project that prepares students from the health area to act as hospital clowns in the HCFMUSP Complex)
02/03/16	IV Jornada of Social Work in Palliative Care
02/03/16	I Brazilian Colloquium on Occupational Therapy, Health and Work
02/03/16	VII Introductory Course to the League of Cardiorespiratory Physiotherapy and Intensive Therapy
08/03/16	XXV Introductory Course to the League of Plastic Surgery
08/03/16	XI Introductory Course to the League of Posture and Motion
18/03/16	Introductory Course to the Childcare League
18/03/16	Introductory Course to the League of Vascular and Endovascular Surgery
18/03/16	Introductory Course to the League of Pain
29/03/16	VI Introductory Course to the League of Endoscopic Surgery
05/04/16	Introductory Course to the League of Headache and Craniofacial Alias of USP
07/04/16	I Introductory Course to the League of Coronary Artery Disease of FMUSP
07/04/16	Introductory Course to the Humanization League
08/04/16	Introductory Course to the League of Thyroid
12/04/16	23rd Hospital Fair
12/04/16	Systemic Arterial Hypertension Academic League
15/04/16	IX Introductory Course to the League of Multidisciplinary Attention in the Perioperative
15/04/16	XCVI Introductory Course to the League to Combat Syphilis and other STDs
03/05/16	XIV CIAD - Brazilian Interdisciplinary Congress of Home Care
03/05/16	Scientific Flag Project
03/05/16	XI Course on Infection in Transplants of the Department of Infectious and Parasitic Diseases of FMUSP
17/05/16	Introductory Course to the League of Depression and Other Mood Disorders
17/05/16	ACP National Students Meeting
23/05/16	Introductory Course to the League of Surgical Technique and Experimental Surgery

14/06/16	The Laennec Liver Pathology Society Annual Meeting
14/06/16	League of Pathology
14/06/16	League of Heart Failure
20/06/16	League of Management in Health
23/06/16	Japanese-Brazilian Symposium Keio-USP
23/06/16	XVIII Introductory Course of the Intensive Care League
29/06/16	I Introductory Course to the Multidisciplinary Academic League of Eating Disorders
29/06/16	Meeting of Generations
29/06/16	Endowment FMUSP (students' project composed of community donations to broaden the knowledge of the scientific universe, through subjects of public interest)
14/07/16	VII Introductory Course to the Clinical Genetic League
18/07/16	IX Gastrinho - Introductory Course of the Leagues of Digestive Surgery
25/07/16	XVIII Introductory Course of the League of Cardiothoracic Surgery
29/07/16	II Introductory Course to the League of Surgical Emergencies
02/08/16	XVIII Introductory Course to the League of Clinical Oncology
04/08/16	XVIII Introductory Course to the League of Orthopedics and Traumatology
12/08/16	Introductory Course of Liver Transplantation and Liver Surgery
02/09/16	Introductory Course to the Liga de Fisioterapia Esportiva
05/09/16	66th Anniversary of the Hospital Servants Association
08/09/16	IV Symposium of Post-Graduate Students of Preventive Medicine
12/09/16	Introductory Course to the Childhood Obesity League
22/09/16	Introductory Course to the Urological Academic League
22/09/16	Introductory Course to the Diabetes Control League Mellitus
22/09/16	I Introductory Course to the League for the Treatment of Smoking
29/09/16	VI Introductory Course to the League of Artificial Heart Stimulation
03/10/16	I Introductory Course to the League of Schizophrenia and Other Psychotic Syndromes
05/10/16	Introductory Course of the Academic League of Gynecology of FMUSP
06/10/16	Introductory Course to the Multidisciplinary League of Prenatal Assistance
26/10/16	League of Neurosurgery
27/10/16	Introductory Course of the League of Clinical Neurology
27/10/16	XIII Introductory Course of the League of Clinical Anatomy
04/11/16	League of Coloproctology (lab coats)
08/11/16	X Introductory Course of the League of Metabolic Syndrome
08/11/16	3rd Introductory Course on Physiotherapy Pro-Selection
22/11/16	League of Liver Surgery and Hypertension Portal

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## Organizational Structure

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*The organizational structure of FFM is divided by strategic areas of specialization, so as to better meet the needs of its partners and the population.*

The organizational structure of the FFM, established in order to tailor and organize its responsibilities and competencies in the development of assistance, teaching and research, is divided by strategic areas of specialization, so as to better meet the needs of its partners and the population.

In all, there are nine Departments: **1)** Controllership; **2)** Legal Consulting; **3)** Billing and Control; **4)** Financial; **5)** Computer science; **6)** Materials; **7)** Projects and Research; **8)** Human Resources; and **9)** Supplementary Health. Its attributions and results are analyzed below.

**1)** The **CONTROLADORIA** (Controller's) department is responsible for the accounting, fiscal writing, rendering of accounts and patrimonial control of the Institution, among other functions.

**2)** The **CONSULTORIA JURÍDICA** (legal consultancy) serves the civil, administrative, tax and labor areas, avoiding expenses with advice from outsourced law firms. Its activities are not only focused on the needs of representation in litigation, but mainly on the control of the rectitude in national and international contracts and agreements signed by the Institution, as well as all documentation and tax regularity before public agencies in various spheres.

In addition to overseeing the process of public utility and certification of philanthropy, in 2016, he dedicated himself to the development, promotion and expansion of his activities, from the elaboration and administration of hundreds of contracts and agreements to the coordination of labor, civil and tax litigation, Judicial and extrajudicial. It also carried out legal proceedings with the organs of the Judiciary, Public Prosecution, Municipal, State and Federal Organs, Courts of Accounts, Social Councils and others and issued several legal opinions.

**3)** The **FATURAMENTO E CONTROLE** (billing and control) department is responsible for the billing of medical care services for SUS patients and Supplementary Health; and operations of

collection, control and distribution of the amounts related to the services rendered in the units of Complex HCFMUSP, where it also develops actions in the search for improvement and improvement of billing, registration and control techniques. Besides these operations, other activities are highlighted:

**A.** In the segment of the Unified Health System - SUS:

**a)** Continuity to the improvement and maintenance of the registry of Clinicas / Instituto / CG.

**b)** Adequacy of the analytical reports of production (Outpatient and Inpatient) with the implementation / inclusion of new fields.

**c)** Implementation and availability of analytical reports of outpatient visits.

**d)** Active participation in the Billing Committee of the SUS, collaborating in the actions developed by the HCFMUSP Superintendence, adding efforts to improve management processes in the SUS segment.

**e)** Active participation in the Billing Hub of ICHC, supporting and developing work to improve billing processes / records.

**f)** Supporting and developing work to improve billing records / processes in the Superintendency Axis.

**g)** Accreditation / Renewal of Transplant Accreditation (Establishment and Teams) granted in 2016: **(i)** Teams: Pancreas and Kidney Transplantation, Muscle - Skeletal Tissue Transplantation, Cornea Transplantation, Skin Transplantation, Liver - Child Transplantation, Pancreas Transplantation - Isolated, Child and Adult Bone Marrow Transplantation; **(ii)** Establishment: Skin Transplantation, Pancreas and Kidney Transplantation, Kidney Transplantation, Tissue Transplantation, Skeletal Muscle, Cornea Transplantation, Liver Transplantation, Pancreas Transplantation - Isolated, Human Skin Bench, Classification A".

**h)** Implementation of the new flow of qualifications / accreditations, in which the responsibilities of each area involved (NIS / FFM / Institute) were defined, in partnership with the

Health Information Nucleus - NIS of the HCFMUSP Superintendency and Complex Institutes. The implementation of the new flow to update CNES - National Registry of Health Establishment is planned for 2017.

**i)** Improvement of the quality of the accounting information regarding the payments / distributions of the paid, rejected and restated AIHs informed by the DRS-1 / SES, supporting FFM's Accounting with the internal and external Audit.

**j)** Work was begun in partnership with the Department of Informatics of FFM for the implementation of a new Information System, called Tableau, scheduled for 2017, aiming at independence and agility in obtaining data on SUS billing and Supplementary Health (Ex.: for updating of the FPO - Schedule of Budget Programming).

**k)** Availability of MV-FFM Indicators Panel, for consultation of clinical and CG data, as well as SUS billing, in a synthetic and analytical way.

**B.** In the Supplementary Health segment:

**a)** Contribution in the processes inherent to the billing of medical bills, in partnership with the Institutes, with analysis of the "in-loco" billing.

**b)** Recovery of glosses from previous years, through financial negotiations with health plan operators.

**c)** Continuation of the closer relationship with the health plan operators, resulting in a reduction in the term of receipt.

**d)** Technical support to the Financial Economic Nucleus (NEF / HCFMUSP) in the updates of the financial indices.

**e)** Technical and financial support to HCFMUSP Management Centers and Clinical Staff.

**f)** Improvement of the Online Consultation System (SCOL), in partnership with the Department of Informatics of FFM, resulting in the adequacy of the synthetic and analytical reports of billing and receipt.

**g)** Creation of the system of application of fees in Medical Fees, in partnership with the Department of Informatics of the FFM.

**h)** Active participation of the Supplementary Health Billing Committee, collaborating in the actions developed by the HCFMUSP Superintendence, adding efforts to improve the management processes in the Supplementary Health segment.

The **AUDITORIA MÉDICA** (medical audit) area of the FFM's Department of Invoicing and Control is responsible for analyzing medical records (medical reports, clinical records, outpatient records and other patient documents) to assess whether the procedures performed, as described in the medical records, were billed in accordance

with current regulations Of SUS. It also acts as an authorizer (issuing IAHS and high-cost procedures) and promotes the orientation process to the CGs, with a view to improving the quality of billing.

Besides these, it should be highlighted the activities developed in 2016 in the segment of the Unified Health System - SUS:

**a)** Acting, together with the CGs / Institutes, in holding frequent meetings to advise on the most appropriate form of registration and billing of the procedures performed.

**b)** Acting, together with the staff of the Billing Hub of the ICHC, to perform the review of the service sheets / tables and the registration processes.

**c)** Acting with the Surgical Center team to assist in the implementation of the MV System and the revision of the tables and procedures for registration and use of OPME.

**d)** Participation, as speaker, in the "Course of Billing and Good Practices of Complex HC".

**4)** The **FINANCEIRO** (financial) department's mission of FFM is to prepare and improve the internal structure of the receiving and payment sectors for the constant challenges posed by the business and the market.

In order to promote facilities, agility, transparency, security and traceability for the CG / Supplier / Customer / Sub-funder, we have constantly invested in the sophistication of tools and products, considering their adherence to the wishes and needs of the partners, as well as enabling them to Greater usability, which means that Employees also receive continuous training.

Direct and indirect improvements related to Electronic Payment Requests (SP-e) were implemented in 2016, as: **a)** storage of payment vouchers in the internal system, with visibility through the SCOL for the CGs; **b)** possibility of choosing the bank at the time of payment of taxes, collecting them by the official banks of the Projects, Management Contracts and Agreements; **c)** implementation of "Alert" with possibility of "Blocking" of payment, through the tracking by the Individual Taxpayers' CPF and the partners of the service providers, in the employee base, seeking the identification of a double labor bond, as required by the TCE-SP.

The Electronic Receipt Request (SR-e) received the last adjustments and began the homologation period for deployment during the first half of 2016. Like SP-e, SR-e will be the tool that will allow the visibility of the receipt Of resources that transit the institution, supported by supporting documentation, such as invoices and receipts, and financial settlement.



In December/2016, SR-e was implanted in the Private Medical Care of the IPq and ICr and the implantation process was initiated in ICHC and InRad. The SR-e is expected to be implemented in all Private Medical Care areas, including IOT, by the end of the first quarter of 2017. Other receiving businesses must be approved by the end of the second quarter of 2017.

The management of third party resources presupposes the guarantee of liquidity, together with the performance appropriate to the interest rates practiced in the local economy. Thus, financial investments are allocated to Investment Funds, whose portfolios are comprised of government bonds, mostly, and Bank Deposit Certificates indexed to CDI variation.

The **Receiving and Payment** efficiency results in cash surplus, which, invested in the financial market in low risk and return compatible applications with the variation of the domestic interest rates, enhances and strengthens the institution.

**5) The INFORMÁTICA (computers) department** has as guidelines, for the execution of its activities, the Investment Plan and the Work Plan.

The Investment Plan is prepared based on the needs for improvement and maintenance of the infrastructure and is approved by the FFM Board of Directors. The initial investment plan was estimated at R\$ 1,040 thousand, to be used in the modernization, expansion and updating of the equipment, software and database network, and the total used in 2016 was R\$ 387 thousand. Some projects will have their finalization in 2017, with the forecast of approximately R\$ 85 thousand.

The Work Plan is composed of projects established with the administrative areas of FFM plus projects to attend the HCFMUSP Complex. The Initial plan contained 202 projects in 2016. In order to meet the specific updating or improvement requirements of the systems, 163 projects were not approved in the initial work plan. 133 projects were completed.

Urgent demands, or that will have a diminishing impact on operational work, are handled through Agiles. In 2016, 373 were made.

**6) The MATERIAIS / Compras Nacionais (Materials / National Purchases) Department** manages and executes procurement / contracting activities for works and renovations, equipment, services in general and various materials, always committed to obtaining the best negotiations for the FM/HCFMUSP System: Specific Projects; Units under the Management of the FFM in the modality

Agreement: ICESP; In the Social Organization modality: State: IRLM; Municipal: Western Region - AMAS, UBSs and PS Butantã.

In the year 2016, a volume of acquisitions / contracting in the amount of R\$ 263 million, corresponding to 3,933 processes, transited through the Department of Materials / National Purchases. The economy generated in 2016 was R\$ 17 million, representing 6,35%, based on the lower original value presented by the suppliers or the reference value in relation to that actually traded / contracted by FFM.

In 2016, the Purchasing and Materials Department of FFM, with the participation of the other Managers, developed a new regulation for the acquisition of services, products and materials, in order to comply with the new TCE rules of São Paulo, which is based In Law 8,666 (which regulates bids at the federal level), to analyze the accounts of public and private institutions. Among the measures adopted are the greater publicity of the announcements, with advertisements in newspapers of great circulation, and the greater detailing of the orders of purchases. The new FFM regulation, in force since June 2016, does not lose sight of, however, the agility that has always guided its performance in favor of the FM-HCFMUSP System. With the new process, the average deadlines for processing the entire process, from the request by the interested party to the release, through the survey of prices, advertising and selection, have been maintained between 20 and 22 business days.

The **MATERIAIS / Importação (Materials / Import) Department** manages and executes the activities of imports of equipment, inputs in general, subscriptions to periodicals, registrations in courses and congresses and other services, for the whole FM/HCFMUSP System, Specific Projects and the Units under Management in the modalities of agreement and OSS, in a volume, in 2016, of USD 4.3 million, equivalent to 191 cases.

The economy generated in 2016 was USD 96 thousand, representing 2.19%, based on the lower original value presented by the suppliers or the reference value in relation to that actually traded / contracted by FFM.

**7) In 2016, the PROJETOS E PESQUISAS (projects and research) management** continued with feasibility studies, implementation and follow-up of contracts / agreements signed with public and private national and international agencies regarding the activities proposed by its partners, in particular the FM/HCFMUSP System. It also carried out the analysis of all non-operating accounts of the Institution. In December 2016, 484 social

assistance projects were active in the FFM; Health care; Of research; Production of scientific and technological knowledge; Academics; Health policies; and institutional, which benefit, directly or indirectly, the population. Of these, 146 projects stand out, subsidized with national and international public and private resources, and 338 clinical studies sponsored by the pharmaceutical industry.

In 2016, the **COMUNICAÇÃO** (communication) area of Project and Research Management kept the FFM Intranet permanently updated, an interdepartmental communication channel, which provides users with ease and agility in searching for information, documents, reports, manuals, forms, access to Integrated systems and various other resources.

With regard to the commemorative actions of FFM's 30 years, the following stand out: **a)** renovation of the FFM website ([www.ffmpeg.br](http://www.ffmpeg.br)), with a new layout, modern language and easy navigation, making FM/HCFMUSP The general public, useful information about the institution; **b)** elaboration of the special edition of FFM's Jornal on the anniversary of FFM, in September; and **c)** creation of commemorative stamp.

In addition, it continued the actions of updating the FFM Relationship Manual, to facilitate the interaction of the institution with users of the FM/HCFMUSP Systems; Edition and distribution of the bi-monthly FFM Journal; and elaboration of all the institutional material of the FFM.

In 2016, the initial collection of 79 book club titles, a collaborative library created in 2015, by the initiative of the Projects and Research area, jumped to 428 books, of which 198 were removed for reading by FFM employees. The collection is available in the Living Area of the Cláudia Building, headquarters of the FFM.

**8) The RECURSOS HUMANOS** (human resources) managed **13,428** employees in 2016, among FFM's direct administration personnel, FFM personnel in the service of the FM/HCFMUSP System, complementaristas and personnel allocated to specific projects to assist the population. Of this total, **357** employees are allocated in their direct administration, aimed at supporting hundreds of social programs of the entity, as well as for the assistance activities, development of comprehensive health care and care for SUS patients, developed by the remaining professionals. The latter are hired on a full or part-time basis, seeking to stimulate the production of work in didactic, care and research areas, through material support and adequate remuneration. Following a strategy of valorization of its direct

collaborators, it continued the Training and Training Program of personnel (**5,179** class hours), which, in order to develop team skills, culminated in the improvement of the Foundation's final results. At the same time, it developed recruitment and selection of the entire FM/HCFMUSP System, as well as new and existing projects (1,659 vacancies), administration and payment of social benefits (R\$ 72 million) and salaries, Payment of approximately R\$ 680 million, in addition to coordinating the process of hiring, layoffs, licenses, vacations, positions and salaries, basic food basket, meal voucher, transportation voucher, among others. In 2016, for example, about 202 thousand basic baskets were offered to employees throughout the FM/HCFMUSP System, from the various projects, in addition to the retirees.

**9) The SAÚDE SUPLEMENTAR** (supplementary health), responsible for the integration of the relationship between the HCFMUSP Complex, Health Plan Operators and other service providers, performs internal and external actions to achieve the objectives of this segment of the HCFMUSP Complex.

In 2016, he reinforced his actions of:

**a)** Integration with the Institutes, HCFMUSP Superintendence and Market;

**b)** Active participation in the strategic planning of HCFMUSP and several Committees that make up the HCFMUSP management model;

**c)** Continuous action to strengthen the relationship with health plan operators and optimize operational flows, as well as broaden the scope of the business;

**d)** Active participation in forums, where current and future scenarios are discussed regarding sustainability and sustainability of the Supplementary Health (ABRANGE, ANAHP, IESS, UNIDAS, others);

**e)** Expansion of services contracted and improvement of the values and conditions of remuneration of hospital expenses and medical fees are permanent actions of the Department, as well as the improvement of contractual rules and the evolution of prices paid for services;

**f)** Negotiation and contracting for exceptional care, which do not make up the regular accreditation portfolio (operators, health plans or products);

**g)** Constant development of the operational data system - Multimed, with the conception of integration and standardization for all Institutes of the FM/HCFMUSP System;

**h)** Registration of all transactions related to collection of marketing and handling fees;

**i)** Participation in the Electronic Receipt Request (SR-e) project, with the Multimed system feeding, so that all the mandatory information and collection records of private calls are executed through this system,

**j)** Collaboration with the Institutes of HCFMUSP in the format, structuring, pricing and dissemination of services;

**k)** Execution of negotiation of Contracts with several Operators, to comply with the directives of the law 13.003/14

**l)** Implementation of a new Electronic Health Information Exchange Standard - TISS Standard, established by the ANS, to ensure the quality of

information from the Supplementary Health System;

**m)** Intensification of the financial recovery of invoices, for presentation of accounts that have lost the contract term for billing;

**n)** Commercial negotiation to deal with glosses;

**o)** Intervention with the operators for financial recovery of unrealized payments;

**p)** Internal training to Institutes, Call Center and Billing and Control Department, with the objective of improving the administrative routines regarding the market rules pertaining to authorizations, eligibility, implantable medical devices and billing.



# 2016 FINANCIAL BALANCE SHEET SUMMARY

# 2016 FINANCIAL BALANCE SHEET SUMMARY

RESOURCES ORIGINS	2016	%	2015	%	2014	%
<b>Total Revenues</b>	<b>1.159,5</b>	<b>100%</b>	<b>1.183,4</b>	<b>100%</b>	<b>1.222,9</b>	<b>100%</b>
<b>Government Resources</b>	<b>888,7</b>	<b>76,7%</b>	<b>919,9</b>	<b>77,8%</b>	<b>967,4</b>	<b>79,1%</b>
Health care - SUS	277,2	23,9%	276,6	23,4%	291,9	23,9%
Subsidies	611,5	52,8%	643,3	54,4%	675,5	55,2%
<b>Health care - Health plans and Payer</b>	<b>111,0</b>	<b>9,6%</b>	<b>87,7</b>	<b>7,4%</b>	<b>90,9</b>	<b>7,4%</b>
<b>Donations</b>	<b>9,9</b>	<b>0,8%</b>	<b>26,0</b>	<b>2,2%</b>	<b>22,0</b>	<b>1,8%</b>
<b>Private cooperation - national and international</b>	<b>8,1</b>	<b>0,7%</b>	<b>6,6</b>	<b>0,6%</b>	<b>4,8</b>	<b>0,4%</b>
<b>Provision of service and/or sale of products</b>	<b>61,3</b>	<b>5,3%</b>	<b>65,3</b>	<b>5,5%</b>	<b>66,7</b>	<b>5,5%</b>
<b>Other revenues</b>	<b>80,5</b>	<b>6,9%</b>	<b>77,9</b>	<b>6,5%</b>	<b>71,1</b>	<b>5,8%</b>

RESOURCES APPLICATIONS	2016	%	2015	%	2014	%
<b>Total Expenses</b>	<b>1.127,5</b>	<b>100%</b>	<b>1.174,9</b>	<b>100%</b>	<b>1.187,5</b>	<b>100%</b>
Personal	677,2	60,0%	704,9	56,1%	666,5	56,1%
Operational expenses	423,4	37,6%	427,5	39,3%	466,1	39,3%
Acquisition of goods	26,9	2,4%	42,5	4,6%	54,9	4,6%

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# Abbreviations

AAAFMUSP	Associação dos Antigos Alunos da Faculdade de Medicina da USP
AAAOC	Associação Atlética Acadêmica Oswaldo Cruz da Faculdade de Medicina da USP
AIHs	Autorização de Internações Hospitalares
ANVISA	Agência Nacional de Vigilância Sanitária
AMA	Assistência Médica Ambulatorial da Secretaria Municipal da Saúde de São Paulo
APAC	Autorização de Procedimentos Ambulatoriais
CAOC	Centro Acadêmico Oswaldo Cruz da Faculdade de Medicina da Universidade de São Paulo
CAPPesq	Comissão de Ética para análise de Projetos e Pesquisas do HCFMUSP
CARF	<i>Commission on Accreditation of Rehabilitation Facilities</i>
CEREDIC	Centro de Referência em Distúrbios Cognitivos do Hospital das Clínicas da FMUSP
CG	Centro de Gerenciamento
CNPq	Conselho Nacional de Desenvolvimento Científico e Tecnológico
CONDEPHAAT	Conselho de Defesa do Patrimônio Histórico Arqueológico, Artístico e Turístico
CONPRES	Conselho Municipal de Preservação do Patrimônio Histórico, Cultural e Ambiental da Cidade de São Paulo
CONEP	Comissão Nacional de Ética em Pesquisa
CPC	Centro de Pesquisa Clínica
CREMESP	Conselho Regional de Medicina do Estado de São Paulo
CTA	Conselho Técnico Administrativo
DEPAVE	Departamento de Parques e Áreas Verdes
Direx-LIMs	Diretoria Executiva dos Laboratórios de Investigação Médica do HCFMUSP
DRS	Departamento Regional de Saúde
DST	Doenças Sexualmente Transmissíveis
EEP	Escola de Educação Permanente do HCFMUSP
FAPESP	Fundação de Amparo à Pesquisa no Estado de São Paulo
FFM	Fundação Faculdade de Medicina
FMCSV	Fundação Maria Cecília Souto Vidigal
FMUSP	Faculdade de Medicina da Universidade de São Paulo
Fundação	Fundação Centro de Atendimento Socioeducativo ao Adolescente
CASA	
GREA	Grupo Interdisciplinar de Estudos de Álcool e Drogas do IPq do HCFMUSP
HAC	Hospital Auxiliar de Cotoxó do HCFMUSP
HAS	Hospital Auxiliar de Suzano do HCFMUSP
HCFMUSP	Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo
Hemominas	Fundação Centro de Hematologia e Hemoterapia de Minas Gerais
Hemope	Fundação Hemope (Pernambuco)
Hemorio	Instituto Estadual de Hematologia Arthur de Siqueira Cavalcanti (Rio de Janeiro)
HU-USP	Hospital Universitário da Universidade de São Paulo
ICB-USP	Instituto de Ciências Biomédicas da Universidade de São Paulo
ICESP	Instituto do Câncer do Estado de São Paulo “Octavio Frias de Oliveira”
ICHC	Instituto Central do HCFMUSP
ICr	Instituto da Criança do HCFMUSP
IMRea	Instituto de Medicina Física e Reabilitação do HCFMUSP
InCor	Instituto do Coração do HCFMUSP
IOT	Instituto de Ortopedia e Traumatologia do HCFMUSP
IPq	Instituto de Psiquiatria do HCFMUSP
IRLM	Instituto de Reabilitação Lucy Montoro
ITACI	Instituto de Tratamento do Câncer Infantil do Instituto da Criança do HCFMUSP
JCI	<i>Joint Commission International</i>
LIM	Laboratório de Investigação Médica do HCFMUSP
LIM 01	Laboratório de Informática Médica

LIM 02	Laboratório de Anatomia e Cirurgia Vascular
LIM 03	Laboratório de Medicina Laboratorial
LIM 04	Laboratório de Microcirurgia – Cirurgia Plástica
LIM 05	Laboratório de Poluição Atmosférica e Experimental
LIM 06	Laboratório de Imunopatologia da Esquistossomose e outras Parasitoses
LIM 07	Laboratório de Gastroenterologia Clínica e Experimental
LIM 08	Laboratório de Anestesiologia
LIM 09	Laboratório de Pneumologia
LIM 10	Laboratório de Lípidos
LIM 11	Laboratório de Cirurgia Cardiovascular e Fisiopatologia da Circulação
LIM 12	Laboratório de Pesquisa Básica em Doenças Renais
LIM 13	Laboratório de Genética e Cardiologia Molecular
LIM 14	Laboratório de Investigação em Patologia Hepática
LIM 15	Laboratório de Investigação em Neurologia
LIM 16	Laboratório de Fisiopatologia Renal
LIM 17	Laboratório de Investigação em Reumatologia
LIM 18	Laboratório de Carboidratos e Radioimunoensaios
LIM 19	Laboratório de Histocompatibilidade e Imunidade Celular
LIM 20	Laboratório de Terapêutica Experimental
LIM 21	Laboratório Neuro-Imagem em Psiquiatria
LIM 22	Laboratório de Patologia Cardiovascular
LIM 23	Laboratório de Psicopatologia e Terapêutica Psiquiátrica
LIM 24	Laboratório de Investigação Translacional em Oncologia
LIM 25	Laboratório de Endocrinologia Celular e Molecular
LIM 26	Laboratório de Pesquisa em Cirurgia Experimental
LIM 27	Laboratório de Neurociências
LIM 28	Laboratório de Cirurgia de Cabeça e Pescoço
LIM 29	Laboratório de Nefrologia Celular, Genética e Molecular
LIM 30	Laboratório de Investigação em Cirurgia Pediátrica
LIM 31	Laboratório de Genética e Hematologia Molecular
LIM 32	Laboratório de Otorrinolaringologia
LIM 33	Laboratório de Oftalmologia
LIM 34	Laboratório de Ciências da Reabilitação
LIM 35	Laboratório de Nutrição e Cirurgia Metabólica do Aparelho Digestivo
LIM 36	Laboratório de Pediatria Clínica
LIM 37	Laboratório de Transplante e Cirurgia do Fígado
LIM 38	Laboratório de Epidemiologia e Imunobiologia
LIM 39	Laboratório de Processamento de Dados Biomédicos
LIM 40	Laboratório de Imuno-Hematologia e Hematologia Forense
LIM 41	Laboratório de Investigação Médica do Sistema Músculo-Esquelético
LIM 42	Laboratório de Hormônios e Genética Molecular
LIM 43	Laboratório de Medicina Nuclear
LIM 44	Laboratório de Ressonância Magnética em Neurorradiologia
LIM 45	Laboratório de Neurologia Translacional
LIM 46	Laboratório de Parasitologia Médica
LIM 47	Laboratório de Hepatologia por Vírus
LIM 48	Laboratório de Imunologia
LIM 49	Laboratório de Protozoologia
LIM 50	Laboratório de Patologia das Moléstias Infecciosas
LIM 51	Laboratório de Emergências Clínicas
LIM 52	Laboratório de Virologia
LIM 53	Laboratório de Micologia
LIM 54	Laboratório de Bacteriologia
LIM 55	Laboratório de Urologia
LIM 56	Laboratório de Investigação em Dermatologia e Imunodeficiências
LIM 57	Laboratório de Fisiologia Obstétrica



LIM 58	Laboratório de Ginecologia Estrutural e Molecular
LIM 59	Laboratório de Biologia Celular
LIM 60	Laboratório de Imunologia Clínica e Alergia
LIM 61	Laboratório de Pesquisa em Cirurgia Torácica
LIM 62	Laboratório de Fisiopatologia Cirúrgica
MPSP	Ministério Público de São Paulo
MPT	Ministério Público do Trabalho
MS	Ministério da Saúde
NAPesq	Núcleo de Apoio à Pesquisa do HCFMUSP
NIH	National Institutes of Health
NUFOR	Programa de Psiquiatria Forense e Psicologia Jurídica do Inst. de Psiquiatria do HCFMUSP
NUPENS	Núcleo de Pesquisas Epidemiológicas em Nutrição e Saúde da Universidade de São Paulo
OMS	Organização Mundial de Saúde
ONA	Organização Nacional de Acreditação
OPAS	Organização Pan Americana de Saúde
OPM	Órteses, Próteses e Meios de locomoção
PAMB	Prédio dos Ambulatórios do HCFMUSP
PMSP	Prefeitura do Município de São Paulo
PN-DST-Aids	Programa Nacional de DST-Aids do Ministério da Saúde
PRONAS/PCD	Programa Nacional de Apoio à Atenção da Saúde da Pessoa com Deficiência
PRONON	Programa Nacional de Apoio à Atenção Oncológica
PSF	Programa Saúde da Família
SCOL	Sistema de Consulta <i>On Line</i> (disponível no site da FFM – <a href="http://www.ffmpeg.br">www.ffmpeg.br</a> )
SEHAB	Secretaria Municipal de Habitação
SEE-SP	Secretaria de Estado da Educação de São Paulo
SEMPLA	Secretaria Municipal de Planejamento, Orçamento e Gestão
Senad	Secretaria Nacional de Políticas sobre Drogas do Ministério da Justiça
SES-SP	Secretaria de Estado da Saúde de São Paulo
SME-SP	Secretaria Municipal da Educação – Prefeitura de São Paulo
SMS-SP	Secretaria Municipal da Saúde – Prefeitura de São Paulo
SMADS-SP	Secretaria Municipal de Assistência e Desenvolvimento Social – Prefeitura de São Paulo
SUS	Sistema Único de Saúde
SVMA	Secretaria Municipal do Verde e Meio Ambiente
SVOC	Serviço de Verificação de Óbitos da Capital - USP
UBS	Unidades Básicas de Saúde da Secretaria Municipal da Saúde de São Paulo
UEA	Universidade do Estado do Amazonas
UNODC	Escritório das Nações Unidas contra Drogas e Crime
USP	Universidade de São Paulo

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Prof. Dr. William Carlos Nahas

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Berenice Maria da Costa Santos – Financial

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Data processing

Fabricia C. Giancoli Goes – Supplementary Health

Ludemar Sartori – Materials

Marcus César Mongold – Comptroller

Silvia Dalla Valle – Human Resources

Valéria Pancica Blanes – Billing and Control

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# Department

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## Created by

Fundação Faculdade de Medicina

## Director

Prof. Dr. Flavio Fava de Moraes

## Vice Director

Prof. Dr. Yassuhiko Okay

## Project Coordinators

Gerência Geral de Projetos e Pesquisas

## Research, drafting, graphic design and final texts

Irene Faias

## Photos

Arquivo FFM

Internet

Jornal da FFM

Relatório de Atividades Hospital das Clínicas da FMUSP Exercício 2011 a 2014

Relatório de Gestão 2010/2014 Faculdade de Medicina da USP

Acervo Hospital das Clínicas da FMUSP

Acervo Faculdade de Medicina da USP

The information contained in this report has been provided by all Areas of the FFM and by the Project Coordinators described.

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## Fundação Faculdade de Medicina

Avenida Rebouças, 381, Cerqueira César

São Paulo, SP, 05401-000

(11) 3016-4948

[www.ffmpeg.br](http://www.ffmpeg.br)

[ggpp@ffmpeg.br](mailto:ggpp@ffmpeg.br)

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