As medicine continues to advance rapidly, the development of new approaches to diagnostics and therapeutics that contribute to human health is vital.

AMED was established in April 2015 to catalyze the process of medical innovation and overcome the barriers between sectors, connecting talented individuals to accelerate medical research and development. Since then, we have made significant gains in the fight against many diseases.

As part of the Initiative on Rare and Undiagnosed Diseases (IRUD), genetic analysis systems are more accessible than ever. This is thanks to data sharing among physicians and scientists in more than 400 hospitals in Japan — a program pioneered by AMED. More than 1,000 undiagnosed patients who suffered from diagnostic odyssey over many years were diagnosed within 6 months after their registration to the initiative. The IRUD Exchange Database is contributing to case matching not only in Japan but also with foreign patients, as AMED empowers global networks for data sharing.

AMED also led the Asia-first driver project of Global Alliance for Genomics and Health (GA4GH) — an international organization aiming to advance medical care and medicine through international genome data sharing.

While our progress is encouraging, we understand the challenges we face cannot be overcome without global collaboration. To date, we have entered into Memorandum of Cooperation agreements with several of our counterparts: NIH in the U.S., MRC in the U.K., A*STAR in Singapore, SEIDI in Spain, the Ministry of Health in Lithuania and NHMRC in Australia.

In addition to rare disease research, we are also pursuing enhanced data sharing of clinical imagery across multiple fields, including pathology, endoscopy and CT scanning. Our aim is to develop diagnostic AI and contribute to the collaborative consortium of Japan Excellence for Diagnostic Imaging (JEDI).

Many challenges lie ahead as we work to improve health in Japan and around the world. However, through close cooperation with the global medical community, we can deliver the best medicine and change lives for the better.

Makoto Suematsu, M.D., Ph.D.
President, AMED

“Our mission is to fast-track medical research and development.”
Who We Are

The Japan Agency for Medical Research and Development (AMED) was established in 2015 for the advancement of medical discoveries that make life better for everyone.

Based on effective partnerships and innovative collaboration, we pursue medical breakthroughs through an approach consisting of three vital components:

1. **Support**
   - Funding medical studies and research facilities

2. **Connect**
   - Linking organizations, institutions and researchers

3. **Promote**
   - Promoting the practical application of beneficial research outcomes

People are at the heart of everything we do. We support, connect and promote, helping researchers to make incredible discoveries and change the lives of patients around the globe.

What We Do

Working beneath the Prime Minister’s Cabinet and national ministries, we provide a single window for researchers and institutions seeking funding for medical research and development.

Prior to our establishment, researchers were required to request funding from several ministries, depending on the phase of their studies. Now, we provide streamlined, consistent support from initial investigations to practical application of new medicines and treatments in the real world.

We also work to connect the most qualified practitioners, medical institutions and private-sector organizations, at home and abroad, to give clinical studies the best possible chance of succeeding.

Once studies are completed, we focus our resources on promoting new medicines and treatments to ensure they get to the people who need them most.

When it comes to medical innovation, we are with you every step of the way.

A New Approach to Medical Research & Development

In line with government policy, we provide a single window of support and funding for research projects.
Management and Evaluation Framework

To ensure the best chance of beneficial research outcomes, we assign program directors (PD) to each of our nine key fields, and program supervisors (PS) and program officers (PO) to each program within the field. These individuals have distinguished academic backgrounds and are handpicked for their expertise in a specific area of research. They work closely to grasp the situation and challenges in their field in order to comprehensively evaluate research proposals and provide expert program coordination. Their ultimate goal is to manage research and advise researchers to make processes run more smoothly and ensure better results.

Primary roles of PDs:
- Program direction, including operation policies
- Allocation of funds
- Coordination and management of PSs

Our PDs offer expert insight into key strategic fields of research. In addition to promoting collaboration between related fields, PDs monitor entire grant programs and make expansion and acceleration recommendations to AMED.

Our PSs possess a precise understanding of the aims and challenges related to their respective programs in order to effectively oversee operation.

The role of our POs is to assist PSs, taking responsibility for day-to-day program administration.

Our Challenges

Like the rest of the world, Japan continually faces new and urgent public health challenges. The emergence of infectious diseases and prevalence of chronic conditions require constant attention, but perhaps the most significant challenge is the country’s aging population. Our government has defined its strategy to address this challenge, citing cutting-edge medical technology and care as vital to the creation of a society that enjoys longer, healthier lives. AMED is striving to meet this challenge head-on.

Life expectancy in Japan is among the longest in the world. However, the difference between life and healthy life expectancies stands at 8.84 years for males and 12.35 years for females. To shorten the gap, we focus on making discoveries that allow people to enjoy longer, healthier and more active lives.

Our population is aging faster than that of any other nation. The percentage of those over 65 years old increased from 7.1% in 1970 to 26.7% in 2015, and it is predicted to reach 34.4% by 2055. As a result of this shift, the burden on our national healthcare system is greater than ever. That’s why finding effective solutions is one of our top priorities.
Our Work in Numbers

In 2019, we are responsible for a budget of approximately ¥127 billion. Based on the nine key fields, we aim to ensure all spending offers maximum potential for beneficial outcomes.

In addition to these key fields, Cyclic Innovation for Clinical Empowerment (CiCLE) is currently active, but is carried forward from our supplementary budget from FY2016/17. The program focuses on the foundation of future-generation medical innovations, and the development of new drugs, devices, regenerative medicine, technologies and more.

We are currently supporting 2,416 projects in 27 countries. Many of those projects are in the basic research stage, but we are also supporting a large number of pre-clinical and clinical studies.

Budget allocation and projects in development – all of AMED’s key figures at a glance.

INITIAL BUDGET FOR FY2019*

¥127.1 BN
($)1,155 M

21.4 BN
Drug Discovery

24.6 BN
Other Programs

12.6 BN
Rare/Intractable Diseases

5.7 BN
Cancer

16.3 BN
Genomic Medicine

9.8 BN
Regenerative Medicine

14.7 BN
Translational & Clinical Research Core Centers

12.4 BN
Medical Devices

Emerging/Re-emerging Infectious Diseases

Psychiatric & Neurological Disorders

In 2019, we are working on 2,416 projects in 27 countries around the world.

Our global network of approximately 23,500 researchers is comprised of outstanding individuals from leading medical institutions.

Awarded Projects

2,416

Projects aimed at the Advancement of Medical Technology & Standard of Care

332

Projects to Elucidate Biomedical & Pathological Conditions

459

Research & Drug Discovery Infrastructure

353

Other Projects

321

Medicine & Device Development Projects

951

*Some budget allocations overlap. Figures in JPY at a rate of 110 Yen per Dollar

2018/20 DATA

FY2018 DATA
Grant Programs

We promote leading-edge medical innovation from discovery and development to clinical application. Focused on nine key fields, we are guided by the Japanese government’s Plan for Promotion of Medical Research and Development. Our projects are solicited through wide-ranging calls for proposals, which are aimed at outstanding individuals working in world-class institutions. Our role as custodians of public money means we consider each proposal thoroughly in order to maximize the potential for beneficial outcomes.

Once projects are launched, we work to create the conditions necessary for discovery, establishing framework and putting together teams of distinguished researchers. But our work does not stop there. We continue to support projects at every stage of their journey to ensure everything we do is underpinned by the highest quality and integrity.

Promoting the establishment of infrastructure to respond to medical needs, the creation of an environment for open innovation and venture development based on industry-academia-government collaboration.

Japan Regenerative Medicine Project
Promoting research on emerging and re-emerging infectious diseases for effective control measures.

Project for Drug Discovery & Development
Promoting the development of innovative drugs and strengthening support functions for novel discovery.

Project for Medical Device Development
Developing novel medical devices driven by clinical needs and supporting platforms for developers to contribute to the promotion of Japan’s medical device industry.

Japan Genomic Medicine Program
Promoting research to realize genomic medicine and create next-generation precision medicine.

Japan Cancer Research Project
Promoting various activities from basic research to clinical studies aimed at accelerated practical application for cancer diagnosis and treatment.

Project for Psychiatric & Neurological Disorders
Promoting research and development for dementia and other psychiatric disorders.

Rare/Intractable Disease Project of Japan
Promoting research and development to improve the treatment of rare and intractable diseases.

Supporting the research, development and promotion of health and medical strategies beyond the nine key fields.

Project of Translational & Clinical Research Core Centers
Developing novel medical devices driven by clinical needs and supporting platforms for developers to contribute to the promotion of Japan’s medical device industry.

Project for Innovative Drug Discovery & Development
Promoting drug discovery and development for dementias and other psychiatric disorders.

Supporting the research, development and promotion of health and medical strategies beyond the nine key fields.

Cyclic Innovation for Clinical Empowerment
Promoting the establishment of infrastructure to respond to medical needs, the creation of an environment for open innovation and venture development based on industry-academia-government collaboration.

Japan Strategic Innovation Promotion Program
Supporting the research, development and promotion of health and medical strategies beyond the nine key fields.
International Collaboration

At AMED, we understand that improving quality of life for people around the world is a global effort. That's why we adopt an international approach, contributing Japanese expertise and actively engaging in research and development activities in collaboration with our counterparts around the world.

Bases of Cooperation

Recognizing the importance of international collaboration and cooperation, we have established three overseas offices in Washington, D.C., London and Singapore. Their missions are to develop networks with overseas funding agencies, institutions, universities, scientists and researchers; promote overseas joint research and development programs; and collect and disseminate the latest information on medical science and technology.

Our Washington, D.C. office works to advance broad collaboration with our counterparts in the US and North and Latin America. There, we seek to create and maintain reliable relationships with the medical community in the region.

In London, our office is responsible for cultivating relationships and promoting our work among our counterparts in Europe, the Middle East and Africa. Our London office also organizes meetings, including a symposium on neuroscience in collaboration with the Medical Research Council (MRC).

At our Singapore office, located in Singapore Science Park I, we cooperate with countries throughout the Asia-Pacific region. In March 2019, our Singapore office operated the Asia Pacific Scientific Workshop at the National University of Singapore alongside NHMRC, NIAID/NIH and HRC. The aim of the workshop was to promote joint research, such as the e-ASIA Joint Research Program.

Our overseas offices allow us to exchange information on research policies and best practices, and build stronger connections with the countries in each office’s regions.

Aligning the Young Stars of Science

The Interstellar Initiative recognizes the world’s most promising Early Career Investigators (ECIs) and connects them with peers. Introduced by AMED in partnership with the New York Academy of Sciences in 2018, it provides a platform to develop solutions to major medical research questions.

Following an annual international open call for participants, ECIs are selected and grouped into teams of three, including one Japanese member. Together, they devise research proposals for submission to international funding agencies under the guidance of mentors.

Each year, the theme of the initiative changes, and for FY2019, the focus is on “Healthy Longevity.” Successful ECIs will participate in two workshops in New York, US. The first will be held in September 2019, and the second in February 2020. Teams are expected to take a multi-disciplinary approach to tackling some of the world’s most critical medical challenges and unresolved research studies.

Through this project, AMED aims to accelerate the globalization of medical R&D, establish international research networks, stimulate joint research, and enhance the research capabilities of Japan.

realize a society of healthy longevity. The Global Alliance for Genomics and Health (GA4GH) is the world’s leading alliance in this epoch-making collaboration, and AMED is proud to participate with our nationwide genomic health system: the “GEM-Japan” driver project.

GEM-Japan (Genome Medicine Alliance Japan) aims to align our established projects with international standards, and promote the sharing of Japanese genomic and phenotypic information with the global community. Given the difference in genomic structure, the Japanese data will serve the analysis of genomic data from Western and/or African populations.

Furthermore, AMED has hosted GEM-Japan workshops to contribute to the creation of global frameworks and standards, as well as the localization of GA4GH tools in non-English speaking countries.

AMED’s “GEM-Japan” Project Participates in GA4GH Driver Project

Following the recent advancements in large-scale genome analysis and technologies, responsible and secure sharing of genomic and health data is more vital than ever in order to accelerate research and

11

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ECIs devise research proposals under the guidance of mentors

Makoto Suematsu, President of AMED, introduces “GEM-Japan” at the GA4GH Connect Implementation Meeting in UK, April–May 2019

In genomic structure, the Japanese data will serve the analysis of genomic data from Western and/or African populations.

Furthermore, AMED has hosted GEM-Japan workshops to contribute to the creation of global frameworks and standards, as well as the localization of GA4GH tools in non-English speaking countries.
Partnerships for Progress

As part of our strategic international activities, we have established formal partnerships with some of the world’s leading funding agencies and government organizations.

To date, we have entered Memorandums of Cooperation with organizations in six countries: the National Institutes of Health (NIH), U.S.; the Ministry of Health, Lithuania; the Medical Research Council (MRC), U.K.; the Ministry of Health, Lithuania; the Agency for Science, Technology and Research (A*STAR), Singapore; and the National Institutes of Health (NIH), U.S.; the Ministry of Health, Lithuania; the Medical Research Council (MRC), U.K.; the Ministry of Health, Lithuania; the Agency for Science, Technology and Research (A*STAR), Singapore; and the National Institutes of Health (NIH), U.S.

Through such collaborations, we can collect information from around the world and contribute to joint international medical research and development. Our international partnerships also serve as an important platform for sharing Japan’s outstanding research results with the world.

Moving forward, we will continue to reinforce our international relationships, leveraging the strengths of each country through collaborative research, workshops and data sharing.

Japan’s Contribution to HFSP

Since 1990, the program has been implemented by the International Human Frontier Science Program Organization (HFSP), with its office in Strasbourg, France. Japan has been the largest contributor to HFSP since its foundation, with financial contributions provided by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Economy, Trade and Industry (METI) through AMED.

For almost 30 years, cross-border support has been provided to scientists from around the world, with a focus on collaborative research and grant projects. HFSP has awarded approximately 1,000 collaborative Research Grants involving 4,000 scientists worldwide, as well as 3,000 fellowships to young scientists. 28 Nobel Prize winners were supported by the HFSP Research Grant program prior to receiving the prestigious award.

Current HFSP Grant Awardees are invited to an annual meeting, which serves as a great opportunity to network with excellent scientists around the world. 2019 marks the 30th anniversary of the program, and to commemorate this milestone, a ceremony will be held during this year’s Awardees Meeting in Japan in July.

Other International Efforts

We are currently involved in a number of other overseas collaborative research programs, two of which are highlighted below:

1. UK-Japan Neuroscience Symposium

The second UK-Japan Neuroscience Symposium was held in February 2019 in Ogbourne, Oxford. It offers a new platform for joint research into neuroscience and mental health between Japan and the UK.

2. "Orphanet Japan" and "NAN-BYO Research"

"Orphanet Japan" connects Japan with “Orphanet,” a global portal holding information on rare diseases. "NAN-BYO Research" introduces significant research achievements in Japan and orphan drugs, while "NAN-BYO Research" supports by AMED.

By actively participating in new data sharing opportunities and connecting with the international research community, we aim to promote the development of treatments for rare and intractable diseases.

Professor Atsuhiko Kawamoto (Foundation for Biomedical Research and Innovation at Kobe) launched websites "Orphanet Japan" and "NAN-BYO Research" to spread knowledge in the field of rare and intractable diseases.

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Our Work Around the World

With a global network of researchers, institutions, and organizations across five continents, we recognize the importance of international presence and collaboration.

AMED is currently implementing 8 international cooperative research projects that tackle 52 issues across 27 countries.

• e-ASIA JRP (e-ASIA Joint Research Program)
• ICREP-NTDs (International Collaborative Research Program for Tackling the Neglected Tropical Diseases Challenges in African Countries)
• J-GRID (Japan Initiative for Global Research Network on Infectious Diseases)
• SATREPS (Science and Technology Research Partnership for Sustainable Development)
• SICORP (Strategic International Collaborative Research Program)
• Global Health (Research Program on the Challenges of Global Health Issues)
• U.S.–Japan Cooperative Medical Sciences Program
• Research Program on Practical Application of Health Technology for Developing and Emerging Countries

In addition, our overseas offices serve as hubs to support our global network.

Global Successes

Medical R&D has the potential to spare millions from suffering. We believe any outcome that makes life better is valuable — no matter how small.

The following pages contain snapshots of the work we are currently involved in to ensure safer, more effective healthcare around the world.
The World’s First Allogeneic iPSC-cell Transplant to Treat Parkinson’s

Committed to making Japan the global leader in the field of stem cell technology, AMED is supporting the iPSC Cell Stock for Regenerative Medicine and the research and development of regenerative medicine based on stem cell technology.

Among the numerous treatment methods being investigated, induced pluripotent stem (IPS) cells currently under development, astonishing progress has been made in the area of Parkinson’s disease, a slowly progressing disorder in which dopaminergic neurons degenerate.

After more than 20 years of basic research to establish a therapeutic technique that is adaptive to humans, a research group headed by Dr. Jun Takahashi from CiRA validated the safety and efficacy of human IPS cell-derived dopaminergic progenitor cells in a primate model.

As part of an unprecedented clinical trial launched in October 2018, doctors from Kyoto University Hospital; Sumitomo Dainippon Pharma Co., Ltd.; and Kyoto University; Kyoto University Center for iPS Cell Research and Application (CiRA); Kyoto University Hospital; and Kyushu University conducted the first-ever transplant of 2.5 million neural progenitor cells in a primate model.

The transplanted cells are expected to mature into dopaminergic neurons that secrete dopamine, thereby easing some of the disease’s symptoms. The patient will be observed for two years to assess the engraftment of the transplanted IPS cells and to monitor for any adverse effects.

After thorough verification of the safety and efficacy of the treatment, doctors hope to have the treatment approved for the general public and covered by the national health insurance program.

Global Success 1

The World’s First Allogeneic iPSC-cell Transplant to Treat Parkinson’s

Global Success 2

Supporting Basic and Applied Research for the Development of Combination Therapies for Cancer

Expanding on the Nobel Prize–winning research of Dr. Tasuku Honjo at Kyoto University on the role of PD-1 in cancer, AMED is supporting the research, development, and application of next-generation cancer therapies. The research project is focused on the discovery and application of biomarkers for the prevention and early detection of cancer, as well as the development of innovative cancer treatments.

Anti-PD-1 antibody therapy has revolutionized cancer treatment, with its antitumor effect attracting attention throughout the world. While good therapeutic outcomes for the PD-1 blockade therapy have been reported for various cancers, the efficacy of this treatment is not adequate for all patients.

One of the key areas of current research is the development of combination therapies that can enhance the antitumor effect of anti-PD-1 antibodies, thereby offering more effective treatment for patients unresponsive to the PD-1 blockade therapy.

Among the most significant findings to emerge from this research is the discovery of a key molecule that is important for mitochondrial activation in tumor-reactive T cells. By focusing on the energy metabolism of T cells, researchers have also identified a number of low-molecular-weight compounds as potential concomitant agents that can enhance the antitumor effect of the anti-PD-1 antibody.

Moving forward, AMED aims to continue to strengthen the ties between basic and applied research that will help further revolutionize the therapeutic strategies for treating cancer.

Global Success 3

Combating the Spread of Cancer

Combating the Spread of Cancer

Global Success 4

Supporting Basic and Applied Research for the Development of Combination Therapies for Cancer

Combining the results of the PD-1 blockade therapy with other innovative cancer treatments, including chemotherapy, targeted therapy, and immunotherapy, is expected to achieve better therapeutic outcomes.

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Global Success 5

Combating the Spread of Cancer

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In response to the worldwide threat posed by potential pandemic infectious diseases, AMED is supporting collaborative research centers through its J-GRID program. This program aims to establish relationships between research institutes in Japan and overseas research centers to promote epidemiological research into infectious diseases and basic research into diagnostic methods and treatments.

With seven centers currently operating in Asia and two in Africa, Japanese and local researchers can leverage their knowledge and experience to tackle the current priority subjects of J-GRID, which can establish relationships between research institutes in Japan and overseas research centers to promote epidemic studies of infectious diseases and basic research into diagnostic methods and treatments.

One project is a cohort study conducted in the Philippines by Professor Mitsuhiko Oshitani from the Tohoku University Graduate School of Medicine in conjunction with colleagues from the Research Institute for Tropical Medicine (RITM) based in Metro Manila, local governments, and a hospital. The study, made possible by a long-standing collaboration between Dr. Oshitani and researchers at RITM, has demonstrated an increased risk of subsequent respiratory infections in children after infection with specific viruses, including adenovirus, influenza virus, parainfluenza virus, and rhinovirus.

Another important discovery is an amino acid substitution at a specific antigen site in viruses of respiratory syncytial virus (RSV), a major cause of severe respiratory infections in infants and young children. The change in antigenicity of the virus due to the amino acid substitution may be associated with the reinfection.

AMED hopes findings such as these from strong collaborative efforts will lead to more effective interventions for disease prevention and control and also be utilized to develop evidence-based medicine.

One example is the collaborative research on pulmonary diseases infected with influenza virus and tuberculosis conducted by Professor Kazuo Suzuki from Teikyo University in Japan and other members of the International Research Cooperation Team from Vietnam and The Philippines.

Their work has contributed to understanding the mechanisms of such infections that will help control occurrences in Southeast Asia. This includes EAL, EVM, and EAI4 in Vietnam, and the EAI2 Manila strain that accounts for 90% of Mycobacterium tuberculosis in the Philippines.

A significant finding came from thesis work by a PhD student from Vietnam investigating the role of hypothiocyanous acid in severe pneumonia induced by the avian influenza virus H5N1. This student, who was supported by MEXT, received a doctoral degree in influenza studies from Tohoku University Graduate School of Medicine in 2018.

In recognition of his numerous contributions to the Vietnam National Children’s Hospital and progress of medical care in the country, Prof. Suzuki was awarded the Medal for People’s Health by Vietnam’s Ministry of Health. Looking ahead, AMED will continue to take an international approach toward research and development activities through multilateral collaboration in the field of health research.
Solving Public Health Issues in Developing and Emerging Countries Using a Design Approach

As developing and emerging countries face public health issues different from those in Japan, AMED has established the Research Program on the Practical Application of Health Technology for Developing and Emerging Countries. The objectives of the program are to identify individual unmet medical needs at local clinical sites and work closely with companies to develop medical equipment that fulfills those needs.

In this program, AMED considers the design approach to be a key aspect to the product’s success, in addition to “immersion in the community”, which is integral for creating the health technologies to meet local needs.

The essence of the design approach is a thorough investigation of the local clinical environment to create a product development strategy. This includes a careful observation of the healthcare infrastructure to identify the unmet needs and then prioritization to maximize the results and impact.

Mettion Co., Ltd. has been using this approach for the first time in Vietnam to develop high-flow nasal cannula. They began by interviewing 22 medical first time in Vietnam to develop a high-flow nasal cannula. They began by interviewing 22 medical practitioners to identify the unmet needs and then prioritization to maximize the results and impact.

Support efforts to solve public health issues in developing and emerging countries through collaboration between clinical practice and industry. Promote the development of medical technology that meets local needs using a design approach.

Assessing the qualitative needs in such a way is the foundation of these overseas collaborative research efforts seeking to adapt Japanese technology for creating simple, efficiently engineered products that will improve the quality of life of people around the world.

Basic research generates scientific and medical innovations. One way AMED supports basic research is by promoting the Advanced Research & Development Programs for Medical Innovation (AMED-CREST, PRIME, and LEAP) to create and develop innovative seeds.

A breakthrough area attracting worldwide attention is the field of microbiome research. Prof. Kenji Honda from Keio University School of Medicine has pioneered the development of essential technologies to identify host immunomodulating bacteria, using gnotobiotic animals and anaerobic culture. Researchers 1) grasp the unmet medical needs through immersion in the local clinical site and 2) formulate a product development plan and create a prototype.

As the design approach, in the first year, researchers 1) grasp the unmet medical needs through immersion in the local clinical site and 2) formulate a product development plan and create a prototype. Business performance evaluations are also conducted for ex ante evaluation of the product’s effectiveness and potential. In the second and third years, key activities include development and clinical evaluation of the product, development of strategies for commercialization, and application for regulatory approval.

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Identify specific bacterial strains among the gut microbiota or their antigenic compounds that contribute to modulating the host immune system.

Incubation of GF mice with fecal samples from healthy human donors demonstrated substantial induction of IFN-γ-producing CD8 T cells, confirming the presence of intestinal bacteria that upregulate immune cell production. Additional screening led to the discovery of 11 rare bacterial strains that, when administered together, suppress pathogenic bacteria and enhance the response of anti-IFN-γ antibodies in therapy mice.

Further exploration of the gut microbiota is expected to lead to the development of novel approaches for preventing and treating infectious diseases and cancer in humans.

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Practical Use of Clinical and Genomic Information

The Program for an Integrated Database of Clinical and Genomic Information has established a nationwide alliance of universities, institutes, and hospitals committed to the promotion of genomics-based medicine. Clinical information and genomic data collected from patients with rare diseases, cancer, infectious diseases, and dementia are securely stored locally and primarily used in research. Data are updated every quarter of a year and publically available globally.

MGeND continues to expand since its release. Disease associations are categorized after the ClinVar’s classification: pathogenic, likely pathogenic, benign, likely benign, conflict, risk factor, and uncertain significance. Data are updated every quarter of a year and publically available globally.

IRMED’s foundational role of international collaboration through global alliances, such as the International Rare Diseases Research Consortium, to accelerate progress towards helping patients with rare and undiagnosed diseases. The nationwide medical research consortium of AMED believes that data sharing enables the participation of human genomics as well as to improve health care systems, where the genomic data are more involved.

Principle of IRUDD:
Aiming at further advancement of IRUD research outcomes
AMED established IRUD Beyond for the purpose of further advancing IRUD outcomes. It has three pillars: Beyond Diagnosis, discovering clinical treatment methods for IRUD targeted diseases; Beyond Genotyping, improving diagnostic methods; and Beyond Borders, enhancing global data sharing.

IRMED believes that data sharing enables the participation of human genomics as well as to improve health care systems, where the genomic data are more involved.

Concept
Build a foundation to promote practical use of genomic medicine. Establish an integrated database of disease susceptibility variant information on Japanese patients available to the world.

Progress
The open access database of the Japanese variants associated with diseases was officially released in March 2018. There has been a steady increase in the total number of disease susceptibility variants included in the database and user access since the release.

Researchers
Kansai University; Koto University; Nagoya Medical Center; National Cancer Center Japan; National Center for Global Health and Medicine; National Institute of Infectious Diseases; Osaka City University; Shinshu University; The University of Tokyo (shown in alphabetical order)

Patients with rare and intractable diseases face a long, arduous, and costly journey towards reaching a definitive diagnosis. IRUD, initiated by AMED, combines expertise and technology for a systematic approach to ending the diagnostic odyssey of patients with undiagnosed diseases. The nationwide medical research consortium of AMED’s foundational role of international collaboration through global alliances, such as the International Rare Diseases Research Consortium, to accelerate progress towards helping patients with rare and undiagnosed diseases.

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IRMED’S foundational role of international collaboration through global alliances, such as the International Rare Diseases Research Consortium, to accelerate progress towards helping patients with rare and undiagnosed diseases.
Our structure is our strength. It provides us with the flexibility to be decisive and forward thinking. The different roles of our departments are aligned to create an interdisciplinary approach that inspires innovation.