National Cancer Center Japan

Overview

November 2023

National Cancer Center

Leading the nation's cancer treatment, prevention, control programs, research and education

1962 established by **Ministry of Health and Welfare** (MHLW*1) as the first National Center for Advanced and Specialized Medical Care (followed by five more)

2010 designated "**Incorporated Administrative Agency***2"

2015 appointed "**National Research and Development Agency** *3"

*1 MHLW: currently Ministry of Health, Labour and Welfare
*2 Public Service Entity
*3 Highest Ranked Research Organization

Vision and Mission

Prevent, overcome, with and beyond cancer

Vision

NCC is committed to providing the best possible cancer treatment and care in partnership with communities

Mission

- Discover the fundamental causes of cancer, towards early diagnosis and prevention
- Develop highly advanced medicine
- Establish and make available the most advanced standard of care to all patients
- Explore and support patients with the best “cancer survivorship”
- Garner cancer information and disseminate to society
- Develop talent
- Advocate policies
- Contribute globally, working with international partners

Milestones

1962 Ministry of Health and Welfare establishes National Cancer Center Hospital starts operating

1992 Establishes NCC Hospital East

2004 Establishes Research Center for Cancer Prevention and Screening

2005 Establishes Research Center on Innovative Oncology

2006 Establishes Center for Cancer Control and Information Services

2010 Becomes Incorporated Administrative Agency

2012 Establishes Exploratory Oncology Research & Clinical Trial Center (EPOC)

2015 Appointed National Research and Development Agency

2016 Establishes Center for Research Administration and Support/ Center for Cancer Registries

2017 Establishes Cancer Metabolome Research Center in Yamagata Prefecture
Establishes Center of New Surgical and Endoscopic Development for Exploratory Technology (NEXT)

2018 Establishes Center for Cancer Genomics and Advanced Therapeutics (C-CAT)

2020 Establishes Japan Health Research Promotion Bureau (JH)

2021 Establishes Center for Promotion of Translational Research (CPOT)
Establishes Institute for Cancer Control (ICC)

Cancer Control in Japan

1964 National Strategy: 5 Pillars of Cancer Control

1984 Comprehensive 10-year Strategy for Cancer Control

1994 New 10-year Strategy to Overcome Cancer

2004 3rd-term Comprehensive Ten-year Strategy for Cancer Control

2005 Action Plan 2005

2006 Cancer Control Act

2007 Basic Plan to Promote Cancer Control Programs

2012 2nd Basic Plan to Promote Cancer Control Programs

2013 Cancer Registration Promotion Act

2014 10-year Strategy of Cancer Research

2015 AMED starts Japan Cancer Research Project

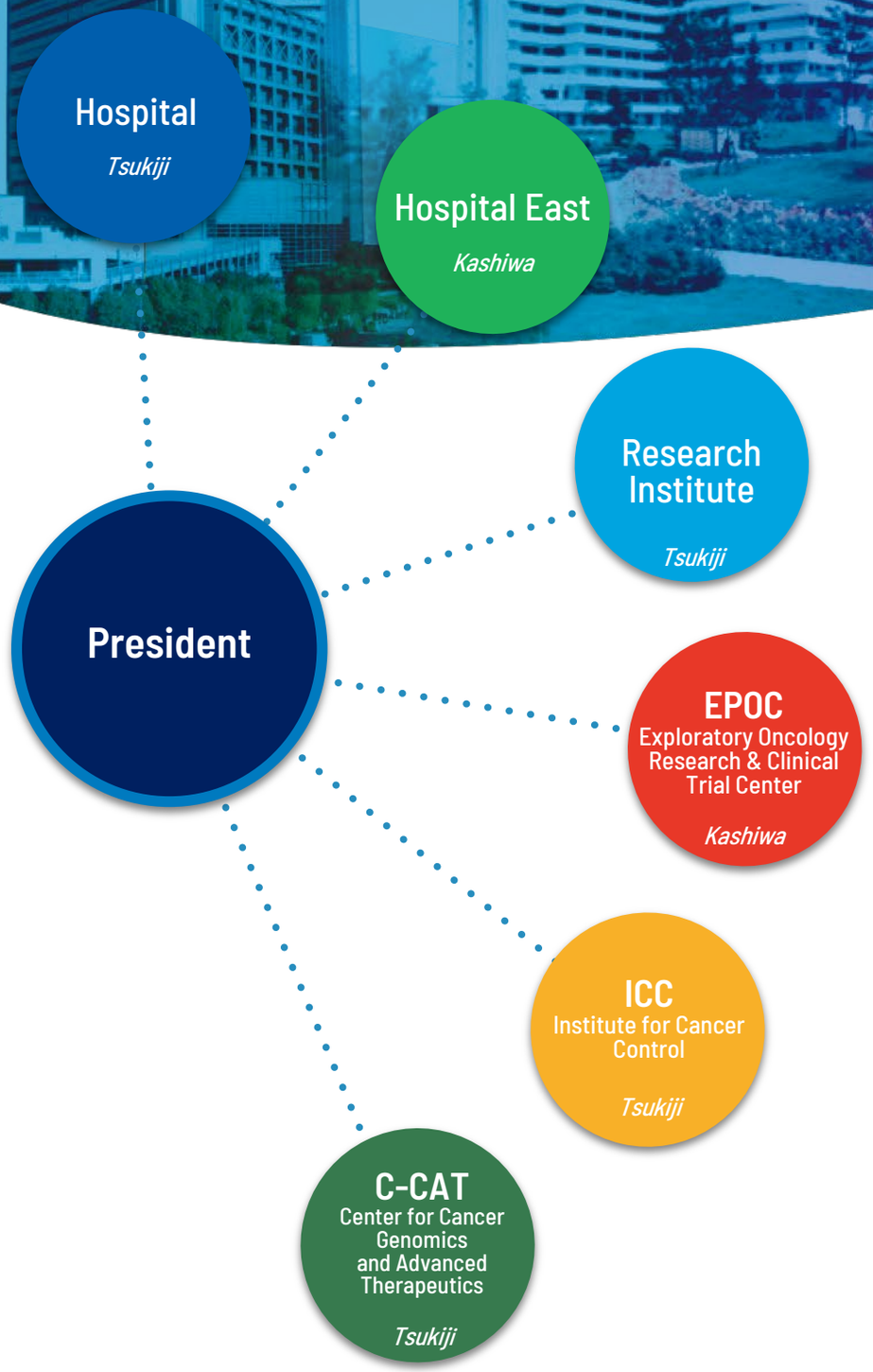
2016 Revision of the Cancer Control Act

2018 3rd Basic Plan to Promote Cancer Control Programs

2023 4th Basic Plan to Promote Cancer Control Programs

NCC Organization

Staff: 4,100 （April 2023）
2,956 Full-time staff, 1,144 Adjuncts
697 Staff Doctors, 1,305 Nurses, 757 Researchers, 1,333 Others



Auditors

Board of Directors

Directors' Meeting

Headquarters for Cancer Information Services

President's Offices

- Executive Advisers to President
- Strategic Planning Bureau
- Center for Research Administration and Support
- Center for Promotion of Translational Research
- Education and Professional Career Development Bureau
- IT Integrating and Support Center
- Office for Advanced Medical Care Evaluation & Health Technology Assessment
- Practical Research for Innovative Cancer Control Management Office
- Administrative Departments
- Compliance Office
- Research Audit Section
- Library

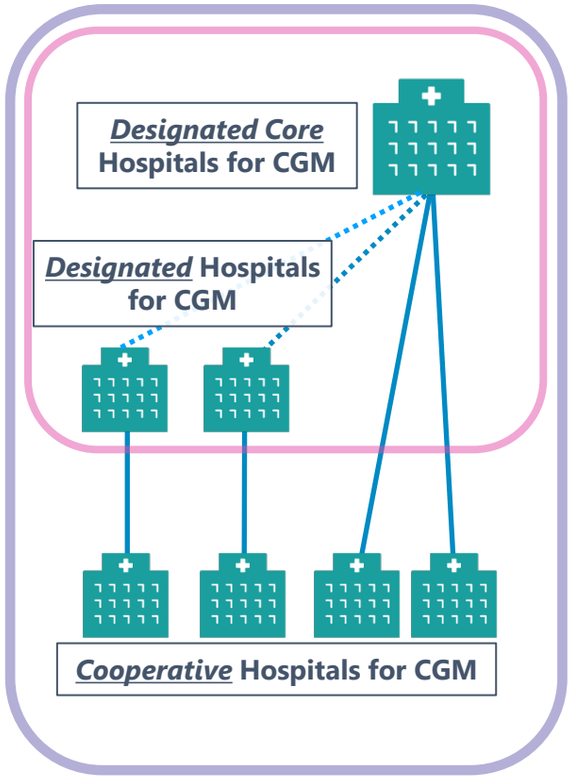
Audit office

Japan Health Research Promotion Bureau

Cancer Genomic Medicine

Establishing Cancer Genomic Medicine in Japan

2017 Roundtable Consortium on the Promotion of Cancer Genomic Medicine Report
2018 Center for Cancer Genomics and Advanced Therapeutics (C-CAT) established



Both hospitals of the National Cancer Center are Designated Core Hospitals (DCH) for Cancer Genomic Medicine, which train precision medicine specialists and lead clinical trials with molecular profiling, in addition to for gene panel test sample preparation, expert panels, and compiling reports on the results.

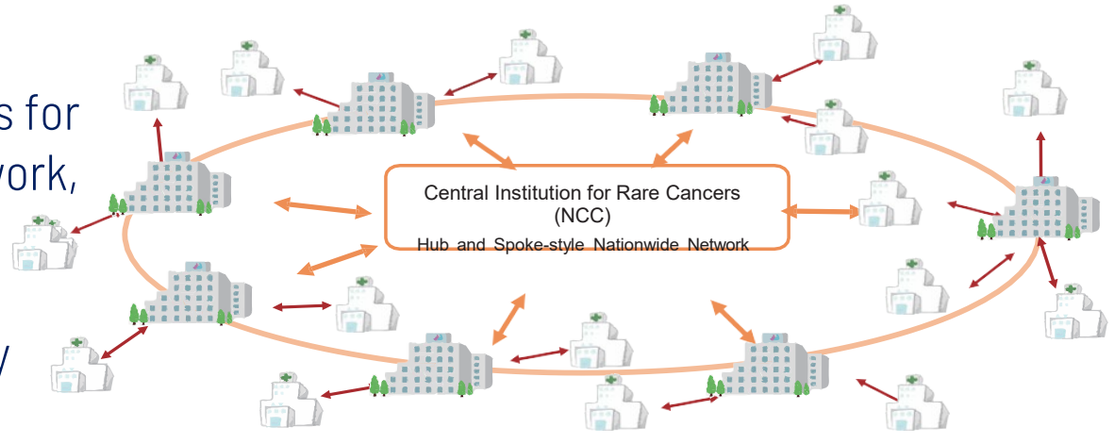
Nationwide there are 13 DCH, working with 32 Designated and 185 Cooperative hospitals for cancer genomics nationwide.

- Gene panel test for blood cancers developed, its efficacy measured
- CIRCULATE-Japan
  Liquid biopsies measuring circulating tumor DNAs proven to indicate relapse risk
- Information dissemination through official websites

National Cancer Center Japan

Addressing Unmet Medical Needs

- **Relieve Project**
  rare cancer patients gain access to consultations for accurate diagnoses through the nationwide network, developing new treatments
- **Pediatric Cancer Care**
  top priority - treatment development, particularly molecular targeted drugs
- **MASTER KEY Project**
  prospective registry study, with over 3000 cases registered, now including Malaysia, Thailand, Indonesia, the Philippines, Viet Nam and Taiwan.
- **Neuroendocrine Carcinoma** (NEC)
  standard treatment established for the rare cancer, with treatment efficacy underpinned by research
- **Thymic Cancer**
  investigator-initiated study led to the world's first approval of lenvatinib indication for unresectable thymic cancer



MASTER KEY project

Minimally Invasive Treatments
development and provision

April 2022 – March 2023

Laparoscopic/robot assisted surgeries

H 1,733 HE 2,295

Endoscopic treatments

H 4,573 HE 4,921

Radiotherapy new patients

H 2,528 HE 1,980

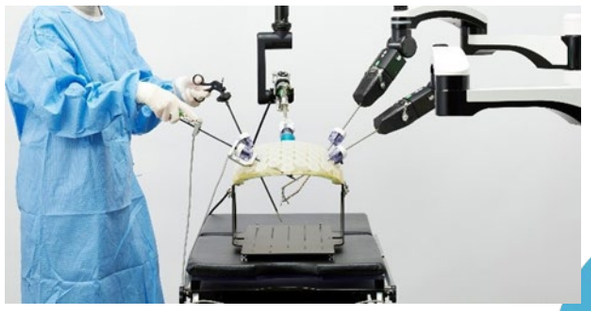
Interventional radiology treatments

H 7,478

Proton beam therapy new patients

HE 397

- **Endoscopic Submucosal Dissection (ESD)**
  research demonstrating efficacy, placing top among treatments for early colorectal cancer
- **ANSUR Surgical Unit**
  NCC Hospital East developed with Asahi Surgical



Cancer care of the Future, our collaboration with patients and communities

Incorporating Patients' Views

- **Patient-Public panel**
  100 strong advisors serving two years each
- **SCRUM-Japan PPI**
  meetings wit patients and patient advocacy groups, incorporating views into our research
- **Japan Clinical Oncology Group** (JCOG)
  PPI in cancer clinical trials, seminars and meetings with patients/advocates, to discuss new study proposals
- **J-SUPPORT**
  research on supportive, palliative and psychological care, working with national patient associations

Comprehensive Support

- **Post-diagnosis/treatments**
  research into life issues after cancer diagnosis
- **Improving Consultation Services**
  accreditation system to ensure quality of services
- **Patient Support Center**
  support programs/group sessions

- **LIFE Support Center**
  support for receiving services from multiple departments/teams

National Cancer Center Japan

NCCJ Publications and Citations

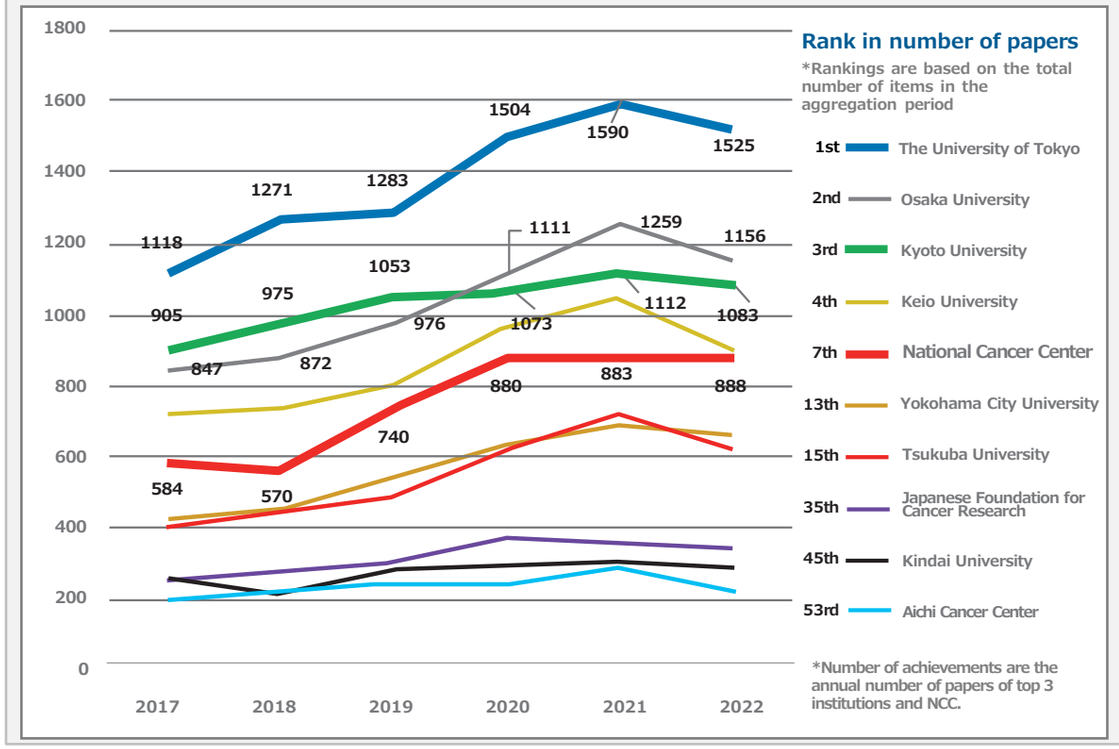
(1) Publications and citations (July 2023)

Scores calculated from InCites Benchmarking, Clarivate

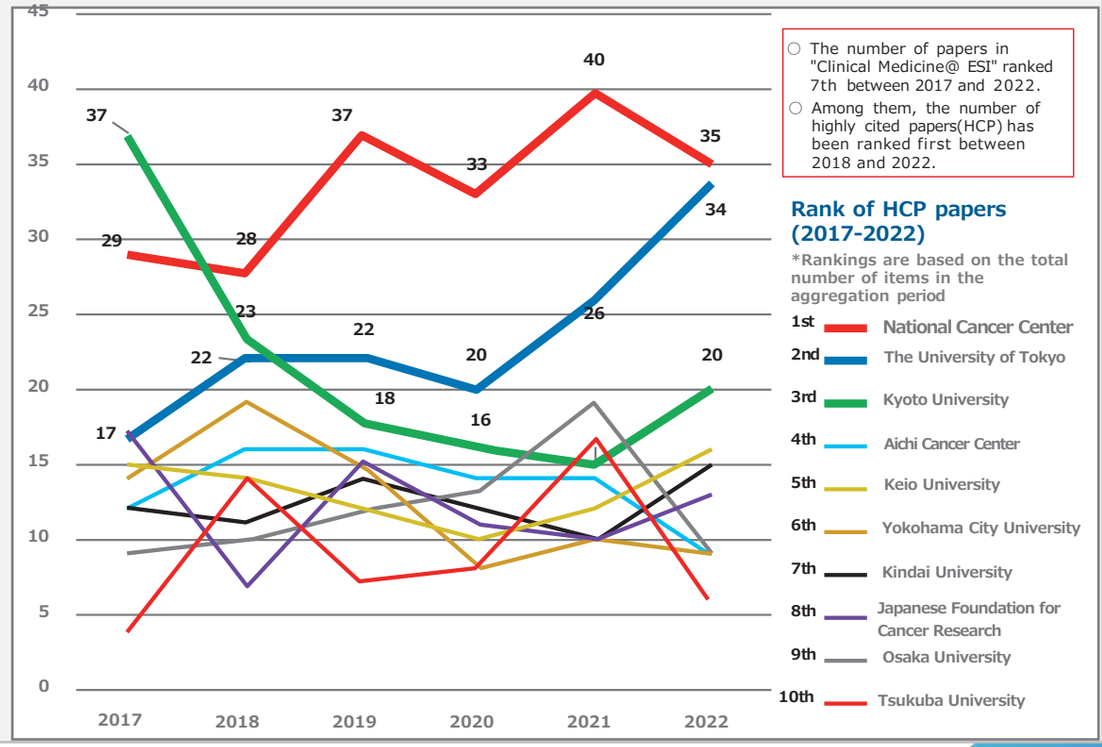
Year	2017	2018	2019	2020	2021	2022	Total
Total publication including review articles (articles only)	845 (778)	828 (766)	1,077 (993)	1,296 (1,191)	1,319 (1,195)	1,228 (1,130)	6,593 (6,053)
Citation (articles only)	42,516 (38,390)	33,874 (31,463)	30,869 (27,503)	29,828 (27,678)	12,035 (10,866)	3,375 (3,185)	152,497 (139,085)
└ Highly cited (articles only)	38 (33)	33 (30)	48 (44)	41 (35)	44 (42)	40 (38)	244 (222)
Impact factor 15+ (articles only)	53 (49)	40 (38)	52 (49)	104 (94)	101 (97)	89 (85)	439 (412)

(2) Comparison with Japanese Academia （2017 –2022）

Articles in ESI (Clinical Medicine & Multidisciplinary)



HCP articles in ESI (Clinical Medicine & Multidisciplinary)



Clarivate announces the world's top 1% cited publications in comparison to those published in the same year and field as Highly Cited Paper (HCP), announcing the numbers by affiliated institutes. The above charts exhibit articles / HCP with other research institutes in Japan. Although Clarivate Analytics analyzes the number of articles including reviews, the charts figures are limited to articles.

Working with the Global Community

Networks

- **AsiaOne Consortium**
  early new drug development network with bases in Hong Kong, Seoul, Singapore and Taipei
- **LC-SCRUM-Asia**
  expansion of SCRUM-Japan incorporating East Asian partners
- **ATLAS Project**
  establishing a network of collaborative trial sites to lead development across Asia
- **Asian National Cancer Centres Alliance (ANCCA)**
  established in 2005, with 20 national cancer centers, NCC serves on its secretariat team

International Agency for Research on Cancer (IARC)

- **Global Initiative for Cancer Registry Development** (GICR)
  designated a collaborative centre, NCC supports establishing/building cancer registries across Asia
- **WHO Classification of Tumours**
  NCC participates in editing the fifth edition
- **Population-Based Long-Term Surveillance Team**
  a joint IARC-NCC team establishing an epidemiological research platform
- **Asian Code Against Cancer**
  serve as the secretariat for coordinating collaboration with ANCCA members

Overseas Partners

National Cancer Center Japan

Memoranda of Understanding concluded with:

IARC (International Agency for Research on Cancer)

National Cancer Institute, USA

Massachusetts General Hospital

Canadian Institutes of Health Research

INCa (Institut National du Cancer)

DKFZ (Deutsches Krebsforschungszentrum)

Cancer Research UK

China-Japan Friendship Hospital

National Cancer Center, PRC

National Cancer Center, Korea

National Taiwan University Hospital, Taiwan

Asian Phase 1 Consortium
Chinese University of Hong Kong
National Cancer Centre Singapore
National Taiwan University Hospital
Seoul National University Hospital

National Cancer Hospital, Vietnam

Ho Chi Minh City Oncology Hospital, Vietnam

National Cancer Institute, Thailand

Faculty of Medicine Ramathibodi Hospital, Thailand

Dharmais Cancer Hospital, Indonesia

Tata Memorial Centre, India

Cancer Australia

Building the Future

National Cancer Policy

- **Government Councils/Review Bodies**
  Many staff are invited to serve on groups hosted by the central government, advising on cancer policies and its implementation, as such working very closely with the government
- **Local Government Support**
  training courses are organized for local government staff implementing cancer policies
- **Designated Cancer Care Hospitals Support**
  forums are organized for prefectural designated cancer care hospitals staff nationwide, to improve quality of cancer treatment in individual prefectures across the nation

Nurturing Specialists

- **For the Nation**
  capacity building of professionals is one of our important missions, we train specialists spearheading cancer medicine across the nation, a total of 760 (2015-2020)
- **Observership Visitors**
  capacity building extends to professionals from around the world

Hospital, Tsukiji campus

Outpatient Care

- 1550 patients/day (new/returning)
- 203 chemotherapy patients/day
  (outpatient treatment center – 69 beds)
- High precision radiotherapy

Consultations

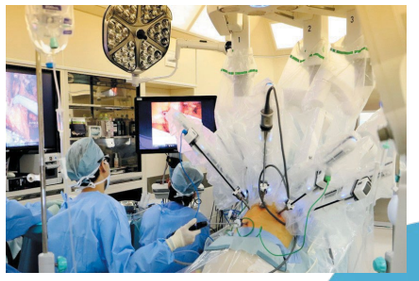
- 3491 Second Opinions
- 8033 new patient cancer support consultations
- 2956 rare cancer hotline calls

Inpatient Care

- 578 beds
- 5503 Surgeries
  (1440 laparoscopic, 293 robot assisted, fy2022)
- 17 operation theaters
- Advanced endoscopic surgery for early stage gastrointestinal cancers
  (EMR endoscopic mucosal resection)
  (ESD endoscopic submucosal dissection)
- Interventional radiology
  (4 Angio-CT systems)
- Hematopoietic stem cell transplants
- Palliative care and patient support
- Hospital based clinical trials and research

endoscopic treatments

IR center



robot assisted surgery

Hospital East, Kashiwa campus

Advanced Medical Care

- Minimally invasive treatments
  laparoscopic/robot assisted surgery
  endoscopic resection
  (over half of operations: 2295 out of 4790)
- Japan's largest outpatient care center,
  outpatient care by pharmacists, 1388 outpatients daily
- The nation's first proton beam inhouse treatment facilities, high precision radiotherapy
- 2000 second opinions

Patient Support

- Support for patients and families from early stages, balancing physical/emotional needs and social life
- First palliative care ward in national hospital, with network for close regional cooperation

Developing Next Generation Cancer Medicine

- Cutting-edge clinical trials for early development of new cancer drugs, translational research
- Research for development of new surgical/endoscopic equipment through industry-academia collaboration

Proton therapy

Supportive care center

Palliative care ward

National Cancer Center Japan

Research Institute

Largest cancer research center in Japan, with over 350 staff

Accomplishments - 1960's to 90's

- 'OncoGuide™ NCC Oncopanel
  gene panel test covered by national health insurance developed
- cancer specific gene alterations identification and molecular targeted drugs development
- novel carcinogenic mechanisms elucidation by large scale international collaborative genome analyses research
- tumor immune microenvironment mechanisms elucidation and identification of novel targets

Recently

- Medulloblastoma novel genetic alterations identification
- Tumor microenvironment regulatory T cells activation program identification
- Linitis plastica-type gastric cancer therapeutic targets identification by whole genome sequencing
- Predictive immune checkpoint blockades clinical efficacy biomarker development
- Cancer therapeutic targets discovery with synthetic lethality
- Comprehensive cancer medical system development utilising AI
- mother to infant cervical cancer vaginal transmission discovery
- New drug discovery with industry, using bioresources i.e. PDX

Exploratory Oncology Research and Clinical Trial Center (EPOC)

Taking on 'Near Clinical'

– manufacturing to early clinical introduction

Integrated Development

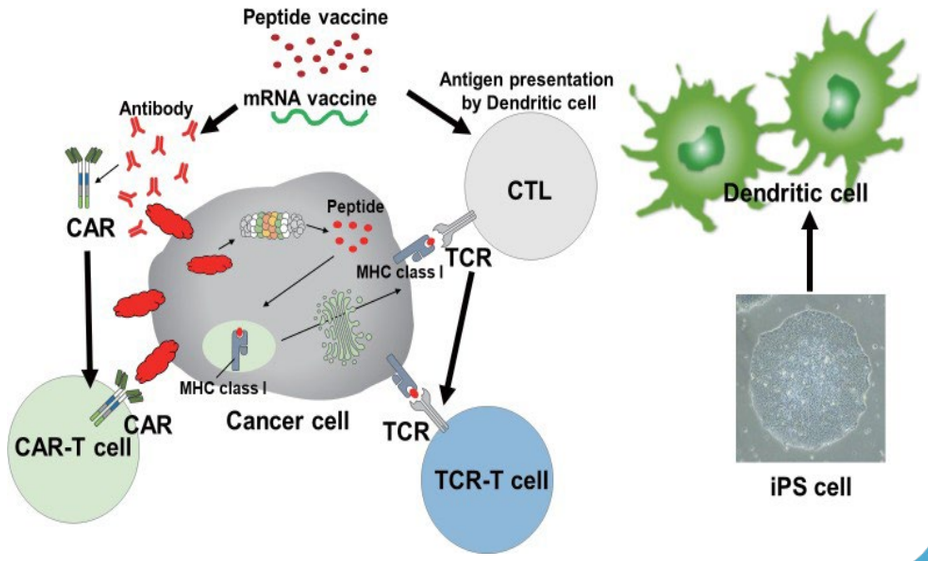
- from initial manufacturing to clinical development
  - regenerative medicine platform with industry
  - RI pharmaceuticals manufacturing with partners

Next-generation Imaging Development

- Cancer tissue spatial information utilization
- Next generation diagnostic imaging development

Therapeutics Customization

- Next generation cancer immunotherapy development, patient stratification biomarkers establishment
- Cancer vaccines, genetically engineered/regenerative immune cell therapies
- Next generation antibody therapeutics
- Novel cancer drugs discovery utilising AI



Center for Cancer Genomics and Advanced Therapeutics (C-CAT)

Mission

1 Ensure and improve genomic medicine quality in Japan:

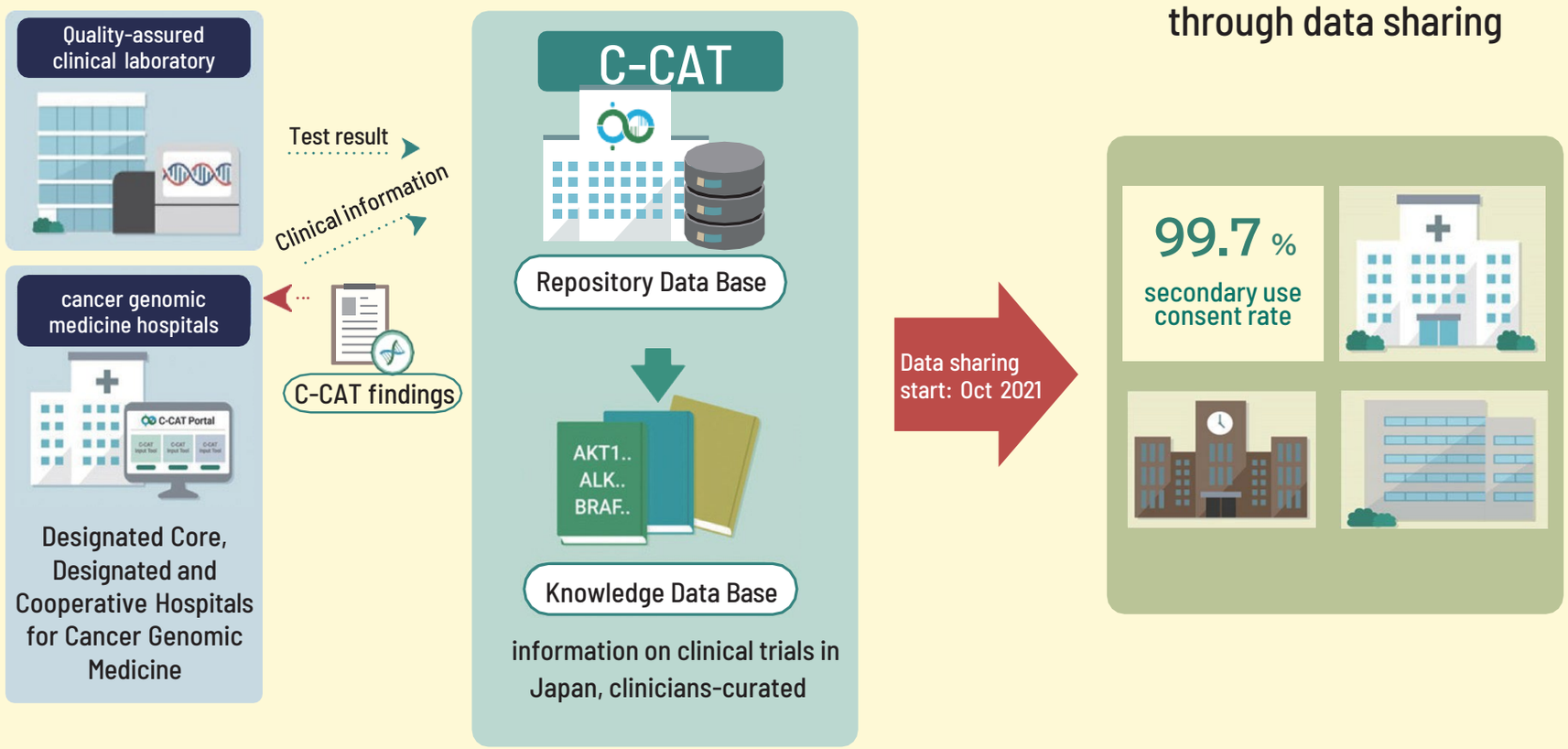
2 Information dissemination:

3 Promote clinical trials, research and development

cancer gene panel test with national insurance coverage

data accumulation
(20,000 cases/year)

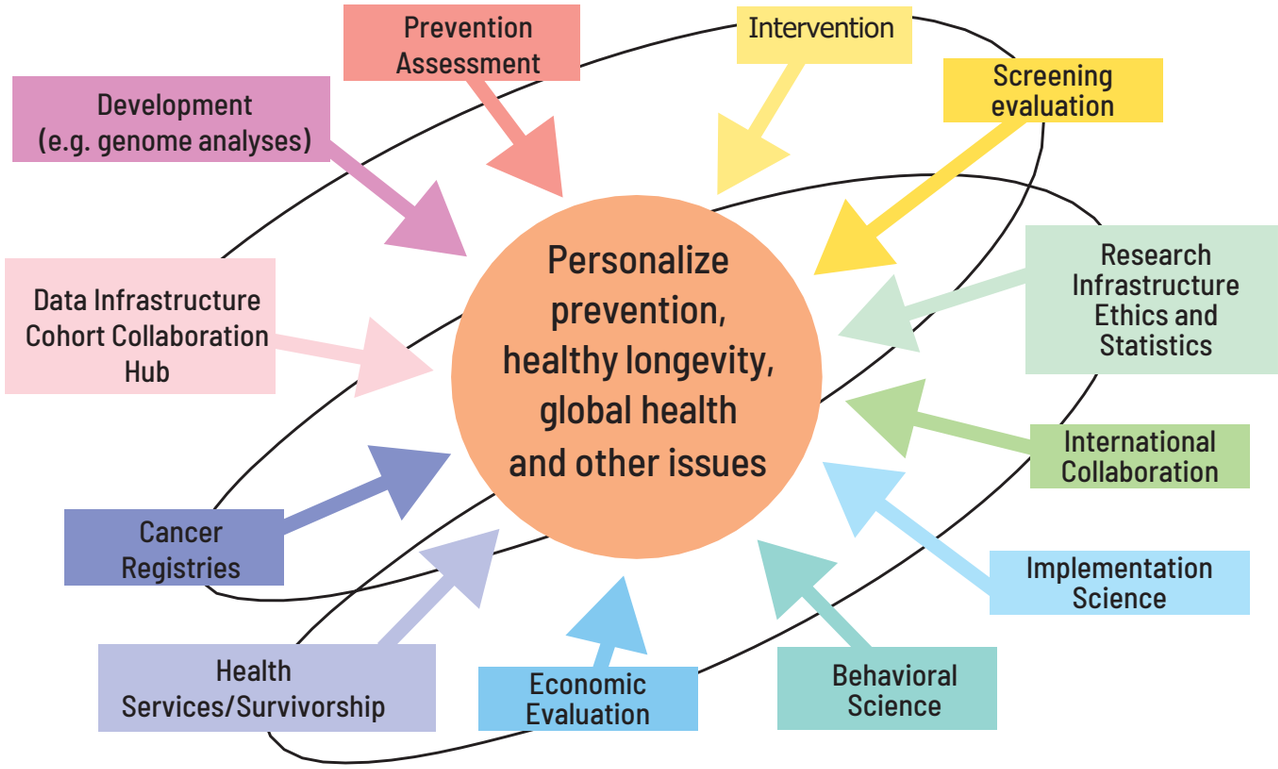
support genomic medicine, academia/industry R&D through data sharing



Institute for Cancer Control

Work with society, derive evidence to drive cancer control, deliver to all

The Institute for Cancer Control brings together the diverse expertise of researchers in social medicine to accurately grasp the needs of an increasingly sophisticated and diverse society and proactively and flexibly make policy recommendations to resolve issues, from research and development to policy implementation.



Solving Problems with the Power of Social Medicine

National Cancer Center Japan

World's Best Specialized Hospitals on Oncology

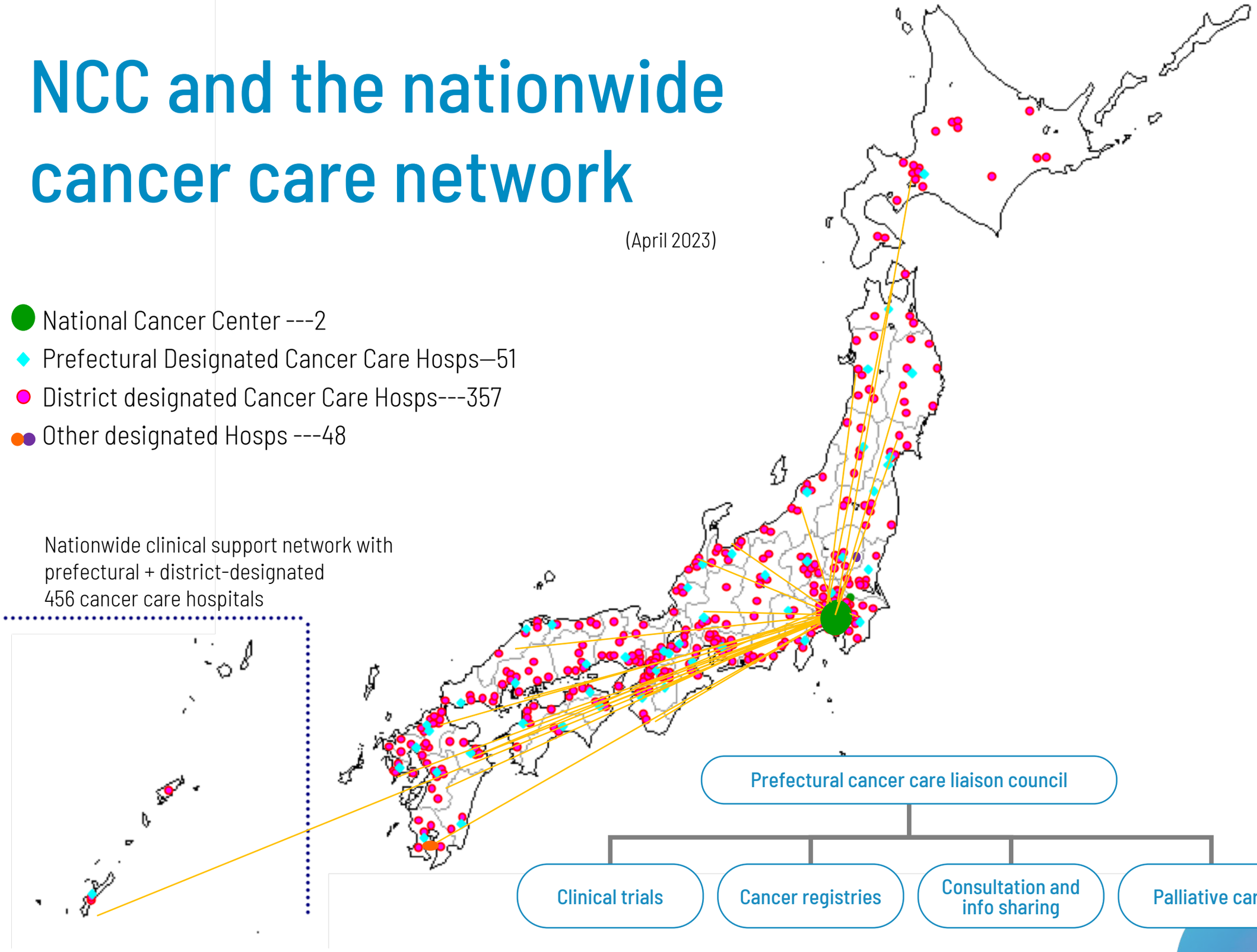
The National Cancer Center Hospital and National Cancer Hospital East are consistently listed on the "World's Best Specialized Hospitals" since 2021. Our Hospital is currently positioned fifteenth worldwide first in Japan.

This ranking is based on a survey of 40,000 specialist medical professionals globally, which were then validated by a global expert board. Newsweek partnered with Statista to support the World's Best Hospital Project. The ranking features the top 300 hospitals for oncology.

NCC and the nationwide cancer care network

(April 2023)

- National Cancer Center ---2
- Prefectural Designated Cancer Care Hosps—51
- District designated Cancer Care Hosps---357
- Other designated Hosps ---48



Nationwide clinical support network with
prefectural + district-designated
456 cancer care hospitals

Prefectural cancer care liaison council

- Clinical trials
- Cancer registries
- Consultation and info sharing
- Palliative care