

ANRS | Emerging Infectious Diseases

An abstract scientific illustration featuring a stylized human profile on the left, a DNA double helix in the center, a pair of lungs on the right, a microscope at the bottom left, a test tube at the bottom center, and a globe at the bottom right. The background is composed of various colored blocks and patterns, including a network of orange and blue circles connected by lines.

STRATEGIC FRAMEWORK 2023-2027

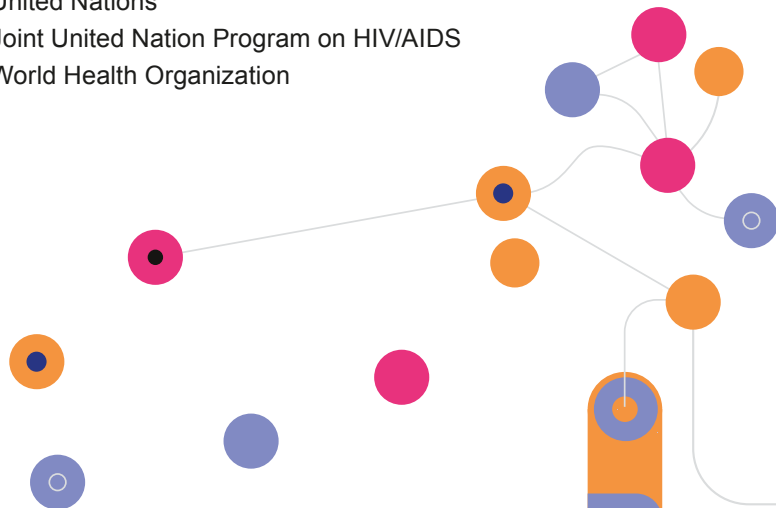
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Abbreviations

ANRS	<i>Agence nationale de recherches sur le sida et les hépatites virales</i>
ANRS EID	ANRS Emerging Infectious Diseases
AMR	Antimicrobial Resistance
ART	Antiretroviral Therapy
CEA	<i>Commissariat à l'énergie atomique et aux énergies alternatives</i>
CNRS	<i>Centre national de la recherche scientifique</i>
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HDV	Hepatitis D Virus
HEV	Hepatitis E Virus
HIV	Human Immunodeficiency Virus
INRAE	<i>Institut national de recherche pour l'agriculture, l'alimentation et l'environnement</i>
INSERM	<i>Institut national de la santé et de la recherche médicale</i>
IRD	<i>Institut de recherche pour le développement</i>
LMCI	Low and Middle Income Country
Menace NRBC	<i>Menace nucléaire radiologique biologique ou chimique</i>
PEPFAR	President's Emergency Plan for AIDS Relief
PEPR	<i>Programmes et équipements prioritaires de recherche</i>
PrEP	Pre-exposure Prophylaxis
PRISME	<i>Plateforme de recherche internationale en santé mondiale</i>
REACTing	Research and Action Targeting Emerging Infectious Diseases
SDG	Strategic Development Goal
TasP	Treatment as Prevention
UN	United Nations
UNAIDS	Joint United Nation Program on HIV/AIDS
WHO	World Health Organization



Editorial



The ANRS | Emerging Infectious Diseases (ANRS | EID) was created in 2021 by the merger of two entities: the national AIDS research agency (ANRS) and the Inserm Research and Action Targeting Emerging Infectious Diseases (REACTing) consortium. It is the result of a natural and necessary evolution of the historical ANRS, an institution that has contributed to major advances in the fight against HIV/AIDS and viral hepatitis. The ANRS | EID is an agency for facilitation, coordination, evaluation and funding, with the ambition to be a pillar of research in France and worldwide on HIV/AIDS, viral hepatitis, sexually transmitted infections, tuberculosis and emerging infectious diseases.

The need to adapt our strategic framework arose from this new institutional reality, and from the scientific challenges related to the emergence and re-emergence of infectious diseases. It was essential for this document to reflect our vision, missions, objectives and priorities, as well as our collaborative methods. It has been developed based on numerous interviews with researchers, the agency's governance bodies and representatives of the civil society, in close collaboration with our international Scientific Advisory Board (SAB), placing it from the outset in an indispensable European and international framework. We would like to thank all the partners mentioned for their essential contributions. Our warmest thanks also go to Dr. Kevin De Cock for his major contribution to this document.

This strategic framework remains firmly anchored in the values that have always guided the agency: scientific excellence, multidisciplinary, support to political and clinical decision, systematic involvement of civil society and affected populations, adoption of a global perspective, and international partnerships based on reciprocity and mutual benefit.

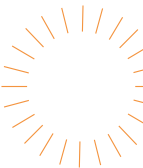
Guided by this new strategic framework, which will be translated into an operational plan, ANRS | EID is ready to accomplish its mission. The ANRS | EID team is fully committed to working towards our shared vision of “a world free of HIV/AIDS, viral hepatitis, STIs and tuberculosis, and in which emerging infectious diseases are no longer a threat”. ●

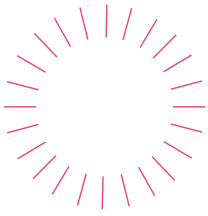
Yazdan Yazdanpanah

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Strategic framework – Executive summary

The ANRS | Emerging Infectious Diseases (ANRS | EID), an autonomous agency of the Inserm (National Institute for Health and Medical Research), was created in 2021 out of the merger between the French National Agency for Research on AIDS and Viral Hepatitis (ANRS) and the Inserm REACTing (Research and Action targeting emerging infectious diseases) consortium.

Given its significantly expanded mandate, increased human and financial resources, and the values it has always embodied, the ANRS | EID has decided to embark on a strategic planning exercise. This exercise, aims to redefine its vision and mission, taking into account new epidemiological, geopolitical and environmental realities, and to establish the strategic objectives pertaining to that mission.

On that basis, the priorities of the scientific agenda have been updated and formalized.

ANRS | EID's vision is that of a world where HIV/AIDS, sexually transmitted infections, viral hepatitis, and tuberculosis have been eliminated as public health concerns, and emerging infectious diseases no longer pose a threat. To achieve this, our mission is to promote and fund a comprehensive research agenda on these topics according to ten strategic objectives (see box next page).

To accomplish this mission, ANRS | EID remains rooted in the values that have always guided it: scientific excellence, multidisciplinarity, the systematic involvement of civil society and affected populations, and the adoption of a global perspective that goes beyond national borders.

The research support is based on the development and consolidation of infrastructures and networks at national level and in partner countries, as well as the funding of projects backed by a rigorous evaluation process.

ANRS | EID's research priorities are organised into thematic priorities, with research questions specific to the different fields (HIV/AIDS, viral hepatitis, tuberculosis, sexually transmitted infections), and cross-cutting research priorities, particularly research into vaccines, cure, eradication of mother-to-child transmission, and mathematical modelling.

The support for research in the field of emerging diseases ties in with a continuum and covers two complementary aspects: rapid implementation of research programs in the event of a crisis, and long-term preparedness for future epidemics and pandemics, both nationally and internationally. Preparedness for future epidemics includes the acquisition of fundamental knowledge about emerging infectious diseases, the promotion of innovation in diagnostics, vaccines and treatments for those diseases, and the improved preparation of public policies and society to deal with epidemic crises.

An operational plan and an evaluation framework to support the implementation of the strategic framework are currently under development.



10 STRATEGIC OBJECTIVES

1. Define, promote, coordinate, and fund a multidisciplinary research agenda to improve knowledge on and support elimination of HIV/AIDS, sexually transmitted infections, viral hepatitis, and tuberculosis.
2. Define, promote, coordinate and fund a multidisciplinary research agenda to improve knowledge on and support prevention, rapid detection, treatment, and control of emerging and re-emerging infectious diseases, involving a One Health approach.
3. Promote translation of research results into innovative clinical and public health policies and tools such as diagnostics, vaccines, therapeutics, and non-pharmaceutical interventions.
4. Develop and enhance networks and national, European and international partnerships of relevant stakeholders, including civil society and affected populations, for promotion and effective implementation of the broad ANRS | EID research agenda.
5. Implement flexible administrative and scientific organization for rapid research implementation to address infectious disease emergencies.
6. Ensure that research supported is ethical, assures the well-being of research participants and affected communities, and enhances local training, capacity, and infrastructure.
7. Support and promote the participation and development of young investigators.
8. Implement a communications strategy to convey research and results to all stakeholders, including for public health policy formulation and health diplomacy.
9. Advocate for research and for increased and sustainable national and global research funding for HIV/AIDS, sexually transmitted infections, viral hepatitis, tuberculosis, and emerging infectious diseases.
10. Ensure ANRS | EID adapts to evolving social and political realities including for gender balance, equity, inclusiveness, diversity, and increased country voice.





Background

The *Agence nationale de recherches sur le sida (ANRS)* was established in 1988, seven years after the first descriptions of AIDS in the United States and five years after the discovery of HIV by the team at the Institut Pasteur in Paris.

Participating organizations in ANRS's governing bodies increased over time to include the Ministry of Research, the Ministry of Health, the Ministry of Foreign Affairs, leading research organizations (CEA, CNRS, INRAE, INSERM, Institut Pasteur, IRD), universities and university Hospitals, and HIV and hepatitis communities. ANRS became an autonomous agency under INSERM in early 2002. ANRS' mandate was to advocate for, stimulate, coordinate, fund, and oversee research on HIV/AIDS. From its earliest days, ANRS focused on HIV/AIDS in France as well as internationally, especially in sub-Saharan Africa.

The ANRS' mandate was expanded in 1999 to include research on viral hepatitis, with a change in the agency's name in 2005 to *l'Agence nationale de recherches sur le sida et les hépatites virales*. In 2019, ANRS' scope was extended to include work on tuberculosis and sexually transmitted infections (STIs), emphasis on the latter aspiring to improve sexual health.

ANRS was successful in its research work, contributing to international scientific understanding and influencing global norms, standards, and practice. ANRS work has emphasized the importance of a multidisciplinary approach, supporting basic science, clinical investigations, public health research, and socio-behavioral sciences. Involvement of affected and at-risk communities in governing and scientific

bodies has been an essential component of ANRS's approach and success. Since its early years, ANRS has invested in research in the global South, establishing major research collaborations in eight partner countries in Africa, Asia, and Latin America and expanding its research support even further. Capacity building and infrastructure strengthening have been important components of these collaborations.

A substantial change to ANRS came about in 2021 in response to the COVID-19 pandemic. The agency was merged with INSERM's Research and action targeting emerging infectious diseases (REACTing) consortium, the expanded ANRS entity being called *l'ANRS | Maladies infectieuses émergentes* (ANRS | MIE) or ANRS | Emerging Infectious Diseases (ANRS | EID). The creation of ANRS | EID has resulted in an approximate doubling of the agency's staff and budget to some 115 persons and 100 million Euros annually (around 50% for the agency's traditional areas of work and 50% for emerging and re-emerging infectious diseases).

In the face of such expansion, ANRS | EID must protect its longstanding values and ensure continued success regarding its traditional mandates. At the same time, it must meet new responsibilities and capitalize on fresh opportunities in the broader context of emerging infectious diseases. Changes of this magnitude could substantially affect the nature and character of any organization and are reason for review and re-assessment of the agency and its functioning. ●



A Changing Environment since the Establishment of ANRS



HIV/AIDS

ANRS has contributed in major ways to research on the basic science of HIV, including in supporting vaccine research, especially through the Vaccine Research Institute. ANRS-supported research contributed to deeper understanding of HIV pathogenesis and to advances that changed HIV/AIDS from an invariably fatal condition to a manageable chronic disease. International research, including by ANRS, clarified optimal treatment regimens, their initiation and maintenance. Such research continues to be used by WHO to develop and update treatment and prevention guidelines that have been widely adopted by middle- and low-income countries.

Early examples of impactful research included the ANRS Concorde and Delta trials showing, respectively, the inefficacy of zidovudine monotherapy and the positive benefit of dual ART. Research in West Africa on short-course zidovudine for the prevention of mother-to-child transmission of HIV influenced global policies. Later research on when to start ART (the ANRS TEMPRANO trial) and on treatment as prevention (TasP Trial) was critically important for global health decision-making. Prevention research influenced evolving global guidelines on the use of antiretroviral drugs for the prevention of mother-to-child transmission of HIV and for pre-exposure prophylaxis (PrEP; the ANRS Ipergay trial).

Since its inception, ANRS has invested in socio behavioral research that has influenced policy and programs in the field of prevention, testing, and care of people living with HIV. In addition, community-based research funded by ANRS in France and partner countries has contributed to enhanced implementation and impact of clinical and public health interventions.

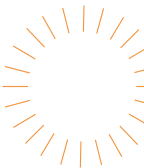
A bibliometric analysis of the period 2013-2017 showed that France was 2nd in Europe and 6th in the world overall in terms of numbers of publications on HIV/AIDS. France accounted for 3.5% of publications considered in the top 1% in the world, and for 14% of publications in the top 10%. This placed France in 4th and 6th position, respectively, in global ranking for these evaluations.

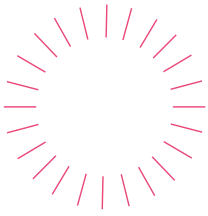
According to UNAIDS, an estimated 38.4 million people were living with HIV in 2021, 1.5 million became infected with HIV, and 650,000 persons died from AIDS-related illnesses. Approximately three quarters of people living with HIV were receiving ART. Nonetheless, the impressive public health achievements to date, to which research, including funded by ANRS, has contributed, are not sufficient to meet the ambitious global targets of reducing HIV incidence and mortality and ending the AIDS epidemic by 2030, as called for by UNAIDS, WHO, and the Sustainable Development Goals (SDGs). The pandemic of COVID-19 has further challenged achievement of these objectives.

VIRAL HEPATITIS

Major advances in the field of viral hepatitis in recent decades have been introduction and greatly expanded uptake of hepatitis B vaccine, identification of hepatitis C, introduction of tests for hepatitis C and resulting enhancement of blood safety, and demonstration of efficacy of antiviral drugs for chronic hepatitis B and C. With direct-acting antiviral drugs, hepatitis C is now a curable disease.

ANRS has contributed to the field through a strong basic science research program;





establishment of national hepatitis B and C cohorts that have guided use of antiviral treatments (ANRS Hepather); evaluation of strategies for preventing mother-to-child transmission of hepatitis B in low- and middle-income countries; and social science projects, including for more effective implementation of existing interventions. ANRS is currently supporting an ambitious hepatitis B cure project.

In an assessment of global hepatitis research over the period 2013-2017, France was 6th in overall numbers of publications, and 3rd amongst European countries. France was first globally in numbers of papers amongst the 1% and the 10% most cited, ahead of Germany and the United Kingdom.

WHO estimated that in 2019, 296 million people worldwide were living with chronic hepatitis B virus (HBV) infection and 58 million people with chronic hepatitis C virus (HCV) infection. An estimated 1.5 million become newly infected with hepatitis B annually and a similar number with hepatitis C. Approximately 1.1 million deaths occurred from viral hepatitis and its long-term complications in 2019; deaths from viral hepatitis exceed those from HIV/AIDS. Chronic infection with HCV and even more with HBV is heavily concentrated in the global South.

Important diagnostic and treatment gaps remain globally: only 10% of people with chronic hepatitis B are diagnosed, of whom 22% receive treatment; among persons with chronic hepatitis C, 21% are diagnosed of whom 62% are on treatment. The substantial scientific progress on viral hepatitis has not been matched by investment in public health programs or treatment globally. WHO's strategy to eliminate viral hepatitis as a public

health threat by 2030 calls for a reduction in the incidence and mortality from chronic hepatitis infection to 0.9 million and less than 0.5 million, respectively, by the 2030 target date. The strategy is based on access to strategic information, equitable delivery of interventions, sustainable financing, and innovation. WHO has launched an initiative for "triple elimination", the elimination of mother-to-child transmission of HIV, HBV, and syphilis.

TUBERCULOSIS

Tuberculosis remains a major global health priority and, until the COVID-19 pandemic, has been the world's leading cause of death from a single infectious disease. According to WHO, there were an estimated 9.9 million new cases of tuberculosis in 2020, with 1.3 million deaths; 214,000 deaths were in people living with HIV. The COVID-19 pandemic has been especially detrimental on tuberculosis case notification and service delivery.

Technical advances in tuberculosis have been slow, perhaps the greatest progress being in clarification of optimal management of persons with HIV-associated tuberculosis, including by ANRS-funded projects, and in treatment of multi-drug resistant tuberculosis. For the latter, regimens consisting of oral drugs given for less than one year have become the standard reference. In addition to projects on treatment strategies for people co-infected with tuberculosis and HIV (ANRS-Camelia, ANRS-STATIS, ANRS-Reflate TB), ANRS is funding research projects on basic science and tuberculosis vaccines, and diagnosis and treatment of tuberculosis, including for persons not infected with HIV. This research is conducted in France and



in partner countries in sub-Saharan Africa, South-East Asia, and Brazil.

WHO's End TB targets include reductions of 90% and 80%, respectively, in tuberculosis mortality and incidence in 2030 compared to 2015. Pillars and components of the strategy include an emphasis on intensified research and innovation, covering the development of new tools, interventions, and approaches for diagnosis and treatment, but also implementation research to optimize uptake and impact of scientific advances.

EMERGING INFECTIOUS DISEASES

Over the last half century or so, several infectious agents have been newly recognized, and some previously known or unknown infections have erupted into epidemics or pandemics. HIV itself well exemplified what is now referred to as an emerging infection. In addition, there has been global spread of antimicrobial resistance (AMR), and the world has been confronted with the specter of bioterrorism such as with the intentional spread of anthrax in the United States in 2001.

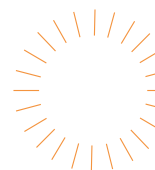
Most emerging infections result from cross-species transmission from animal hosts to humans. The pandemic form of HIV has its origin in non-human primates, while Ebola's natural host is thought to be a fruit bat. MERS coronavirus was transmitted to humans from camels, while bats are the natural reservoir of many other coronaviruses. These and other examples emphasize that many infections have a zoonotic origin and highlight the importance of "One Health", an integrated approach to animal and human health and our shared environment.

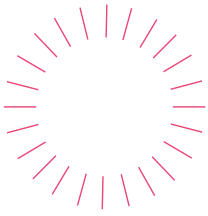
The 21st century has witnessed several large epidemics and pandemics, notably the epidemic of Ebola in West Africa in 2014-2016, and more recently the pandemic of COVID-19 that started in China in late 2019. An international outbreak of mpox, principally among MSM, took the world by surprise in 2022. Additionally, there have been the pandemic of H1N1 influenza, epidemic cholera in Haiti, and widespread arboviral outbreaks of yellow fever as well as of Chikungunya, Zika, and dengue, some of them expanding into southern Europe.

The REACTing Consortium had been active in some of these outbreaks, such as for vaccine evaluation for Ebola in West Africa (Prevac Study) and in response to Zika. The advent and impact of COVID-19 highlighted the importance of research and response capacity to emerging and other infectious diseases, leading to the merger of ANRS and REACTing in early 2021. A bibliometric analysis of global COVID-19 publications at the end of 2021 suggested France was 10th in overall numbers of publications, responsible for 3.7% of papers published. France was second globally in numbers of papers amongst the 1% and the 10% most cited, and 6th in terms of number of citations.

THE GEOPOLITICAL AND GLOBAL HEALTH ENVIRONMENT

The emergence of diverse infectious diseases since the establishment of ANRS to combat HIV/AIDS in 1988 has been accentuated and accompanied by extensive political, social, demographic, and environmental change. The 21st century has witnessed important epidemics including with SARS, influenza,





different arbovirus infections, Ebola, and, most recently, COVID-19.

The expansion of the agency to focus on emerging infectious diseases as ANRS | EID is occurring in a period of global tension and instability, characterized by the war in Ukraine, widespread inflation, the climate emergency, disruption of global supply chains, uncontrolled migration, challenges to democracy, and the still unfinished pandemic of COVID-19. Political and socioeconomic changes in Africa are influencing North-South relations, including between France and its former colonies, especially in West Africa. ANRS | EID is facing a very different world in this third decade of the 21st century from when the agency was established.

Social mores have changed, but unequally. Same sex relations have become more acceptable in many countries, extending to legalization of same sex marriage, but not everywhere. Gender-based violence persists as a global problem, and in some societies forced marriage and genital mutilation further restrict women's physical and social wellbeing. Transgender populations have become more visible, and their vulnerabilities and challenges more widely discussed. Chemsex (the use of drugs during sexual activity, principally among MSM), has emerged as a risk factor for HIV and other STIs among selected groups. People who use drugs remain discriminated against and harm reduction is not accepted as a prevention strategy everywhere. Sex work remains illegal in most countries, and access to contraception and abortion services is unequal.

As a result of successful HIV treatment and prevention programs, especially in East and southern Africa's generalized epidemics,

disease and deaths due to HIV/AIDS are no longer as visible as they were, and HIV is perceived as less of a health priority. Overall, UNAIDS estimates that new HIV infections peaked in 1998 and have almost halved since then. In high-income countries, people living with HIV are an aging population. Approximately two thirds of new HIV infections globally today affect key populations (sex workers and their clients; MSM; people who inject drugs; transgender people) and their sexual partners. Increasingly, progress against HIV/AIDS will depend on interventions and trends amongst key populations.

Trends in tuberculosis and viral hepatitis have changed less than those for HIV/AIDS. Neither topic has benefited from advocacy and strong patient support groups as seen with HIV. A reality concerning tuberculosis is the high proportion of the world's population with latent infection which traditional control measures do not address. Both tuberculosis and viral hepatitis remain stigmatized diseases, the latter especially because of associations with drug injection and sexual transmission. Both diseases are underfunded globally.

An underemphasized aspect of global health concerns demographic trends. One of the greatest public health successes has been the reduction in child mortality throughout the world, from more than 12 million deaths in children under 5 in 1990 to just over 5 million in 2019. Over half of these deaths occur in sub-Saharan Africa, and over one quarter in South Asia. The greatest anticipated demographic change will be expansion of Africa's population to exceed 4 billion, accounting for approximately 39% of world population by the end of the century, and for more than four fifths of the world's youth. Migrant health has been a longstanding topic of interest to ANRS | EID.





Diverse socioeconomic and political factors, including conflict, have increased the numbers of displaced persons in the world, now numbering around 100 million. Migration has become a dominant topic in political debates in Europe as well as the United States and is likely to increase in importance for ANRS | EID's research.

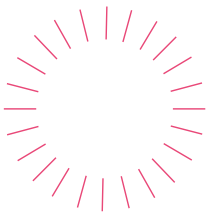
The long-term consequences of climate and environmental change for health and global stability are still a major unknown. The impact of climate change and associated warming will be experienced through air pollution, extreme weather events, increased displacement and migration, food insecurity, and direct as well as indirect effects on health. The majority of adverse climate and pollution effects result from the burning of fossil fuels in the context of transportation and production, packaging, and distribution of food. Global warming, environmental degradation, deforestation, land use, and increased urbanization promote infectious and non-infectious disease emergence. Increased temperatures support geographic extension of infectious disease vectors, and environmental change brings humans and animal reservoirs of infectious agents into closer proximity. Poverty and population pressure accentuate these effects.

Technological advances will influence the environment in which ANRS | EID operates. Innovations and adaptations include telemedicine and electronic communications, allowing communities to exert greater authority over their own health programs and health decision-making. Social media have been used to positive effect but have also spread disinformation and conspiracy theories that have enhanced vaccine skepticism.

Social determinants of health were starkly in evidence over the course of the COVID-19 pandemic. Increased incidence of SARS-CoV-2 infection and adverse outcomes were clearly associated with socioeconomic deprivation. Trends affecting the social environment of public and global health include the emergence of movements to erase symbols of racism and slavery, protect against sexual assault, and “decolonize global health.” The relative solidarity that HIV/AIDS and Ebola engendered did not carry through to COVID-19, including and especially concerning vaccine access.

In conclusion, an ANRS | EID fit for the future must adapt to the environment of the 2020s that is more inter-connected and radically different from that of the 1980s. Health security has emerged as the dominant theme in global health, a result of the COVID-19 pandemic and other recent disease trends. The challenge for ANRS | EID is to accommodate to recent global trends; adapt and focus on the current epidemiologic realities and scientific questions concerning traditional areas of HIV/AIDS, viral hepatitis, tuberculosis, and STIs; show impact in the field of emerging and re-emerging infectious diseases; and maintain its traditional commitments including close collaboration with affected and at-risk communities. ANRS | EID will have to strive for balanced partnership with countries, taking account of pressures for greater allocation of decision-making to affected countries and communities. ●





Why Strategic Planning?

Strategic planning attempts to define the core reasons for an organization's existence, its aspirations, and a pathway towards success. Any organization periodically needs to review its role in society and re-assess whether it is optimally adapted to its current environment. This is especially important for ANRS | EID given the new realities of the 2020s, as well as the agency's expanded mandate incorporating a whole new area of work relating to emerging infectious diseases, and the associated increase in staff, funding, and administrative complexity.

Success in emerging infectious disease research requires a different outlook, new networks, innovative outreach, novel science, and broader community participation. ANRS strengths that supported its traditional research agenda, including involvement of specific sectors of civil society, remain important but may not be adapted to the needs of research and response to emerging and re-emerging infections in different parts of the world. Moreover, the epidemiology of HIV/AIDS, viral hepatitis, tuberculosis, and STIs has changed over past decades. The research agenda on these traditional ANRS diseases is unfinished but deserves review considering epidemiologic and scientific trends. Amid such change, the social, organizational, and scientific approaches that have been instrumental in ANRS success need to be protected but also adapted.

ANRS | EID needs to take national and global socio-political and environmental changes into account as it takes up its role as a new agency. In line with the French global health strategy 2023-2027, ANRS | EID must also play a global role as the world recovers from COVID-19 and advances towards 2030, the end-date for the Sustainable Development Goals. ANRS | EID has abundant opportunities to assure a bright future but fulfilling high expectations will require thoughtful repositioning in the evolving global environment. ●

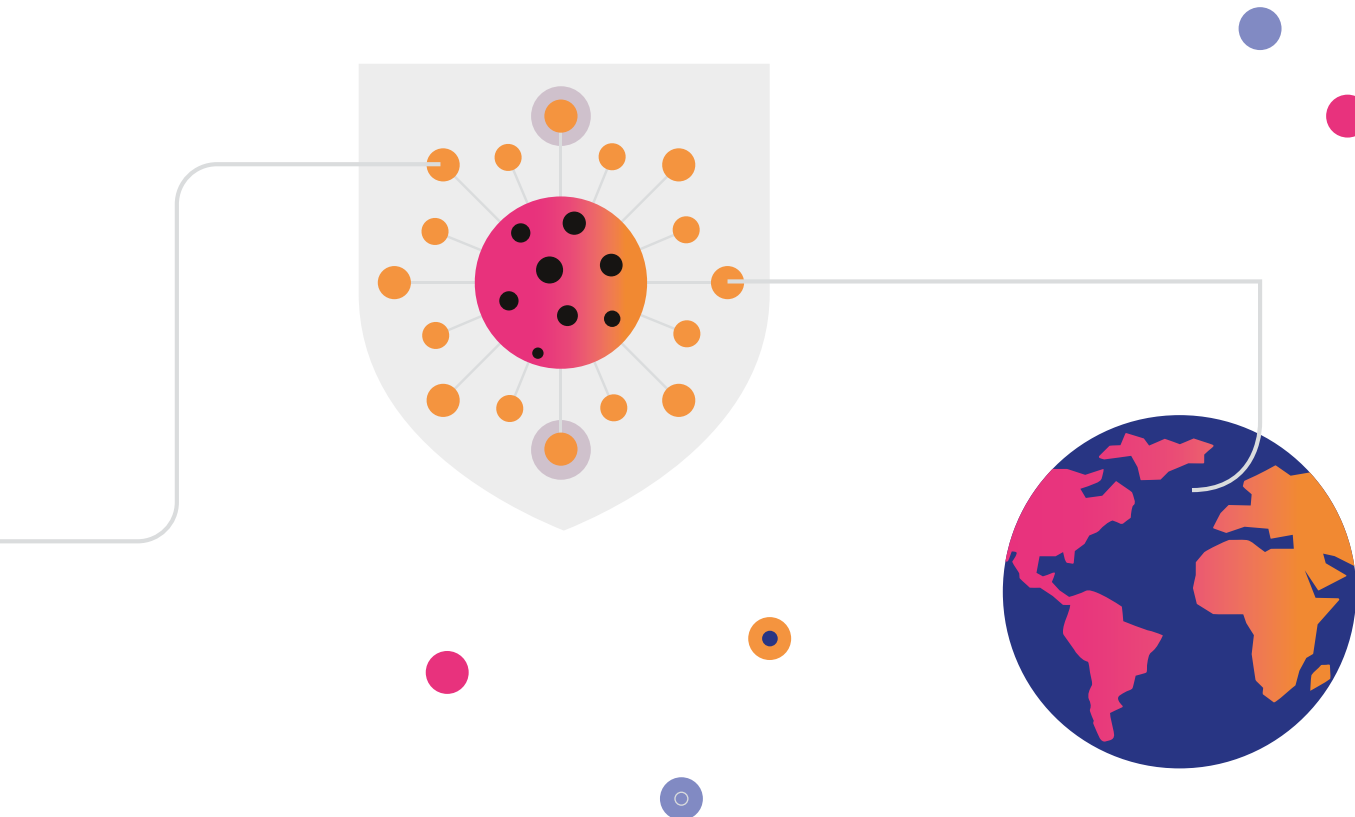


ANRS | EID

Guiding Principles and Values

Background work for formulating the ANRS | EID strategic plan involved several meetings with key ANRS | EID researchers, especially those in charge of groups conceiving, stimulating, and evaluating research projects; individual interviews with almost 40 persons associated with ANRS | EID in diverse roles in scientific, advisory, governance, and civil society work (Annex 2); review of relevant background documents (Annex 1); consideration of presentations and discussions at ANRS | EID scientific meetings; and a SWOT analysis (Annex 3).

This has provided insight into values, aspirations, and social and ethical principles relevant to the formulation of a strategic plan. The box 1 on next page summarizes attributes and aspirations which should guide the agency's internal and external work and relations.





BOX 1 - VALUES AND PRINCIPLES GUIDING ANRS | EID

- A unique agency that conceives, promotes, stimulates, funds, oversees, and independently evaluates high quality, multidisciplinary research that is internationally competitive.
- Research that funds basic, clinical, public health, and socio-behavioral sciences to promote innovation, discovery, and development of drugs, vaccines, other commodities, and non-pharmaceutical interventions, including through partnerships with the private sector.
- Comprehensive involvement of civil society and groups representing affected populations and patients in all stages of research and in governing bodies.
- An agency that links research in the global North and South and promotes a balanced partnership based on reciprocity and mutual benefit.
- A commitment to One Health research and approaches, to increase response capacity to epidemics and pandemics.
- An agency sensitive and responsive to the changing environment, including in relation to climate change and land use.
- Research that is impactful on health policies, public health, and clinical practice nationally and globally, through collaboration in partnerships and networks.
- A research agenda that promotes young investigators and is sensitive to the needs of youth.
- An agency that is administratively flexible and rapidly responsive to changing situations.
- An agency promoting equity, inclusiveness, diversity and “decolonizing global health” principles.
- An agency committed to strengthening research capacity nationally and globally, including in its human, physical and administrative dimensions.
- A commitment to communicating research results and associated policy and programmatic implications; and to openness, transparency, and data sharing.
- A leading European agency representing French research to the world, including through increased emphasis on health diplomacy.



ANRS | EID

Strategic Framework



The strategic framework encompasses Vision, Mission, and Strategic Objectives. It encapsulates why the organization exists (the vision); how it functions (the mission); and what it will do (the strategic objectives). In terms of what ANRS | EID will do, Strategic Objectives are followed by broad, subject-specific research priorities, but detailed activities will be defined by the ANRS | EID scientific bodies.

VISION

A world where HIV/AIDS, sexually transmitted infections, viral hepatitis, and tuberculosis have been eliminated as public health concerns, and emerging infectious diseases no longer pose a threat.

MISSION

To promote and fund comprehensive research in support of elimination of HIV/AIDS, sexually transmitted infections, viral hepatitis, and tuberculosis; and for prevention, detection, and control of emerging infectious diseases.

10 STRATEGIC OBJECTIVES

1. Define, promote, coordinate, and fund a multidisciplinary research agenda to improve knowledge on and support elimination of HIV/AIDS, sexually transmitted infections, viral hepatitis, and tuberculosis.
2. Define, promote, coordinate and fund a multidisciplinary research agenda to improve knowledge on and support prevention, rapid detection, treatment, and control of emerging and re-emerging infectious diseases, involving a One Health approach.

3. Promote translation of research results into innovative clinical and public health policies and tools such as diagnostics, vaccines, therapeutics, and non-pharmaceutical interventions.

4. Develop and enhance networks and national, European and international partnerships of relevant stakeholders, including civil society and affected populations, for promotion and effective implementation of the broad ANRS | EID research agenda.

5. Implement flexible administrative and scientific organization for rapid research implementation to address infectious disease emergencies.

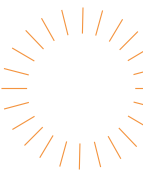
6. Ensure that research supported is ethical, assures the well-being of research participants and affected communities, and enhances local training, capacity, and infrastructure.

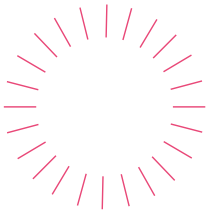
7. Support and promote the participation and development of young investigators.

8. Implement a communications strategy to convey research and results to all stakeholders, including for public health policy formulation and health diplomacy.

9. Advocate for research and for increased and sustainable national and global research funding for HIV/AIDS, sexually transmitted infections, viral hepatitis, tuberculosis, and emerging infectious diseases.

10. Ensure ANRS | EID adapts to evolving social and political realities including for gender balance, equity, inclusiveness, diversity, and increased country voice. ●





Research Priorities

In the context of strategic planning for the new ANRS | EID, it is important to define research priorities for the “traditional” diseases of interest (HIV/AIDS, STIs, hepatitis, tuberculosis) as well as for the new portfolio of emerging infectious diseases.

Attention is drawn to traditional values that have successfully guided earlier ANRS research such as scientific excellence, multi-disciplinarity, involvement of civil society and affected populations, including community-based participatory research, and a global outlook (Box 1 and Strategic Objectives). ANRS | EID should demonstrate commitment to openness and transparency, including maximal support for Open Data.

Research priorities defined in this section represent summary conclusions from internal deliberations since the ANRS | EID transition. Continuous discussion will be required to refine and adapt priorities to the evolving environment and to define “flagship”, priority programs. Such discussion and prioritization have started through existing ANRS | EID scientific governance structures (different *‘actions coordonnées’*) and will guide future ANRS | EID funding opportunities. STIs priorities are not included in the document as discussions on this topic are still ongoing. The document will be amended in the future to incorporate this area of work.

ANRS | EID will maintain its traditional, complementary approach of a “bottom-up” and a “top-down” process for soliciting and funding research. The “bottom-up” approach involves investigators proposing a research agenda for the agency to evaluate; by contrast, the “top-down” process depends on ANRS | EID defining specific topics (eg. “flagship”

programs and other priority projects) to which researchers can respond. This dual approach offers maximal opportunity for creativity and innovation, while also allowing specific scientific uncertainties and implementation and policy questions to be addressed. Specificity of calls for proposals is likely to be greatest in clinical, public health, and implementation science, and least restrictive in basic science, even when broad, basic themes (eg. cure research) are defined in a “top down” fashion.

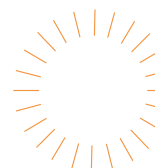
To implement its ambitious research agenda, ANRS | EID will continue to strengthen research capacity nationally and in partner countries through development of infrastructure and networks. Box 2 lists some of the resources and know-hows currently supported by ANRS | EID meriting further investment and expansion. Research projects are conceived, promoted, and implemented within these structures.

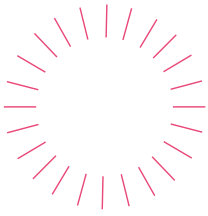
One of the current challenges to research in France is the complexity of regulatory and coordination requirements within the research ecosystem. ANRS | EID will contribute to increasing the flexibility and efficiency of administrative and scientific organization to facilitate rapid research responses, especially in the field of emerging infectious diseases.



BOX 2 - SELECTED NATIONAL AND INTERNATIONAL RESEARCH CAPACITIES SUPPORTED BY ANRS | EID

- **A network of clinical sites** in France and in partner countries dedicated to clinical research; this network, initially focused on HIV/AIDS, STIs, and hepatitis, is now broadening its scope to include emerging infectious diseases.
- **An international medical virology and pharmacology network**, expanding to include emerging infectious diseases.
- **A network of methodology centers** to support clinical trials and cohort development (protocol development, statistical analysis, monitoring, etc.).
- **A national vaccine clinical trials network** including laboratories and clinical sites.
- **An adaptive European treatment trial network** for emerging infectious diseases with laboratory and clinical sites (EU-Response network funded by the European Commission).
- **An international treatment trials network** for respiratory infections involving clinical sites in France and partner countries (Strive network, established in coordination with NIH).
- **Cohorts:** Since its creation, ANRS has invested in establishment of internationally recognized, long-term cohorts that have supported integrated basic science and clinical research. In 2022 ANRS | EID is sponsoring 10 cohorts within its scientific agenda.
- **A genomic research and surveillance network** in France (EMERGEN). This was developed to increase sequencing capacity for SARS-CoV-2, to increase effectiveness of surveillance of variants, and to ensure linkage with ANRS | EID research programs. It is now looking to extend to other emerging pathogens.
- **An international program to strengthen genomic surveillance (AFROSCREEN)** in 13 countries in Africa by detecting SARS-CoV-2 variants and other emerging pathogens, investigating the epidemiological characteristics and the clinical impact of the variants, and assisting in public health decision-making at national and international levels.
- **A national biobank**, which handles and stores most of the samples collected from ANRS | EID-sponsored studies (>1.5 million specimens), aiming to enhance the quality of biological sample management and conservation, in order to ensure availability of materials to research teams, while guaranteeing compliance with ethical and regulatory requirements.
- **Preclinical platforms** and coordination through a research network able to implement studies including development of pathophysiologic models, virological studies (*in vitro*, *in vivo*, *in silico*), evaluation of candidate therapeutics or vaccines.





CROSS CUTTING PRIORITIES

Some priorities extend across different disciplines or areas of work. For such research topics, ANRS | EID will develop integrated approaches to encourage multi-disciplinarity and avoid excessive verticality, and will continually seek opportunities for integration across programs.

- Leading priorities are the continuing search for vaccines (HIV/AIDS, tuberculosis, HCV, and priority emerging pathogens) and the cure agenda (HIV, HBV, HDV). These ambitious themes need strong coordination with national and international stakeholders. For these priorities, support should be given to basic research, including into immunity to and control of infections in general, through a “top-down” approach and “flagship” programs (eg. through the Vaccine Research Institute or Institut Pasteur), but also allowing a “bottom-up” approach:

- Regarding vaccine research, a platform should be developed that will integrate preclinical research as well as clinical trials, envisaging partnerships with academia and industry, translational research, and vaccine implementation science.

- Regarding cure research, ambitious programs around HIV and HBV cure have been launched and ANRS | EID will ensure strong interactions and synergy between these programs.

- A further research priority is how to support the WHO initiative for ‘triple elimination’ of mother-to-child transmission of HIV, HBV, and syphilis. This will include linking clinical and community-based research for delivery of optimal diagnostic and treatment interventions to women and their children. In addition, ANRS | EID will consider research on the

impact of emerging infectious diseases on maternal, neonatal, and child health.

- A broad topic concerns non-medical interventions for HIV, HBV, and STIs, an important component of the sexual health research agenda that involves especially social and behavioral sciences. Relevant elements include provision of reliable information about sexuality and sexual behaviours; education about vulnerability and adverse consequences of unprotected sexual intercourse or other activities such as chemsex; and access to sexual health care.

- Mathematic modelling of epidemics.

- Political and economic science on health systems strengthening and promotion of equitable access to drugs, vaccines, medical products, and other innovative measures, as common global goods.

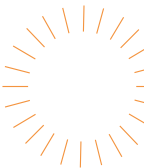
GENERAL RESEARCH PRIORITIES ON HIV/AIDS

Research should support global aspirations of ‘ending AIDS’ or eliminating it as a public health concern by 2030, as defined by UNAIDS, WHO and the SDGs.

Basic science research is required to further understanding of HIV transmission and pathogenesis and of host immune responses.

Increasing options for treatment and PrEP include the introduction of long-acting antiretroviral drugs such as cabotegravir. How best to use these compounds and assessing their impact are important questions.





As the pandemic has aged, so have people living with HIV, who with time are faced with co-morbidities, frailty, and other challenges. How to age well with HIV is an increasingly relevant question across the world. While great progress has been made, about a quarter of people living with HIV worldwide are not receiving antiretroviral therapy. Closing this gap, including in key populations, is a research challenge to implementation science.

The list below summarizes some of the key research questions and priorities to be addressed:

- Research on HIV vaccines, HIV cure, and remission of HIV infection.
- Research on prevention of HIV infection (in particular prevention of mother-to-child transmission and PrEP; and social science addressing risk factors for prevention failure).
- Research on HIV testing and treatment access.
- Research on HIV-associated infectious and non-infectious co-morbidities, including mental health issues, and their prevention and treatment.

GENERAL RESEARCH PRIORITIES ON VIRAL HEPATITIS

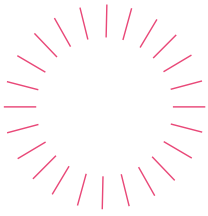
ANRS | EID advisors emphasized the need for research to support WHO's plan for the global elimination of viral hepatitis and recognized the disproportionate burden in low- and middle-income countries. As for HIV/AIDS, basic science research is required for more complete understanding of the pathogenesis of viral-induced liver disease and of host immunity and responses.

Although hepatitis C is curable with direct-acting antiviral drugs, long-term follow-up is required of patients with cirrhosis for complications such as hepatocellular carcinoma. Research to increase access to and uptake of hepatitis B prevention interventions, including for interruption of mother-to-child transmission, is a priority. Cure of hepatitis B remains an important research topic, as is treatment of hepatitis D. Hepatitis E is probably the commonest cause of viral hepatitis worldwide and deserves broad investigation. The list below details specific research requirements:

- Research on HBV and HDV therapy and cure including research on immunotherapy.
- Research on pathogenesis of viral hepatitis-associated liver disease.
- Research on pathogenesis, prevention, and management of viral hepatitis-associated hepatocellular carcinoma.
- Research on hepatitis B and hepatitis C testing and treatment access.
- Research on hepatitis B mother-to-child transmission and prevention.
- Research on HEV (specific examples: epidemiology, pathogenesis; molecular virology; HEV in One Health; HEV vaccine).

GENERAL RESEARCH PRIORITIES ON TUBERCULOSIS

Like the other diseases of interest to ANRS | EID, tuberculosis disproportionately affects the global South. Tuberculosis research priorities have remained relatively unchanged over many years in the face of well-defined technical obstacles: an incompletely effective vaccine (BCG); inadequate diagnostic capability for specific groups (pediatric, extrapulmonary disease, latent infection); long duration



of treatment; increasing drug resistance, including multi-drug and extensively drug-resistant disease; and inadequate case finding globally. A challenge for basic science is obtaining better understanding of host immune responses and correlates of immunity to tuberculosis. Specific research priorities are listed below. They will be refined with identification of “flagship” programs:

- Tuberculosis diagnosis, and especially non-sputum diagnostic approaches.
- Tuberculosis treatment including shortening of treatment regimens, treatment of “persisters”, and treatment of latent tuberculosis.
- Vaccine research, including rational vaccine design and different modes of administration (eg. mucosal) and tuberculosis immunology, with aim of immunotherapy or “host-directed” therapies.
- Socio-behavioral and economic research on living with tuberculosis, especially in the global South.

GENERAL RESEARCH PRIORITIES ON EMERGING INFECTIOUS DISEASES

The ANRS | EID mandate to support research on emerging infectious diseases has two complementary themes: to respond rapidly to infectious disease outbreaks, and to support preparedness for future epidemics and pandemics. In terms of responding to epidemics, ANRS | EID has been involved in the COVID-19 emergency since its inception, relying on the experiences and core competencies of the REACTing consortium, as well as rapidly initiating research programs in response to new epidemics such as Mpox.

ANRS | EID is developing a framework to respond systematically to emerging infectious

disease epidemics. This is being done in synergy with the development of the *Stratégie nationale d'accélération maladies infectieuses émergentes et menaces NRBC (nucléaire, radiologique, biologique ou chimique)*. ANRS | EID is the scientific reference within the national strategy addressing emerging infectious diseases. The framework will propose a diversity of gradual responses depending on the specificities of the emergence (type of pathogen, localization, risk of extension, existence of countermeasures): from the setting up of systematic scientific vigilance and the mobilization of expert committees, to the immediate release of emergency funding for priority programs, and to active partner coordination and additional fundraising in case of a major crisis.

In terms of preparedness, which is key to preventing emerging and re-emerging infectious diseases as well as to their rapid detection, treatment, and control, ANRS | EID is already engaged in an ambitious research program for the next three years (*Programme et équipements prioritaires de Recherche – Maladies infectieuses émergentes – PEPR MIE*). This program is a component of the *Stratégie nationale d'accélération maladies infectieuses émergentes et menaces NRBC*.

Within this program, priorities for research in emerging infectious disease have been defined as follows:

- Research to prevent and control mechanisms of infectious disease emergence (define biologic mechanisms of emergence of different human pathogens, develop surveillance methods and tools, understand and characterize social dynamics, including human, animal, and environmental interactions that drive the spread of emerging infectious diseases).





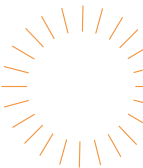
- Enhance R&D for diagnostics, vaccines, treatments, and surveillance methods and tools.
- Research to develop public policies and societal preparedness for epidemic emergencies (study of process of decision making, involvement of citizens and their representatives, evaluation of formulation and dissemination of scientific information, impact of emergencies, especially on inequities).

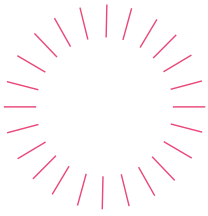
Priorities around emerging infectious diseases research should be applied to a list of predefined priority pathogens that could potentially cause epidemics and pandemics (Annex 4). The development of the list by ANRS MIE took account of the WHO priority list while focusing on national concerns. Research projects incorporating cross-cutting approaches to different pathogens will be prioritized. ●

BOX 3 - ANRS | EID INTERNATIONAL ROADMAP

In line with the French global health strategy 2023-2027, ANRS | EID will extend its international commitments by implementing new partnerships with countries, especially low- and middle-income countries, and international organizations. The ANRS | EID international roadmap is structured on three main objectives:

- ANRS | EID will promote scientific research fully integrated with global health priorities by actively engaging in strategic European and international networks, in particular EDCTP, WHO and UNITAID; and by strengthening the international dimension of the agency's governance mechanisms.
- As the national scientific reference, ANRS | EID will strengthen its coordinating role in the field of infectious diseases, improving collaboration between different stakeholders. This will enhance visibility and influence of French science and values, contributing to scientific and health diplomacy.
- ANRS | EID will increase its engagement to strengthen infrastructures, capacities and networks for research with partner countries. Emphasis will be placed on training and support of young researchers, establishment of research platforms, support to clinical and epidemiological research methodology centers, and laboratory networks.





Conclusions and Next Steps

The mandate of ANRS | EID has expanded in response to major global health events, most importantly the COVID-19 pandemic. This requires the organization to play a greater role in coordinating infectious disease work and collaborating widely in France, Europe and the rest of the world, as well as to diversify its activities in the broader field of global health. Building on the work over the past three-and-a-half decades, this strategic framework will guide ANRS | EID to implement its broadened scope of work. ANRS | EID scientific groups (*'actions coordonnées'*) will define and refine priorities in their specific areas of expertise.

ANRS | EID will review its administrative and organizational structures to ensure these are best aligned to fulfill the ANRS | EID vision, mission, and strategic objectives. Staff deployment and allocation of funds represent choices that should reflect the essence of this strategic plan. Review of organizational structure will also be important to ensure administrative and funding efficiency, flexibility, and timely responsiveness for both routine and emergency work. ANRS | EID will continue to mobilize work groups and networks transcending organizational boundaries to address horizontal, cross-cutting, or otherwise complex issues and challenges.

Involvement of civil society has been key to earlier ANRS identity and success in the realm of HIV/AIDS research. While exact replication might not be possible because of the very different social and human issues around HIV, community involvement for research and response to emerging and re-emerging infectious diseases will be critical. COVID-19 showed how quickly trust can be lost with inadequate communication and community

engagement. ANRS | EID will work to broaden its scope of civil society partners to cover all scientific domains under its mandate.

Broad debates are ongoing in society about equity, diversity, and inclusiveness, and there are intense discussions in global health and academic circles about “decolonizing global health”. These topics, their meaning, and their impact are of immediate relevance to ANRS | EID and its leadership. The agency will consider how these evolving concepts affect internal organization, decision-making, research funding, international relations, and implementation science domestically as well as overseas.

ANRS | EID is developing an evaluation framework to assess progress towards fulfilling its mission and achieving its strategic objectives over the next five years. A mid-term evaluation is envisaged to review the strategic framework and revise it as needed.

Finally, ANRS | EID is a French institution with a global footprint. Although its mandate concerns infectious diseases, it operates in the broader and evolving context of global health. The year 2030 will be important since it is the target date of the Sustainable Development Goals. Balance will be required to ensure that unfinished work on HIV/AIDS, STIs, viral hepatitis, tuberculosis, and emerging infectious diseases is completed, and new challenges are addressed. An ANRS | EID with a global outlook remains an asset for France and Europe as well as the rest of the world. ●



Annexes



ANNEX 1 - BACKGROUND DOCUMENTS

1. ANRS, Department of Strategy and Partnerships: Plan stratégique international (version du 16/03/2022).
2. Stratégie Nationale de Recherche 2013. La Recherche en Microbiologie et Maladies Infectieuses. (Delfraissy J-F, Murgue B, Jouvin-Marche E).
3. Programme et équipements prioritaires de Recherche – PEPR. MIE – Maladies Infectieuses Émergentes.
4. Meeting of the Scientific Advisory Board, Videoconference July 12, 2021.
5. ANRS | MIE EID Scientific Advisory Board Meeting, December 3, 2021.
6. Journée d'échanges des groupes d'experts – 9 juillet 2021.
7. ANRS Strategic roadmap for viral hepatitis research, August 2019 (Jean-Michel Pawlotsky, Fabien Zoulim, Karine Lacombe).
8. Éléments pour l'élaboration de la stratégie scientifique de l'agence, en matière de VIH, hépatites virales, IST, TB – Clinical Research Department (February 28, 2022).
9. ANRS | MIE EID Basic Research Program 2022.
10. Élaboration du projet stratégique de l'agence - Conseil d'Orientation (lundi 13 septembre 2021)
11. Propositions pour l'AC 46, Santé Publique, VIH, Santé Sexuelle et Hépatites. Mise en place de groupes de travail (document last modified 10/03/2022).
12. Journée d'échanges des groupes d'experts – 12 octobre 2021. Quel dispositif d'animation pour l'ANRS | Maladies infectieuses émergentes? Restitution.
13. Charte éthique: Conduite de la recherche dans les pays à ressources limitées (PRL). Texte construit à partir de la Charte d'éthique de la recherche dans les pays en développement, ANRS 2017 et de la Charte d'éthique: Conduite de la recherche en situation d'épidémie de maladie infectieuse émergente, REACTing 2019 (décembre 2021).
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15. La recherche sur le VIH/sida et les hépatites virales - Contribution de la France et de l'ANRS. Étude bibliométrique 2013-2017 (published November 2018).
16. ANRS | MIE - Réflexions sur l'animation de la recherche – Propositions du TRT-5 CHV - 19 avril 2022.
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18. La recherche sur le VIH/sida et les hépatites virales. Contribution de la France et de l'ANRS Étude bibliométrique 2013-2017.





19. PEPR MIE – Axes prioritaires AAP 2022.

20. NIAID Emerging Infectious Diseases/ Pathogens. <https://www.niaid.nih.gov/research/emerging-infectious-diseases-pathogens>.

21. WHO. Prioritizing diseases for research and development in emergency contexts. <https://www.who.int/activities/prioritizing-diseases-for-research-and-development-in-emergency-contexts>

22. WHO. Global Health Sector Strategy on Viral Hepatitis, 2016-2021: Towards Ending Viral Hepatitis. <https://www.who.int/publications/i/item/WHO-HIV-2016.06>

23. WHO. Global progress report on HIV, viral hepatitis and sexually transmitted infections, 2021. Accountability for the global health sector strategies 2016–2021: actions for impact. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

ANNEX 2 – LIST OF INTERVIEWEES, ANRS | EID, 2022

Xavier Anglaret (University of Bordeaux; INSERM, ANRS | EID Partner country Cote d'Ivoire)

Françoise Barré-Sinoussi (Pasteur Institute, Sidaction, Nobel Laureate)

Catherine Bilger (Innovation Department, ANRS | EID)

Marc Bonneville (Fondation Mérieux)

François Dabis (former ANRS Director)

Éric Delaporte (Infectiologist, IRD Montpellier, ANRS | EID, Partner country Cameroon)

Xavier de Lamballerie (IRD, University of Aix-Marseille)

Jean-François Delfraissy (Former ANRS Director)

Christophe Denfert (Scientific Director, Institut Pasteur Paris)

Jean-Claude Desenclos (Epidemiologist, Santé publique France)

Annabel Desgrées du Loû (Anthropologist, IRD, Paris)

Alpha Diallo (Head, Clinical Trials Safety Department, ANRS | EID)

Véronique Doré (Head, Department of Research in Public Health and the Human and Social Sciences)

Éric D'Ortenzio (Head, Department of Strategy and Partnerships, ANRS | EID)

Alain Fischer (Chair, Vaccine Strategy Orientation Board)

Hugues Fischer (Interassociative Group TRT-5 CHV)





Pierre-Marie Girard (International Affairs Director, Pasteur Institute Paris)

Marie-Paule Kieny (INSERM, Former Assistant Director General WHO)

Odile Launay (Infectiologist, Hôpital Cochin, Paris)

Roger Legrand (Chair, IDMIT - Infectious Diseases Models for Infectious Therapies, CEA)

Valériane Leroy (Pediatrician, INSERM, Toulouse)

Yves Levy (Chair, Vaccine Research Institute, Créteil)

Sharon Lewin (Chair, Strategic Advisory Board ANRS | EID, Director of the Peter Doherty Institute, University of Melbourne, Australia)

Thomas Lombès (Director, Strategy and Prospective, INSERM, Paris)

Yves Martin-Prével (Scientific Director Health and Society, IRD, Marseille)

Nicolas Meda (former Minister of Health, Burkina Faso)

Jean-Michel Molina (Infectiologist, Hôpital Saint-Louis, Paris)

Ibrahim N'Doye (Coordinator ANRS | EID Partner country Senegal)

Jean-Michel Pawlotsky (Virologist, Hôpital Henri Mondor, Créteil)

Cécile Peltekian (Head, Department of Basic Research, ANRS | EID)

Ventzi Petrov-Sanchez (Head, Department of Clinical Research, ANRS | EID)

Mickael Ploquin De Bel (Interassociative Group TRT-5 CHV)

Hervé Raoul (Deputy Director, ANRS | EID, former Director P4 laboratory, Lyon)

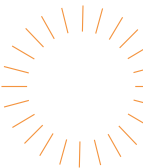
Isabelle Richard (Chair Advisory Board, ANRS | EID, Director *École des Hautes Études en Santé Publique*)

Jean-Francois Sicard (Chief Administrative Officer, ANRS | EID)

Yves Souteyrand (Senior Advisor, ANRS | EID)

Laurent Toulouse (Deputy Director Higher Education and Research, Ministry of Europe and Foreign Affairs)

Yazdan Yazdanpanah (Director, ANRS | EID)





ANNEX 3 - SWOT ANALYSIS, ANRS | EID DEVELOPED BY DR KEVIN M. DE COCK, NOVEMBER 2022

STRENGTHS

- Strong national and international reputation
- Extensive experience, demonstrated “savoir-faire” for efficient research implementation
- Multidisciplinary approach to research
- Strong ethics and values
- Strong scientific autonomy
- Influence of research on public health policies
- Well-defined areas of scientific interest
- Diverse mechanisms for capacity building, support for young investigators.
- Recognized French character and brand, with broad French links and networks
- Extensive collaboration with the global South
- Strong links with civil society and communities
- Predictable funding
- Communications capacity and positive relations with media

OPPORTUNITIES

- Developing broad, cross-cutting research agendas (eg. vaccinology; AMR; use of artificial intelligence; mathematical modeling, etc.)
- Formalizing leadership role of ANRS | EID in French infectious disease research and global health
- Increasing scientific and organizational linkages, including with the private sector and industry
- Expanding the agency’s global footprint and international collaborations
- Increasing civil society and community engagement for EIDs
- Increasing the agency’s presence and activities in health diplomacy and global health
- Increasing and refining INSERM support (eg. administrative) for maximal efficiencies
- Increasing the agency’s presence and activities in French territoires d’outre-mer
- Expanding EID research in new areas (eg. Central Asia)
- Expanding implementation science and One Health research
- Using health emergencies as scientific and advocacy opportunities (eg. long COVID; mpox, etc.)
- Research on infectious disease implications of “chronic emergencies” (eg. climate change, migration)
- Official, governmental support and goodwill in pandemic era
- Internal review and adaptation of organizational structure to new mandate and increased resources



WEAKNESSES

- EID priorities many and imperfectly defined
- No programmatic milestones or deliverables for evaluation
- Imbalance between ANRS | EID mandate and overall French research infrastructure and capacity
- Overemphasis on francophone world
- Not all infectious disease research in France is well coordinated
- Weak community and civil society links for EID
- One Health EID work shared with PREZODE
- Expenditure of EID funds restricted in scope
- EID funding time-limited
- Traditional non-HIV/AIDS work (hepatitis, tuberculosis, STIs) overshadowed
- Internal organization not yet adapted to increased mandate and resources

THREATS

- Over-commitment, over-reaching, unrealistic expectations
- Rapid and excessive growth
- Loss of internal institutional character and morale
- Inability to portray agency as committed to both “traditional” (HIV/AIDS, etc.) and “new” (EID) agendas
- Tension between “old” (HIV/AIDS, etc.) and “new” (EID) agendas and stakeholders
- Sub-optimal internal organizational response to expansion
- Regulatory and coordination complexity within French research ecosystem
- Lack of sustained EID funding over longer term
- National and international competitors
- Changing global disease trends (increased NCD, etc.)
- Global politics (eg. anti-French sentiment in certain West African countries; “decolonizing global health”, etc.)
- Pandemic and AIDS fatigue by society, decision makers, and funders





ANNEX 4 - PROPOSED LIST OF PRIORITY PATHOGENS FOR EMERGING INFECTIOUS DISEASE RESEARCH

The list of priority pathogens was developed by an ANRS | EID-led multidisciplinary group bringing together experts from the fields of virology, bacteriology, parasitology, and mycology.

A three-step methodology was used, involving individual consultations and a Delphi process. Criteria were first defined against which pathogens were to be evaluated. Second, the experts advised on which pathogens should be considered for the priority list. Finally, the experts evaluated the pathogens defined against the agreed-upon criteria and sub-criteria. The experts' individual scores were then combined to reach a final decision on a list of priority pathogens. ●

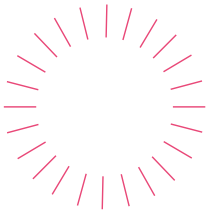
VIRUS

- *Arenaviridae: Genus Mammarenavirus* (Lassa virus)
- *Nairoviridae: Genus Orthonairovirus* (Crimean Congo Hemorrhagic Fever virus)
- *Phenuiviridae: Genus Phlebovirus* (Rift Valley Fever virus)
- *Hantaviridae: Genus Orthohantavirus* (Andes & Sin Nombre viruses)
- *Coronaviridae*
- *Filoviridae* (Ebola & Marburg viruses)
- *Flaviviridae: Genus Flavivirus* (Zika, Dengue, Yellow Fever & West Nile viruses)
- *Orthomyxoviridae* (Influenza viruses)
- *Pneumoviridae* (Respiratory Syncytial viruses)
- *Paramyxoviridae* (Nipah & parainfluenza viruses)
- *PoXviridae* (Mpox & Camelpox viruses)
- *Togaviridae* (Chikungunya viruses)

BACTERIES

- *Francisella tularensis tularensis*
- *Yersinia pestis*
- *Bacillus anthracis*
- *Burkholderia*

PATHOGENE X





For more information

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