

National Cerebral and Cardiovascular Center: Midterm Plan

As required by Section 1, Article 29 of the Act on General Rules for Incorporate Administrative Agency (Act No. 103, 1999, hereinafter General Rules), the National Cerebral and Cardiovascular Center (NCVC), in order to achieve midterm targets drawn up in response to an directive from the Minister of Health, Labour and Welfare, is to draw up a Midterm Plan for the NCVC, as stipulated in Article 30 of the General Rules.

April 1, 2010

May 17, 2011 revisions

National Cerebral and Cardiovascular Center

Nobuo Hashimoto, President

Preface

The National Cerebral and Cardiovascular Center (hereinafter, NCVC) began life as the National Cardiovascular Center, established in 1977 to work towards the treatment of cardiovascular disease, then the second highest cause of death in Japan after cancer. Today, the NCVC conducts diverse surveys and research on cardiovascular diseases, working towards the total eradication of such diseases, while simultaneously pioneering the development of more advanced medical treatments.

In order to achieve its goals, the NCVC must present new guidelines based on new evidence gleaned from the advanced and innovative care and research being carried out within its walls; action must be taken to ensure that care for cardiovascular disease is available throughout the country, without gaps in quality. Furthermore, the NCVC must foster new talent, and create a cerebral and cardiovascular research and development network built around the Center itself. The NCVC must also be proactive in communicating its findings to the global community.

In terms of its operations, the NCVC must strive to streamline its administrative operations, and build a platform for an international center for clinical research.

Based on the achievements of its former incarnation, the National Cardiovascular Center, the NCVC must continue to provide research and medical care worthy of the trust of Japan's

citizens. It must take its achievements, the new knowledge gleaned through Center research, and develop them into practical clinical applications.

The two elements of the NCVC, the hospital and research institute, will continue to work together as an integral unit focused on the systematic implementation of medical policy. The NCVC has been charged with the research and development of high-level medical care; as such it must continue to contribute to society through pioneering research and development and advanced medical care.

Based on this Center mission and on instructions from the Minister of Health, Labour and Welfare, the NCVC has established the following plan for medium term objectives for administrative operations, hereinafter midterm objectives, for the period April 1, 2010 through March 31, 2014.

Section 1. Measures to achieve improvements in the quality of services provided to Japanese citizens and other NCVC business

1. Research & Development

In order to develop its world-leading research, and to further promote clinical research in Japan, including clinical trials, the NCVC will strengthen its following core functions.

The measures outlined below will allow the NCVC to encourage the development of advanced and pioneering medical care, as well as research, ultimately geared to practical clinical applications, on the establishment of standardized medical care. The NCVC will continue to generate outstanding findings and achievements.

(1) Research & development focused on clinical use

- 1) Strengthening intra-Center collaborations between departments of the hospital and research institute

Collaborations between the hospital and the research institute will be encouraged and strengthened, with each being able to maximize the benefits of its own specialization. This will ensure that the NCVC can smoothly implement basic research focused on research & development into advanced and pioneering medical care, and on the establishment of medical standards for clinical use. It will also facilitate the

continual translation of the results of such basic research onto the clinical platform.

Specifically, the research institute and hospital will report on and discuss issues related to the other at respective committee meetings, carry out joint clinical research, and make efforts to increase mutual exchange. Joint research carried out between the research institute and the hospital is to be increased by at least 50% in comparison to FY2009 levels by the end of the Midterm Plan period.

2) Strengthening collaborations between industry, government and academia

The NCVC will make efforts to establish a framework for the promotion of joint research with other facilities, including the formation of a medical cluster. Such a framework will make possible more spontaneous and strategic collaborations with domestic and overseas industry, university research institutes and large-scale clinical trial centers.

In particular, joint research carried out with private companies is to be increased by at least 30% in comparison to FY2009 levels by the end of the Midterm Plan period.

3) Planning research & development and improving evaluative systems

The NCVC will maintain the framework that allows it to plan and evaluate research (including by Intramural Research Fund of NCVC) appropriate to the Center's mission, as well as enhance systems in place designed to support research.

4) Strengthening intellectual property (IP) management and promoting IP utilization

IP management will be based on the Act on Enhancement of Research and Development Capacity and Efficient Promotion of Research and Development, by Advancement of Research and Development System Reform (FY2008, Act No. 63) and the Intellectual Property Strategic Program; a new section will be established within the NCVC to promote the transfer of rights arising from research findings and technology transfer to corporations.

Moreover, an Intellectual Property Policy will be formulated, providing guidelines

on the promotion of IP management and utilization. The NCVC will work to heighten awareness of IP utilization among Center staff, and to publicize NCVC IP to external facilities.

a. Establishment of an patent evaluation system

Effective IP management will be further enhanced by the establishment of an evaluative system for patents, based on the potential for business application and licensing. At least 180 potential applications are to be examined by Employee Invention Committee by the end of the Midterm Plan period, with the most promising selected for patent submission.

b. Promotion of IP utilization

Effective IP utilization demands the efficient operation of related administrative procedures and paperwork. In addition, a strategic policy for IP commercialization through collaborations with private corporations will serve as a bridge for technological transfer. The NCVC will work towards the construction of a commercialization support system that takes into account the potential for overseas development. Efforts will be made to strengthen management functions relating to contracts and negotiations.

(2) Promotion of hospital-based research & development

1) Strengthening clinical research functions

The NCVC, based on the latest developments in medical knowledge, will promote clinical research (including clinical trials) focused on the improvement of care performance and patient quality of life (QOL). The NCVC will work to create a platform appropriate for the smooth implementation of clinical research within the hospital, including the creation of a supporting department staffed with specialists in pharmaceutical regulations relevant to clinical testing carried out within the Center. The NCVC will work to bring the period from receipt of a clinical trial request to contract conclusion down to an average of 50 working days maximum by the end of the Midterm Plan period.

2) Ensuring professional ethics and transparency

In order to secure appropriately high levels of professional ethics and transparency, the NCVC will continue to provide opportunities for continued education and training in professional ethics for all staff involved in clinical research. The NCVC will work to improve overall staff levels of knowledge and awareness of ethics in clinical research.

Moreover, the Ethics Council will review as a priority the content of the explanatory documentation and consent forms provided to patients and their families taking part in clinical research. Efforts will be reinforced to ensure that appropriate explanations of the purpose and risks of clinical research are provided, and that relevant information is disclosed publically.

The public disclosure of information on clinical research, including clinical trials, being carried out at the Center will function to encourage the NCVC to continue to work towards the creation of a platform for clinical research that is strongly focused on ethincs and on transparency.

(3) Promoting strategic research & development in priority fields that maximize NCVC capabilities

By strengthening Center research bases in priority areas, the NCVC will be able to progressively develop advanced and pioneering medical treatments, as well as research & development into facilitating the distribution of such advanced medical care throughout the country, making it widely and fairly available to all.

For detailed information on plans for implementation, please refer to Appendix 1.

2. Medical Care Provision

The NCVC will strive for the creation of a better framework for the provision of advanced medical care, taking into account the acute and specialist nature of the care provided at the NCVC hospital. The NCVC will also promote the creation of new treatment methods and the pragmatic translation of these treatments onto the clinical frontline for areas of medicine such as transplantation medicine, artificial organs, gene therapy, and regenerative medicine, which seeks to create systems and organs from the patient's own cells. Such activities will reinforce the role of the NCVC as the pioneering leader of

cardiovascular medicine in Japan.

(1) Provision of advanced & pioneering medical care and efforts towards the standardization of medical care

1) Advanced & pioneering medical care provision

Through collaboration among research departments, the NCVC will utilize the findings of Center research, combining them with up-to-date knowledge assimilated from diverse research facilities in Japan and abroad and other medical care facilities to provide NCVC patients with advanced and pioneering medical care. The NCVC will thus remain dedicated to breaking new ground in the provision of outstanding medical care.

2) Medical care provision oriented to greater standardization in care based on the latest scientific findings

The NCVC will reinforce the framework in place for the stable provision of standardized medicine based on up-to-date medical knowledge, and work towards greater standardization in the care of cardiovascular diseases.

(2) Provision of good-quality, reliable and patient-focused medical care

1) Support for patient self-determination

The NCVC will work to create strong relationships of trust with patients, giving appropriate options and scope of choice to patients and their families. Medical staff are to provide the relevant explanatory detail and to disclose appropriate information needed for decisions to be made systematically with patients and their families. Efforts will be made to share information with patients and their families as much as possible.

2) Promotion of patient-participatory medical care

The NCVC will carry out surveys on patient-participatory medical care (including

surveys on the level of patient satisfaction being achieved). It will promote support activities designed to enhance the understanding of patients – who face multiple issues relating to their clinical condition as well as their treatments – towards medical care.

3) Provision of team-based medical care

The NCVC will promote team-based medical care, through the formation of “interdisciplinary” teams of medical staff with various specializations in both diagnostic and treatment-based roles. This will help to reduce any unreasonable burden on specialist staff, as well as ensuring a higher quality of overall medical care.

Specifically, these diagnostic/treatments teams, comprising staff of various specializations, are to carry out at least 380 rounds in the NCVC hospital each year.

4) Provision of community-based medical care from initial admittance onwards

The NCVC must be able to provide patients with appropriate medical care at every stage of illness, from the acute phase, to the recovery period, through remission to recurrence prevention. In order to achieve this, the NCVC will operate integrated support functions designed to ensure appropriate community care is available from initial admission onwards, through such measures as increasing the number of registered association medical facilities by 20% within five years in comparison to 2009 levels.

5) Enhancing safety management systems for medical care

The NCVC will maintain and improve its systems for safety management in medical care, and hold at least four training seminars a year for all NCVC staff on safety issues such as general safety in medical treatment and the prevention of viral infections. The NCVC will take any and all appropriate measures to ensure proper safety management policy is in place for the prevention of medical accidents, infection control and medical equipment.

6) Evaluation of medical care quality through objective indices

The NCVC must efficiently provide patients with high quality and effective medical care. To achieve this, the NCVC will create an objective evaluative system that examines the quality of overall community medical care, from emergency medical and acute-phase treatment through to rehabilitation in the recovery phase.

(3) Provision of medical care to be undertaken by the Center as part of other medical care policies

Based on the Organ Transplantation Law, the NCVC will function as a core heart transplant facility of the Japan Organ Transplant Network, conducting heart transplants for both adult and infant cases. Ventricular Assist Devices (VAD) will also be fitted, either extracorporeal or implantable types, according to patient needs, and VAD-based medical care will be provided, including home-based therapy, to ensure a high patient QOL.

The NCVC will also carry out tissue grafting procedures using homografts where appropriate for individual patients.

3. Human Resources Training

(1) Training human resources into future leaders

In order to train exceptional human resources capable of leading the fields of research and medical care in cardiovascular disease, the NCVC will set appropriate midterm targets, such as increasing the number of educational and clinical programs run 1.5 times in comparison to FY2009 levels, and carry out proactive training for doctors, nurses, pharmacologists, laboratory technicians, rehabilitation technicians, researchers and other Center staff.

(2) Implementation of model training and courses

The NCVC will plan and hold at least four training seminars a year for the various types of medical staff working outside of the Center, with a view to ensuring that standardized levels of cardiovascular medical care become widely available.

4. Making High Quality Medical Care More Widely Available & Collecting and Communicating Information

(1) Network construction

The NCVC will construct a network on cardiovascular diseases among the Center and other core medical care facilities throughout all of Japan's prefectures, and work to encourage the spread of advanced and pioneering medical care as well as standardized medical care through proactive exchange and communication throughout the network.

(2) Collecting and communicating information

In order that medical staff and patients and their families have access to reliable information, presented in an accessible format, on cardiovascular diseases, the NCVC will collect, organize and evaluate up-to-date knowledge from Japan and overseas. It will then use the Center website and other media to present both citizens and medical care facilities alike with the latest evidence-based information on diagnosis and treatment. It will also respond to requests for technical support and technical guidance on medical care.

5. National policy proposals

The NCVC will provide specialist policy advice from a scientific perspective, oriented to the resolution of issues identified in the course of research and development on cardiovascular diseases.

6. Promotion of other medical care policies in Japan

(1) Response to serious threats to public health

In response to any such request from the state, and where there has been or is likely to be a serious threat to public health in Japan and/or overseas, the NCVC will respond as quickly and fully as possible in the context of providing assistance relating to cardiovascular diseases.

(2) International services

The NCVC will increase the number of staff making significant contributions internationally in the field of cardiovascular diseases, through such means as receipt of invitations to take part in international academic conferences and the acceptance of trainees through overseas programs. The number of staff making such contributions should total at least 200 during the Midterm Plan period. The NCVC will carry out international services as appropriate for a core national facility providing vital medical care.

Section 2. Measures to achieve targets on streamlining administrative operations

1. Efficiency in administrative operations

(1) Effective administrative operation framework

In order that the NCVC be able to carry out the Center mission, the NCVC will improve its internal systems for planning, adjustment and analysis, utilize its human and material resources with maximum efficiency, and construct a framework which facilitates strong governance.

Moreover, the various departments within the NCVC will be reorganized where appropriate in order to achieve more effective results, geared towards the fulfillment of the Center mission.

The NCVC will make efforts to achieve a total saving on personnel costs of at least 1% for FY2010, based on the Act on Promotion of Administrative Reform for Realization of Small and Efficient Government (Act No. 47, 2006), while keeping clearly in mind the vital role which the Center plays in public health. Moreover, based on the Basic Policies for Economic and Fiscal Management and Structural Reform 2006 (adopted July 7, 2006), the NCVC will ensure that measures to revise personnel costs are continued until FY2011, and that the appropriate explanations and evaluations are adopted in order that the general public be fully aware of Center salary levels.

Furthermore, the NCVC will respond to the issue of personnel costs based on the

Medical Care Act (Act No. 205, 1948) and adhere to regulations on the provision of appropriate personnel as stipulated by the medical insurance system. It will also take appropriate measures to secure safety in medical care, and a response framework appropriate to the promotion of advanced and pioneering medical care. This is to include the securement of personnel in accordance with the creation and revision of national guidelines.

In addition, the NCVC will put in place appropriate measures as and when required by revisions of systems relating to independent administrative agencies.

1) Introduction of Multiple Vice President System

This will make it possible to appoint vice presidents charged with specific purposes, as well as clarifying the role of vice presidents and their position in the NCVC hospital management structure.

2) Revision of administrative departments

Administrative departments will be subject to reorganization, with a view to a more efficient and effective operational framework.

(2) Balance of Payment improvement through streamlining

The NCVC will seek to create a management system where revenue is kept to a level that is reasonable for covering costs, through business strategy formulated to help the NCVC achieve its mission, and through a business management approach structured on annual business plans. The NCVC will work to see the ordinary balance ratio stand at least 100% for the aggregate profit and loss over five years.

1) Optimization of salary systems

Salary levels will be reviewed according to work content and performance, taking into account the salaries available to employees in the private sector, and ensuring that levels are appropriate in terms of general social trends.

2) Reduction of material costs

The NCVC will work towards curbing the expenses ratio for materials, through a review of purchase methods and contract prices for pharmaceutical products and medical materials.

3) Reduction of general administrative costs

The NCVC will work to reduce general management costs (excluding retirement allowances) by at least 15% in comparison to FY2009 levels by the final year of the Midterm Plan.

4) Optimization of building costs

The NCVC will review building unit prices, and work towards cost reduction and investment streamlining.

5) Securing income

With regard to receivable medical revenue, the NCVC will put measures in place to prevent the occurrence of any new such cases, and will work to collect receivables by following up unpaid accounts and offering payment plans. The NCVC will work to achieve a reduction in the receivable medical revenue ratio in comparison to FY2009 levels*.

Moreover, with regard to work relating to the portion of medical insurance payments due to the hospital from the state, the NCVC will work to promote a more efficient framework for payments, including the establishment of a system of in-house payment checking.

* Receivable medical revenue ratio for FY2009 (April 2008 – Jan 2009): 0.07%

2. Digitalization

(1) Administrative streamlining through digitalization

The NCVC will work towards the digitalization of documentation, such as communications with staff, taking into account fiscal efficiency also, in order to streamline overall work activities. It will also focus on improving information security.

Moreover, the NCVC will begin specific measures designed to pave the way for the introduction of an electronic medical report system.

(2) Implementation of monthly budgeting through the introduction of a Financial Accounting System (FAS)

To assist the amendments required to the Center's accounting systems to meet the accounting standards set out for independent administrative agencies, an FAS will be introduced and monthly budgeting carried out. This will allow the NCVC to have greater awareness of its day-to-day financial situation and contribute to the improvement of business management.

3. Appropriate Construction of Internal System of Legal Compliance

The NCVC will create a structure for in-house control of compliance, including an internal auditing function.

For contracted work, the NCVC will offer such work as public tender, thereby ensuring appropriate competitiveness, fairness and transparency in the commissioning of contracted work. For free tendering, the current Plan for the Revision of Free Tendering will be optimized, and public announcements will be made as to what measures are to be put in place.

Section 3 Budgets, Revenue and Expenditure and Financial Plans

The NCVC will progressively implement the plans drawn up in accordance with Section 2: Measures to achieve targets on streamlining administrative operations, and thereby work towards the overall improvement of the Center's finances.

1. Increase in Center Income

The NCVC will create a framework in which funds can be incorporated from private

companies, and will seek out and obtain external capital for such, including contributions and commissioned research.

2. Management of Assets and Liabilities

The NCVC, while striving to maintain and improve the current functions of the Center, will carry out strategic investment, and secure medium- and long-term fixed asset liabilities (balance of long-term loans) within the scope of those for which redemption can be guaranteed, and work towards greater pragmatism in administrative operation spending.

Investment into large-scale medical equipment, then, can in principle only be approved when redemption can be guaranteed.

(1) Budget. See Appendix 2.

(2) Revenue & Expenditure Plan. See Appendix 3.

(3) Financial Plan. See Appendix 4

Section 4 Limits for short-term loans

1. Limit: ¥2,200 million

2. Legitimate reasons for borrowing

(1) In response to a lack of capital arising from delays in receipt of operational grants

(2) In response to cash-flow difficulties arising from spending on performance-based allowances (bonuses) and similar

(3) In response to unforeseen increases in expenditure, such as the payment of retirement allowances where staff retire unexpectedly

Section 5 Plans for the disposition or use as collateral of valuable property

Currently none.

Section 6 Use of Surplus

Where budget surplus occurs, such surplus will be used for future investment (e.g. maintenance of and improvements to buildings, purchase of medical equipment) and loan

repayment.

Section 7 Administrative operations as stipulated by other miscellaneous ministerial orders

1. Facilities and Equipment Planning

The plan for facilities and equipment within the midterm plan is as per Appendix 5, Plan for Facilities and Equipment.

2. Optimization of Personnel Systems

Staff will be evaluated on the basis of the skill shown in their work, their adequacy for the position, and their work performance; the results of the evaluation will be reflected in salary. Moreover, the NCVC will introduce a system of performance evaluation for motivational purposes. The appropriate implementation of this system will ensure the NCVC is able to secure outstanding human resources, and will result in more efficient operation of the Center overall if correctly applied to personnel systems.

In order to construct a system that allows an appropriate level of flexibility with regard to personnel matters, such as the promotion of personnel exchange programs that make optimal use of the unique characteristic of a system which is not staffed by lifetime civil servants, and to ensure that outstanding human resources can continue to be secured, the NCVC will establish a framework wherein personnel exchange can be carried out with the state, independent administrative agencies including national hospital organizations, national universities, and private companies.

Moreover, the NCVC will make efforts to establish itself as a woman-friendly workplace. It will also review the division of responsibilities between doctors and other staff in order that doctors are able to concentrate on their core tasks. The NCVC will work to create an attractive and welcoming working environment for all employees.

3. Personnel Policy

(1) Policy

In order to continue to effectively provide high-quality medical care, the NCVC must

be able to respond with appropriate flexibility to the changes in medical care that relate directly to doctors, nursing staff and other medical staff. It must also be keenly aware of management concerns.

In particular, the NCVC will put in place measures focused on preventing staff turnover and supporting return to work, in addition to the continued promotion of measures to counter the lack of doctors and nursing staff.

For core staff with specialist skill, the Center will use public advertising as its principal method of recruitment, making efforts to ensure that outstanding staff are secured.

(2) Indices

Although the number of Center staff at the beginning of FY2010 totaled 1,010, it is likely that there will be fluctuations as adjustments are made to ensure that doctors, nursing staff and other medical staff are able to respond appropriately to medical care needs. The Midterm Plan will focus on maintaining appropriate staff levels, thereby ensuring that no obstacles are encountered in the provision of safe and high-quality medical care.

In particular, the NCVC will promote outsourcing for technical staff.

(Note) Total personnel cost estimate for Midterm Plan: ¥36,980 million

4. Other

The NCVC must ensure that its staff understand the Center's mission, are able to make appropriate action plans for the realization of the mission, and can turn those plans into practical action as and when required.

Moreover, staff must work to disclose information on the Center's action plans and achievements, in a manner that is easily understandable and accessible to the general public, via the Center website and other media.

The NCVC will make efforts to give staff a platform to voice opinions on a regular basis with regard to the following: to ensure that staff fully understand the Center's mission and that they are aware of current Center circumstances; to identify problems, to establish

measures for improvement, and to draw up forthcoming annual plans.

Promoting strategic research & development in priority fields that maximize NCVC capabilities (Appendix 1)

1. Basic Approach to Priority Research & Development Strategic

Cardiovascular diseases account for two of the three highest causes of death in Japan; they are a serious threat to the health and long life of Japan's citizens.

Research & development focused on the eradication of these diseases, the clinical application of research findings, and the communication of up-to-date information on advances in research can all contribute to dramatic improvements in the life prognosis of Japan's citizens. The NCVC is dedicated to such efforts, and to facilitating the spread of drug discovery and innovative medical technology throughout Japan and overseas.

This requires greater flexibility in research structure, and stronger collaboration between private enterprise, universities and academic societies; the NCVC will push to achieve this. The NCVC will also collect evidence from Japanese citizens gleaned through basic research and epistemological research, which will allow further insight into the pathogenic mechanisms of cardiovascular diseases. Moreover, the NCVC will look to carry out comprehensive and vital research in a number of fields, including the development of preventative medical technologies, the carrying out of translational research utilizing the achievements of basic medicine, and the implementation of research & development directly linked to clinical medicine.

In particular, the NCVC is to produce at least 5 major research conclusions each year that contribute significantly to the elucidation of cardiovascular diseases and/or the advancement of medical treatment.

Such achievements can include the following: 1) the discovery of significant substances, genes or abnormalities of such relating to cardiovascular diseases; 2) the number of innovative fundamental technologies created and/or innovative discoveries made relating to medical equipment and regenerative medicine; 3) the number of cases of TR implementation and/or the number of products commercialized, such as pharmaceutical products, medical equipment, diagnostic or preventative methods.

2. Specific Policies

(1) Disease-focused research

1) Elucidation of cardiovascular diseases

Diverse biologically active peptides and proteins found within the body contribute to the control of cardiovascular system. The NCVC will promote research geared towards the identification of new substances, and the elucidation of their physiological functions and functional mechanisms, and their pathophysiological functions, incorporating techniques from diverse fields including biochemistry, molecular biology, pharmacology, peptide chemistry, cellular biology, protein engineering and development engineering.

Congenitality alone does not explain the onset of cardiovascular diseases; genetic mutations and gene polymorphism as seen in individual patients are also contributory factors. As such, the NCVC will also conduct pathological analysis, from genetic and genome-based perspectives, on the tissue and cells that comprise the cardiovascular system.. The purpose of such research is to search for pathogenic genes and disease susceptibility genes that can prompt the development of new methods of diagnosis and treatment.

2) Understanding cardiovascular diseases today

a. Creating a social platform for understanding current conditions

The NCVC will determine what is required to create the social infrastructure necessary to promote the registration of cardiovascular diseases in the community.

The NCVC, through epistemological research, will register patients with cardiovascular diseases, and consider how best to structure frameworks for both implementation and stakeholder collaboration, in order to facilitate better understanding of overall conditions today, including the prevalence and outcome of cardiovascular diseases. This will also allow the NCVC to gain a better understanding of any regional differences that exist in the availability and quality of medical treatment for cardiovascular diseases, and to perform related analytical research.

b. Research & development into preventative methods based on insight into the

onset factors of cardiovascular diseases

The NCVC will conduct epidemiology research (e.g. large-scale cohort studies), looking at both the various external factors which contribute to the onset of cardiovascular diseases (e.g. lifestyle) and the various internal factors (e.g. aging, genetic factors), as well as interactions between the two types. It will also carry out related basic research into the clarification of risk and preventative factors for cardiovascular diseases.

The NCVC will also seek to develop effective methods for the prevention of cardiovascular diseases, based on new knowledge gained from basic research and epistemological studies.

3) Development of advanced & pioneering and standardized methods of prevention, diagnosis and treatment

The NCVC will create a framework for effective collaboration: between the NCVC hospital and the research institute, between medicine and engineering, and between industry, academia and government, involving private enterprise and other universities. Through this framework, the NCVC will work towards diverse goals, including translational research, clinical application and product commercialization. Core activities will include research & development into regenerative medical technology based on new knowledge – geared towards functional recovery in organs and systems that have suffered advanced functional damage as a result of cardiovascular diseases – and research & development on methods of diagnosis and treatment that utilize cutting-edge medical equipment.

Central to the prevention of the onset of cardiovascular diseases is the prevention of cardiovascular microlesions brought about by such factors as blood pressure, diabetes and hyperlipidemia. The NCVC will carry out research here, as well as research that contribute to the prevention of those cardiac, cerebrovascular and renal diseases caused by arteriosclerosis. It will also conduct research designed to improve patient QOL and present practical suggestions for day-to-day health management for sufferers of cardiovascular diseases.

Furthermore, the NCVC will conduct research into the effectiveness and safety of current preventative methods.

Finally, the NCVC will collect and analyze bioresources and clinical information as appropriate in order to clarify the pathogenic mechanisms and the characteristics of cardiovascular diseases; such elucidation is core to the development of advanced and pioneering methods of diagnosis and treatment.

4) Development of pharmaceutical products and medical equipment

The NCVC will conduct research & development into groundbreaking pharmaceutical products and advanced medical equipment for cardiovascular diseases.

Specifically, the NCVC will look to identify proteins and peptides that are key to the diagnosis and treatment of cardiovascular diseases, as well as future drug discovery. It will also seek to discover peptides and chemical compounds that can potentially be applied as pharmaceutical products. It will simultaneously examine the significance and efficacy of such research.

Moreover, the NCVC will carry out basic research and the development of fundamental technology required for organ replacement therapy, regenerative medicine and imaging related to cardiovascular diseases. It will also work towards the development of equipment and technologies suitable for practical application in diagnosis and treatment.

The NCVC must ensure that research findings can be applied to the clinical frontline as quickly and as safely as possible. In order to do this, it will carry out research oriented to clinical trials for pharmaceutical products and medical equipment (including indication expansion). The NCVC will be particularly proactive in those medical fields where there is high development risk. Moreover, the NCVC will also conduct research into appropriate evaluative systems for the safety and efficacy of clinical tests, and the development of clinical trial methods.

In addition, the NCVC will promote independent clinical research, including clinical trials, for pharmaceutical products and medical equipment which have been examined for safety and efficacy overseas but are as yet unapproved within Japan.

The NCVC is to increase the number of clinical research projects (research projects approved by the Ethics Council) and the number of clinical trials (including trials for products already commercially available) implemented by at least 5% by the end of the Midterm Plan period.

(2) Research focused on the wide & even distribution of medical care

1) Development of methods for wide & even distribution of medical care

a. Development of care indicators

The NCVC will create a framework for the objective evaluation of the overall quality of community care, from emergency and acute phase treatment through to recovery and rehabilitation. Such evaluation will be invaluable in the drawing up of diagnosis and treatment guidelines which can be widely used by medical facilities.

b. Human resources research

The NCVC will develop methodical educational and training systems designed to contribute to the wide and even distribution of medical care for cardiovascular diseases. Such systems will ensure the availability of human resources with the advanced and specialist technical skills required for appropriate medical treatment.

2) Development of Methods of Communication

a. Providing information to citizens and patients

The NCVC will develop methods of providing relevant information on the complex factors, clinical conditions and progress of cardiovascular diseases, in accessible formats that will allow citizens to better understand such diseases and have greater awareness about their prevention in their day-to-day lives. Reference information and knowledge based on Center research findings are to be presented via the NCVC website and other media.

b. Providing information to medical staff

i. On common cardiovascular diseases

The NCVC will collect and present information on standard diagnostic techniques for common cardiovascular diseases, in collaboration with academic societies and including Center research findings.

ii. On rare cardiovascular diseases

The NCVC will provide explanatory information on the presentation of and

diagnostic techniques for less common cardiovascular diseases, based on cases presented at the Center.

c. Research contributing to policy proposals based on scientific evidence

The NCVC will create a framework for the consideration of the optimal nature and appropriate methods of policy proposals based on scientific evidence.

Midterm Plan: Budget (FY2010 - FY2014)

(¥m)

Classification	Total
Revenue	
Operational grants	<u>29,002</u>
Long-term loans etc.	<u>1,453</u>
Business revenue	<u>101,707</u>
Other revenue	<u>15,370</u>
Total	<u>147,532</u>
Expenditure	
Business expenditures	<u>120,710</u>
Facilities and equipment costs	<u>15,228</u>
Loan redemption	<u>1,701</u>
Interest	<u>144</u>
Other expenditures	<u>2,195</u>
Total	<u>139,979</u>

(Note 1) Figures have, in principle, been rounded to the nearest whole number; some totals may not exactly match as a result.

(Note 2) Revision of medical treatment fees has not been taken into account.

(Note 3) Revised employee remuneration and fluctuations in commodity price have not been taken into account.

(Note 4) In addition to the above, the NCVC also has revenue and expenditure relating to all rights and obligations as acquired from the state.

Midterm Plan: Revenue and Expenditure Plan (FY2010 - FY2014)

(¥m)

Classification	Total
Classification	<u>132,754</u>
Expenses	<u>132,679</u>
Business Costs	132,517
Salaries	52,674
Material costs	45,554
Outsourcing costs	6,201
Equipment-related costs	13,270
Other	14,818
Financial Costs	144
Other ordinary expenditure	18
Extraordinary loss	<u>75</u>
Revenues & Gains	<u>133,763</u>
Ordinary income	<u>133,688</u>
Income from operational grants	28,669
Reversal of operational grants for asset return	139
Business income	104,679
Medical income	97,771
Training income	24
Research income	6,874
Other income	10
Income from the leasing of land and property	92
Income from the leasing of accommodation	48
Other ordinary income	61
Extraordinary gains	<u>75</u>
Net income	1,009
Liquidation of appropriated surplus	0
Gross income	1,009

(Note) Figures have, in principle, been rounded to the nearest whole number;
some totals may not exactly match as a result.

Midterm Plan: Financial Plan (FY2010 - FY2014)

(¥m)

Classification	Total
Asset Expenditure	<u>147,532</u>
Business expenditure	<u>120,855</u>
Research business expenditure	10,501
Clinical research business expenditure	9,983
Medical care business expenditure	84,420
Education & training business expenditure	8,698
Media & PR business expenditure	1,799
Other expenditure	5,454
Investment expenditure	<u>15,228</u>
Financial expenditure	<u>3,896</u>
Balance carried forward to next midterm objectives	<u>7,553</u>
Asset Revenues	<u>147,532</u>
Business income	<u>130,910</u>
Operational grant income	29,002
Research business income	37
Clinical research business income	6,733
Medical care business income	94,914
Education & training business income	24
Other income	201
Income from investments	<u>0</u>
Income from financial activities	<u>15,482</u>
Long-term loans payable income	1,453
Other revenues and gains	14,029
Balance carried forward from previous financial year	<u>1,140</u>

(Note 1) Figures have, in principle, been rounded to the nearest whole number; some totals may not exactly match as a result.

(Note 2) Balance brought forward from the previous financial year refers to special accounts from the National Center for Advanced and Specialized Medical Care.

(Note 3) In addition to the above, the NCVC also has revenue and expenditure relating to all rights and obligations as acquired from the state.

Plan for Facilities and Equipment

The National Cerebral and Cardiovascular Center will make investments relating to medical equipment and its maintenance as required through the period of medium term. Such investment will be in order to advance both research and medical care, and to ensure that the research and medical care with which the Center is charged can be carried out with appropriate.

Moreover, investments will be reviewed as necessary throughout the period of this plan, taking into account overall circumstances, including the financial conditions of the Center each year.

Classification	Budget total (planned) (¥m)	Funding
Medical equipment maintenance	1,453	Long-term loans payable, etc.
Institution facilities maintenance (breakdown) Building & maintenance of research facilities	11,502	self-fund
Total	12,955	