



Faculty of Medicine  
Suez Canal University



## الخطة البحثية 2030-2026

### كلية الطب-جامعة قناة السويس

وافق مجلس كلية الطب جامعة قناة السويس على المقترح المقدم من الأستاذ الدكتور نادر النمر قائم بعمل عميد الكلية بتشكيل لجنة من الأساتذة من ذوي الخبرة في مجالات البحوث الطبية برئاسة الأستاذ الدكتور هشام فتحي السيد وعضوية كل من:

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إداري: الأستاذة سلوى أنيس

قامت اللجنة الخاصة بمعيار البحث العلمي بمطابقة الخطة الحالية بخطة الجامعة البحثية 2030-2023 وكذلك خطة الدولة 2030-2020 وأفادت بوجود تطابق كامل (مرفق) وقد وافق مجلس الكلية بتاريخ 2025/1/13 على مد العمل بالخطة الحالية ومخاطبة الأقسام والأطراف المجتمعية لتطوير الخطة الحالية.

#### وقد تم تطوير الخطة البحثية السابقة وتحديد الأولويات بناء على المحاور الآتية:

- أن تعكس الخطة البحثية التوجهات والاستراتيجيات الحالية والمستقبلية في التنمية المستدامة لمصر، وكذلك التوجهات العالمية في مجال العلوم والتكنولوجيا والابتكار.

- تحديد حجم ووظائف المشاكل الصحية الحالية والمتوقعة في المستقبل القريب والبعيد في مصر، وخاصة في منطقة قناة السويس وسيناء، ومدى توافر امكانية التوصل الى حلول لها من خلال الإمكانيات البشرية والمادية المتاحة.

- أن تعكس الخطة البحثية توجهات وخطة جامعة قناه السويس، وكذلك الهيئات البحثية القومية، لحل مشاكل المجتمع المصري ودعم خطة التنمية المستدامة من خلال التعاون بين المؤسسات البحثية المختلفة سواء المحلية أو العالمية للمساهمة في تحقيق أهداف هذه الخطة.

- توجهات وخطط الأقسام الأكاديمية المختلفة بكلية الطب جامعة قناة السويس، في أولويات الأبحاث العلمية التي تخدم منطقة قناة السويس وسيناء، وتساهم في توفير الرعاية الصحية والاجتماعية لأهالي المنطقة.

- تعتمد الخطة البحثية على مبدأ الشراكة مع الهيئات والمنظمات المحلية والدولية، وكذا مع القطاع العام والخاص، في تحقيق خطة الدولة في التنمية المستدامة، والاستفادة من الخبرات المتنوعة لإثراء العملية البحثية وتوفير الدعم الفني والمادي اللازم لتحقيق أهداف الخطة.



Faculty of Medicine  
Suez Canal University



- تعتمد الخطة البحثية على المسؤولية المجتمعية للجامعة في توظيف نتائج البحث العلمي لمواجهة التحديات المجتمعية والصحية المزمنة والطارئة، بهدف الارتقاء بالمجتمع وجودة حياة أفراده، ولدعم خطة الدولة في التنمية المستدامة في مختلف المجالات. كما تهدف الى اتخاذ القرارات المبنية على الدلائل العلمية لحل مشاكل المجتمع وتذليل العقبات التي تحول دون الوصول لحلول لهذه المشاكل الصحية والاجتماعية والتنموية.

- تعتمد هذه الخطة البحثية على دعم خطة الدولة في تطوير منظومة الرعاية الصحية، من خلال تطبيق منظومة التأمين الصحي الشامل، وكذا تطوير السياسات الصحية والغذائية بهدف الارتقاء بصحة ورفاهية المواطن.

تم إرسال الخطة البحثية السابقة لعرضها على مجالس الأقسام وتم إعداد نسخة مبدئية من الموضوعات البحثية التي تم استلامها من الأقسام

وقد تم عرض اولويات البحوث الطبية المقترحة على ممثلي المجتمع المدني المحلي، وكذا ممثلي الهيئات الصحية والخدمية بمنطقة قناة السويس للتعرف على آرائهم والأولويات البحثية التي يقترحونها، حتى تمثل الخطة اهداف وطموحات مختلف افراد المجتمع المدني والهيئات التنفيذية والصحية للتحقيق أعظم الفوائد الممكنة من هذه الخطة البحثية على المستوى المحلي والقومي والعالمي.

وقد تم وضع الخطة البحثية بأسلوب يعتمد على أكواد خاصة ليسهل التعامل معها بواسطة الباحثين من التخصصات المختلفة عند وضع خططهم البحثية. وقد تم ارسال الخطة لكل الأقسام بالكلية للحصول على آرائهم النهائية في الخطة المقترحة، لوضع الخطة البحثية في شكلها النهائي تمهيدا لتطبيقها في المرحلة القادمة.

# **Scientific Research Plan**

## **Faculty of Medicine-Suez Canal University**

### **2026 – 2030**

#### **Introduction**

Suez Canal region and Sinai were always, and still, is the most vulnerable region of the country as almost all invasions throughout the long of history of Egypt came through this region. After the inauguration of the Suez Canal, the region has witnessed major demographic, cultural and strategic changes. The foundation of the Suez Canal University, and subsequently the two other Universities in Port Said and Suez, has further impacted the region: particularly in the demographic and economic aspects.

Suez Canal region and Sinai are getting into new development program after the establishment of the new Suez Canal and the starting grand projects both industrial and agricultural in the region. These projects will be accompanied by new immigrants to the new development areas, which will cause major demographic changes that will need studies to face new emerging diseases or environmental changes that may carry some challenges and problems that may be accompany these projects. Furthermore, increasing transport and movement to and from these areas may carry traffic problems that need special prevention plans.

As setting the research priorities and its planning is one of the fundamental duties of the University, setting this plan and establishing the bases on which this plan will depend on. This plan will reflect the 2030 national strategy for sustainable development plan. It should also consider international future strategy in science, technology and renovation. These bases should be adapted to accommodate any unforeseen health problem, expected changes in the demographic and environmental conditions of the Suez Canal region and unexpected changes in already existing topics as well. The new strategy considered the balance between the national and international research plans to solve health and environmental problems and facing emerging diseases that will develop due to global environmental changes. This plan will need collaboration with intentional organizations and research bodies to achieve such goals, by learning from experiences of developed countries and getting financial support for our plans.

This plan has taken in consideration all the previous elements and further integrated the inputs of the stakeholders of the research. This was through the research committee, of all faculty branches both clinical and academic, who refined the tune by mentioning the specific topics of interest in each domain for the next four years. In addition, integration between different specialties was emphasized and encouraged. Moreover, certain domain, where integration between different Faculties is possible, is privileged. Furthermore, suggesting available financial support and funding was a cornerstone of this plan to assure motivation and high-quality research.



Faculty of Medicine  
Suez Canal University



Evaluation plans will be designed to offer reliable tools for assessing success rate in achieving research plan objectives, as well as defining challenges that faced the, thus allowing continuous quality improvement of the research planning process.

All items are coded and at least 80% of under and postgraduate research projects must be matched with the research topics in the plan

The Faculty of Medicine will help in preparing a health map for the region. The research plan will be checked and revised according to the results of the health map.

### **Vision**

This research plan was created to enhance the research in the Faculty of Medicine, Suez Canal University, achieving high-quality research that can help in solving health problems in our region and the expected new challenges in the future.

### **Mission**

The mission of the plan is to establish scientific environment to support the country's sustainable development goals and to help in providing solutions for our community problems. Furthermore, to offer research plan accepted and owned by the different departments, which could be funded nationally and internationally, with high potential for solving priority health, community and environmental problems in the Suez Canal region and Sinai.

### **General objective:**

Improve health system in the Suez Canal region and Sinai to improve health and wellbeing of the different members of the community in the region.

### **Specific Objectives:**

- Provide health system that can help in achieving sustainable development goals of the Suez Canal region and Sinai
- Provide good health and wellbeing for all members of the community in the Suez Canal region and Sinai.
- Designing program for prevention and control of the major risk factors of diseases facing members of the community in the Suez Canal region and Sinai.



Faculty of Medicine  
Suez Canal University



## **Research strategy will depend on the following bases:**

Research plan will depend on the actual national and regional health needs, which can help in solving the present and expected future health problems. This plan will be adapted to accommodate primary health problems in the region, unforeseen health problems, expected changes in the existing health problems. Furthermore, facing expected change in the political, financial, demographic and environmental condition in the county.

Sustained development goals and Egyptian burden of disease is the major determinant of our research strategy. It will reflect community needs in all themes of education, health and social services. Teamwork will be structured from the different faculty departments, specialized units and other university faculties to achieve these goals. These efforts should be also extended to cover our collaboration with both national and international research institutions and organizations and ministries such as Ministry of Health and Higher Education and Research.

Our strategy will depend also on strengthening our faculty research infrastructure through capacity building of our faculty members in the areas of research methodology and ethics. Furthermore, defining our faculty infrastructure facilities and needs and how to complement our capacity through collaboration with national and international research institutions. Continuous monitoring and evaluation of the impact of the research plan in achieving its goals will be integral part of our plan.

## **Challenges facing our research plan:**

- Scarce funding for research; this could be faced by having fund raising plan by applying for national and international funding agencies (e.g., STDF, WHO, UNICEF, Erasmus. etc.) and by approaching industry (e.g., pharmaceutical, food processing companies, etc.) and collaborating with non-governmental organizations (NGOs).
- Busy working schedules for faculty members with limited time for research; needs time protection for active researchers and providing career and financial encouragement.
- No published institutional obligatory research strategy; publishing faculty research strategy and encouraging departments fulfilling the plan both financially and providing training opportunities.
- Bureaucracy in dealing with funded projects; decreasing bureaucracy in evaluating projects and in financial regulations to facilitate the time and efforts for researchers.
- Poor group work between departments and faculties; encouraging researchers for group work both financially and by facilitating work between faculties and departments by time protection and faculty and university financial support for collaborative projects.
- Limited number of good researchers; providing better training for faculty members in research methodology and ethics both locally, nationally and internationally by providing scholarships and time protection for trainees.



Faculty of Medicine  
Suez Canal University



## **General Topics**

These are domains that are commonly needed by all domains and specialties. These topics are demographic studies that are of great value in defining priority research areas that are greatly needed in the region. They offer the correct and updated base for research priority setting and the cornerstone of research that is targeted to community needs and goals.

## **Demographic and Health System Studies**

There is lack of these data in most domains in in the Suez Canal region and Sinai. These studies will allow better planning of our research strategy. We have to put in consideration achieving the goals of the sustainable development goals agenda (SDGs). These studies will include:

- Surveys that include prevalence and incidence studies of major health problems in the region and measure their economic burden.
- Population demographic profile studies.
- Reference values studies (Normal curves).
- Studies of health system in the region to improve its quality in preparation for the universal national health insurance plan.
- Research on Universal Health Coverage (UHC): studies assessing financial risk protection, service coverage, access to quality essential health services, availability and affordability of essential medicines and vaccines, and evaluation of UHC implementation and impact in the Suez Canal and Sinai regions
- Environmental & occupational health mapping including health impact of industrial exposure, traffic pollution, agricultural chemicals in the Suez Canal and Sinai regions
- Cost-effectiveness studies that include cost of illness, cost-effectiveness of interventions the include screening, prevention programs.

## **Surveys**

These studies will determine prevalence and incidence of priority health problems. It will include also studies that explore the perception and knowledge of the public, about specific health problems and/or services. Although these types of studies are the cornerstone for any health system planning, including education and application, they are scarce in Egypt including our region. These include:

- Regional health burden and disease surveillance surveys (prevalence, distribution, and determinants of common health problems and priority diseases)
- Community awareness and knowledge of communicable diseases.
- Community awareness and knowledge of non-communicable diseases.
- Patient's satisfaction and their health services experience.
- Food safety, environmental contamination and disease association.



Faculty of Medicine  
Suez Canal University



- Prevalence of malnutrition, under-nutrition and obesity across life course in the Suez Canal region and Sinai. Their risk factors, health, social and economic impact, and development of prevention and management program to reduce its impact
- Disaster risk reduction and emergency preparedness, and preparation of program disaster prevention and management.
- Social media impact on improving the socio-psychosocial and mental wellbeing of the different population groups

### **Specialized Topics**

Although there are common health problems that are of interest in most of the specialties (transverse), the specific aspect has to be decided by each discipline according to its needs, which will help to improve the clinical and service impact of the research.

In defining priority health problems or the Faculty of Medicine Suez Canal University, we depend on the magnitude and burden of the health problem, its demographic profile and severity of the problem. Furthermore, feasibility of the study and availability of required resources whether manpower, equipment and money to carry out the project. Impact of health research on the design, implementation of intervention tools, health policies and services to improve health system function are essential elements of our choices.

Likelihood of efficacy and effectiveness of interventions affected by new knowledge and to improve coverage; likelihood of deliverability, affordability and sustainability; and maximum potential of reduction of existing disease burden will be put in consideration. Furthermore, political acceptability and support of the authorities, policy makers, and society are also important factors for our choices. Ethical considerations will be considered to ensure respect of humanity, beneficence and equity is essential element of our choices.

### **Communicable Diseases:**

- **Hepatitis B and C and HIV** (Evaluation of national elimination strategies for Hepatitis B and C, and optimization of screening and early diagnosis. Vaccine research and immunization coverage studies. HIV epidemiology and prevention strategies.)
- **Pediatric Infectious Disease** (Acute respiratory infections and diarrheal diseases burden and management. Vaccine-preventable diseases and immunization coverage gaps. Determinants of severe infections and mortality in under-five children.)
- **Tuberculosis Elimination** (Assessment of elimination progress in Egypt. Surveillance of multidrug-resistant TB. Epidemiology and diagnostic innovation of TB.)
- **Emerging and re-emerging Infections** (Early detection systems for emerging infectious threats and outbreak preparedness. Environmental and occupational determinants of infectious outbreaks.)
- **Neglected tropical diseases** (Epidemiological mapping of Neglected Endemic Tropical Diseases [e.g., Lymphatic filariasis, cutaneous leishmaniasis, Rift Valley fever, etc.]. Evaluation of national control and elimination programs. Socioeconomic and environmental determinants of transmission.)



- **Severe and High-Burden Infections** (Epidemiology, early recognition, vaccine impact assessment and outcomes research of severe and high burden infections [e.g., Sepsis, Meningitis, Respiratory tract infections, Trachoma, etc.]).
- **Environmental changes and Health** (Impact of demographic shifts, industrial expansion, and climate change on disease patterns in the Suez Canal Region.)
- **Antimicrobial resistance:** (Surveillance of resistance patterns, drivers of inappropriate antibiotic use, and evaluation of interventions.).
- **Emigration and political conflicts and their impact on health.**  
Assessment of health consequences of emigration, internal displacement, and political instability on populations within the Suez Canal and Sinai areas.
- **Covid-19 infection and post-Covid complications in the Egyptian community.**  
Evaluation of the epidemiological, clinical, and long-term health impacts of COVID-19 infection within the Egyptian community. Research will focus on disease burden, risk stratification, healthcare utilization patterns, and determinants of severe outcomes across different demographic and comorbidity profiles.

### **Non-Communicable Diseases:**

- **Cardio, Metabolic and Chronic Diseases:** Control and prevention of pre-mature mortality from non-communicable diseases through prevention, diagnosis and treatment (hypertension, diabetes mellitus, Endocrine diseases, metabolic syndrome and other chronic diseases).
- **Diabetes mellitus** (prevalence, risk factors, complications, etc.).
- **Injuries burden** in the region (Road accidents injuries, Burns, poisoning, etc.) and prevention program.
- Preparedness for **disaster prevention and management.**
- **Mental Health & Psychosocial Burden:** Depression, autism, substance use, violence, bullying, and psychosocial outcomes of chronic diseases, etc.
- **Cancer Early Detection & Management:** Causes, early diagnosis and management (screening for breast and cervical cancer, hepatocellular carcinoma [HCC], Prostatic carcinoma, etc.). Use of Immune-biological treatment and IMRT
- **Reproductive and sexual health care outcomes** (reduce maternal mortality; family planning and contraception, antenatal and natal care, CS prevalence and risks, teenage pregnancy, female circumcision, etc.).
- **Smoking** Prevalence, cessation intervention research and its impact on health.
- **Neonatal & Pediatric Research:** Neonatal screening of congenital diseases and inborn errors of metabolism. Causes of mortality in newborns and under five children. Anthropometric studies of age-associated diseases. Vaccination coverage
- **Geriatric medical care:** Studies of postponing age associated health problems, (Psychosocial burden and social and economic factors among this population, prevention and treatment of these health problem). Neurological diseases burden and management (epilepsy, Psychiatric health problems, Parkinsonism and Alzheimer, cerebrovascular accidents, etc.).
- **Health System Quality & Chronic Care:** Quality improvement of the care to patients with chronic diseases (hepatic, renal, Muscular-skeletal, neurological, cardiac, etc.).



Faculty of Medicine  
Suez Canal University



### **Specialized departmental topics:**

- **Complementary and Alternative Medicine (CAM):** Safety, efficacy, and integration of complementary, alternative, and personalized medicine approaches within conventional healthcare systems.
- **Medical Education (ME):** Innovative teaching strategies, methodologies and the integration of artificial intelligence and educational technologies. Assessment reform, programmatic assessment models, and evaluation of learning outcomes across cognitive, psychomotor, and professional domains, etc.
- **Forensic and clinical toxicology:** Analysis of acute and chronic poisoning patterns, including accidental, occupational, environmental, and intentional exposures. Patient safety systems. Ethical and legal frameworks governing clinical practice. Emerging toxic agents, drug overdose, substance misuse, and region-specific toxicological risks, etc.
- **Comparative and innovative studies:** Comparing conventional and emerging technologies in laboratory medicine, minimally invasive procedures, anesthesia techniques, Intensive care units services and surgical interventions. Adoption of novel technologies, protocol optimization, integration of digital tools, and translational approaches.
- **Advanced Imaging and Image-Guided Intervention Research:** Development and validation of advanced imaging techniques, image-guided interventional procedures, and protocol optimization to enhance early disease detection, procedural precision and therapeutic outcomes through collaborative research. Explore advances in functional imaging and their relationship with biomarkers
- **Orthopedic and Rheumatology research:** Musculoskeletal and rheumatic disease burden through epidemiological mapping, early diagnosis strategies, biomarker discovery, comparative therapeutic evaluation, surgical outcome assessment, regenerative approaches, and rehabilitation research.
- **Oropharyngeal and communication disorders:** Prevention, diagnosis, and management of oropharyngeal and communication disorders.
- **Digital Health, Telemedicine, Bioinformatics, and Artificial Intelligence:** Enhancing information technology, telemedicine, bioinformatics, and artificial intelligence to improve healthcare delivery and biomedical research. Efforts will focus on developing and validating digital health solutions that improve clinical decision-making, patient monitoring, disease prediction, workflow efficiency, and healthcare accessibility, particularly within the evolving Universal Health Insurance framework
- **Rare Diseases Research:** Epidemiology and Registry Development, Regional mapping of rare diseases, Genomic and Molecular Research, Evaluation of emerging therapies (gene therapy, biologics, regenerative medicine), Diagnostic pathway optimization, and Cost-effectiveness and equity of care models

### **Basic Sciences Research:**

- **Genetic mapping studies and genes polymorphism** in Egyptian patients to identify their role in different diseases: such as Malignancies (e.g., leukemia, breast and cervical



Faculty of Medicine  
Suez Canal University



cancer, hepatocellular carcinoma, etc.) Hematological diseases (e.g., Thalassemia, Sickle cell anemia, etc.) Non-communicable diseases (e.g., Diabetes mellitus, Hypertension, cerebral stroke, ischemic heart diseases, etc.) and autoimmune diseases.

- **Oncogenes and tumor suppressor genes** polymorphism in Egyptian patients and their role in cancer susceptibility, progression, therapeutic response, and prognosis among Egyptian patients.
- **Cellular and molecular basis of common health problems:** in Egypt and exploring innovative or more cost-effective lines of management.
- **Environmental Toxicology, Teratogenicity, and Histopathology Research:** Experimental studies to explore teratogenic and histopathological effects of different environmental hazards (Bio-pesticides, electromagnetic waves, heavy metals .... etc.) and the potential protective and therapeutic regimes.
- **Regenerative Medicine and Nanotechnology Research:** Use of stem cells and nanoparticles in prevention and treatment of certain diseases (e.g., Bone-marrow transplantation).
- **Drug Interaction Research and Therapeutic Optimization:** Identifying clinically significant interactions that contribute to treatment failure, adverse drug events, hospitalization, and increased healthcare costs.



Faculty of Medicine  
Suez Canal University



## Research plan (2026-2030) Topics and Coding

<b>Research Plan 2026-2030 Topics</b>	<b>Code</b>
<b>Demographic and Health System Studies</b>	<b>RPDH</b>
Surveys that include prevalence and incidence studies of major health problems in the region and measure its economic burden. Cost-effectiveness including cost of illness, cost-effectiveness of interventions (screening, prevention programs).	RPDH -1
Population demographic profile studies.	RPDH -2
Reference values studies (Normal curves).	RPDH -3
Studies of health systems in the region to improve its quality in preparation for the Universal health insurance plan.	RPDH-4
Research on Universal Health Coverage (UHC): studies assessing financial risk protection, service coverage, access to quality essential health services, availability and affordability of essential medicines and vaccines, and evaluation of UHC implementation and impact in the Suez Canal and Sinai regions	RPDH-5
Environmental & occupational health mapping including health impact of industrial exposure, traffic pollution, agricultural chemicals in the Suez Canal and Sinai regions.	RPDH-6
<b>Surveys</b>	<b>RPSU</b>
<b>Regional Health Burden and Disease Surveillance Surveys</b> Prevalence, distribution, and determinants of common health problems and priority diseases	RPSU-1
<b>Community Awareness and Knowledge of Communicable Diseases</b>	RPSU-2
<b>Community Awareness and Knowledge of Non-Communicable Diseases</b>	RPSU-3
<b>Patient Satisfaction and Health Service Experience</b>	RPSU-4
<b>Food Safety, Environmental Contamination, and Disease Association</b>	RPSU-5
<b>Obesity, malnutrition and under nutrition Epidemiology, Impact, and Prevention</b> Prevalence of malnutrition, under nutrition and obesity across life course in the Suez Canal region and Sinai. Their risk factors, health, social and economic impact, and development of prevention and management program to reduce its impact.	RPSU-6
<b>Disaster Risk Reduction and Emergency Preparedness</b> Preparation of program for dangers and disasters preparedness and management plan for infections, injuries and traumas.	RPSU-7
<b>Social Media Use and Psychosocial Wellbeing</b> Impact of social media use on the socio-psychosocial and mental wellbeing of different population groups.	RPSU-8



Faculty of Medicine  
Suez Canal University



## Research plan (2026-2030) Topics and Coding

<b>Communicable Diseases</b>	<b>RPCD</b>
<p><b>Viral Hepatitis &amp; HIV</b> Evaluation of national elimination strategies for Hepatitis B and C. Optimization of screening and early diagnosis. Vaccine research and immunization coverage studies. HIV epidemiology and prevention strategies.</p>	RPCD-1
<p><b>Pediatric Infectious Diseases</b> Acute respiratory infections and diarrheal diseases burden and management analysis. Vaccine-preventable diseases and immunization coverage gaps. Determinants of severe infections and mortality in under-five children.</p>	RPCD-2
<p><b>Tuberculosis</b> Assessment of tuberculosis elimination progress in Egypt. Surveillance of multidrug-resistant TB. Epidemiology and diagnostic innovation of TB treatment.</p>	RPCD-3
<p><b>Emerging &amp; Re-emerging Infections</b> Early detection systems for emerging infectious threats and outbreak preparedness. Environmental and occupational determinants of infectious outbreaks.</p>	RPCD-4
<p><b>Neglected Tropical Diseases</b> Epidemiological mapping of endemic Neglected Tropical Diseases (Lymphatic Filariasis, Cutaneous Leishmaniasis, Rift Valley fever, etc.). Evaluation of national control and elimination programs. Socioeconomic and environmental determinants of transmission.</p>	RPCD-5
<p><b>Severe and High-Burden Infections</b> Epidemiology, early recognition, vaccine impact assessment and outcomes research of severe and high burden infections (Sepsis, Meningitis, Respiratory tract infections, Trachoma, etc.)</p>	RPCD-6
<p><b>Environmental changes and Health.</b> Impact of demographic shifts, industrial expansion, and climate change on disease patterns in the region.</p>	RPCD-7
<p><b>Antimicrobial resistance:</b> Surveillance of resistance patterns, drivers of inappropriate antibiotic use, and evaluation of interventions</p>	RPCD-8
<p><b>Emigration and political conflicts and their impact on health.</b> Assessment of health consequences of emigration, internal displacement, and political instability on populations within the Suez Canal and Sinai areas</p>	RPCD-9
<p><b>Covid-19 infection and post-Covid complications in the Egyptian community</b> Evaluation of the epidemiological, clinical, and long-term health impacts of COVID-19 infection. Disease burden, risk stratification, healthcare utilization patterns, and determinants of severe outcomes across different demographic and comorbidity profiles.</p>	RPCD-10



Faculty of Medicine  
Suez Canal University



<b>Research Plan 2026-2030 Topics</b>	<b>Code</b>
<b>Non-Communicable Diseases</b>	<b>RPNC</b>
<b><u>Cardiac, Metabolic and Chronic Diseases</u></b> Control and prevention of pre-mature mortality from non-communicable diseases through prevention, diagnosis and treatment (hypertension, diabetes mellitus, Endocrine diseases, Metabolic syndrome, and other chronic diseases)	RPNC-1
<b><u>Diabetes Mellitus</u></b> (prevalence, risk factors, complications, etc.)	RPNC-2
<b><u>Injuries burden</u></b> in the region (Road cashes injuries, burns, poisoning, etc...) and prevention program	RPNC-3
Preparedness for <b><u>disaster prevention and management.</u></b>	RPNC-4
<b><u>Mental Health &amp; Psychosocial Burden</u></b> Depression, autism, substance abuse, violence, bullying, and psychosocial outcomes of chronic diseases, etc.	RPNC-5
<b><u>Cancer Early Detection &amp; Management:</u></b> Causes, early diagnosis and management (screening for breast and cervical cancer, hepatocellular carcinoma [HCC], Prostatic carcinoma, etc.). Use of Immunological treatment and IMRT	RPNC-6
<b><u>Reproductive, and sexual health care outcomes</u></b> (Reduce maternal mortality, family planning and contraception, antenatal and natal care, CS prevalence and risks, teenage pregnancy, female circumcision, etc.)	RPNC-7
<b><u>Smoking &amp; Tobacco-Related Diseases</u></b> Smoking prevalence, cessation intervention research and its impact on health	RPNC-8
<b><u>Neonatal &amp; Pediatric Research</u></b> Neonatal screening of Congenital diseases and malformations, inborn errors of metabolism, causes of mortality in newborns and under five children, etc., Anthropometric studies of age-associated diseases, Vaccination coverage, Control program for preventable deaths of newborns and under-five children	RPNC-9
<b><u>Geriatric medical care:</u></b> Studies for postponing age associated health problems, (treatment, and prevention of health problems, social and economic factors among this population). Neurological diseases advance (epilepsy, Psychiatric health problems, Parkinsonism and Alzheimer, cerebrovascular accidents, etc.)	RPNC-10
<b><u>Health System Quality &amp; Care for Chronic Diseases</u></b> Quality improvement of care to patients with chronic diseases (hepatic, renal, Musculo-skeletal, neurological, cardiac, etc.)	RPNC-11



Faculty of Medicine  
Suez Canal University



<b>Research Plan 2026-2030 Topics</b>	<b>Code</b>
<b>Specialized departmental topics</b>	<b>RPST</b>
<b>Complementary, Alternative and Personalized Medicine</b> Safety, efficacy, and integration of complementary, alternative, and personalized medicine approaches within conventional healthcare systems	RPST-1
<b>Medical Education (ME):</b> Innovative teaching methodologies and the integration of artificial intelligence and educational technologies. Assessment reform, programmatic assessment models, and evaluation of learning outcomes across cognitive, psychomotor, and professional domains, etc.	RPST-2
<b>Forensic and Clinical Toxicology:</b> Analysis of acute and chronic poisoning patterns, including accidental, occupational, environmental, and intentional exposures. Patient safety systems. Ethical and legal frameworks governing clinical practice. Emerging toxic agents, drug overdose, substance misuse, and region-specific toxicological risks, etc.	RPST-3
<b>Comparative and innovative studies:</b> Comparing conventional and emerging technologies in laboratory medicine, minimally invasive procedures, anesthesia techniques, Intensive care units services and surgical interventions. Adoption of novel technologies, protocol optimization, integration of digital tools, and translational approaches	RPST-4
<b>Advanced Imaging and Image-Guided Intervention Research:</b> Development and validation of advanced imaging techniques, image-guided interventional procedures, and protocol optimization to enhance early disease detection, procedural precision, and therapeutic outcomes through collaborative research. Explore advances in functional imaging and their relationship with biomarkers	RPST-5
<b>Orthopedic and Rheumatology research:</b> Musculoskeletal and rheumatic disease burden through epidemiological mapping, early diagnosis strategies, biomarker discovery, comparative therapeutic evaluation, surgical outcome assessment, regenerative approaches, and rehabilitation research	RPST-6
<b>Oropharyngeal and communication disorders:</b> prevention, diagnosis, and management of oropharyngeal and communication disorders (speech, language, swallowing, voice disorders, etc.)	RPST-7
<b>Digital Health, Telemedicine, Bioinformatics, and Artificial Intelligence:</b> Enhancing information technology, telemedicine, bioinformatics, and artificial intelligence to improve healthcare delivery and biomedical research. Efforts will focus on developing and validating digital health solutions that improve clinical decision-making, patient monitoring, disease prediction, workflow efficiency, and healthcare accessibility, particularly within the evolving Universal Health Insurance framework.	RPST-8
<b>Rare Diseases Research:</b> Epidemiology and Registry Development, Regional mapping of rare diseases, Genomic and Molecular Research, Evaluation of emerging therapies (gene therapy, biologics, regenerative medicine), Diagnostic pathway optimization, and Cost-effectiveness and equity of care models.	RPST - 9



Faculty of Medicine  
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<b>Research Plan 2026-2030 Topics</b>	<b>Code</b>
<b>Basic Sciences Research</b>	<b>RPBR</b>
<p><b>Genetic mapping studies and genes polymorphism</b> in Egyptian patients to identify their role in different diseases:</p> <ul style="list-style-type: none"> <li>○ Malignancies (e.g., leukemia, breast and cervical cancer, hepatocellular carcinoma, etc.)</li> <li>○ Hematological diseases (e.g., Thalassemia, Sickle cell anemia, etc.)</li> <li>○ Non-communicable diseases (e.g., Diabetes mellitus, Hypertension, cerebral stroke, ischemic heart diseases, etc.)</li> <li>○ Autoimmune diseases</li> </ul>	RPBR-1
<b>Oncogenes and tumor suppressor genes</b> polymorphism in Egyptian patients and their role in cancer susceptibility, progression, therapeutic response, and prognosis among Egyptian patients	RPBR-2
<b>Cellular and molecular basis of common health problems</b> in Egypt and exploring innovative or more cost-effective lines of management	RPBR-3
<b>Environmental Toxicology, Teratogenicity, and Histopathology Research</b> Experimental studies to explore <b>teratogenic and histopathological effects of different environmental hazards</b> (Bio-pesticides, electromagnetic waves, heavy metals .... etc.) and the potential protective and therapeutic regimes	RPBR-4
<b>Regenerative Medicine and Nanotechnology Research</b> <b>Use of stem cells and nanoparticles</b> in prevention and treatment of certain diseases (e.g., Bone-marrow transplantation, hematological disorders, autoimmune diseases, degenerative conditions, etc. )	RPBR-5
<b>Drug Interaction Research and Therapeutic Optimization</b> Identifying clinically significant interactions that contribute to treatment failure, adverse drug events, hospitalization, and increased healthcare costs.	RPBR-6